Accounting Methodology Document 2018

Relating to the Regulatory Financial Statements

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1 Introduction

1.1 Regulatory reporting requirements

BT predominantly operates within the UK telecommunications sector and as such, we are regulated by Ofcom (the UK's independent communications regulator, www.ofcom.org.uk), the Communications Act 2003, various European Union Directives, and other regulations and recommendations.

A key part of this regulation relates to regulatory financial reporting obligations imposed by Ofcom to monitor and enforce other obligations and directions. We are required to demonstrate compliance with these obligations in certain markets in which we have Significant Market Power (SMP), principally through the Regulatory Financial Statements (RFS) we produce each financial year.

1.2 Introduction to the AMD

Each financial year, the Accounting Methodology Document (AMD) is published alongside the RFS. The AMD lays out the basis on which we prepare the RFS, and acts as a guide to the framework, methodologies, principles and systems that relate to it.

As part of this, the AMD shows that we have prepared the RFS in compliance with the SMP conditions that apply to BT and, along with the Wholesale Catalogue, serves as the basis for the RFS' Properly Prepared in Accordance With (PPIA) audit opinions.

The Long Run Incremental Cost Model Relationships and Parameters (LRIC Model R&P) document is published as part of the AMD in a separate annex.

The Wholesale Catalogue

The Wholesale Catalogue describes the wholesale services included in the Wholesale SMP markets and technical areas where BT has a regulatory financial reporting obligation. It is published alongside both the AMD and the RFS.

1.3 Structure and purpose of the AMD

The AMD is used to describe:

- The legal and accounting frameworks under which the RFS are prepared;
- The costing principles used by BT to prepare the RFS on a Fully Allocated Cost (FAC) basis;
- The methods used in the Accounting Separation (AS) process to attribute revenue, costs and capital employed to the Markets and Technical Areas in the RFS;
- The systems and processes used by BT to support AS; and
- The valuation principles employed to value assets on a current cost basis.

The AMD is structured into three parts:

- **Part A**, which introduces principles and concepts behind regulatory reporting (Section: 1-5);
- **Part B**, which consists of detailed dictionary sections, explaining the methodologies used within each stage of our cost allocation process (Sections 6-13);
- **The Annexes**, which provide further relevant reference information (Annexes 1-9). These are published alongside the AMD or in some cases, as a separate document on our website.

AMD Sections

The AMD consists of sections explaining the different stages of the Accounting Separation (AS) process. AS is the method by which we attribute costs, revenues and capital employed to the defined Markets and Technical Areas of BT.

Section	Contents
Section 1: Introduction	This section provides an introduction and guide to the AMD and its content.
Section 2: Business and systems overview	This section provides an overview of the BT business, an introduction to AS, and describes how the underlying financial transactions recorded in the financial ledgers are grouped to provide the data input into the AS system, REFINE.
Section 3: Attribution methods overview	This section introduces the concept of cost attribution and how the process flows from high level ledger costs through to Products and Services.
Section 4: Accounting policies	This section provides the basis of preparation of the RFS and highlights differences between current cost (as per the RFS) and historical cost policy (as per BT's Annual Report). It also describes accounting policies employed in valuation of non-current assets when preparing the RFS.
Section 5: CCA valuation methods	This section describes in detail the specific valuation methodologies used to value our non-current assets when preparing the RFS.
Section 6: Direct allocations	This section describes the costs that are attributed directly from general ledger code (as used in BT's Annual Report) to Activity Group, Plant Group or Product without the use of an apportionment model.
Section 7: Apportionment models	This section introduces the apportionment models used to calculated bases, and how these are used in the attribution process. It also includes a dictionary describing the methodologies used in this stage of the attribution process in conjunction with OUC-driven bases.
Section 8: OUC-driven bases	This section introduces OUC-driven bases (Organisation Unit Code) and how these are used in the attribution process (e.g. Exception Bases). It includes a dictionary which describing the material attribution methodologies used at this stage in the attribution process.
Section 9: Transfer Charges	This section explains the intra-group transfers within BT and how they are accounted for in the RFS.
Section 10: Activity groups	This section introduces Activity Groups and how these are used in the attribution process. It provides an overview of all material Activity Groups, and a summary of methodology that is applied to attribute the costs to the next cost pool (Plant Groups or Products).
Section 11: Plant groups	This section introduces Plant Groups and how these are used in the attribution process. It provides an overview of all material Plant Groups, and a summary of the base methodology used for each Plant Group to attribute the costs to the next cost pool (Components).
Section 12: Components	This section introduces Components, their usage factors, and how these are used in the attribution process. It provides an overview of all material components and usage

Section	Contents
	factors, and the basis for them.
Section 13: Equivalence of input charges	This section introduces Equivalence of Input (EoI) charging and the services used for this. It provides a dictionary of certain Openreach charges which impact the Wholesale Broadband Access (WBA) markets.
Annex 1: Sectors	This annex provides a complete list and description of key REFINE sectors involved in the cost allocation process.
Annex 2: Openreach reporting	This annex provides an overview of our Openreach obligations which are required by the Undertakings.
Annex 3: Data sources	This annex provides a dictionary of data sources.
Annex 4: Electricity Price Reporting	This annex provides a description and explanation of our methodology for setting the electricity charges that are used in the cost attribution process.
Annex 5: Detailed valuation methodology	This annex provides a bibliography of documents used as part of preparing our non-current asset valuation methodologies.
Annex 6: Studies and data sources in CCA valuations	This annex provides a list of studies and data sources used as part of our Current Cost Accounting (CCA) valuations.
Annex 7: Indices and trends used in CCA	This annex provides a list of indices and trends used in CCA.
Annex 8: F8 Code Markers	This annex provides characteristics of finance types, transaction types and summary types.
Annex 9: Detailed Attribution Tables	This annex provides: • a mapping of DVM asset categories to Plant Groups and Sectors; and • a table that identifies the key destinations of all bases described in the AMD.

1.4 Scope of document

The dictionary sections within the AMD have been written specifically to describe substantially all of the attribution of the total ledger value, ensuring that for any SMP market we describe the methodologies of at least 90% of the attributions in absolute terms.

The document follows this principle of identifying only those material items, rather than the total population of items that is relevant to a methodology. Key destination tables, presented in the Annex published separately on the Company's website, specify the destinations of at least 90% of the costs attributed by a methodology.

PART A - OVERVIEW

2 Business and system overview

This section provides:

- A brief overview of our business and our regulatory financial reporting obligations
- A description of how the underlying financial transactions supporting the business activities recorded in BT Group's financial ledgers are grouped into cost pools ('F8 groups') to provide the input costs, revenues, assets and the liabilities used by the AS system
- Description of our AS system, REFINE.

BT Group and regulatory reporting

We are subject to regulatory financial reporting obligations for Markets and Technical Areas where we are deemed to have SMP.

We prepare the RFS which show our costs, revenues, assets and liabilities against regulatory Markets and Services as defined by Ofcom in their market reviews. The statements are prepared via the AS process and comprise a financial performance summary, review of financial performance by groupings of markets and by individual markets, and other information including the network activity statement, adjusted financial performance and reconciliation statements. For regulatory reporting purposes, revenue is derived from and recorded against a range of services which BT provides. Costs associated with operational and support activities undertaken to support the provision of these services are recorded against sectors such as planning and development, provision and installation, maintenance and plant support.

A list and description of all of our reporting sectors is available in Annex 1.

The Customer Facing Units (CFUs) and Corporate Units (CUs) within BT

BT operates as a single business, made up of different organisational units. There are two types of organisational unit in BT: customer-facing ones that sell products and services and corporate ones that support the whole of the group. The costs and assets of each unit are attributed using the AS system to create the RFS.

In July 2017 we announced the creation of a new Consumer business – bringing together BT Consumer and EE. BT Consumer and EE operated separately during the 2017/18 year (which is why they are shown separately in this year's AMD) but in September 2017 the management team came together under Marc Allera to develop the integration plans for the new business. Consumer will report as a single business from April 2018.

For 2017/18, the units were as follows:

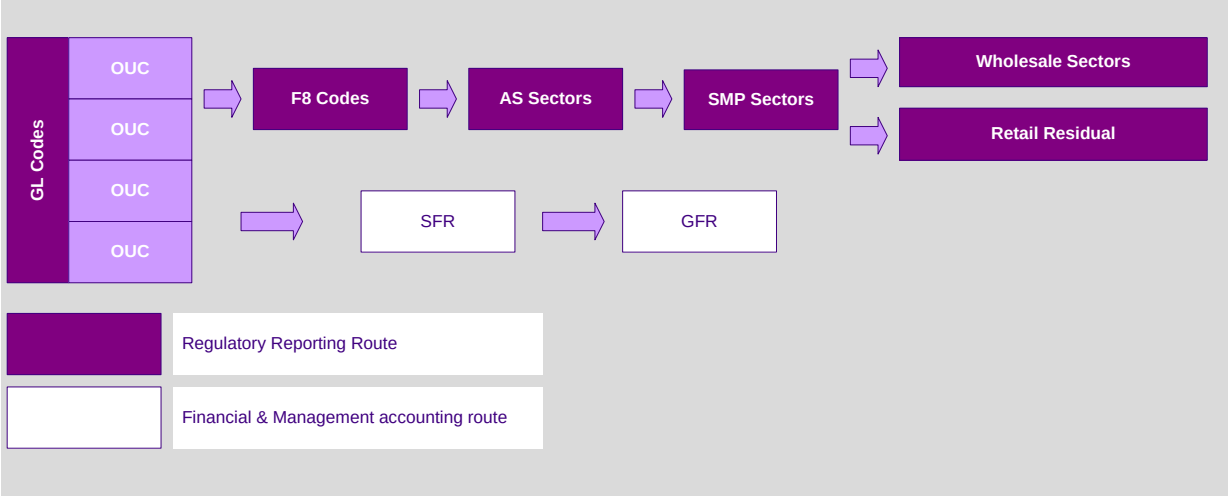
Division	Name
B	Openreach
C	BT Group Headquarters
E, Z	Corporate Adjustments
F	Facilities
G	EE
H	BT Business & Public Sector
J, MB	BT Global Services

K	BT Wholesale & Ventures
S	BT Consumer
T	BT TSO
V	Security
W	Property
Y	Group Procurement

The reporting hierarchy for use in the AS system

Our financial and reporting system, REFINE, uses a hierarchy pyramid coding structure to support the data capture and information summation at the LoB and activities level. This is explained below.

BT's SMP Reporting and Coding Structures



The diagram above shows the grouping of financial accounting information from general ledger cost accounts to F8 codes and sectors. The different levels of the hierarchy are discussed below.

2.2.1. Financial and Management Reporting route

- Accounting Transaction (GL Codes) Layer

The costs, revenues, assets and liabilities of our main business activities (within the operating businesses of BT Consumer, BT Business & Public Sector, BT Wholesale & Ventures, BT TSO, BT Global Services, Openreach and other parts of the BT Group organisation) are recorded in the group General Ledger (GL) system.

- Financial and Management Accounting (SFR Lines and Reports) Layer

General ledger codes are aggregated to Standard Financial Report (SFR) Lines. One or many GL Codes are aggregated to an SFR line which form the basis of BT's Financial and Management Reports used internally. The SFRs form the basis of both Financial and Management reports. There are approximately 100 SF Reports and approximately 8,200 SFR Lines. These are not used for the production of the RFS.

- Group Accounting (GFR Lines and Reports) Layer

SFR Lines aggregate to Group Financial Reporting (GFR) Lines. One or many SFR Lines are aggregated to a GFR line. GFR lines form the basis of BT's Group Financial Reports, from which, BT's external Financial Reports are produced.

Self-accounting Units (SAUs) not using the BT Group General Ledger (GL) system provide summarised details of their financial accounts on Group Financial Return (GFRet), with line items from the GFRet mapped to GL codes for use in the AS system.

2.2.2. Regulatory Reporting Route (AS system)

- Base & Apportionment (F8 codes) Layer

General ledger codes are grouped into 'F8 codes', which represent groups of similar general ledger codes. One or many GL Codes are aggregated to an F8 code. The costs, revenues, assets and liabilities associated with an individual F8 code (for a given Organisational Unit Code - see OUC description below) will be attributed to Products, Plant Groups (PGs) and/or Activity Groups (AGs) using a base methodology appropriate to the OUC that records the entry.

The Regulatory Reporting system REFINE receives general ledger feeds summarised at the F8 code level and attributes costs, revenues, assets and liabilities to the regulatory Markets and Services.

F8-OUC combinations are the lowest level at which discrete costs pools are defined for the purpose of the AS System.

- Regulatory Reporting (AS Sectors and SMP Sectors) Layer

One or many F8 codes are grouped into similar functional categories called AS sectors to make regulatory reporting more manageable. Although sectors contain functionally similar categories of cost, an individual sector is likely to use multiple attribution base methodologies. AS sectors are grouped into two broad categories: Income Statement; and Balance Sheet.

All AS sectors point to SMP reporting sectors, to further aggregate regulatory reporting information. One or many AS sectors can map to an SMP sector. These SMP reporting sectors are presented in the RFS.

Organisational Unit Codes (OUCs) and Sectors

OUCs provide a horizontal, organisational cut of the financial data in the vertical 'GL-F8-sector' pyramid. Costs/ revenues/assets/liabilities are recorded by OUC, at the class of work (CoW)/general ledger account level. CoWs specify a type of activity or asset type on which engineers are engaged at an F8 code level.

The codes for OUCs follow a hierarchical structure, with the first level of the OUC code defining the highest level of the organisation unit (i.e. Corporate or Customer-Facing Unit) and the subsequent letters of the OUC code representing the more detailed sub-divisions within the top-level organisation unit. For example, OUC code K represents BT Wholesale & Ventures, and code KB represents a subsidiary organisational unit within BT Wholesale & Ventures.

A Sector is represented by a series of F8 codes, with OUCs showing the financial values of their revenue, costs, assets and liabilities against the different F8 codes. Each sector can be represented by a matrix of the F8-OUC combinations. The AS system looks at each F8-OUC combination to identify an appropriate base attribution methodology to attribute the costs, revenues, assets and liabilities.

2.2.3. Attribution of financial information to Markets and Services

The AMD explains how the costs, revenues, assets and liabilities of the BT Group business are attributed to the products of the defined regulatory Markets and Services.

The AMD sets out for each sector the component F8/OUC codes and the attribution methodologies that are applied to each F8/OUC code to flow them through to products (and/or intermediate cost pools). Several F8-OUC combinations may share the same base, if they have similar cost behaviour.

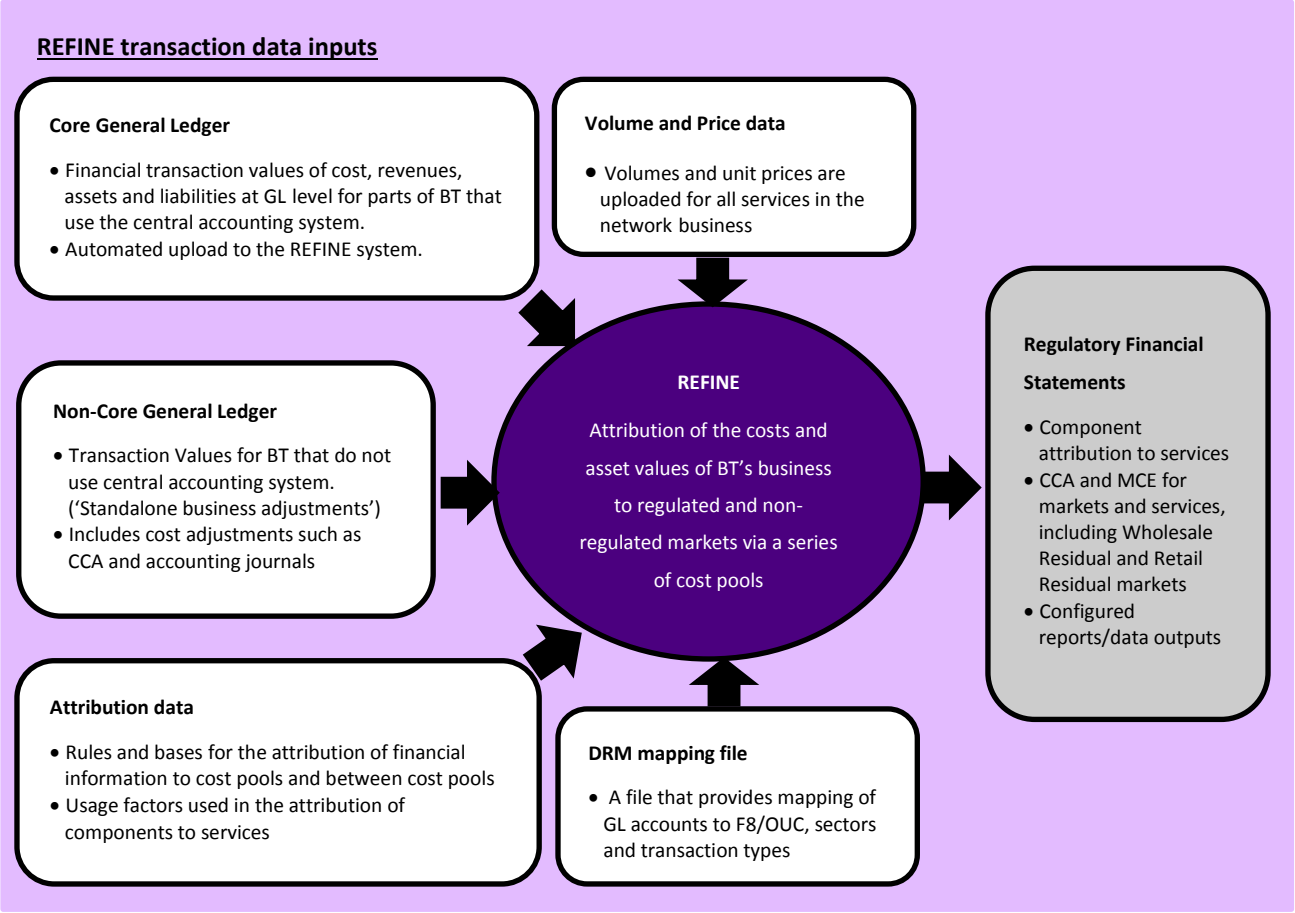
Our attribution methodologies are described in detail in the Methodology Dictionaries in Part B of this document.

The AS System, REFINE

2.3.1. System overview

We use a system called REFINE to perform the fully allocated cost attribution for the Regulatory Financial Statements. REFINE takes financial information from our general ledgers and using a series of predetermined rules and bases it attributes the costs, assets and revenues to regulated and non-regulated markets via a series of cost pools.

The diagram below illustrates the types of transaction data entering the REFINE system and processed to form the regulatory financial statements:



Financial Information from our Core General Ledger

We upload financial information relating to costs, revenues, assets and liabilities for the business units that use the general ledger in our central accounting system. This information is uploaded in the form of general ledger codes and organisational unit codes.

Non-core GL feed

We upload financial information relating to cost, revenues, asset and liabilities for the self-accounting business units from the Group Consolidation System. These business units are typically BT-owned subsidiaries and they

are included in REFINE in order to reconcile the financial information to that published in our statutory accounts but are allocated to the Retail Residual market.
We also upload central journals that relate to accounting adjustments that have been reflected in the statutory accounts but not processed within the Core Journal.
We also upload information relating to our Current Cost Accounting revaluations including asset values and indices. This information is uploaded from a REFINE CCA module with the underlying data being sourced from our fixed asset register and variety of our sources including indices published on the HMSO website.

We also enter some other journals into REFINE in order to take account of specific regulatory adjustments such as the accounting for Excess Construction Charges and for implementing RAV for duct.

Volumes and Prices for our Network Business

We upload service volumes and prices for our Network Business. In the case of Openreach markets the volumes are sourced directly from Openreach but they are pre-processed in order to input them at the required level of granularity for regulatory reporting. In the case of the other Wholesale markets we source the external volumes from BT Wholesale & Ventures and the internal volumes are derived from the volume of the downstream retail products using a number of different sources.
The prices for all reported services are sourced directly or indirectly from the Openreach and BT Wholesale & Ventures price lists but in some cases these are aggregations of more than one price.

General Ledger Hierarchy

General Ledger (GL) accounts are the lowest level at which financial information is brought into REFINE. A General Ledger Hierarchy file is also fed into REFINE, which sets out a mapping of GL accounts to F8 codes and assigns a series of markers to provide additional information about the F8 code e.g. sectors, transaction types etc. This enables the system to track and report results against a number of views.

F8 code / OUC Hierarchy

This file designates an attribution rule to each F8 code and OUC combination.

Attribution Rules

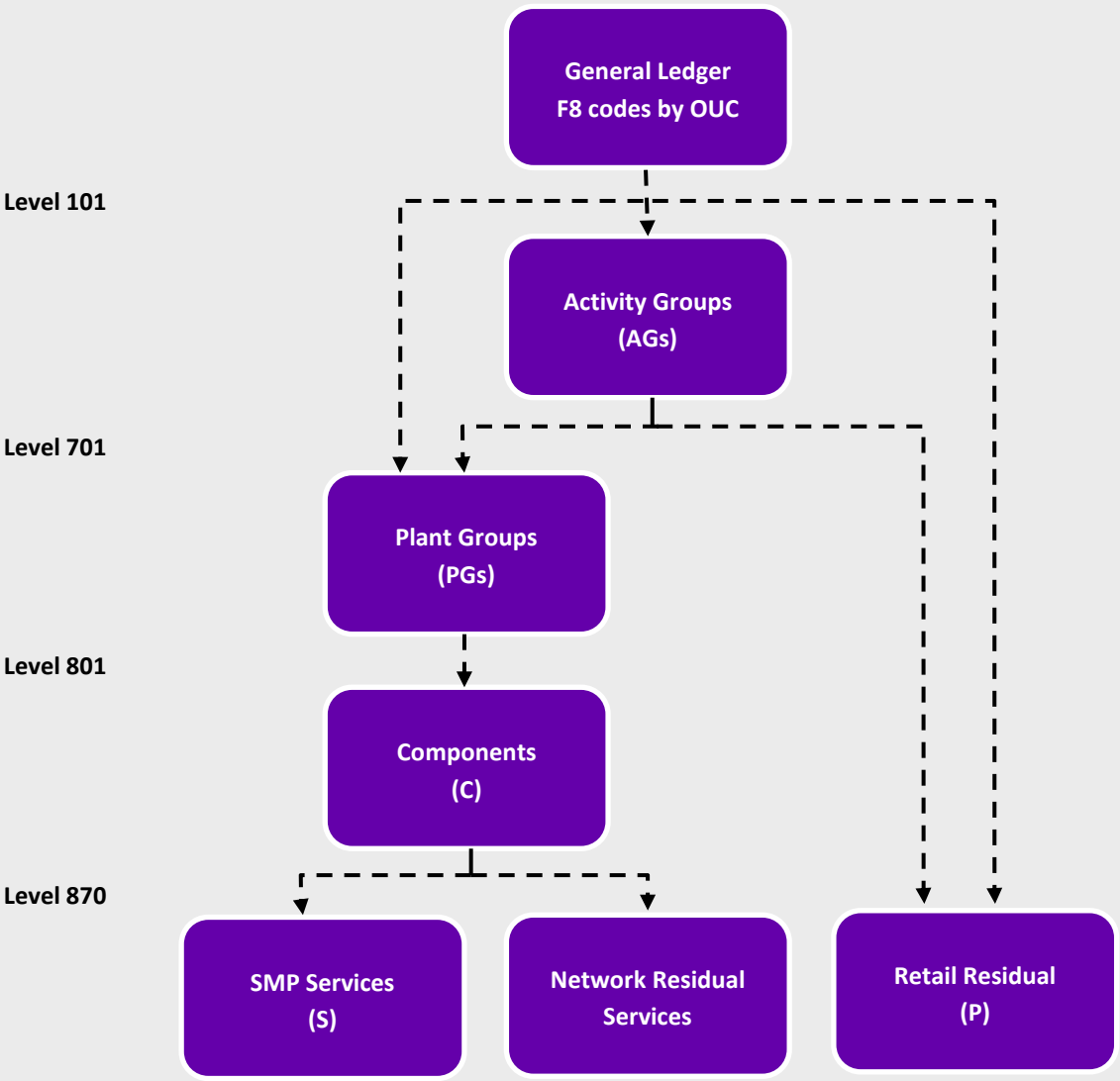
Some of the attribution rules are processed or calculated by REFINE but other rules need uploading into the system. These rules are uploaded in the format of % allocations, e.g. Specialised Accommodation costs are apportioned according the floor space occupied and the rule table that is uploaded shows the percentage of floor space occupied by each plant group.

2.3.2. System processes and processing totals

The REFINE system defines different categories of costs, which are treated in a similar manner in the system. At each level of the system processing, a particular category of costs will be attributed to other cost pools resulting in a sequential flow of costs across different categories at each stage of the system. The process of cost pools emptying as the costs are attributed forwards is referred to as ‘exhaustion’.

The diagram below illustrates the main processing stages of the REFINE system for the RFS.

Overview of REFINE's main attribution stages



These levels cascade costs downwards (the attribution process) in a specific order (as shown in the above diagram), to the final level of products (note that costs are allocated to products but the main focus for regulatory reporting is at the Component and Service level as these are what we publish in the RFS for SMP markets). The order of attribution is important because some attributions are made on the basis of previously attributed costs. For example, some costs are attributed on the basis of pay costs.

Section 3 provides further introduction to the methodologies used at each REFINE level, and explains where further detailed information for each stage is listed within the AMD.

2.3.3. Controls

There are a number of controls in the AS system to ensure the accuracy and completeness of the results. The key controls include:

AS data vetting

All data entry to the REFINE system, except the direct interfaces from the GL, takes place through the DRM (Oracle Data Relationship Manager) scripting process or separate modules in REFINE (e.g. for CCA). The Operations finance team manages version control data integrity. Data is entered or loaded into REFINE via a bespoke DRM interface and can be managed and reworked in a variety of ways. Once a DRM table has been updated, it cannot then be edited unless a superseding script is loaded to overwrite the previous data by an authorised user to help ensure data integrity. Once data has been submitted to a REFINE run it cannot be altered until a new run is initiated.

Specification of data sets for runs

Each run of the system is given a unique reference, which dictates the combination of data sets and reference data to be used in the run. These are determined from electronic control sheets to effectively 'commission' the run.

Completeness of processing

REFINE produces a series of 'probity reports' to show the completeness of processing at each level of the system

3 Attribution methodologies overview

This section covers:

- Introduction to apportionment methodologies;
- Introduction to the sequencing of attributions at first processing level, Level 101;
- Introduction to attribution stages after Level 101; and
- Explanation of attribution concepts.

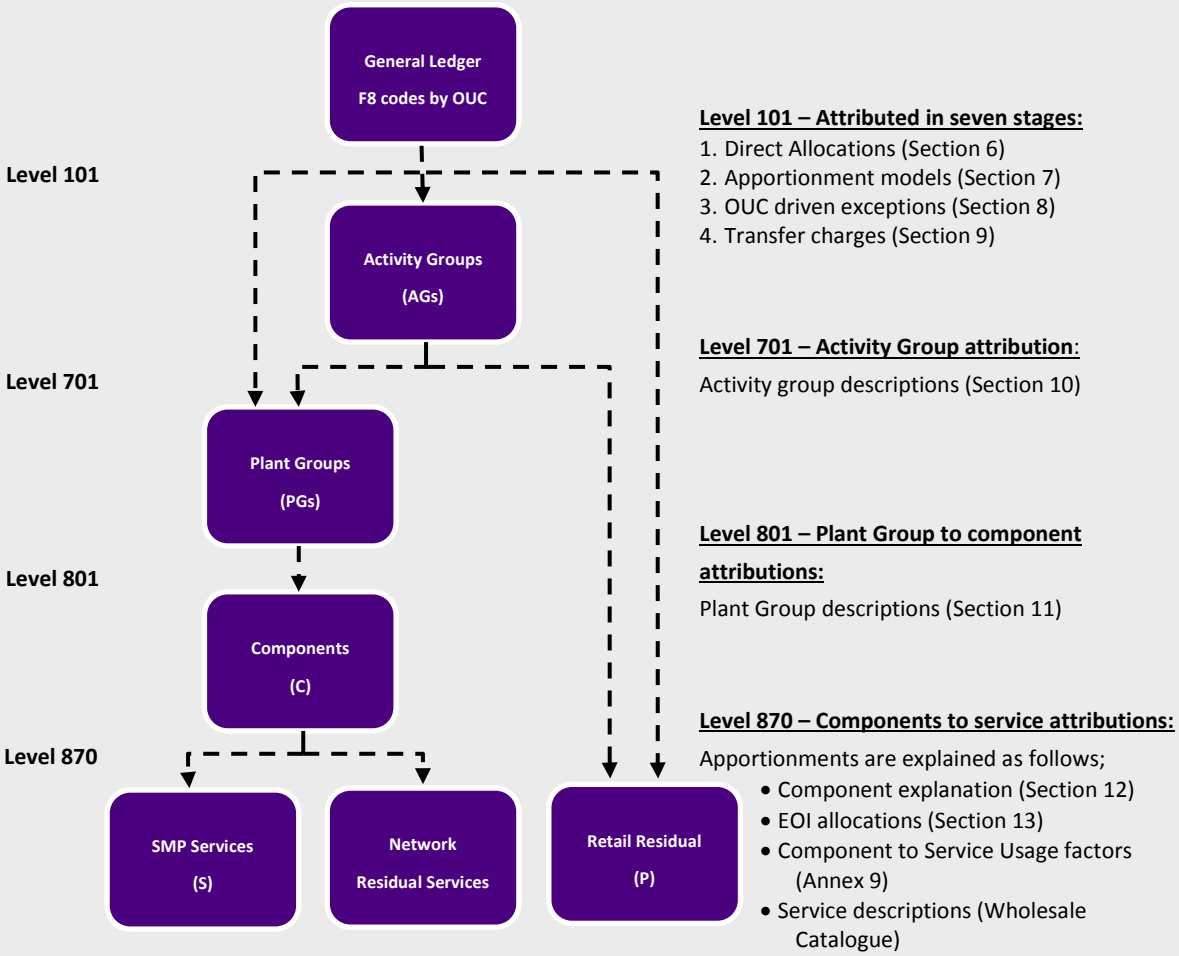
Introduction

To allocate costs, assets, liabilities and revenues from the general ledger through to SMP and residual services, a range of allocation methodologies are used sequentially.

There are four key stages where apportionment methodologies are applied, known in the REFINE system as Levels 101, 701, 801 and 870.

These levels of apportionment, and the detailed methodologies within each level, are explained in the following AMD sections:

Levels of apportionment in REFINE



Introduction to the sequencing of attributions at the first processing level, Level 101

All costs, revenues, assets and liabilities are attributed at the first level of REFINE, Level 101, using one of four types of attribution. These attribution rule types are sequential, with the later rules creating their attribution logic using the results of the earlier attribution stages.

The second and third rule types are held outside of REFINE in apportionment models.

For all other methodologies, the calculation logic is held within REFINE: the first direct apportionment rules attribute specified cost types to pre-determined destinations; the latter transfer charge rule (attribution stage 4) uses data from earlier stages to match internal transfers between our organisation units.

Order	Name	REFINE Rule	Calculation	Allocation Basis	AMD Section
1	Direct allocation	Rule Type 1	Fixed rules in REFINE's DRM	Allocates costs 100% to specific Activity Groups, Plant Groups, or to Retail Residual	6
2	Apportionment model bases	Rule Type 3	Apportionment model	Allocates a share of costs using a calculated % attribution rule, using cost apportionment models	7
3	OUC-driven bases	Exceptions	Apportionment model	Cost attribution model % attribution for certain OUCs	8
4	Transfer charges	Rule Type 28	System generated, following trades allocated during stages 1-3 above	Reallocation of costs between Core OUCs	9

Each organisational unit's costs, revenues, assets and liabilities are attributed using the above rules as follows:

Division	Name	Attribution Process
B	Openreach	Mainly apportioned using: • Rule Type 1 direct allocations • Rule Type 3 apportionment models • OUC-driven bases (Exceptions).
C	BT Group Headquarters	Mainly apportioned using: • Rule Type 1 direct allocations • Rule Type 3 apportionment models • OUC-driven bases (Exceptions)
E, Z	Corporate Adjustments	Division E includes Share Based Payment adjustments which are attributed using Rule Type 1. Adjustments to Z OUCs are predominantly attributed using Rule Type 1 direct allocations to Retail Residual; however adjustments specifically relating to a regulated service (e.g. ECC adjustments) follow Rule Type 1 to other destinations.
F	Facilities	Apportioned using: • Rule Type 1 direct allocations • OUC-driven bases (Exceptions).
G	EE	Attributed using Rule Type 1 direct allocations to Retail Residual

Division	Name	Attribution Process
H	BT Business & Public Sector	Apportioned using: • Rule Type 1 direct allocations • Rule Type 3 apportionment models for Northern Ireland units • OUC-driven bases (Exceptions) Predominantly attributed to Retail Residual markets.
J, MB	BT Global Services	Attributed using Rule Type 1 direct allocations to Retail Residual.
K	BT Wholesale & Ventures	Mainly apportioned using: • Rule Type 1 direct allocations • OUC-driven bases (Exceptions).
S	BT Consumer	Attributed to Retail Residual, predominantly using Rule Type 1 direct allocations.
T	BT TSO	Mainly apportioned using: • Rule Type 1 direct allocations • Rule Type 3 apportionment models • OUC-driven bases (Exceptions).
V	Security	Predominantly apportioned using OUC-driven bases (Exceptions).
W	Property	Apportioned using: • Rule Type 1 direct allocations • Rule Type 3 apportionment models • OUC-driven bases (Exceptions).
Y	Group Procurement	Predominantly apportioned using OUC-driven bases (Exceptions).

Rule Type 1 – Direct Allocations

Allocate specific F8/OUC combinations to a specific cost pool, e.g. Openreach (OUC: B) engineering pay costs for the activity of repairing PABXs (Class of Work AMBSB, F8 code: 102911) are allocated to PG981R (Time Related Charges) but pay costs for BT TSO engineers on the same activity are attributed to Retail Residual.

Rule Type 3 – Apportionments Models

Apportions F8/OUC combinations to more than one cost pool using a specific attribution rule, e.g. the depreciation on BT TSO's AXE10 switch assets F8 code: 455164 / OUC: T) are apportioned to several plant groups using the rule PDTLYX (see Section 7 for more information on PDTLYX). Apportionment models for each Rule Type 3 base, such as the model for PDTLYX, are held outside of REFINE and are used to calculate the % share of costs by each relevant destination cost pool.

Exceptions – OUC-driven bases

These attributions are applied to specific OUCs using apportionment models that are held outside of REFINE, e.g. the costs in the business unit BT Wholesale & Ventures Product Management (OUC: KD) are predominantly apportioned to plant group based on an activity survey.

These attributions sequentially follow Rule Type 1 and 3 attributions, meaning that in the above example any KD OUC costs attributed by Rule Types 1 or 3 would not be affected by an OUC-driven Exception base.

Rule Type 28 - Transfer charges

Transfer charges relate to the attribution of costs between different business units. Each transaction has receipt for one LoB and a payment for another LoB. Rule Type 28 is a system generated base that attributes the transfer charges receipts in proportion to how the transfer charge payments have been apportioned, in this way the two net each other off. Transfer charges are explained more fully in Section 9 Transfer Charges (Rule Type 28).

Introduction to attribution stages after level 101

3.3.1. Activity Groups to Plant Group or Retail Residual (Processing level 701)

The source cost pools at level 701 attribute the combinations of costs and assets which relate to activities such as training, development, facilities management and general corporate costs.

We have summarised this level to show how Activity Groups attribute to Plant Groups. In practice there are sub-stages to this attribution where Activity Groups are attributed in a specific order to accommodate the fact that some of their attributions are to other Activity Groups.

The order of this attribution is as follows (note that more information on Activity Groups is available in Section 10 Activity Groups):

1. AG101 to AG105, AG119, AG170 to 173 and AG401 to AG415; then
2. AG113 and AG115 to AG118; then
3. AG135, AG148 and AG149

Activity Groups are attributed to Plant Groups and Retail Residual using either defined system rules or methodologies which are appropriate to the types of costs they attribute. Ultimately, Activity Groups are attributed to either Retail Residual products or Plant Groups; however some of the attributions at this processing level are first from one Activity Group to another.

Details of each Activity Group and their onward apportionment rules can be found in Section 10 Activity Groups.

3.3.2. Plant Groups to Component (Processing Level 801)

The source cost pools at level 801 attribute the combinations of costs and assets which relate to plant (network) overheads, such as accommodation costs for network buildings and costs of providing power to exchanges and transmission assets.

Plant Groups are attributed to components using methodologies which are appropriate to the types of costs they attribute. Plant Groups can be attributed to Components on a one-to-one, one-to-many basis, or many-to-many bases. Consequently a Plant Group may contribute costs to many different Components and a Component may receive costs from many Plant Groups.

Details of Plant Groups and their onward apportionment rules can be found in Section 11 Plant Groups.

3.3.3. Component to Service (Processing Level 870)

The source cost pools at level 870 attribute the combinations of all costs and assets which make use of BT's Network (i.e. those which are not already attributed to Retail Residual markets).

Components are attributed to services. Services represent a bundle of Component elements. These services get charged to those who use the network. Network users can be internal (e.g. BT Consumer) or external (Other Communication Providers). The allocation of Components to Services uses volumes and usage factor data.

Details of how this works can be found in Section 12 Components.

Explanations of Attribution Concepts

- Cost drivers or 'bases': These are the underlying bases on which costs are incurred, e.g. accommodation costs are incurred on the basis of floor space requirements. The cost driver or 'base method' is therefore floor-space.
- Costs: Costs are taken from the accounting records. The processes applied to the costs, which vary according to the nature of the costs and the way in which they are recorded, are:
    - Attribution: This is a general term encompassing both allocation and apportionment.

- Allocation: Certain costs can be directly associated with particular activities or type of equipment and do not require apportionment. Our engineers book their time and the materials they have used to Classes of Work (CoW). Many of these CoWs can be mapped directly to specific plant groups or support functions.
- Apportionment: Other costs cannot be directly associated with specific activities and plant groups, and require apportionment. For network costs this process makes extensive use of engineering data reflecting not only each plant group type (e.g. local lines, transmission equipment) but also the type of technology (e.g. metal and fibre local lines, PDH and SDH transmission equipment).

Certain other costs can be identified within the accounting records as relating to a discrete function such as repair centre costs, computing or billing. A review of this function, often by the means of work/application analyses or a survey of staff activity, establishes the cost driver and is used to apportion its costs between activities and, if applicable, plant groups.

- Capital employed: We define capital employed as: mean total assets less current liabilities, excluding corporate taxes, dividends payable, and retirement benefits obligations but including provisions. The mean is arithmetic average of the start and end values for the period. The apportionment of capital employed follows a similar approach to that for operating costs. For some items, such as trade receivables, relevant revenue is the appropriate driver, rather than costs.

Non-current Assets can be divided into:

- Assets that can be directly allocated to plant groups, e.g. dropwires
- Assets relating to plant groups which are apportioned on the basis of cost drivers, e.g. SDH transmission equipment is apportioned to plant groups based on a count of equipment and their replacement cost
- Assets of a general nature which are apportioned to retail products, plant groups and support functions using an appropriate cost driver, e.g. capitalised systems development costs are apportioned using an analysis of specific projects recorded on our fixed asset register.

On 28 April 2016, Ofcom published its findings on BT's weighted average cost of capital (WACC) in annex 35 of its Business Connectivity Market Review – Volume II, available from Ofcom's website: www.ofcom.org.uk.

The review set the disaggregated WACC for BT as: BT Group at 9.9%, Openreach at 8.8% and the Rest of BT as 12.4%.

The WACC is applied to the MCE of a given service to represent an acceptable rate of return generated on providing that service.

Net current assets / (liabilities) are reported either using moving average methodologies (e.g. Liquid Funds and Notional Debtors) where the value for cash or debtor days is calculated based on a five year moving average, or by using specific attribution methods (e.g. many liabilities are apportioned using OUC-driven allocations)

Provisions are either allocated specifically to activities and components or are apportioned using a base appropriate to the particular charge. For example, provisions relating to the cost of vacating leased buildings are apportioned using the accommodation cost base.

- Non-financial data: Wherever costs cannot be directly allocated to activities and plant groups, or when plant groups do not map exactly on to components, an apportionment is required. Depending on the cost involved, the appropriate basis of apportionment may be of a non-financial nature. In these instances the relevant data may be extracted from non-financial data sources, such as operational systems giving circuit numbers, or may be collected through activity analyses.

  For example, the apportionment to activities and plant groups of the pay costs that relate to a discrete function is dependent upon a survey of the tasks of the staff whose pay is being apportioned. Such surveys will typically involve analyses of the tasks staff undertake and the percentage of time spent on those tasks. These tasks will then be linked to activities and plant groups, either directly or through further analysis.

Surveys are frequently specially commissioned for the purpose of cost attribution and are carried out at a level appropriate to the activities and plant groups in question and updated at least annually.

- Gross Adjusted Costs: Costs are presented on a 'gross adjusted basis', i.e. this reflects all external costs together with all transfer charges between divisions. There are two main types of transfer charges:
    - Cost transfer charges between divisions/organisational units, which go through the GLs. Such charges are eliminated in the consolidated results, and usually in the AS framework, where they are replaced by the underlying cost
    - Transfer charges between Markets e.g. from the Wholesale Significant Market Power (SMP) Markets to the BT Retail Residual. Such charges are calculated and presented only within the AS framework (rather than through the GLs).

Transfer charges are discussed in further detail in Section 9 (Transfer Charges).

4 Accounting policies

This section explains the basis of the preparation of the RFS and highlights any differences between current costs and historical cost policy as set out in BT's Annual Report.

Basis of preparation of the RFS

The RFS are prepared under the financial capital maintenance convention in accordance with the principles set out in the handbook "Accounting for the effects of changing prices", published in 1986 by the Accounting Standards Committee, except where directed by Ofcom to apply alternative valuation methodologies. Under this convention, current cost profit is normally arrived at by adjusting the historical cost profit to take account of changes in asset values and of the erosion in the purchasing power of shareholders' equity during the year due to general inflation, however this adjustment is not included in regulatory reporting. Asset values are adjusted to their value to the business, usually equivalent to their net current replacement cost. Changes in asset values are referred to as unrealised holding gains or losses and are not split between price variance and other as we do for the RFS.

The Accounting Methodology Documents are made up of the following (listed in order of priority):

i. The Regulatory Accounting Principles (published separately to this document by Ofcom in the SMP services condition 12.8 within Annex 33 of their Wholesale Local Access Market Review (28 March 2018))
ii. The Attribution Methods (covered in Sections 7 to 12 of this document)
iii. The Transfer Charge System Methodology (Section 9 of this document)
iv. The Accounting Policies (this section)
v. The Long Run Incremental Costs Methodology (published as a separate annex to this document).

The RFS are required to give primacy to Regulatory Decisions, which are explained in the Attribution Methods.

The RFS are reconciled to BT's Annual Report, which consolidates, on a historical cost basis, the financial statements of the company and all of its subsidiary undertakings. Where the financial statements of subsidiary undertakings, associates and joint ventures do not conform to the Group's accounting policies, appropriate adjustments are made on consolidation in order to present the financial statements on a consistent basis. The principal subsidiary undertakings' financial years are all in alignment to those of the company.

The preparation of financial statements in conformity with IFRS requires the use of accounting estimates. It also requires management to exercise its judgement in the process of applying the Group's accounting policies. We continually evaluate our estimates, assumptions and judgements based on available information and experience. As the use of estimates is inherent in financial reporting, actual results could differ from these estimates. The areas involving a higher degree of judgement or complexity include accounting for long term customer contracts, pension obligations, useful lives for property, plant and equipment and software, provisions and contingent liabilities, current and deferred income tax, goodwill and provision for doubtful debts.

The Group's accounting policies are detailed on pages 206 to 214 of BT's Annual Report for the year ended 31 March 2018 which is available from our website: www.BTplc.com, or from our registered office:

BT Group plc
BT Centre
81 Newgate Street
London
EC1A 7AJ

Principles of Valuation of Non-Current Assets

Assets are stated in the balance sheet at their value to the business, usually equivalent to their Net Current Replacement Cost (NRC). This is generally derived from the asset's Gross Replacement Cost (GRC) and is the current purchase price of an identical new asset or the cost of a modern equivalent asset (MEA) with the same service potential.

We employed different valuation methods in the RFS for different technology types. These are 'existing technology', 'modern equivalent asset' and 'low value/short life' valuations. The valuation types along with the different ways in which we employ them are explained in Section 5 Valuation Methodologies.

Property, Plant and Equipment and Software Intangible Assets

Property, plant and equipment are stated at current cost less depreciation (also at current cost).

In BT's Annual Report, property, plant and equipment and software intangible assets are included at historical cost, net of accumulated depreciation, government grants and any impairment charges. On disposal, any difference between the sale proceeds and the net book value at the date of disposal is recognised in other operating income in the income statement.

Included within the cost for network infrastructure, equipment and internally developed software are direct and indirect labour costs, materials and directly attributable overheads. Depreciation is provided on property, plant and equipment on a straight line basis from the time the asset is available for use, to write off the asset's cost over the estimated useful life taking into account any expected residual value. Freehold land is not depreciated.

Current Cost of Property, Plant and Equipment and Software Intangible Assets

The current replacement cost of categories of assets where major programmes of modernisation are under way is based on the concept of the modern equivalent asset, i.e. the cost of replacing existing equipment with modern assets of similar service potential. The gross current replacement cost of the major categories of property, plant and equipment and software intangible assets has been assessed on the following basis:

(a) Land and buildings

Property assets (general purpose buildings, specialised buildings, general purpose land and specialised land), are valued at historical cost. Specialised accommodation assets are valued using the indexed historic methodology.

(b) Access – Copper

Copper cable and dropwires are valued using the indexed historic methodology and the Office of National Statistics (ONS) published Retail Price Index (RPI).

(c) Access – Fibre

Access fibre cables are valued using the indexed historic methodology and the Office of National Statistics (ONS) published Consumer Price Index (CPI).

(d) Duct

Duct is either valued using the indexed historic methodology and the ONS published RPI or, for duct used by access cables, a prescribed Regulatory Asset Valuation ("RAV") methodology which Ofcom have directed us to use.

(e) Switch

System X local exchanges are valued using an extrapolation of the absolute valuation as at 31 March 2009. AXE10 local exchanges, UXD5 remote concentrators and main distribution frames are valued at historical cost.

(f) Transmission

Synchronous Digital Hierarchy (SDH) transmission equipment is valued using the indexed historic methodology. Backhaul and core fibre cables and equipment deployed as part of 21st Century Network are valued using the absolute valuation. All other Transmission assets are valued at historical cost.

(g) Other Non-current Assets

Telecom power equipment is valued using the indexed historic methodology. All other assets, including computers, vehicles, internally developed and externally purchased software and other intangible assets are valued at historical cost.

Depreciation

HCA depreciation is provided on property, plant and equipment on a straight line basis from the time the asset is available for use, to write off the asset's cost over the estimated useful life taking into account any expected residual value. Freehold land is not depreciated.

The asset lives assigned to principal categories of assets are shown in our accounting policies, described in our statutory accounts Annual Report.

5. CCA valuation methods

5.1 Introduction

In this section we describe the specific valuation methodologies used to value our Non-current Assets in the preparation of the RFS.

BT's fixed asset register categorises our assets into a range of sub-accounts known as classes of work (CoW). These CoW describe the type of asset in detail and are an appropriate level of granularity for us to make our valuation decisions. In the presentation of the RFS we group them into a smaller number of asset categories. Details of the CoW included under each asset category are provided in Annex 9.

Our fixed asset register also provides some additional detail which allows us to go down to an additional level of detail (known as policy codes) and our financial systems allow us to disaggregate capital expenditure into pay, materials and contracted work. This additional detail is used in the valuation methods where appropriate.

Basis of Preparation of the Regulatory Financial Statements

The RFS are prepared under the financial capital maintenance (FCM) convention using the principles set out in the Report to H. M. Treasury (1986) "Accounting for Economic Costs and Changing Prices" and the handbook "Accounting for the effects of changing prices", published in 1986 by the Accounting Standards Committee, except where we are directed by Ofcom to apply a different valuation methodology.

Under the FCM convention we include changes in asset values in our income statement as unrealised holding gains or losses. Normally a general inflation adjustment for the erosion in the purchasing power of shareholders' equity would also be applied, but this adjustment is not included in regulatory reporting.

Principles of Valuation of Non-current Assets

Assets are stated in the balance sheet at their value to the business, usually equivalent to their Net Replacement Cost (NRC). This is generally derived from the asset's Gross Replacement Cost (GRC) which is the current purchase price of an identical new asset or the cost of a modern equivalent asset (MEA) with the same service potential, except where we are directed by Ofcom to apply a different valuation methodology.

In line with the FCM concept, the effect of the asset revaluation on the income statement is to increase the historical cost profit by any unrealised holding gains (UHG) arising in the year and to decrease it by unrealised losses. Over the life of the asset, CCA and HCA charge the same to the P&L (including supplementary depreciation as a result of CCA changes). Asset life is also the same. We allocate Current Cost Accounting (CCA) adjustments to the income statement and balance sheet to Markets using the same principles and processes as we use for allocating the historical costs for the same assets.

The methods employed for valuing our assets are shown in the table below:

Valuation assumption	Valuation method	Example (CoW)
Existing technology	Absolute valuation Indexation Extrapolated Absolute Regulatory Asset Valuation (RAV)	21CN (ETHER and CORLU) Copper Dropwires (NWB & NWR) System X exchange switches (LDX) Duct (LDD)
Modern Equivalent Asset (MEA) – see section 5.1.1 (ii)	Absolute valuation	21CN Combi-cards (MSAN, MSANF and MSANH)
Low value, short residual life and/or minimal impact on regulated areas of BT	Historical cost	Vehicles (NVAC)

5.2 Choice of valuation method

The valuation methods used for the various asset categories are reviewed annually to ensure that they are still appropriate and produce robust valuations in the light of changes in technology and levels of investment. For example, when new technology is being introduced the purchase price will represent its current cost, but in later periods indexation or an absolute valuation will be introduced as prices change and/or the technology of the assets purchased is no longer the modern technology.

If the technology of the asset in place is still the current technology (subject to section (ii) following), the asset is valued on a like-for-like basis but at current prices rather than the prices when purchased.

(i) Existing technology

Where an asset is being revalued on a direct replacement basis, its replacement cost is usually assessed either by indexation, by absolute valuation or by extrapolated absolute valuation. The choice of method involves a judgement as to which method, given the data available, is likely to give a more accurate and robust valuation. Factors considered include the following:

Indexation: This is an appropriate method when there has been little technological change in the asset category and all the direct costs associated with bringing the asset into service would be incurred if it were to be replaced today. It also requires the production of an appropriate index. Net replacement cost is derived using indexation of the historical net book values.

The table below shows those assets presently valued on an indexed historic basis as detailed in Annex 7.

Asset Description	CoW
Copper Dropwires	NWB & NWR
Synchronous Digital Hierarchy Equipment	SDH
Backhaul and Core Duct	LDD
Access Copper Cable	LDC
Telecom Power Equipment	TPC
Specialised Accommodation Assets	ACPN
Access Fibre Cable	LFSC & LFDC
Backhaul/Core Fibre Cable	CJF

Absolute valuation: In using the indexation method there may be difficulties in establishing appropriate indices and hence it may be more accurate and reliable to use physical volumes and unit prices to derive a full absolute valuation. This method in turn may present difficulties, for example in establishing meaningful current unit prices, so the choice of method for a particular asset depends on individual circumstances.

The table below shows those assets presently valued on an absolute valuation basis.

Asset Description	CoW	CCA Depreciation Method	Section ref. for detailed method
21st Century Network:			
Core Nodes	CORLU	NBV/GBV	5.2.7
Core and Metro Nodes	COR21	NBV/GBV	5.2.7
Metro Nodes	METCI	NBV/GBV	5.2.7
Metro Nodes	METSI	NBV/GBV	5.2.7
Metro Nodes	METAL	NBV/GBV	5.2.7
Ethernet	ETHER	NBV/GBV	5.2.7
WDM	WDMH	NBV/GBV	5.2.7
WDM	WDM21	NBV/GBV	5.2.7

Extrapolated absolute valuation: where there have been no significant developments in technology or underlying asset base then a full absolute valuation exercise may not be justified. In these cases we may

choose to continue with the previous year's valuation and then extrapolate by adding capital expenditure at cost and applying an index that reflects known price movements.

The table below shows those assets presently valued using an extrapolated absolute valuation method.

Asset Description	CoW	Date asset last valued as Absolute Valuation	Section ref. for detailed methodology
System X Exchange Switches	LDX	2008/09	5.2.6

Regulatory Asset Valuation (RAV): In some situations Ofcom have directed us to follow an alternative methodology to make the valuation consistent with that used in charge controls.

The table below shows those assets presently valued using Ofcom determined Regulatory Asset Valuations.

Asset Description	CoW	Section ref. for detailed methodology
Duct used by copper cables	LDD	5.2.5

(ii) Modern Equivalent Asset (MEA)

In situations where there is technological change, existing assets may not be replaced in an identical form. In such cases the replacement cost is based on the cost of an MEA i.e. the cost of a modern asset with similar service potential. In some cases the rate at which modern assets can be introduced is limited by practical constraints such as manufacturing and installation capacity, or lead times. The mix of technology used as the modern equivalent for valuation is generally taken as the technology forecast to be in place in three years' time. The problems of assessing capacity and unit costs are the same as for any absolute valuation, as described above.

Currently the only asset valued as an MEA is that of MSAN combi cards which are valued by using the price of broadband cards. Combi cards were installed to cater for both voice and broadband but the intention is now to only use these combi cards as broadband cards.

Operating Cost Adjustments

If there are material differences in operating costs between the MEA and the existing asset, the MEA valuation is adjusted to reflect these. The differences may arise, for example, due to differing maintenance costs over the whole lives of the assets.

At present, for assets valued using an MEA approach, there are no cases where the differences have been identified as significant and hence no adjustments are required.

Functionality Abatements

Where existing assets are valued using an MEA, the unit price of the modern asset may reflect a higher level of functionality than that of the existing asset. In such cases the MEA valuations of the existing assets are adjusted downwards to reflect the estimated cost of upgrading these assets to the functionality of the version used in the valuation.

Surplus Capacity

An asset is considered to have surplus capacity only if there is capacity within the asset that is not in use and not expected to be put into use over BT's planning horizon. Thus assets that have capacity planned to be brought into use, or which are needed to meet known planning margins or network resilience requirements are considered to be part of the operating capacity.

Where there is modularity in the provisioning of capacity, provided that a part of the modular asset is utilised or will be utilised over the planning horizon, these assets are included within the operating capacity in their entirety.

BT has not identified any material groups of assets that fall within the above definition of surplus capacity that require revaluation.

(iii) Low value, short residual life or minimal impact on regulated parts of BT

Where assets:

- have a relatively low value;
- have a short asset life and only modest price movements have been observed;
- are virtually fully depreciated;
- have been recently acquired (so the current and historical costs are similar); or where
- attribution to regulated markets is immaterial

there will be little impact on the regulatory financial statements as a result of the differences between their historical and current replacement cost. Therefore, these assets will be valued at their historical cost.

Asset Description	CoW	Section ref. for detailed methodology
Office computers	COMPE	5.2.8

5.2.1 New technology and its use as MEA

Emerging replacement technologies are treated as separate asset categories until it is clear that their costs are lower than those of an older technology and that they have become the modern equivalent. For example, fibre cable is being deployed in parts of the access network but its cost is not yet low enough for it to be considered as the MEA for copper cable.

In considering the use of new technology as the MEA it is assumed that there are no changes to BT's network topology, i.e. the number of nodes and the links between them are valued in their existing configuration, not as a theoretical optimised network.

5.2.2 Unit costs

Unit costs applied to capacity for absolute valuations are based on outturn prices where these are considered representative of the costs that would be relevant if the assets were being replaced at a normal rate in the normal course of business. It is possible that the prices currently being paid are unrepresentative, for example when ordering levels are particularly high or low, or at the end of a technology's life. In such cases an estimate is made of an appropriate current cost with reference to internal and external data.

5.2.3 Choice and application of indices for Indexation Method

We have prepared price indices for each of the CoWs valued under the indexation method. These indices are usually composite indices constructed from Office for National Statistics (ONS) indices such as average earnings and weighted by analysis of elements of BT expenditure e.g. BT labour, contract, or stores. Annex 7 lists the indices (including their sources).

The year-end valuation for each asset is built up from historical asset data, sourced from the Group's Fixed Asset Registers plus late registered assets from a late registration journal and WIP from the BT Group annual report. Indices at 31 March (current year) are used in the year-end valuations in conjunction with the indices at 30 September in the year of registration for the asset being valued, as illustrated below. Use of the mid-year indices reflects the fact that the assets are purchased throughout the year; thus the current year historical cost accounting (HCA) additions have six months' indexation applied to them to derive their CCA value.

Example for an asset being valued at 31 March 201x:

Year of Registration:	GBV additions in the year	GRC additions in the year
1990/91	A	A x Index @ 31/3/1x / Index @ 30/9/90
1991/92	B	B x Index @ 31/3/1x / Index @ 30/9/91
↓	↓	↓
2013/14	Z	Z x Index @ 31/3/1x / Index @ 30/9/12
	_____	_____
TOTAL @ 31/3/1x	GBV = Sum of above	GRC = Sum of above

5.2.4 Depreciation

Depreciation is provided on non-current assets on a straight-line (for HCA) basis from the time they are available for use, so as to write off their costs over their estimated useful lives, taking into account any expected residual values. No depreciation is provided on freehold land. The lives assigned tare the same under both the current cost and historical cost conventions.

CCA depreciation for those assets valued on an indeed historic basis is calculated using an indexed NBV/GBV methodology.

For those assets valued on an absolute valuation basis, the CCA depreciation is derived using either NBV/GBV method or the Roll Forward method. The specific method used for each Class of Work is shown in Section 2.

5.2.5 Disposals, write-outs and write offs

These are derived from HCA figures and revalued using the most appropriate method for the asset being valued within the overall approach described in Annex 7.

5.3 Detailed Valuation Methodology

5.3.1 Introduction

This section provides details of the methodologies adopted for deriving the gross valuation and CCA depreciation.

The studies and data sources utilised in the preparation of the CCA Valuations referred to in this section are described in Annex 6.

A description of the Asset Movement Statement process for derivation of NRC including the underlying CCA movements is provided in Annex 7.

5.3.2 Land & Buildings

Property

The majority of property assets (general-purpose buildings, specialised buildings, general purpose land, specialised land and the majority of accommodation plant) are valued at historical cost. This is because only a

small number of buildings are owned by BT and the CCA adjustments would be spread across a large number of services, resulting in immaterial adjustments to the individual services.

Specialised Accommodation Assets

These assets are all associated with creating a suitable environment for housing network equipment (CoW ACPN). The largest element is for air ventilation and air chilling equipment but also included are fire, flood and gas detection equipment, electric light and power, kitchen equipment, and intruder detection.

We value these assets using the indexed historic principles but in order to better reflect the different types of assets within this CoW we have used different indices for each type. These indices are shown in Annex 7.

5.3.3 Access – Copper

Access Copper Cable

This asset includes the overhead and underground copper cables that connect BT's exchanges to the distribution point.

The valuation is calculated using an indexed historic method. To calculate an absolute valuation for an asset of the size and complexity of the copper network requires a number of significant assumptions and estimates, which would lead to volatility in the RFS.

RPI has been selected as the most the appropriate index for this asset.

Dropwire

This asset includes the copper wire from BT's distribution point up to and including the main socket on an end-user's property. The assets are valued using an indexed historic method. RPI has been selected for this asset consistent with the valuation of Access Copper Cable.

Other Assets

ISDN2 network terminating equipment (CoW HHB, HHR & NTIS) and broadband ADSL technology (CoW ADSL) are valued at historical cost as these assets are of relatively low value.

5.3.4 Access – Fibre

Access – Fibre Cable

This asset includes the fibre cable from BT exchange to the end user's premises. The assets are valued using an indexed historic method using CPI.

Other Fibre Assets

The remaining assets in this category are valued at historical cost as they are of relatively low value or have been recently acquired (so the current and historical costs would be similar).

5.3.5 Duct

Standard Duct Valuation

The valuation of duct is calculated using an indexed historic method. To calculate an absolute valuation for an asset of the size and complexity of the duct network would require a number of significant assumptions and estimates leading to volatility in the RFS.

RPI has been agreed with Ofcom as the most the appropriate index for this asset (including Capitalised Planning costs).

Regulatory Asset Valuation for duct used by access cables

Ofcom have directed us to value duct used by access cables using a prescribed RAV methodology. Duct built up to 31 Jul 1997 (pre-97) is at HCA but indexed using RPI from 1 Apr 2005. Duct built after 31 Jul 1997 (post 97) is

at 'CCA' meaning that RPI is applied from the date of purchase/installation/go live/registration. The valuation of duct built after Mar 31 2001 is calculated by applying the index each year from the date the asset was registered as per the standard duct valuation.

The RAV adjustment (step 4) is allocated to AG135 Duct used by Access Cables so that cost pool contains that original CCA valuation and the RAV adjustment to be equivalent to the RAV valuation for duct used by access cables.

Details of Regulatory Asset Valuation for Duct used by Access Cables – including key assumptions and any models used

- **Step 1.** We value all duct using our standard indexed historic methodology. The assets and depreciation are attributed using our duct allocation methodologies (PDTDUCT) to the activity groups: Duct used by Access Cables, Duct used by Backhaul Cables and Duct used by Core Cable.
- **Step 2.** Input Fixed Asset Register detail. We download the detail of our duct asset registrations by year from the Fixed Asset Register.
- **Step 3.** Input RPI index. We use the RPI index from the ONS website.
- **Step 4.** Input proportion of duct used by access cables: We are only required to apply the RAV methodology to duct used by access cables and we take this proportion from our cost allocation bases: PDTDUCT.
- **Step 5.** Calculation of Regulatory Asset Valuation for all Duct. We then recalculate the value of duct as if the RAV methodology was applied to all Duct:

  Access duct capitalised prior to 1 August 1997 is valued on the basis of the closing historical cost at the 2004/2005 financial year-end (i.e. 31 March 2005) and indexed by RPI from that date.
- **Step 6.** We use the NBV/GBV methodology to calculate current cost depreciation.
- **Step 7.** Calculation of Regulatory Asset Valuation adjustment. We then apply the % of duct costs allocated to the cost pool AG135 Duct used by Access Cables (step 4) to the difference of Duct valued using the RAV methodology (step 5) and Duct valued using our Standard Duct Valuation (Step 1). The resulting value is known as the RAV adjustment.
- **Step 8.** The RAV adjustment is allocated to AG135 Duct used by Access Cables such that the original CCA valuation plus the RAV adjustment is equal to the RAV valuation.

5.3.6 Voice Switch

These assets are mostly old technology with low investment and nearing the end of their asset lives. They have declining net book values and consequently the value of any CCA adjustment on regulated markets would be low. Therefore with the exception of System X exchanges all these assets have been valued at historic cost.

System X Local Switches

The System X Switches (CoW LDX) are valued using the extrapolated absolute valuation methodology.

Details of process used CoW LDX only – including key assumptions and any models used

We last updated the absolute valuation using 2008/09 information. Since then we have extrapolated the valuation using an indexed historic approach (see Annex 7).

The original Absolute Valuation

- **Step 1:** Input Volumes: We sourced the number of lines and number of processors from EXPRES (Exchange Planning and Review System). The details of how the processors needed to be configured (e.g. the numbers of ports and signalling links) was sources from NRS (Network Records System).
- **Step 2:** Input Unit Prices & Initial Calculation: We used the LEMP2 (Local Exchange Modernisation Programme) contract to calculate the replacement costs of the concentrator, line card and processor. The

LEMP2 model was a planning tool that contained the latest contracts and was able to take the input volumes and calculate and cost the optimal processor and concentrator configurations.

- **Step 3:** Calculations – contract adjustment. We transferred the initial calculation in to a BT CCA valuation model, that we call the VALP model. By 2008/09 the contract prices in the LEMP2 contract were out of date but the succeeding NP2K contract did not represent the "normal course of business" as it was agreed to cater for only repair and small volumes of new provisions. Therefore, we applied the LDX index (see Annex 7).
- **Step 4:** Calculations – provisioning costs. A previous study had identified the amount of provisioning costs required for the switch platform including a stock of spares, data build costs and contract supervision. These costs were updated each year in the VALP model to account for labour-rate increases.
- **Step 5:** Calculations – non-capacity related investment. We added costs to the valuation to include investment in projects such as the modular controller and various software upgrades but only where the project could be demonstrated to provide additional functionality that added to the revenue earning capacity. This investment was initially added at historical costs. The value was indexed each year using the LDX index.
- **Step 6:** We have applied the LDX index to the 2008/09 absolute valuation (see annex 7).
- **Step 7:** The costs of planning the System X local exchanges are valued using the indexed historic methodology (see Annex 7).
- **Step 8:** Assets In the Course of Construction are valued at their historical cost.
- **Step 9:** Depreciation. We use the roll forward methodology to calculate current cost depreciation.

Other Local Switches

Other Local Switching Assets such as the AXE10s (CoW LYX) and Remote Concentrator Units (CoW UXD5) are all declining in value with a low level of current investment so any CCA adjustments would not be material and are therefore valued at historical cost.

Main Distribution Frames

BT continues to invest in adding capacity to main distribution frames (CoW LMDF) but they have a relatively low value so are valued at historical cost.

Operator Service Systems

These assets are declining in value with low level of current investment so therefore valued at historical cost.

Main Exchanges

This category includes the Main Exchange Switches (CoW MDX) and the Next Generation Switches (CoW NGN). These assets are declining in value with a low level of current investment and are therefore valued at historical cost.

Intelligent Network

This category includes the core Intelligent Network platforms (CoW INC) and the Interconnect platform (CoW SIGNI) which are used to support various Number Translation Services and network features. These assets are declining in value and are therefore valued at historic cost.

5.3.7 Transmission

Plesiochronous Digital Hierarchy (PDH) equipment

PDH equipment including Repeaters (CoW CRA, CRD, CRF, CRHQ) and Line Systems (CoW LTME) and are all declining in value with a low level of current investment so any CCA adjustments would not be material and are therefore valued at historical cost.

Synchronous Digital Hierarchy (SDH) equipment

These assets are valued on an indexed historical cost basis using asset-specific cost trends based on index data – see Annex 7.

Backhaul and Core Cable (UK Transmission)

Core Copper cables (CoW CJC), Subsea Cables (CoW BHQ) and Main Core Cables (CoW MUC) are all declining in value with a low level of current investment so any CCA adjustments would not be material and are therefore valued at historical cost.

The majority of investment in core and backhaul fibre cables is now booked against Backhaul Fibre (CoW CJF) and we use an Indexed historic methodology.

21st Century Network

The material 21CN CoW are valued using the absolute valuation method. These assets include Metro / Core Nodes (CoWs COR21, CORLU, METAL, METCI and METSI), Ethernet equipment (CoW ETHER), Wave Division Multiplexing Equipment (CoWs WDMH and WDM21) and Multi-Service Access Nodes (CoWs MSAN, MSANF and MSANH).

Details of process used (21CN CoW) – including key assumptions and any models used

This process is complete separately for each of the 21CN CoW.

- **Step 1:** Input Volumes. 21CN equipment volumes for year-end sourced from our Planning Assignment and Configuration System (PACS)
- **Step 2:** Input Prices. Latest contract prices are sourced from the latest 21CN contracts.
- **Step 3:** Calculation of equipment valuation. The volumes are costed up using the contract prices using detailed planning models prepared by BT's network planners.
- **Step 4:** Calculation of labour valuation. From analysis of the fixed asset register we are able to identify additional direct labour costs that have not been included in the initial equipment valuation. These asset are added to the valuation at historical costs and then indexed using the average earnings with productivity index.
- **Step 5:** Calculation of spare stock valuation. A list of 21CN spares is obtained from the ASC/EFR database and latest contract prices are applied.
- **Step 6:** Test equipment, located at our research and innovation centre located at Adastral Park in Martlesham Heath, is included by searching the asset register on location but removing anything also included in step 3.
- **Step 7:** The costs of planning the 21CN network equipment are valued using the indexed historic methodology (see Annex 7).
- **Step 8:** Assets In the Course of Construction are valued at historical cost.
- **Step 9:** Depreciation is calculated using the NBV/GBV methodology.

The remaining 21CN assets are valued at historical cost due to the low value or immaterial CCA adjustment (CoW NTE21, METCN and CCI).

Access Equipment for Leased Lines

Equipment is sited at the end-users' premises and at BT exchanges for the purpose of providing Leased Line access lines (CoW: DTTM, DTTK, DTTS, DTSW and DTTSW). These assets have a short asset life and are either heavily depreciated or only modest price movements have been observed so any CCA adjustments would not be material. The assets are therefore valued at historical cost.

Other Transmission Equipment

Core and Backhaul Radio Equipment (CoW TPWC) are declining in value with a low level of current investment so any CCA adjustments would not be material and are therefore valued at historical cost.

5.3.8 Other

Telecom Power Equipment

Telecom Power Equipment (CoW TPC) includes standby generators, switchboards, rectifiers and power racks. We value these assets using the indexed historic methodology but in order to better reflect the different types of assets within this CoW we have used different indices for each type of equipment (see Annex 7).

Capitalised Systems Development and external purchased Software

These assets (CoW COMPS and COMPG) have a relatively short asset life and only modest price movements have been observed so they are therefore valued at historical cost.

Other non-current assets

Our remaining non-current assets have all been valued at historical cost because they:

- have a relatively low value;
- have a short asset life and only modest price movements have been observed;
- are virtually fully depreciated;
- have been recently acquired (so the current and historical costs are similar); or their
- attribution to regulated markets is immaterial.

There will be little impact on the regulatory financial statements as a result of the differences between their historical and current replacement cost. These Assets include: Vehicles, Computers, Line Testing Equipment, Payphones and Engineering Stores.

PART B – DETAILED METHODOLOGY DICTIONARIES

6 Direct allocations

Before calculating apportionment-based models or system-generated bases, we assign revenues, costs, assets and liabilities that can be directly attributed to one distinct destination using their OUC and F8 code combination. These attributions are called Rule Type 1 allocations.

Many costs are attributed using Rule Type 1 based on the Class of Work and OUC combinations, or based on just the CoW (CoW). The following are examples of CoWs where 100% of their costs are attributed using direct apportionments:

CoW	Description	Destination
ADSL	Construction, Digital Subscriber-line (FAR)	PG153N, DSLAM Equipment
APARR	P&I Tele Answering & Recording M/cs, Residential	Retail Residual
APCTB	Provision & Installation IT Products & Services-Business	• OUC B (Openreach) costs are attributed to either PG981R or PG253B • Other OUC costs are attributed to Retail Residual
APMSB	Apparatus - Provision (& installation) of a medium and small switch for customers.	• OUC B (Openreach) costs are attributed to either PG981R or PG253B • Other OUC costs are attributed to Retail Residual
APOPR	P&I, Other A.S.B. Products for Customers	• OUC B (Openreach) costs are attributed to either PG981R or PG253B • Other OUC costs are attributed to Retail Residual
CPDSL	Circuit Provision - Asymmetric Digital Subscriber line (ADSL)	Predominantly OUC S (BT Consumer) costs that are attributed to Retail Residual except for: • OUC HME (Northern Ireland) to either PG142A, MDF Hardware Jumpering, or PG145N, WBA End User NTEs • BDUK OUCs to PG999A, BDUK • Other Openreach OUCs to PG952C • Other remaining OUCs to PG145N, WBA End User NTEs
DTTS	Construction, Short-Haul Multimode of Private Ccts	PG457A, Optical Ethernet Electronics Capital
DTTSW	Construction of SHDS links for BT Wholesale Products	PG447A, Ethernet Access Equipment
FTTX	FTTx Customer Premises Provision	PG954C, GEA Customer Site Installations
GFA	Grant Funded Assets	PG998A, Fibre Rollout Funding
HK	Repayment Work - Alterations (Statutory)	Openreach OUCs to PG980R except for BDUK to PG999A. Other OUCs to Retail Residual
HSW	Repayment Work - Alterations (Major Works)	Openreach OUCs to PG980R except for BDUK to PG999A or PG197A. Other OUCs to Retail Residual
J	P&I-Jumpering in Exchanges	PG142A, unless BDUK (to PG999A)
JLU	Jumpering in Exchanges Specific to LLU	PG142A, MDF Hardware Jumpering
LDC	Construction, Local Distribution Cable	PG118C, D-Side Copper Cable, unless BDUK (to PG999A)
LFME	Construction, Local Network Service Module Equipment	PG953C, GEA DSLAM and Cabinets, unless BDUK (to PG999A)
LFXE	Construction Local Line of Exchange Service Module	PG952C, GEA Electronics, unless BDUK (to PG999A)

CoW	Description	Destination
PT	Routine Testing of Poles and Wire & Cable Clearance	PG118M, D-Side Copper Cable Maintenance
TPWA	Construction, Access Radio Systems	PG115C, Access Radio Equipment, unless BDUK (to PG999A)

A list of material direct allocations is published separately in Annex 9.

7 Apportionment models

Introduction to Apportionment Model bases at Level 101

We have defined a set of 'Base Reference' methodologies to attribute F8/OUC costs to Activity Groups, Plant Groups, and Retail Residual cost categories at the first level of REFINE's apportionment, Level 101. These base reference methodologies (sub-divided by OUC in some instances) allocate 100% of the F8/OUC costs to a particular cost category and in other instances apportion the cost across multiple cost categories.

These base methodologies are those which attribute costs onwards based upon the functions of CoWs and how they support regulated services. This can involve combinations of OUCs and therefore a methodology is applied to cover this more general cost base than is associated with an OUC driven base.

The following is a dictionary of such bases, and their associated attribution methodologies.

Apportionment Model Dictionary – Rule Type 3 Bases

Base Ref	OUC	Descriptions (For all descriptions below, see Appendix A for Key Destinations)
ACCOMM1 and ACCOMMBS	**Q**	**Accommodation** *Description* ACCOMM1 (P&L) and ACCOMMBS (Balance Sheet) includes the accommodation costs and assets, for both BT owned and non-BT owned buildings. *Methodology* The methodology apportions accommodation costs and assets between the four accommodation Activity Groups (AG170-AG173) based upon detailed building reports, to ensure that costs relevant to the following four categories are separated: • BT owned, Specialised Buildings; • Non-BT owned, Specialised Buildings; • BT owned, Office Buildings; • Non-BT owned, Office Buildings. *Data Source/s* Building space by OUC data from Horizon.
COMPE	**T**	**BT's Own Use Personal Computers** *Description* COMPE (BT Own Use Personal Computers) includes the processor, display monitor, keyboard, internal fixed disk storage and the operating system software purchased as an integral part of the PC. *Methodology* The methodology apportions costs of BT own use personal computers to CFUs/CUs based on the number of personal computers by CFU/CU. *Data Source/s* Bridge and Ecensus.
CUMNORM	**W**	**BT's Cumulo Rates liabilities and Cumulo Rates rebate** *Description* BT's Cumulo rates liability covers what we pay in non-domestic rates on our rateable network assets in the UK. Non domestic rates are effectively a form of property tax.

		The rateable assets within BT's Cumulo assessment include exchange buildings, telegraph poles, duct, manholes, cabinets, payphones, copper and fibre. Under rating principles these are assessed together, hence the term "Cumulo". Other parts of BT's property estate - e.g. offices and workshops - are assessed separately and do not form part of BT's Cumulo assessment. Cumulo rebates are attributed in exactly the same way as Cumulo rates liabilities. The CUMNORM base apportions the costs relating to BT Cumulo liabilities and BT Cumulo rebates. *Methodology* We attribute Cumulo costs between GEA and Non-GEA in proportion to their relative share of our Cumulo Rateable Value. The GEA share of Cumulo costs is calculated as the GEA Services' Rateable Value divided by the Cumulo Rateable Value. The Non-GEA share of Cumulo costs is calculated as 1 minus the GEA Services' share of Cumulo costs. We apportion the costs to the following plant groups: • PG941A (Cumulo Rates NGA); and • PG942A (Cumulo Rates Non NGA). *Data Source/s* Cumulo rate invoices.
DTNCAP2	**B**	**Capitalisation of field provision costs** *Description* Some Field provision work relates to the current account, but the costs are validly booked to capital class of works (CoWs). The current account costs are for tools and small stores, travel & subsistence, fuel, clothing and materials handling charges. Capitalisation could happen with a debit against the capital CoW and a credit against the current account CoW, but the method applied here is to put the credit against the Postal Services F8 code (209340) (GL code: 33420475) and the general management F8 code (209631) (GL code 39914550 OTHER INCIDENTALS < $2K). These use a specific base DTNCAP2, which takes account of how much has been capitalised against each CoW. The base is applied where the OUCs undertake customer related activities that are collectively described as 'field provision'. *Methodology* We use details of how much has been capitalised against the relevant capital CoW. Each capital CoW is assigned to a relevant Activity Group (AG) or Plant Group (PG) according to its treatment in REFINE. Costs are apportioned to AGs or PGs in proportion to the amounts capitalised to each capital CoW. *Data Source/s* CID Internal Project Ledger; latest available LoP List.
ELECT1	**Q**	**Electricity Costs** *Description* This base apportions BT TSO Electricity costs to the following categories.

- Office Buildings
- Specialised Buildings
- Data Centres
- LLU
- NGA/FTTC
- BT Cables
- BT Sports Production Hub
- Third party
- Motor Transport Workshops

The costs are apportioned to Activity Groups, Plant Groups and Retail Residual.

Methodology

A model of the power consumption across the BT TSO network is built based on equipment volume and power consumption, based on a unit rate. The unit rate is an average annual rate and is supplied by the TSO Energy Unit.

Volume data of the BT TSO network equipment is obtained from certain key data sources. Power consumption data for the various equipment types is obtained from a number of sources including technical specifications and measured consumption. See below for further detail on some key assumptions that are made regarding power consumption of different equipment types.

From this information the total power consumption of the BT TSO network by equipment type is determined. A relevant equipment allocation is applied for each different part of the BT TSO network.

This base is apportioned to various AGs and PGs, the most significant apportionments are to PG120B (LLU), PG127A (Analogue Linecards) and PG192A (FTTC Copper Tie Cables).

Power Assumptions

- *Switch Equipment* – the volume of concentrator lines at each exchange gives the total capacity of System X and AXE10 equipment. To calculate the power consumption the following lookup tables are used.

Type	Number of units	Power per unit (W)	Total power MW
Concentrator lines working	16,617,675	0.93	15.45
Concentrator lines spare/stopped	2,220,945	0.87	1.93
Concentrator lines ceased	13,042,841	0.64	8.35
ISDN 2 channels new type	2172341	0.625	1.36
Old IDSN 2 channels	612711	1.09375	0.67
ISDN 30	94619	8	0.76
DLEs System X	425	19000	8.08
DLEs AXE10	211	13000	2.74
DMSU/DJSU/WAT	17	23000	0.39
NGS	73	6800	0.50
Featurenet			2.30
VMP			0.00
IN			0.10
Messaging			0.10
SPRs			0.03
RIDE			0.06
CN-IPC			0.04
EMCD			0.00

- *Transmission (PDH & SDH) Equipment* – The power consumption will be calculated using the volumes of each type of transmission equipment

multiplied by the theoretical power consumption of each type, based on manufacture information.

- *21CN Equipment* – The power consumption is calculated by using the number of 21CN line cards multiplied by the theoretical power consumption from TSO Energy Model.

- *DPCN* – the table below shows the power assumptions that are used in the model for each type of DPCN equipment.

DPCN Equipment	Power (KW)
EDMs	0.16
ENA/ET shelves	0.11
128 ACE	2
512 ACE	4
128 EACE	1.5
512 EACE	3
ECEFs	4
MD202	0.6

- *ADSL Equipment* – Power consumption is calculated using the volume of actual DSLAM racks with different power rating applied based on DSLAM mux type.

- *LLU Power* – The model uses actual metered power consumption.

- *Access Radio* – the table below shows the power assumptions that are used in the model for each type of Radio link.

Radio Type	Power per link (w)
Core Radio - STM1	160
<2M	60
4x2/8M	60
16x2/8M	75
140/155M	75
Ethernet	60

- *CWSS/DWSS* – the table below shows the power assumptions that are used in the model for CWSS/DWSS cards and shelves.

CWSS

Type	Power Kw
LTE Cards	0.009
Shelves	0.007

DWSS

Type	Power Kw
FTEL LTE Cards	0.006
ATEL LTE Cards	0.005
FTEL Shelves	0.011
ATEL Shelves	0.002

- *ATM Equipment* – the table below shows the power assumptions that are used in the model for the ATM switch types.

Switch 7670 RSP	Watts
7670_ICON_EXP_IO	129
7670_ICON_IO	129
7670_ICON_LINE	129
7670_PIC_IO	20
7670_PS_CTL	28
7670_QFIC_IO	61
7670 RSP CTL	110
7670_RSP_GE_IO_CARD LX	22
7670_RSP_GE_IO_CARD SX	22
7670_RSP_GE_LINE_CARD	86
7670 RSP SW	69
7670_SAC	28
7670_SCH	33
7670_SMX	47
7670_SS_CTL	37
CIC_IO	22
FAC_IO	7
HIGH BW_LINE	64
HS_MULTIRATE_LINE	107
HS_STM1_IO EL	46
HS_STM1_IO IR	29
HS_STM1_IO LR	29
HS_STM4_IO IR	23
STM16_IO IR	11
7670_RSP_Fan Unit	116

Switch 7370 MSP	Watts
CTL	27
Dual FIC	21
DUAL_HUB	60
DUAL_RX	11
DUAL_SC	35
E1ATM 120	29
E1ATM 75	29
E1CE 75	29
E1CFR 2	32
E1UFR 2	32
E3UFR	20
HDE1FR	60
Multi-port ENET EN100T	22
STM1EL	20
STM1IR	20
STM1LR	20
STM1MM	18
STM4IR	23
TC	38
Triple DS3	25
Triple E3	23
Peripheral Shelf	120
HS Peripheral Shelf	26
Switch Shelf	58

- *IP* – Power consumption based on volumes and average power per cabinet.

	No. of Cabinets	Power Consumption per Cabinet (W)*	Total Power (W)
MPLS IP VPN	1489	1000	1,489,000
VoIP	1076	1000	1,076,000
Colossus	201	1000	201,000
BTNet and Dial IP	59	1000	59,000
BBIP	253	1000	253,000
IBH	0	1000	-
IP Peering	33	1000	33,000
		Total Power (W)	3,111,000

- NGA/FTTC

This is based on estimated NGA power consumption (kWh) supplied by the TSO Energy Unit. This is multiplied by an average unit rate (£/kWh) to calculate the total NGA power costs.

Data Source/s

Uses Period 12 equipment volumes (or most recent volumes available). The key systems used to provide the volumes for calculation of this base are listed below:

EXPRES - Volumes for switch equipment.

INS - Volumes for PDH transmission equipment.

PACS - Volumes for SDH transmission equipment and 21CN equipment.

Oracle Business Intelligence (OBI) Reports - Volumes for DPCN equipment (EDM and ENA).

NISM - Volumes for ADSL (DSLAMS).

Peacemaker – Radio infrastructure.

AIM – Alcatel Inventory Module.

		LLUMs – Local Loop Unbundling Management System. IP volumes
EMPLOYEEBB	**ALL**	**Employee Broadband** *Description* This base apportions the costs associated with the take-up of Employee Broadband. Employee Broadband is an offer open to BT Employees where they have the option to have a broadband line. *Methodology* Employee Broadband take-up is split into OUCs and then into relevant Customer-Facing Units (CFUs) and Corporate Units (CUs). The underlying costs are then apportioned into AGs and products, predominantly AG401 (Openreach pay costs), AG402 (TSO pay costs) and P008 (Residual). *Data Source* Employee Broadband take-up volumes.
INSURE	**Q**	**Insurance Premiums** *Description* This base apportions insurance premium costs that are associated to specific insurance types, for example, general liability and health insurance. *Methodology* This base is apportioned to various AGs according to each insurance premium. *Data Source/s* BT Group insurance policies.
LICENCEFEE	**ALL**	**Ofcom Licence fee** *Description* This base apportions the cost of our telecommunications licence fee, known as Ofcom Licence Fee. This is effectively a licence to operate and trade within the UK. *Methodology* The cost of Ofcom's licence fee is split to all (SMP and non-SMP) services based on Relevant Revenue. The Relevant Revenue definition was directed by Ofcom. The cost attribution methodology specifies that the Licence Fee must be attributed to each and every service based on the proportion of relevant turnover associated with that service in the financial year. *Data Source/s* • Relevant Revenue submission to Ofcom, as used in the process of calculating annual fee • Revenue by service for total Wholesale markets and Retail Residual, as shown in RFS.
ORCOPOOI	**ALL B OUCs**	**Sale of scrap** *Description – Sale of Scrap* This base apportions Other Operating Income received by Openreach from the sale of scrap copper. *Methodology*

		Actual cable recovery data provided by Openreach is used to allocate income to PG986R (Openreach Other Activities). The remainder is allocated between PG118C (D-Side Copper Cable) and PG980R (Repayment Works) based on the amount of capital expenditure on D-side copper cable that is proper to Repayment Works. *Data Sources* Cable recovery data from Openreach, Capex data from the Internal Projects Ledger.
PDTACPA	**Q**	**Accommodation Plant Network (Wholesale): Capital** *Description* The base apportions capital work in BT TSO (CoW ACPA) relating to racks, power and ventilation. *Methodology* Based on a survey conducted in 2012, this base apportions to PG132B (LLU Co-mingling Recurring Costs (OR)), and PG136A (LLU Co-mingling Surveys). *Data Source/s* Survey information from 2012.
PDTATM	**ALL**	**Provision, rearrangement and recovery of Asynchronous Transfer Mode (ATM) equipment** *Description* This base attributes any ongoing maintenance for the fully-depreciated ATM equipment in the core transmission network. This includes costs in the maintenance class of work (CoW) MATM, as well as any residual values within the ATM CoW. ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (multi-megabit) data rates, and multiple virtual circuits per network access and flexible bandwidth per connection. *Methodology* The following description explains the methodology previously used for calculating PDTATM. The attribution to Plant Group is now held static, as there are very few volumes remaining on the ATM platform and data is not available to refresh attributions. The allocation of Frame Streams was determined by using the Asset Policy Code 'ATMR' from the LoP list. The depreciation cost of ATMR was taken as a percentage of total ATM depreciation. The remaining depreciation cost was apportioned to the ATM PGs using NEI and AIM reports, as detailed below. The NEI and AIM databases were used to provide downloads of volumes of ports in the ATM network. The volume data was converted into equivalent card volumes which were then weighted by latest prices from the Alcatel-Lucent price catalogue to take into consideration the different cost profiles of each card. The NEI report provided data on each port as to whether it was customer or network interfacing by using a unique identifier: • UNI (customer); • NNI (network). This information was used to split customer interface PGs and the network interface PG.

		The cards that support the customer interface functionality were identified by bandwidth and were allocated to the appropriate bandwidth specific customer interface PGs. The cards recorded in the AIM report primarily supported the Network switching function and therefore used to derive the allocation to PG656A (ATM Network Switching) on the same basis as the above. However, the high BW cards which were recorded in the AIM report do not support the network switching function and were therefore allocated to the customer and network interface PGs using the UNI and NNI split as a proxy. The data required for the year end base production previously used September volumes/data for the NEI, AIM and LoP list reports. For the interims, March volumes and data were used to maintain consistency with the Core Transmission base allocations. Spare capacity was spread over the existing PGs for the interface cards as these could be used for either customer or network facing. The split of working customer and network facing cards was used as a proxy to allocate the spare costs to the relevant PGs. *Data Source/s* 2014-15 Volumes of cards/ports come from the NEI (Network Element Inventory) and AIM (Analysis and Inventory Module) supplied from the Element Manager database via the capacity delivery manager in BT TSO (Interims – March, Year end – September). Card prices were supplied by BT Wholesale. LoP List. As the ATM platform is a legacy platform, BT has not renewed the licences required to interrogate the system. As BT do not have licences then it is not possible to extract the required data to run the above methodology for years later than 2014/15, so the methodology has been frozen at 2014/15 values. It is important to note that there are very few volumes remaining on the ATM platform as almost all have been migrated over to the new 21CN Services.
PDTAVC	**ALL**	**Abortive Visits** *Description* This base apportions the derived Abortive Visit Costs and Expedite Provision Costs from NWB and NWR classes of work to Plant Groups (PGs). The recipients of the costs are: • PG149A Analogue Line Final Drop (for costs not associated with Abortive Visits or Expedites within CoWs NWB and NWR) • PG150B Abortive Visits • PG155B Expedite Provision Costs Abortive visit costs arise when an appointment is agreed for work at an End User's Site and the engineer arrives within the appointment slot but is unable to carry out the work at, or gain access to, the End User Site. *Methodology* Costs for abortive visits are derived using volume data from the ARC system, multiplied by task time and a blended man-hour rate for engineers. A static management assumption is used to replicate the expected over-resourcing needed in order to accommodate Expedite service offerings. This static factor is set at 1.37

		hours task time compared to 1 hour without Expedite service. The proportion of this derived cost to the additions during the year for CoWs NWB and NWR is used as an allocation key to PG150B and PG155B, with other costs captured by NWB and NWR apportioned to PG149A. *Data Source/s* Volumes taken from ARC, NWB & NWR additions from LOPLIST, task time and rate card from Openreach finance.
PDTCJF	**B, T, Q**	**Backhaul and Core Fibre Cables** *Description* This base attributes the depreciation and asset values of our core and backhaul fibre cables. For historical reasons we have a number of different CoWs for these assets. However, in the RFS we treat them all the same. CJF is the class of work currently used for investment in Backhaul and Core fibre, but we also have some assets registered against CJC, MUC and BHQ – all such assets are treated the same. • CJF – Construction Junction Cable - Optical Fibre • CJC – Construction Junction Metallic Pair Cable • MUC – Construction Main Underground Cable • BHQ – Construction Submarine Cable Inland Operating costs within smaller maintenance/repair CoWs are also attributed by this base: • UJOF – Maintenance of Underground Junction Optical Fibre • UJCC – Reactive Repair of Underground Junction Copper Cable (Service Affected) • IVP – Maintenance of 2Mbit/sLine-end Primary Multiplex Equipment *Methodology* We attribute backhaul and fibre costs onwards to plant groups using the relevant Customer-Facing or Corporate Unit OUC as an identifier. We do this because (excluding OUC Q which we cover below) all backhaul fibre costs fall solely under the remit of Openreach (OUC B) and all core fibre costs fall under the remit of BT TSO (OUC T). OUC B costs are allocated to PG170B (Backhaul Fibre). OUC T costs are allocated to PG350N (Core Fibre). For Northern Ireland (represented here by OUC Q) we apportion costs to PG170B (Backhaul Fibre) and PG350N (Core Fibre) based on the volume of fibre kilometres used by each part of the network (Backhaul or Core). *Data Source/s* CTCS provides us with the total amount of core and backhaul fibre kms.
PDTCOBUS	**All OUCs**	**Business Dropwire Maintenance** *Description* This base apportions repair costs for Business drop wires. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Special Fault Investigation (SFI) and Time Related Charges (TRC). The cost for this activity is derived by multiplying the man-hour rate x KMH for SFI and manhour rate x KMH for TRC. The total cost for the CoW is obtained from CID and the proportion of cost

		allocated to SFI is based on the implied cost from the man hour rate x KMH. The remaining apportionment split is derived from the relative proportion of business connections between PSTN and ISDN. This connection information is obtained from Openreach Management Accounts. The base apportions costs to PG121M (Business PSTN Maintenance), PG123M (ISDN Highway Maintenance), PG989A (Special Fault Investigation) and PG981R (Openreach Time Related Charges). *Data Source/s* Workmanager data, CID, Openreach Man-hour Rate (sourced from ORBIT), Openreach Management Accounts.
PDTCORES	**BV**	**Residential Drop Maintenance** *Description* This base apportions repair costs for Residential drop wires. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs) and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the man-hour rate x KMH for the above activities. The total cost for this CoW is obtained from CID and the proportion of cost allocated to SFI and TRC is based on the implied cost from the man-hour rate x KMH. The base apportions costs to PG981R for Openreach Time Related Charges, PG989A for Special Fault Investigation and PG150B (Abortive Visit Charges) based on KMH and the man-hour rate. The remaining cost is apportioned to PG122M. *Data Source/s* Workmanager data, CID, Openreach Man-hour Rate (sourced from ORBIT).
PDTCOR21	**ALL**	**Metro and Core Nodes – All Suppliers** *Description* This base apportions the historical cost and balance sheet for metro and core node equipment to Plant Groups (PGs) that were previously apportioned by PDTCORLU, PDTMETCI, PDTMETAL, PDTMETCN and PDTMETSI. Core nodes are the high capacity, large scale routers providing cost efficient connections between Metro Nodes. Metro nodes provide the routing and signalling functions for the unified 21CN for voice, data and video. The recipients are: • PG855A Border Gateway & Signalling Firewall • PG878A Metro BB LNS • PG880A (BEA) Broadband Edge Aggregator • PG881A (BRAS) Broadband Remote Access Server & MSE • PG882A (FER) Front End Router • PG887A Ethernet Edge Aggregator Bandwidth • PG888A Ethernet Edge Aggregator Port • PG889A Infrastructure Ethernet • PG893A (MSPE) Multi Service Provider Edge Routers • PG895A P-Router Large (Core) • PG896A P-Router Metro • PG898A Core Directors • PG903A MAR

		Methodology The Core-Nodes and Metro-Nodes contain functionality for the transport of connectivity, voice and broadband services, via routers. We model 21CN CoW depreciation by a more detailed network element split than is on BT's general ledger, allowing us to allocate 21CN assets into detailed PGs. The model provides estimates of capital spend on a year by year basis, from which the annual depreciation for each network element is calculated and reconciled back to the LoP list at P12. The depreciation charge is calculated over the asset life of the network element. Each network element is mapped to a PG with the total depreciation charge relating to that PG driving the apportionment within the base. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), Lop List (Asset Life).
PDTCPDMI	**ALL**	**Wholesale CFU work on ISDN30 connections** *Description* This apportionment base is used to re-map ISDN30 connection (classes of work (CoW) CPDI), Megastream connections ((CoW) CPDM) and Analogue connections ((CoW) PSAA). The costs include Non-ETG Pay and stores. *Methodology* Based on a Period 12 analysis of the volumes and relative price of each of the products, the costs for all three CoWs are apportioned to PG114L (ISDN30 Connections), PG413P (Private Circuit Megastream Connections) and PG421S (Private Circuit Analogue Installation). *Data Source* ISDN 30 Fill Factors per connection and ISDN30 Interconnect volumes and prices from the Openreach Sales Ledger.
Applies to bases below	**Applies to OUCs below**	**PDH Equipment summary** *Description* PDH assets relate to the older transmission network assets which have largely been supplemented by the more modern and fault tolerant Synchronous Digital Hierarchy (SDH) assets. Combinations of assets in the transmission network (i.e. two bits of electronics joined by fibre and duct) make up what is known as a "bearer". The bearers within the network carry circuits that relate to different products and bandwidths. The cost of a bearer includes an apportionment of the costs of these electronic assets. *Methodology* Most PDH electronics are specific to bearer types, and are dependent upon the capacity of the bearer- 2Mbps, 8Mbps, 34Mbps, 140Mbps and 565Mbps. Individual PGs capture the cost of each bearer type separately. CTCS provides the volumes of each type of bearer. These volumes are weighted by depreciation in order to get the allocation to PG. Direct depreciation costs for PDH electronics, sourced from the Life of Plant (LoP) list, are driven directly to the relevant bearers' types. The LoP list breaks down each CoW into subcategories called asset policy codes,

		which provide further granularity of the equipment types within the CoW. The description of the asset policy codes allows costs to be mapped to bearer types. Traffic grooming equipment, in the form of multiplexers, are captured across a number of asset policy codes depending on the capacity of the equipment - 2/8mux, 2/34mux, 8/34mux, 34/140mux, 140/565mux. All multiplexer depreciation is allocated to PG399T (traffic grooming). Indirect costs (software, planning and test equipment asset codes) are treated as overheads and are apportioned to PGs on the basis of the direct allocations. *Data source/s* LoP list for Period 6, CTCS. Management believes this period to be reflective of the full year.
PDTCRDA	**ALL**	**PDH Digital Repeater Equipment** *Description* This base allocates the depreciation costs and asset values of class of work CRD to Plant Groups representing bearers in the core network. A description of the assets is in the PDH equipment summary above. *Methodology* This base follows the same general methodology described in the PDH equipment summary above. This base apportions costs to the Plesiochronous Digital Hierarchy (PDH) Bearer Link PGs: PG361T and PG399T. *Data Source/s* This base uses the data sources described in the PDH equipment summary above.
PDTCRFA	**ALL**	**PDH Optical Fibre Repeater Equipment** *Description* This base allocates the depreciation costs and asset values of class of work CRF to Plant Groups representing bearers in the core network. A description of the assets is in the PDH equipment summary above. *Methodology* This base follows the same general methodology described in the PDH equipment summary above. This base primarily apportions costs to the Plesiochronous Digital Hierarchy (PDH) Bearer Link PGs: PG377T, PG375T, PG379T, PG371T and PG373T. *Data Source/s* This base uses the data sources described in the PDH equipment summary above.
PDTCRHQC	**ALL**	**PDH Repeaters (by Contractors)** *Description* This base allocates the depreciation costs and asset values of class of work CRHQ to Plant Groups representing bearers in the core network. A description of the assets is in the PDH equipment summary above. *Methodology* This base follows the same general methodology described in the PDG equipment summary above. Costs from this base are allocated to PG399T (Plesiochronous Digital Hierarchy (PDH) Bearer Link).

		Data Source/s This base uses the data sources described in the PDH equipment summary above.
PDTDMC	**Q**	**Operator Call Handling Centres (OCHC) – Directory Enquiry Activities** *Description* This base apportions any remaining Profit and Loss (P&L) Capital spend and Balance Sheet costs relating to Operator Call Handling Centres (OCHC) engaged primarily in Directory Enquiry (DQ) activities. Costs relate to the provision and recovery of operating access (e.g. queuing equipment) and test equipment rented to new operator systems (e.g. Operator Service System (OSS), Digital Access Signalling System (DASS)) including: • Supply and installation of Remote Integrated Services Line Units and Interface Cabinets to connect Directory Assistance Centres (DAC) to the switch, bureau Primary Multiplexer (PMUX). • Provision and upgrade of Automatic Voice Response, DAC and Operator Keyboard Display Terminal equipment controlled by Operator Services beyond the interface cabinet and PMUXs in the Enterprise Information System (EIS) and DAC. Extension and modification of Derived Services Network (DSN) switches to facilitate: • Automatic Call Distribution for DAC. • Directory assistance console. From the F8 Code level, costs flow into the classes of work (CoW) DMC. *Methodology* The value of costs to be apportioned is calculated using volume data (call minutes) and capital cost information obtained from the Fixed Asset Register (updated monthly). Capital costs are attributed by asset (i.e. equipment) as listed by Asset Policy Codes in the Fixed Asset Register. Each asset element is assigned to one of the Plant Group (PG) or Product destinations according to the type/function of the asset and costs are apportioned based on the relative weighting of the capital costs associated with each element. This base apportions costs to PG216C (Operator Assistance Systems Equipment), PG405A (DMS100 Call Centre Switches), PG924A (Directory Enquiries Non Chargeable) and P008 (Retail – Other). *Data Source/s* Inland and International Directory Assistance. Central Data Store (CDS), Call Statistics Centralisation System (CSCS) and Featurenet (part of the Powerhouse system).
PDTMG	**B**	**General Customer Equipment & Line Faults** *Description* This base apportions staff costs of indirect apparatus and network faulting work carried out by customer apparatus and line ETGs *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs), NGA Visit Assure and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the man-hour rate x KMH for the above

		activities. This cost is then spread to various CoWs based on an analysis of the activities booked against them. This analysis also provides data on how many hours are consumed for Abortive Visit Charges for this CoW. The total Pay cost for this CoW for OUC: B is obtained from CID and the proportion of Pay cost allocated to SFI and TRC is based on the implied cost from the man-hour rate x KMH and the CoW analysis as detailed above. Any remaining allocation goes to AG410. This base apportions costs to PG989A (Special Fault Investigation), PG981R (Time Related Charges), PG150B (Abortive Visit Charges), PG154B (NGA Visit Assure), and AG410 (Openreach Previously Allocated Pay). *Data Source/s* Workmanager data, CID, Openreach Man-hour Rate (sourced from ORBIT).
PDTDTTK	**ALL**	**Kilostream Assets and Depreciation** *Description* This base apportions the gross book value of Kilostream equipment assets, and the associated depreciation and accumulated depreciation charges to Plant Groups (PGs). Kilostream is the brand name for BT's portfolio of low speed digital private circuits. The circuits operate at bandwidths of 2.4kbit/s up to 64kbit/s and are provided using BT's Digital Private Circuit Network (DPCN). *Methodology* An apportionment base for these costs is derived by reviewing the Life of Plant (LoP) list. From the LoP list, information is obtained on the DTTK (Kilostream) classes of work (CoW). This lists the depreciation charges by asset policy code for each different type of asset/equipment type in this class of work. By reviewing the asset policy codes, a distinction between the different equipment types can be identified and the equipment types split into two groups, one for ACE/ENA equipment and one for Private Circuits. An apportionment base can then be created by dividing the depreciation charge allocated to each group by the total depreciation for the CoW. The asset policy code mapping is shown below:

DTTK KILOSTREAM EQUIPMENT	DESCRIPTION	Plant Group
DKMI	Miscellaneous Eqpt	PG412C
DTKA	Kilostream Modem	PG412C
DTKB	Kilostream Mux/Muldex	PG400T
DTKC	X connection site	PG412C
DTKD	Network Term Equip	PG412C
DTKE	Test EDM6003B - ACE Site	PG400T
DTKF	DARTS Equipment	PG412C
DTKG	Indirects	
DTKH	RENACE Hardware	PG400T
DTKL	Local Control Equipment	PG412C
DTKM	Miscellaneous	
DTKN	ENA1A Shelf & Cards	PG412C
DTKP	ET1A Shelf & Cards	PG412C
DTKS	RENACE Software	PG400T
DTKT	Test equipment	
DTKU	Main ACE	PG400T

Note that items that are common e.g. Indirects receive no specific treatment and are therefore spread on the existing split.

This base apportions costs to PG400T (ACE (Automated Cross-connection Equipment) / ENA (Equipment Network Access) core equipment) and PG412C (Private Circuits Kilostream Rental Capital) which relates to the Local End to the customer.

Data Source/s
LoP List for Period 12.

PDTDTTM | **ALL**

Megastream

Description
Megastream is a 2Mbps (2,048Kbit/s) high speed, permanently connected, point to point private circuit.

Megastream is a Product offered at different bandwidths (i.e. 1Mbps to 622Mbps). Apportionment is made to various Megastream bandwidths, Kilostream and ISDN30 Plant Groups (PGs) due to the fact that these Products can be carried over higher bandwidth bearers (e.g. 2Mbps, 34Mbps, etc.).

Methodology
This base apportions the gross book value of Megastream equipment assets and the associated depreciation and accumulated depreciation charges to PGs. These Megastream assets are the electronic elements of the bearer. The allocation is based on the numbers of bearers on the different bearer sizes weighted by the cost of each type of bearer.

Volumes for the different bearer sizes come from the Core Transmission Costing System (CTCS) and the London Local Fibre Network (LLFN). This is multiplied by the cost for the equipment. Different bearer sizes are represented by different Plant Groups. We identify the numbers of circuits on these bearers that are used by Kilostream (expressed in 2Mbps). We separate the cost of Kilostream and point it to its own Plant Group.

For bearers of 2Mbps size there are two Plant Groups, one for 2Mbps supplied over Copper and one for Fibre, so a split is derived from the fixed asset register using the

		depreciation from asset policy codes that relate to 2Mbps fibre and 2Mbps copper. This base primarily allocates costs to the plant groups: PG442C (Local End 2Mbps (Copper) Equipment), PG444C (Local End Equipment 34Mbps Equipment), PG440C (Local End Equipment 4x2Mbps Equipment), and PG443C (Local End Equipment 2Mbps (Fibre) Equipment). *Data Source/s* London Local Fibre Network (LLFN), Core Transmission Costing System (CTCS), LoP List at Period 12.
PDTDUCT	**B, T, Q**	**Duct** *Description* This base allocates the costs relating to the duct asset. It covers all duct (core access and shared) within the BT network. *Methodology* We apportion duct costs and assets to three Activity Groups that describe the way that the duct is used by cables: AG135 (Duct used by access cables), AG148 (Duct used by backhaul cables) and AG149 (Duct used by core cables). This apportionment is based upon data from the 1996 Absolute Duct Study (ADS). The ADS was a point in time study of the duct within the network using a sample of 384 of the 5,586 exchange areas. From this survey, the proportion of duct that is solely used/shared between access and core transmission was determined. We take account of investment in the duct network since 1996 by firstly applying these proportions to the 1996/97 Gross Replacement Cost (GRC) which is then indexed to today's prices, and secondly we add to this the indexed capital spend from 1996/97 to the current year. This provides an apportionment of duct between access cables and transmission cables. The core transmission element is further split between backhaul and core based on circuit volumes and lengths taken from our core transmission costing system (CTCS). This attribution is consistent with our attribution for splitting core and backhaul fibre PDTCJF (Backhaul and Core Fibre Cables). For Openreach duct, we attribute between AG135 (Duct used by Access Cables) and AG148 (Duct used by Backhaul Cables) by the relative GRCs mentioned above. For OUC T, BT Technology, Service & Operations, we attribute between AG135 (Duct used by access cables), AG148 (Duct used by backhaul cables) and AG149 (Duct used by core cables). OUC Q* costs are allocated to AG135/AG148/AG149, i.e. using the original allocation in the model. *OUC Q represents all other OUCs. *Data Source/s* 1996 Absolute Duct Study (ADS), Internal Project Ledger (IPL), CID, CTCS.
PDTEMP	**Q**	**Ethernet Monitoring Platform** *Description* This base apportions an internal trade between PG449A (Ethernet Monitoring Platform) and Retail Residual, to apportion underlying costs to PG449A but any internal traded margin to Retail Residual. This internal trade (F8 code 249015) is referred to in Section 8.2 (Transfer charges which do not net to nil within the SMP

<table>
<tr><td></td><td></td><td>markets).

Methodology
The apportionment is based on a split of the internal trade between costs and margin, based upon a management assessment from the Global Services team.

Data Source
Global Service Trading Model</td></tr>
<tr><td>PDTETHER</td><td>ALL</td><td>Ethernet Switches
Description
This base apportions the costs and balance sheet charges for Ethernet switches to Plant Groups (PGs).

The Ethernet Switch is part of the 21CN and contains functionality for the access and onward switching of Ethernet customers as well as Broadband including NGA (Next Generation Access). The recipients are:
• PG901A Ethernet Switches
• PG902A Ethernet Switch Customer Access Cards

Methodology
The Ethernet switch contains functionality for the transport of connectivity, voice and broadband services.

We model 21CN CoW depreciation by a more detailed network element split than is on BT's general ledger, allowing us to allocate 21CN assets into detailed PGs. The model provides estimates of capital spend on a year by year basis, from which the annual depreciation for each network element is calculated and reconciled back to the LoP list at P12. The depreciation charge is calculated over the asset life of the network element. Each network element is mapped to a PG with the total depreciation charge relating to that PG driving the apportionment within the base.

Data Source/s
CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life).</td></tr>
<tr><td>PDTINCD</td><td>T</td><td>Intelligent Network Architecture Equipment
Description
This base apportions the capital costs of the Intelligent Network (IN) platform. The IN platform consists of several sub-platforms.

Methodology
The assets for each sub-platform are registered against their own Asset Policy Code on the Fixed Assets Register; this allows identification of depreciation costs by function and allows the calculation of the relevant split to corresponding Plant Groups (PGs) This forms the basis of the apportionment base.

The costs for each sub platform are pointed at the relevant Plant Group (PG) as detailed in the table below:

<table>
<tr><th>Asset Policy Code</th><th>Attributed to</th></tr>
<tr><td>INIC Intelligent Contact Manager (ICM)</td><td>PG260A Intelligent Contact Manager PRO</td></tr>
<tr><td>INAH/INAS Alfredo Hardware and Software</td><td>P007 Retail - ICT and Managed Networks</td></tr>
<tr><td>INMH/INMS Montrose Hardware and Software</td><td>P007 Retail - ICT and Managed Networks</td></tr>
<tr><td>INVS Voice Mail System</td><td>P006 Retail - Calls Lines & Circuits</td></tr>
<tr><td>INCG Indirect Costs, INCM Misc, INCS Network Software in Access, ININ IN</td><td>Spread in proportion to all the above</td></tr>
</table>
</td></tr>
</table>

		However, as at 2017/18 all asset policy codes were fully depreciated except for those relating to PG260A. The allocation is therefore 100% to this PG. *Data Source/s* LoP List Intelligent Network data for the latest available period. Management believe this period to be reflective of the full year.
PDTINODE	**T, TT**	**i-Node** *Description* This base apportions the cost and balance sheet for i-Node equipment to Plant Groups (PGs). i-Node is where the service execution functionality is located – in essence the intelligence that controls services. In the 21CN context, this includes soft switches, network intelligence and bandwidth management capabilities. The recipients are: • PG875A i-Node Features • PG876A i-Node Voice Call Set-Up *Methodology* The i-Node contains functionality for both the setting up of Voice Calls and the provision of Calling Features e.g. Ring Back When Free. The split of cost used is the historic ratio of costs for these activities in the System X and AXE10 Digital Local Exchange PGs as these assets have similar functionality. The assumption points 15% to Network Features (PG875A) and 85% to Voice Call Set-up (PG876A). *Data Source/s* Billing records.
PDTIPNCO	**ALL**	**IP (Internet Protocol) Networks** *Description* This base apportions costs of equipment supporting IP networks. Costs booked to classes of work (CoW) IPNC (Internet Protocol Network Capital) include provision, extension, rearrangement and recovery of IP networks by the Broadband and Data division in BT Wholesale. IPNC is the set of communication tools which enables computers to 'talk' to each other over the Internet. Each computer (known as a host) has at least one address that uniquely identifies it from all other computers on the Internet. Each piece or 'packet' of information sent over the Internet contains both the sender's Internet address and the receiver's address. This allows the packets to reach their intended destination, or, if necessary, to be returned to the sender. *Methodology* According to guidance from experts within the Finance function of the relevant Corporate Unit (CU), each IP piece of equipment is assigned to one of the Plant Group (PG) destinations related to IP. IP data and Broadband capital spend is downloaded from the Internal Project Ledger (IPL) for the previous five years. The LoB uses the sub programme for each item of capital spend to associate it with a relevant PG. The majority of the IPNC assets have a life of three years, however, SIP servers have a life of five years. The capital spend for the last three/five years (from Internal Project Ledger) is then used to derive the deprecation.

		This base apportions to various PGs, predominantly PG670A (IP Network Fixed Access), PG675A (IP VOIP infrastructure), PG666A (TVC) and PG674A (IP Core/Colossus). *Data Source/s* The Internal Project Ledger (IPL) lists depreciation costs by CoW, and produces a list of asset registrations by year, which can be found in Central Information Data warehouse (CID) Financial Reporting system. Period 12 data is used as activity after this period does not materially affect the base.
PDTIVX	**ALL**	**Costs - Transmission Repair and Control on Trunk and Junction Transmission equipment** *Description* This base apportions management pay costs of maintenance and repair works carried out on Trunk and Junction transmission equipment. This refers to the supervision of maintenance work carried out on the link sections of optical fibre cables which form part of the Core Network (also known as Core networks) and Private Circuits using the Plesiochronous Digital Hierarchy (PDH) technology (see Plant Group (PG) Overview on descriptions of Core Transmission Bearers). These costs flow into the classes of work (CoW) TCR (Transmission Control and Repair) which relate to PGs representing bearers in the core network. *Methodology* Costs are attributed to PDH PGs based on the number of PDH Line Systems and PDH Multiplexors supporting the different PDH bandwidths. *Data Source/s* Period 6 circuit data is used from the Core Transmission Circuit costing System.
PDTKDEN	**B**	**Kilostream Maintenance** *Description* This base apportions the costs of maintaining Kilostream equipment assets. Kilostream is the brand name for BT's portfolio of low speed digital private circuits. The circuits operate at bandwidths of 2.4kbit/s up to 64kbit/s and are provided using BT's Digital Private Circuit Network (DPCN). *Methodology* This base follows the same methodology and apportionment as PDTDTTK above. *Data Source/s* LoP List for Period 12.
PDTLFCM	**All**	**Local Fibre Network Maintenance** *Description* This base apportions the costs of maintaining the Access Fibre network equipment assets. *Methodology* This base apportions costs to the Spine Maintenance, NGA (Next Generation Access) Spine and NGA Distribution Plant Groups based on their proportion of the Total GRC for Access Fibre. This information comes from the allocation model for Fibre CoWs. This base apportions costs to PG111M (Access Fibre Maintenance), PG948M (GEA FTTP Access Fibre Spine Maintenance), PG949M (GEA FTTP Distribution Fibre Maintenance), PG950M (GEA FTTC Access Fibre Spine Maintenance) and PG951M (GEA FTTC Distribution Fibre Maintenance).

		Data Source/s GRC of Access Fibre.
PDTLFDC	**All**	**Local Fibre Distribution Cable – Profit and Loss** *Description* This base apportions the profit and loss items (including CCA adjustments) associated with local fibre distribution cable. *Methodology* The local fibre distribution cable profit and loss values are apportioned to the following PGs based on their relative in year depreciation: PG959C (Access Distribution Fibre), PG949C (GEA FTTP Distribution Fibre) and PG951C (GEA FTTC Distribution Fibre). *Data Source/s* GRC of Access Fibre; Fixed Asset Register.
PDTLFDCBS	**All**	**Local Fibre Distribution Cable – Balance Sheet** *Description* This base apportions balance sheet items (including CCA adjustments) associated with local fibre distribution cable. *Methodology* The local fibre distribution cable balance sheet values are apportioned to the following PGs based on their relative NRC: PG959C (Access Distribution Fibre), PG949C (GEA FTTP Distribution Fibre) and PG951C (GEA FTTC Distribution Fibre). *Data Source/s* GRC of Access Fibre, Fixed Asset Register.
PDTLFSC	**All**	**Local Fibre Spine Cable** *Description* This base apportions the costs and balance sheet items (including CCA adjustments) associated with local fibre spine cable. *Methodology* The local fibre distribution cable balance sheet and profit and loss values are apportioned to the following PGs based on the relative number of fibres used for NGA (FTTP and FTTC) and Non-NGA on the Distribution side: PG111C (Access Spine Fibre), PG948C (GEA FTTP Access Fibre Spine) and PG950C (GEA FTTC Access Fibre Spine). *Data Source/s* INS (Integrated Network System).
PDTLMC	**ALL**	**Exchange Side Cables** *Description* This base apportions the depreciation and asset values for our exchange side copper cable assets (CoW LMC). This class of work includes: • Our exchange copper cables – which connect our exchange buildings to our copper cabinets. • NGA tie cables – copper cables that are used to connect our copper cabinet to our GEA cabinets. • Internal Tie Cables – used to connect Openreach's distribution frame to equipment provided by other communication providers.

		• A small amount of cost relating to our EvoTAMS assets. *Methodology* This CoW includes a number of different assets. Therefore we apportion the costs to PGs based on a detailed analysis of depreciation taken from our finance systems. The depreciation of each asset category is identified as follows: • The policy code CLLU was originally set up to identify internal tie cables, but it also includes some capitalised assets relating to EvoTAMS. In 2012, we undertook a survey of the actual jobs booked to policy code CLLU and from this survey we estimated that £37m of these assets related to EvoTAMS and not tie cables. Divided by the 18 year asset life this equates to £2m of depreciation. This element is apportioned to PG151B (Broadband Line Testing). This treatment is consistent with Ofcom's modelling in the FAMR in 2012. • The remaining depreciation on the policy code CLLU does relate to the internal tie cable assets and so we apportion this element to PG130A (Local Loop Unbundling Tie Cables). • NGA tie cables are not identified under a separate policy code so we calculate the depreciation based on the cumulative capital expenditure identified on our Internal Project Ledger (IPL) and divide this expenditure by the 18 year asset life. We can identify and allocate that element of cost which is NGA Commercial. This element is apportioned to PG192A (NGA E-side Copper Capital). • The remaining depreciation for this class of work relates to E-side copper cables and this element is apportioned to PG117C (E-side Copper Cable). *Data Source/s* LoP List, a report derived from our fixed asset register to identify total amount of depreciation on policy code CLLU and to confirm the asset live for all assets on this class of work. Internal Project Ledger (IPL) to identify the cumulative capital expenditure for tie cables connecting our copper cabinets and GEA cabinets. 2012 detailed survey of jobs booked to policy code CLLU to determine the amount of assets relating to EvoTAMs.
PDTLMD	**ALL**	**Local Main (Exchange Side) Duct** *Description* This base apportions costs and balance sheet associated with Local exchange side Duct for Copper. *Methodology* This is a Rule Type 3 attribution. Apportionment to Core and Access AGs is done based upon data from the 1996 Absolute Duct Study (ADS). The ADS was a point in time study of the duct within the network using a sample of 384 of the 5,586 exchange areas. From this survey, the value of duct that is solely used by access and core transmission was determined. This is then used to apportion the 1996/97 index uplifted Gross Replacement Cost (GRC), and to this the indexed capital spend, from 1996/97 to the current year. The apportionment is then determined based upon the ratio of (1996/97 Access Gross Replacement Cost (GRC) plus Access duct capital spend) and (1996/97 Core Gross Replacement Cost (GRC) plus Core capital Duct spend).

		As Core is split between Inner Core (AG149) and Backhaul Core (AG148) and Inner core costs are from TSO, a CTCS split of circuits based on fibre kms is used to split the Core allocation between these two activity groups. Access Duct and Backhaul Core Duct costs come from Openreach and Northern Ireland whereas Inner core is source from TSO, though it is assumed Northern Ireland has its own. A proportion is also allocated to NGA (Next Generation Access) based on depreciation estimated from detailed capital expenditure on NGA projects on the Internal Project Ledger, divided by the depreciation on Class of work LMD (Local exchange side Duct for Copper) as a whole. This reduces the allocation to Access duct and Backhaul Core Duct in proportion to each other. A small element of LLU sub loop unbundling costs are also proportioned using this base to Plant Group PG180A Other WLA. The PDTLMD base apportions costs to the following destinations in the same way as PDTDUCT after allocation of PG192A and PG180A below: • AG148 (Duct used by Backhaul Core Cables) from Openreach (B) and other (Q) OUCs, some redistribution of T OUC as per PDTDUCT T base. • AG149 (Duct used by Inner Core Cables) from TSO (T) OUC, the element not redistributed to AG135 and AG148. • AG135 (Access Duct) from Openreach (B) and other (Q) OUCs, some redistribution of T OUC as per PDTDUCT T base. • PG192 (NGA E-Side Copper Capital) from Openreach (B) and Other (Q) OUCs. • PG180A (Other WLA) from Openreach (B) and Other (Q) OUCs. *Data Source/s* 1996 Absolute Duct Study (ADS), Internal Project Ledger (IPL), CTCS, CID.
PDTLMDF	**ALL**	**Main Distribution Frames in Local Exchanges** *Description* This base apportions the costs and balance sheet associated with main distribution frames in local exchanges. Main distribution frames are the interface between the exchange side cables and the exchange switching equipment. Exchange side cable is the cable that links the exchange to the primary cross connection point. This is illustrated in the diagram in PDTLMC above. *Methodology* Main distribution frames support the activities of the E-side copper cable. The apportionment of these costs can therefore be based on the relative sizes of the year to date depreciation of MDF assets at Period 12 for both E-side copper cable and local loop unbundling frame usage. These figures are taken from the LoP list. The costs and balance sheet items are apportioned to: • PG217E (Local Exchange General Frames Capital). • PG130A (Local Loop Unbundling Tie Cables). *Data Source/s* LoP List at Period 12.
PDTLXTM	**ALL**	**Local Exchange Testing**

		Description This base apportions the costs of the Local Exchange Test and Measure (LXTM) classes of work (CoW). This covers common or centralised testing, monitoring or access equipment for Local Exchanges that is not directly associated with a particular exchange system type. *Methodology* The depreciation charges from the LoP List for the CoW are analysed by asset policy code and broken down into: • Exchange equipment used to test local exchanges - this is Test Access Matrix (TAMS) equipment. • For Openreach costs are apportioned to PG151B (Broadband Line Testing Equipment (Openreach)) and for TSO costs are apportioned to PG151N (Broadband Line Testing Equipment (BT TSO)). • Other costs. This is line test equipment and costs are apportioned to PG240A (Analogue Line Testing Equipment). *Data Source/s* Latest available LoP list.
PDTLYX	**ALL**	**AXE10 Exchanges** *Description* This base apportions the costs and balance sheet charges for AXE10 local exchange equipment. AXE10 equipment is equipment in BT's network manufactured by Ericsson. *Methodology* This base apportions the F8 codes mapped to it in exactly the same way as base reference PDTSYSXD, except that the weighting between concentrators and processors is based on modern equivalent asset depreciation values rather than historical cost depreciation values. There are two fundamental building blocks of AXE10 exchanges: • Concentrators • Processors These building blocks are significantly different, and are each made up of a large number of specific equipment elements. Each of these elements will relate to a specific PG. Therefore to create an apportionment base, we need to 'dimension' each of these specific equipment elements. *Concentrators* *Step 1* – We determine the modern equivalent asset value of all the equipment elements of concentrators in the network. We obtain, from the Exchange Planning and Review System (EXPRES) system, data that details the line types and the total number of lines fitted to each concentrator in the BT network. This data is entered into an engineering model which dimensions the number of equipment elements required to make up that number of lines. The quantities of each equipment element are then multiplied by an appropriate element cost to arrive at the total cost for each equipment element. The appropriate element cost that the engineering model utilises is the modern equivalent asset amounts for each type of equipment element. These are obtained from the Price Element Scheduled (PES) as part of the LEMP (Local Exchange Modernisation Program). The figures that are used from this are the March 1995 figures. These figures are frozen as this equipment is no longer available for

purchase.

Step 2 – We determine an estimate of the modern equivalent asset depreciation value for the equipment building blocks.

The current year's asset life determinations are applied to the total modern equivalent asset values of the equipment identified in step 1 to create a modern equivalent asset depreciation charge for the year. Asset lives are calculated and determined by Wholesale Regulatory Finance each year. This is completed via a review process undertaken by experts in this field. Where an individual building block does not have an individual asset life set in this process, the equated life of the Class of Work (CoW) is applied.

Step 3 – We allocate the depreciation charge into call set-up, access and call duration categories.
Using detailed information obtained from the switch manufacturer, which analyses how the different equipment types within the switch are used to provide service, the total modern equivalent asset depreciation value for each type of equipment element is allocated to the following categories:

- Call set-up
- Call duration
- Access

Total modern equivalent asset depreciation charges under each of the three categories can then be calculated.

This step illustrates the reason for using modern equivalent asset values to create the apportionment base for the historical cost AXE10 values. The manufacturer's matrix is crucial in providing the link between the F8 codes and the PGs that they are apportioned to. The equipment elements in the manufacturer's matrix cannot be reconciled to asset policy codes that are based on historical cost values. However the PES equipment elements compiled as part of the LEMP do reconcile to the manufacturers matrix and these items are listed at modern asset equivalent values.

Step 4 – We apportion the Access category into more detailed access categories (which will be linked to PGs at a later stage).

The total modern equivalent asset depreciation value allocated to the category 'access' must be further split into the following categories:

- Public Switched Telephone Network (PSTN)
- Integrated Services Digital Network (ISDN2)
- ISDN30
- Payphones

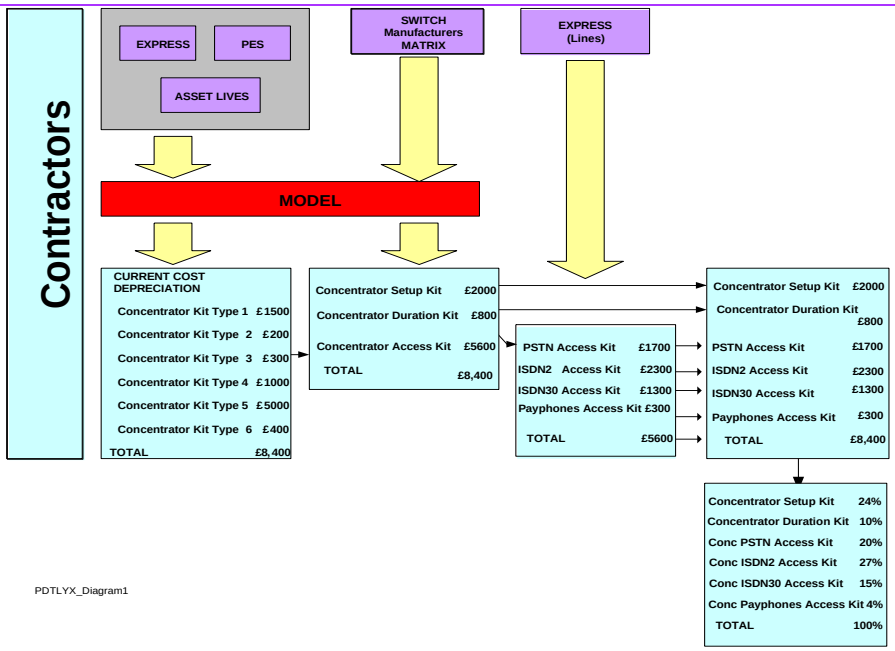
This apportionment is calculated based on the relative proportion of cost already identified in the engineering model.

Step 5 – We create the concentrator weighted base.

Using the modern equivalent asset depreciation amounts calculated for the above-listed categories, create a weighted base for concentrator kit.

The above steps are represented in the flowchart attached below:

Diagram: Overview of Historical Cost Balance Sheet – Concentrators.



*percentages are for illustrative purposes only

Processors

Step 1 – We determine the modern equivalent asset value of all the equipment elements of processors in the network.

We obtain, from the EXPRES system, data on the number of different lines connected to each processor in the BT network. Data is also obtained from the Network Recording System (NRS) on the size of all the processors in the BT Network. This data is then entered into an engineering model which dimensions the number of equipment elements required to make up that total processing capacity.

The quantities of each equipment element are then multiplied by an appropriate element cost to arrive at the total cost for each equipment element. The appropriate element cost that the engineering model utilises is the modern equivalent asset values for each type of equipment. This is obtained from the Price Element Scheduled (PES) items as part of the Local Exchange Modernisation Program (LEMP). The figures that are used from this are the March 1995 figures. These figures are frozen as this equipment is no longer available for purchase.

Modern equivalent asset values are used for the same reason as stated above for concentrators.

Step 2 – Determine an estimate of the Current Cost depreciation value for the equipment building blocks.

The current year's asset life determinations are applied to the total Current Cost values of the equipment identified in step 1 to create a Current Cost depreciation charge for the year. Asset lives are calculated and determined by the Wholesale Regulatory Finance each year. This is completed via a review process undertaken by experts in this field. Where an individual building block does not have an individual asset life set in this process, the equated life of the CoW is applied.

Total modern equivalent asset depreciation values under each of the two categories can then be calculated.

Step 3 – Create processor weighted base.

Using the modern equivalent asset depreciation amounts calculated for the above-listed categories, create a weighted base for processor kit.

The above steps are represented in the flowchart attached below:

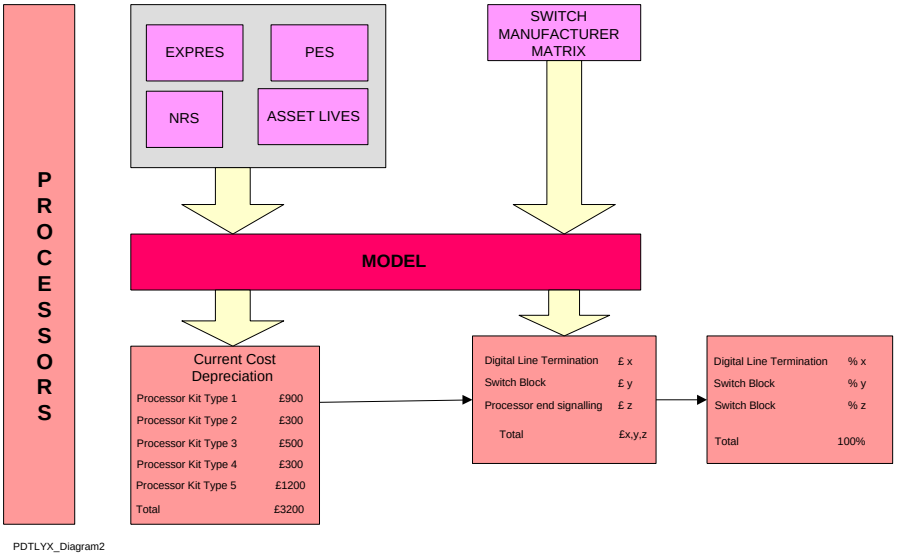


Diagram: Overview of Historical Balance Sheet – Processors.

* Percentages are for illustrative purposes only.

Apportionment to Plant Groups (PGs)

We now have two sets of apportionment data with both the concentrator and the processor apportionments adding up to 100%. The next step in the process is to weight the concentrator and processor apportionments. This base uses modern equivalent asset depreciation values to create the weighting from within the model.

Step 1 – We calculate the total modern equivalent asset depreciation charges for AXE10 equipment

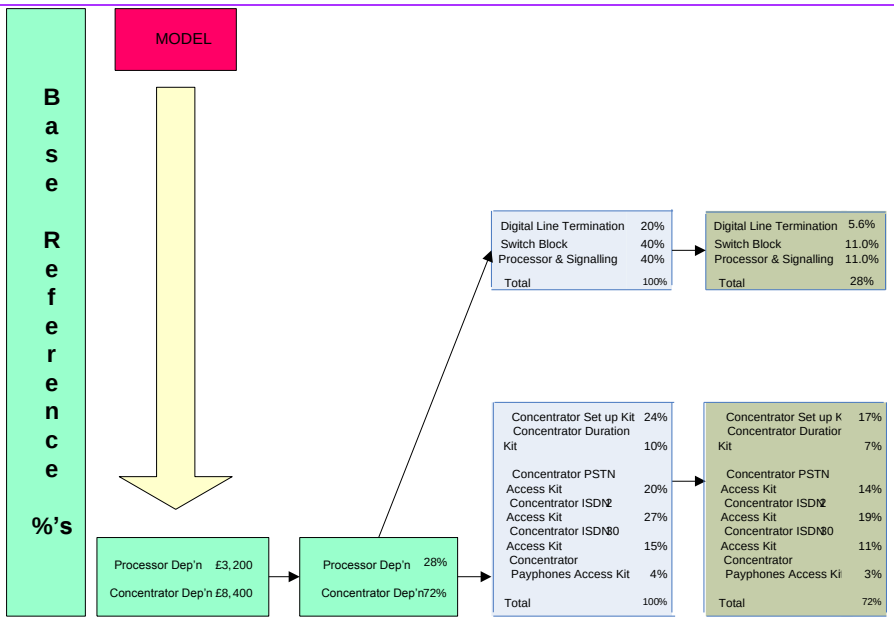
From the calculations above, the total of the modern equivalent asset depreciation charges for processor equipment is calculated. The total of the modern equivalent asset depreciation values for concentrator equipment is also calculated.

Step 2 – We create a weighted base for apportionment percentages

Using the relative proportions between processors and concentrators derived from the previous step, the apportionment's calculated for processors and concentrators can be weighted.

The above steps can be represented in the flowchart attached below:

Diagram: Historical Balance Sheet – Apportionment to PGs



PDTLYX_Diagram3

* Percentages are for illustrative purposes only.

Step 3 – We apportion costs to PGs

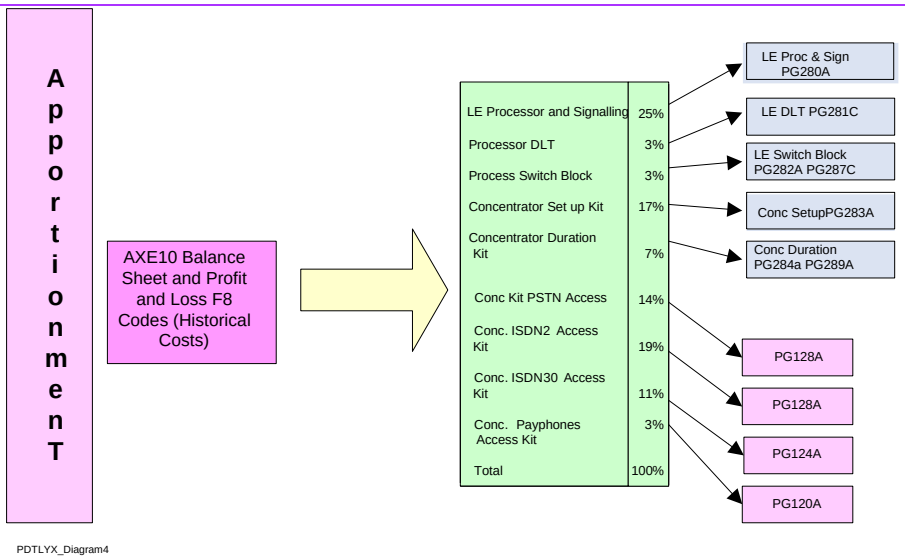
The apportionments are applied to the following Plant Groups (PGs) based on an analysis of the most appropriate fit for the building blocks. These are then applied to the historical cost Balance Sheet (i.e. gross book value (GBV) and accumulated depreciation) and historical cost Profit and Loss (i.e. depreciation etc.) charges for AXE10 local exchange equipment.

The PGs that the apportionments point to are as follows:

Category	Plant Group
AXE10 Local Exchange Processor and Signalling	PG280C (Local Exchange Processor (AXE10) Equipment)
AXE10 Local Exchange Digital Line Termination	PG281C (Local Exchange Line Transmission (AXE10) Equipment)
AXE10 Local Exchange Switch Block	PG282A (Local Exchange Switch Block (AXE10))
AXE10 Concentrator Set-Up	PG283A (Local Exchange Conc (AXE10) Call set-up)
AXE10 Concentrator Duration	PG284A (Local Exchange Conc (AXE10) Call Duration)
PSTN Linecards	PG127A (Analogue Linecards)
ISDN2 Linecards	PG128A (ISDN2 Linecards)
ISDN30 Capital /Maintenance	PG124A (ISDN30 Equipment)

This can be represented in the flowchart below:

Diagram: Historical Balance Sheet and Profit and Loss (P&L) Apportionment to PGs

		 *Data Source/s* EXPRES and NRS Systems. Management uses a period that is reflective of the full year.
PDTMDEN	**ALL**	**Private Circuits Megastream Maintenance** *Description* This base apportions the costs of maintaining Megastream equipment assets. Megastream is a 2Mbps (2,048kbit/s) high speed, permanently connected, point to point private circuit. *Methodology* This base follows the same methodology and apportionment as PDTDTTK above. *Data Source/s* Current Cost values of bearers, volumes of circuit types and depreciation for the most recent period of the year. London Local Fibre Network (LLFN), Core Transmission Costing System (CTCS) and LoP list at Period 12. Management believe this period to be reflective of the full year.
PDTMDF	**B,** **HME1,** **HM5,**	**Main Distribution Frames (Current)** *Description* This base apportions current account costs for main distribution frames. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs) and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the manhour rate x KMH for the above activities. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI and TRC is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above is apportioned to Local Exchange Frames. The remaining cost is apportioned to PG217F Local Exchange Frames (Current). This base apportions costs to PG217F (Local Exchange Frames (Current)), PG981R (Openreach Time Related Charges), and PG989A (Special Fault Investigation). *Data Source*

		Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT), Openreach Management Accounts.
PDTMDF	**Q**	**Main Distribution Frames (Current)** *Description* This base apportions current account costs for main distribution frames. The cost is mainly booked by the TSO LoB. *Methodology* The costs for this base are allocated to PG217R Main Distribution Frames Maintenance (BT TSO).
PDTMDSL	**Q**	**Main Distribution Frames (Current)** *Description* This base apportions current account costs for maintenance of digital subscriber line equipment. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Special Fault Investigation (SFI). The cost for this activity is derived by multiplying the manhour rate x KMH for SFI. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above is apportioned to Digital Subscriber Line. This base apportions costs to PG118M (D-Side Copper Maintenance) and PG989A (Special Fault Investigation). *Data Source* Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT), Openreach Management Accounts.
PDTMSAN	**ALL**	**Fujitsu and Huawei MSANs** *Description* This base apportions the cost and balance sheet for Fujitsu and Huawei manufactured MSANs (Multi Service Access Nodes) equipment to Plant Groups (PGs). The recipients are: • PG857A CMSAN Combi Cards BB element. • PG859A CMSAN Control Access. • PG860A CMSAN Control Transport. • PG861A CMSAN ISDN30 Cards. • PG862A CMSAN Low Band SDSL cards =<2Mbps. • PG869A FMSAN Control Access. *Methodology* We model 21CN CoW depreciation by a more detailed network element split than is on BT's general ledger, allowing us to allocate 21CN assets into detailed PGs. The model provides estimates of capital spend on a year by year basis, from which the annual depreciation for each network element is calculated and reconciled back to the LoP list at P12. The depreciation charge is calculated over the asset life of the network element. Each network element is mapped to a PG with the total depreciation charge relating to that PG driving the apportionment within the base.

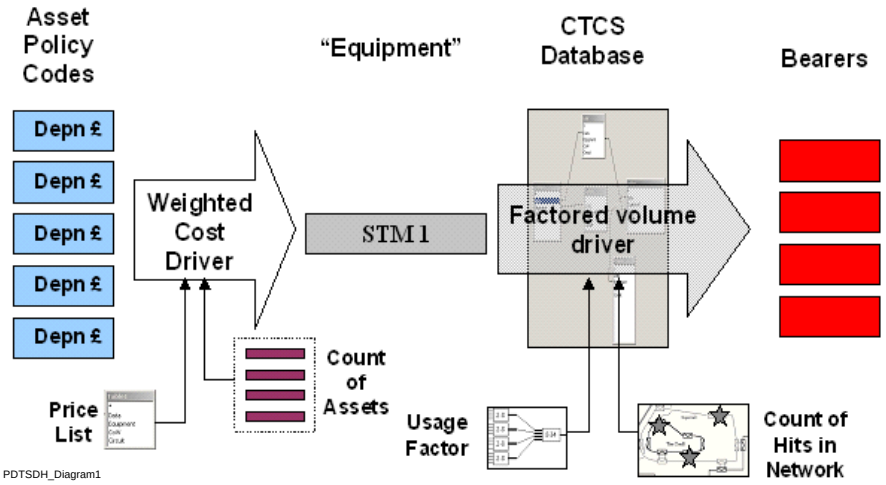
		Data Source/s CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life).
PDTMTLUR	**BV** **HM**	**Repair of Consumer's Wiring** *Description* This attributes the costs relating to the maintenance of end-user customers' internal wiring and network termination equipment (NTE) as covered by our CoW: MTLUR. These costs arise when additional engineering time is requested by Other Operators for fixed line services not included in Openreach's standard services. *Methodology* The attribution is based on the share of kilo man hours (KMH) spent on Special Fault Investigation (SFI). The cost for this activity is derived by multiplying the manhour rate x KMH for SFI. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above is apportioned to Residential PSTN Maintenance. This base apportions costs to PG122M (Residential PSTN Maintenance) and PG989A (Special Fault Investigation) *Data Source* Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT), Openreach Management Accounts.
PDTMXD	**ALL**	**Main Exchange Capital** *Description* This base apportions the depreciation and capital costs of Main/Trunk Switches. The costs are recorded in two Classes of Work (CoW). • MDX for System X switches • NGSC for Next Generation Switches (NGS) The base also apportions the maintenance costs for Main/Trunk switches. These costs are recorded in two classes of work. • DMS for System X Switches • NGSM for Next Generation Switches (NGS) *Methodology* This methodology produces a combined base used for both MDX and NGS since the MDX assets are a legacy technology that has been superseded by the Modern Equivalent Asset of NGS. Firstly, a fixed asset download is taken of both the MDX and NGS CoWs. The proportion of depreciation relevant to Intelligent Access and Messaging is attributed to its own Plant Group PG254A (Main Digital Exchange – Intelligent Access and Messaging) by identifying assets by policy code or asset descriptions. These costs are apportioned using a bottom-up build engineering model that uses inputs of the NGS capacities from the Switch Deployment Plan sourced from the Planning team. The model dimensions each exchange in the most efficient way. The total cost is obtained for all the exchange units and the model costs are assigned as to whether they relate to the three overall building blocks: • Digital Line Termination (DLT)

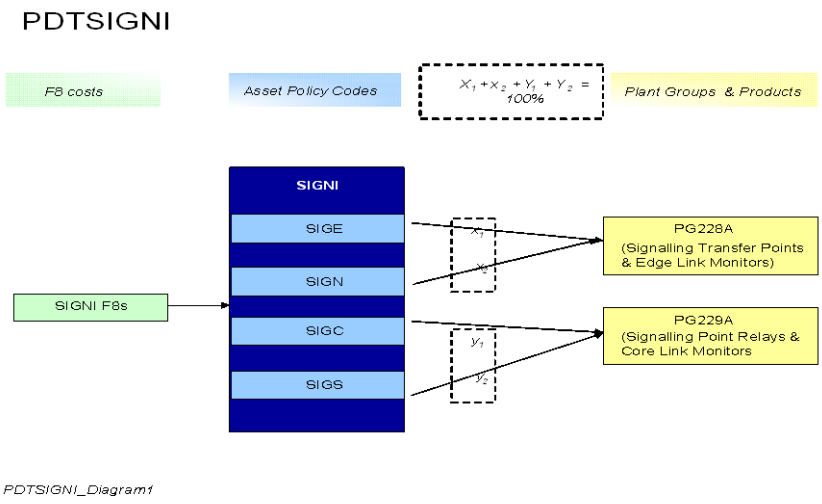
		• Processor • Switch Block The relative proportions of these are used to determine the apportionment to the plant groups: • PG249C (Main Exchange DLT (Digital Line Termination) • PG255B (Main Exchange Switch Block) • PG257C (Main Exchange Processor) *Data Source/s* Bottom-up build engineering model that uses: • EXPRES (Exchange Planning and Review System) – Supplies the number of System X and Next Generation Switches (NGS) units in service. • Network Recording System (NRS) – Supplies the fitted and working capacities of System X and Next Generation Switches (NGS) units. • Switch Deployment Plan – Also contains evidence on the fitted capacity of working NGS units together with dates of migration from System X to NGS. • Fixed Asset Register.
PDTNTE21	**ALL**	**21C Network Terminating Equipment** *Description* This base apportions the historical cost Balance Sheet (i.e. gross book value and accumulated depreciation) and historical cost Profit and Loss (P&L) (i.e. depreciation etc.) charges for 21C Network Terminating Equipment. This allocates 100% to PG867A 21C Ethernet NTE. *Methodology* This base apportions the cost and balance sheet for 21C Network Terminating Equipment.
PDTORSFI	**BL, BV**	**Dropwire repair Overhead Cable** *Description* This base apportions repair costs for drop wires. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs), NGA Visit Assure and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the manhour rate x KMH for the above activities. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI and TRC is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above will go to Residential PSTN Maintenance. This base apportions costs to: • PG122M (Residential PSTN Maintenance) • PG989A (Special Fault Investigation) • PG981R (Openreach Time Related Charges) • PG154B (NGA visit assure) *Data Source* Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT)

PDTPANDA and PANDAL	**Q**	**Power and Accommodation (Back-Up Power and Specialised Accommodation Equipment)** *Description* This base apportions: • Maintenance and non-maintenance costs of systems providing heating, ventilation, air conditioning and general environmental control in BT's Network Operational Buildings (i.e. non-office buildings such as property occupied by local exchanges); • Maintenance costs on equipment providing power to BT's Network Operational Buildings; • Balance Sheet and associated depreciation charges of equipment providing power to BT's Network Operational Buildings. The costs and assets are apportioned to Plant Groups and Retail Residual. *Methodology* The methodology is the same as used for ELECT1/T, excluding an attribution to PG192A. This is because NGA cabinets are located at street level and therefore do not consume exchange power overheads. *Data Source/s* P12 version of the specialised electricity base ELECT1/T. Uses Period 12 equipment volumes (or most recent volumes available). The key systems used to provide the volumes for calculation of this base are listed below: • EXPRES – Volumes for switch equipment • INS – Volumes for PDH transmission equipment and CWSS/DWSS equipment • PACS – Volumes for SDH transmission equipment and 21CN equipment • Oracle Business Intelligence (OBI) Reports – Volumes for DPCN equipment (EDM and ENA) • NISM – Volumes for ADSL (DSLAMs) • AIM – Volumes for ATM/MSIP equipment • LLUMS – actual power readings for LLU meters • Horizon – a Group Property database that shows how the floor space is being used for each building is used by Group Property to raise their charges to CFUs/CUs; • Peacemaker – radio Infrastructure.
PDTRAR	**B**	**Routing and Records Base - Openreach** *Description* This base allocates the costs relating to the routing and records activity. This activity is the physical verification of routings within the network, and records the time associated with the initial recording of routing details on BT systems. It also apportions Capital Planning Pay and Non-Pay costs which are not directly related to the routing and records activity. *Methodology* Bookings to the Class of Work (CoW) RAR (Routing and Records) consist of two elements. • The first element is the time booked that is directly related to the Routing and Routing activity, as defined in the CoW description. • The second element, Capital Planning, is the time spent on activities that are outside of the CoW description and allocated to Capital Programmes. This consists of bookings made by non-field units, maintenance of records and planning indirects.

		A survey/estimate is provided by the field operations manager for Routing and Records. This survey is used to split the costs into the two elements. • The portion of cost proper to Routing and Records is allocated to PG140A (Routing and Records). • The portion that relates to capital programme will be apportioned using the PDTDUCT base (to AG135 (Duct used by Access Cables) and AG148 (Duct used by Backhaul Cables)). This base is used because it exhausts costs to Fibre capital plant groups which make use of the planning system that Routing & Records activity uses. *Data Source/s* Survey/Estimate provided by Operations manager responsible for Routing & Records.
PDTSBSBB	**BV**	**Broadband Boost** *Description* This base apportions repair costs for Broadband Boost. *Methodology* This base allocates 100% to PG580B, except for B OUC where the apportionment is split between PG580B and PG986R based upon the average % of hours booked against CoW SBSBB that are pertinent to Broadband Boost (PG580B). This allows any misbookings to be allocated to PG986R (Openreach Other Activities). *Data Source/s* Analysis of SBSBB ledger bookings provided by Openreach Customer-Facing Unit (CFU).
PDTSCNM	**TN**	**Network Platform Support Contract Costs** *Description* This base apportions the Profit and Loss (Other Payments) costs of technology vendor provided support usually under fixed term support contracts. The full detailed list of platforms supported is obtained from the Vendor Management team within BT TSO and includes the following high level Platforms: • Transmission • Switch • Broadband • Private Circuits • Intelligent Networks etc. *Methodology* *Step 1* – Platform level breakdown The first step of the methodology breaks down the total Support Contract Costs into technologies or platform specific categories. This data originates from the Support Contract Spend Managers. *Step 2* – PG level breakdown The Platform costs are apportioned to relevant PGs (weighted by step 1). The method of attributing across each Platform specific PG is driven by the relevant Platform base. The following data sources are used to provide the step 2 allocations:

		<table><tr><th>CoW</th><th>Source data or base used for CoW driver</th></tr><tr><td>ASN</td><td>100% to PG227A, Advanced Switching Units</td></tr><tr><td>ATM</td><td>PDTATM</td></tr><tr><td>DMC</td><td>PDTDMC</td></tr><tr><td>DX</td><td>PDTSYSXD</td></tr><tr><td>DY</td><td>PDTLYX</td></tr><tr><td>ETHER</td><td>PDTETHER</td></tr><tr><td>INM</td><td>PDTINM</td></tr><tr><td>IVS</td><td>PDTSDH</td></tr><tr><td>IVX</td><td>PDTIVX</td></tr><tr><td>KDEN</td><td>PDTKDEN</td></tr><tr><td>MDEN</td><td>PDTMDEN</td></tr><tr><td>MSAN</td><td>PDTMSAN</td></tr><tr><td>MDX</td><td>PDTMXD</td></tr><tr><td>IP</td><td>PDTIPNCO</td></tr><tr><td>Other 21CN CoWs</td><td>Weighted 21CN base using PDTMSAN, PDTETHER, PDTWDM21 and PDTCOR21</td></tr></table> *Step 3* – Amalgamation The PG level bases calculated in step 2 are amalgamated back into an SCNM level base by utilising the outputs from steps 1 and 2. *Data Source/s* Full year Platform level Contract Support costs (Provided by BT TSO), Platform specific bases, BT TSO & Openreach Life of Plant list.
PDTSDH	**ALL**	**SDH (Synchronous Digital Hierarchy) Electronic Assets** *Description* This base apportions the balance sheet and cost values for CoW SDH and maintenance costs on CoW IVS (Maintenance, Synchronous Digital Transmission Equipment). SDH represents newer electronic assets in the Transmission network compared to PDH. They complement the transmission equipment capacity provided by the Plesiochronous Digital Hierarchy (PDH) assets – see PDTCRD and PDTCRF. IVS capture the corresponding maintenance costs incurred on SDH equipment. SDH is subdivided into a number of asset policy codes, representing the different asset types within it. The driver and destination for these policy codes does vary. SDH costs are mapped to bearer links, which can either be STM1, STM4, STM16 or STM64, represented by a number of PGs. Asset types Asset types within SDH can be classified into a number of key categories: • Add Drop Muxes (ADMs) - Exchange and customer sited). • Cross Connects - (Routing equipment - Two main types-4/1 and 4/4). • Line systems. • International Backhaul equipment. • Other (Software, computer equipment, etc.). *Methodology* CTCS (Core Transmission Circuit costing System) generates a file listing all SDH

		equipment and the number of factored hits by bearer type. Each bearer type is represented by a PG. The cost of equipment is allocated to a number of bearer types based on usage and utilisation. Hits represent the number of times a bearer interfaces with a piece of equipment. A factor is applied in order to ensure utilisation is taken into account, for example an STM 4 (565Mbps) bearer would utilise an ADM, four times as much as an STM 1(155Mbps) bearer. The CTCS file details all SDH assets by bandwidth, e.g. ADMs are broken down by type - SMA1, SMA4 and SMA 16. BT's initial calculations are at an asset policy level. Asset policy codes group assets into broad categories which we can map to the asset types held in CTCS. The value (Count of equipment * Price) of each equipment type, within a policy code, is used to weight the factored hits. The hits are then grouped together, at an overall asset policy level. These hits are then weighted by Period 6 depreciation from the Period 6 LoP list. This is derived from the fixed asset register. The costs are then apportioned to PGs representing the relevant bearer types. Indirect costs are treated as overheads and are apportioned to PGs in proportion to the value of the equipment already apportioned. Diagram: SDH Electronic Assets PDTSDH Process  *Data Source/s* Period 12 LoP list. SDH prices-Procurement/SDH cost model.
PDTSIGNI	**T, TT**	**Signalling Equipment Capital Costs** *Description* This base apportions the capital costs of Signalling equipment registered in the SIGNI classes of work (CoW) SIGNI equipment is associated with PSTN (Public Switched Telephone Network), Interconnect (Other Licensed Operator) circuits and PSTN to Intelligent Network (IN) circuits. The main assets are: • STP (Signalling Transfer Point) switches and Edge Link Monitors for Interconnect Circuits. • SPRs (Signalling Point Relay switches) and Core Link Monitors for PSTN to IN

		Circuits. *Methodology* The Fixed Asset Register records assets against distinct Asset Policy Codes (APCs) which reflect asset function. This allows easy identification of depreciation costs by function and allows the calculation of the relevant split to corresponding PGs. A summary of data from the Fixed Asset Register for the latest available period is used for the base. • SIGN Signalling Transfer Point switches and SIGE Edge-link monitors costs are directly attributed to PG228A (Signalling Transfer Point (STP) and Edge-link monitors). • SIGC Core-link monitors and SIGS Signalling Point Relay switches costs are directly attributed to PG229A (Signalling Point Relay (SPR) and Core-link monitors). Diagram: Signalling Equipment PDTSIGNI Apportionment Process.  *PDTSIGNI_Diagram1* *Data Source/s* LoP List data at the latest available period. Management believe this period to be reflective of the full year.
PDTSYSXD	**ALL**	**System X** *Description* This base apportions cost and balance sheet for System X local exchange equipment. *Methodology* There are two fundamental building blocks of System X: • Concentrators; • Processors. Each of these elements will relate to a specific PG. Therefore to create an apportionment base, we need to separately identify and isolate each of these specific equipment elements. *Concentrators* *Step 1* – Determine the Current Cost value of all the equipment elements of concentrators in the network.

Obtain from the EXPRES (Exchange Planning and Review System) system data that details the line types and the total number of lines fitted to each concentrator in the BT Network. This data is entered into an engineering model which "dimensions" the number of equipment elements required to make up that number of lines. The quantities of each equipment element are then multiplied by an appropriate element cost to arrive at the total cost for each equipment element. The appropriate element cost that the engineering model utilises is the Current Cost amounts for each type of equipment element. These are obtained from the Price Element Scheduled (PES) items as part of the LEMP (Local Exchange Modernisation Program). The figures that are used from this are the March 1995 figures. These figures are frozen as this equipment is no longer available for purchase.

Step 2 – Determine an estimate of the Current Cost depreciation value for the equipment building blocks.

The current year's asset life determinations are applied to the total Current Cost values of the equipment identified in Step 1 to create a Current Cost depreciation charge for the year. Asset lives are calculated and determined by the Wholesale Regulatory Finance each year. This is completed via a review process undertaken by experts in this field. Where an individual building block does not have an individual asset life set in this process, the equated life of the Class of Work (CoW) is applied.

Step 3 – Allocate the depreciation charge into call set-up, access and call duration categories using cost drivers.

Using detailed information obtained from the switch manufacturer, which analyses how the different equipment types within the switch are used to provide service, the total Current Cost depreciation value for each type of equipment element is allocated to the following categories:

- Call set-up.
- Call duration.
- Access.

Total Current Cost depreciation values under each of the three categories can then be calculated.
This step illustrates the reason for using Current Cost values to create the apportionment base for the historical cost System X values. The manufacturer's matrix is crucial in providing the link between the F8 codes and the PGs that they are apportioned to. However the equipment elements in the manufacturer's matrix cannot be reconciled to asset policy codes that are based on historical cost values. However the PES equipment elements compiled as part of the LEMP do reconcile to the manufacturers matrix and these items are listed at modern asset equivalent values.

Step 4 – Apportion the Access category into more detailed access categories, which will be linked to PGs in later stages.

The total Current Cost depreciation allocated to the category 'access' must be further split into the following categories:

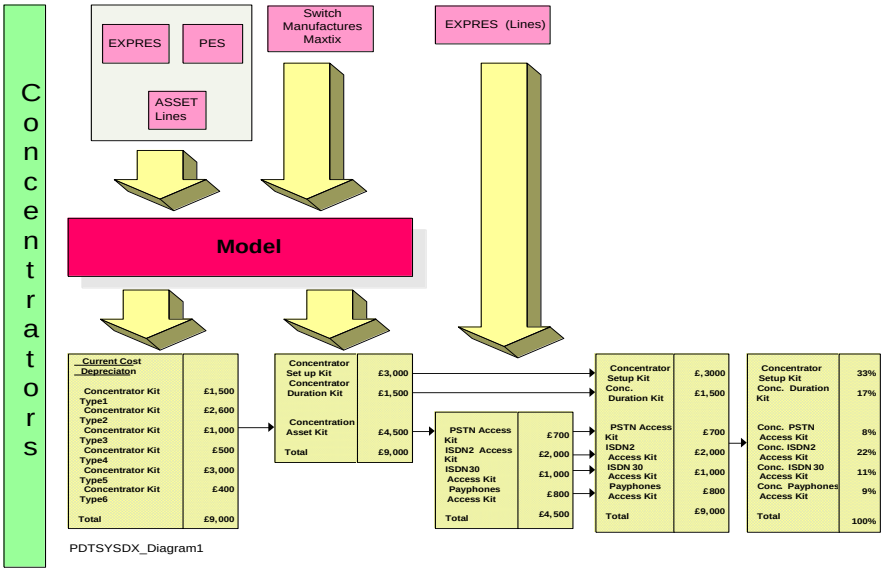
- Public Switched Telephone Network (PSTN).
- Integrated Services Digital Network (ISDN2).
- ISDN30.
- Payphones.

This apportionment is calculated based on the relative proportion of cost already

identified in the engineering model.

Step 5 – Create concentrator weighted base.
Using the Current Cost depreciation amounts calculated for the above-listed categories, create a weighted base for concentrator kit.

The above steps are represented in the flowchart below:



*percentages are for illustrative purposes only

Processors
Step 1 – Determine the Current Cost value of all the equipment elements of processors in the network.

Obtain from the EXPRES system data on the number of different lines connected to each processor in the BT network. Data is also obtained from NRS (Network Recording System) on the size of all the processors in the BT network. This data is then entered into an engineering model which "dimensions" the number of equipment elements required to make up that total processing capacity. The quantities of each equipment element are then multiplied by an appropriate element cost to arrive at the total cost for each equipment element. The appropriate element cost that the engineering model utilises is the Current Cost amounts for each type of equipment. This is obtained from the PES items as part of the LEMP. The figures that are used from this are the March 1995 figures. These figures are frozen as this equipment is no longer available for purchase.

Current Cost values are used for the same reason as stated above for concentrators.

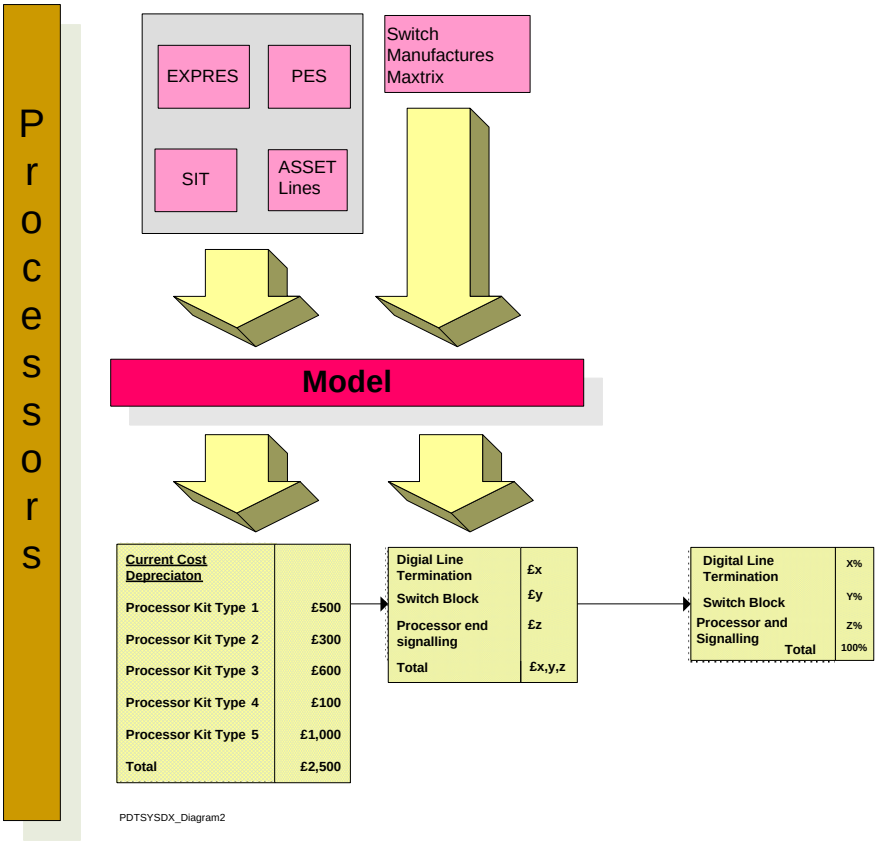
Step 2 – Determine an estimate of the Current Cost depreciation value for the equipment building blocks.

The current year's asset life determinations are applied to the total Current Cost values of the equipment identified in step 1 to create a Current Cost depreciation charge for the year. Asset lives are calculated and determined by the Wholesale Regulatory Finance each year. This is completed via a review process undertaken by experts in this field. Where an individual building block does not have an individual asset life set in this process, the equated life of the CoW is applied.

Step 3 – Create processor weighted base.

Using the Current Cost depreciation values calculated for the above-listed categories, create a weighted base for processor kit.

The above steps are represented in the flowchart below:



* percentages are for illustrative purposes only

Apportionment to PGs

We now have two sets of apportionment data with the concentrator apportionments add up to 100% and the processor apportionments also add up to 100%. The next step in the process is to weight the concentrator and processor apportionments This base uses modern equivalent asset depreciation values to create the weighting from within the model.

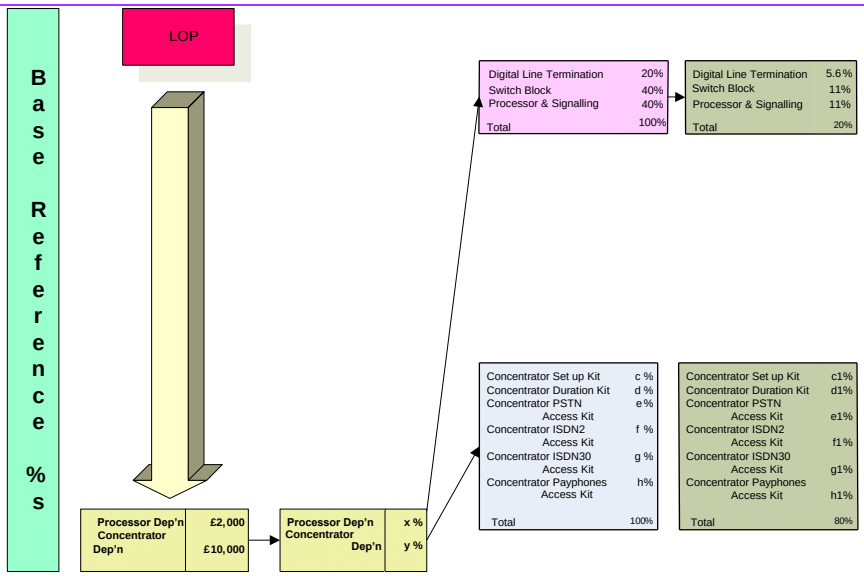
Step 1 – Total the modern equivalent asset depreciation charges for System X equipment.

From the calculations above, the total of the modern equivalent asset depreciation charges for processor equipment is calculated. The total of the modern equivalent asset depreciation values for concentrator equipment is also calculated.

Step 2 – Create weighted base for apportionment percentages.

Using the relative proportions between processors and concentrators derived from the previous step, the apportionments calculated for processors and concentrators can be weighted.

The above steps can be represented in the flowchart below:



PDTSYSDX_Diagram3

*percentages are for illustrative purposes only

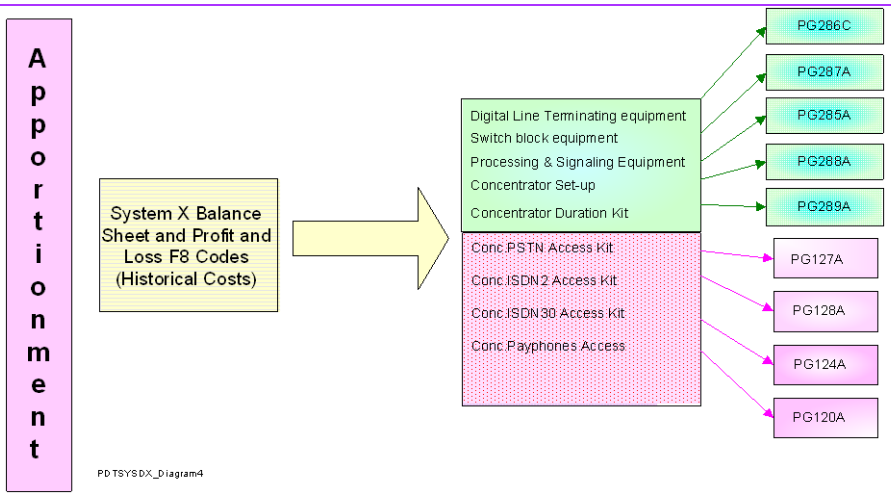
Step 3 – Apportion amounts to PGs.

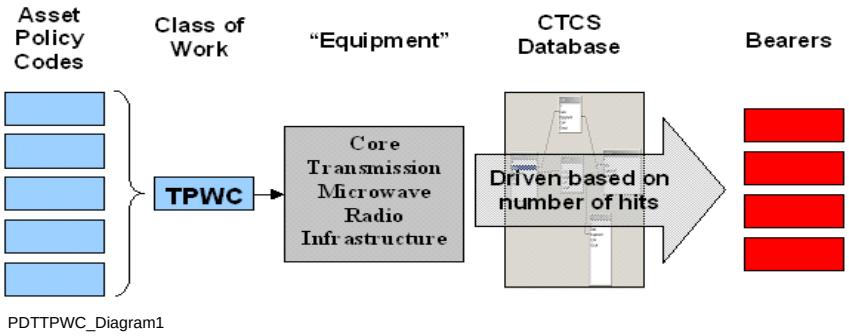
These apportionments are applied to the following PGs based on an analysis of the most appropriate fit for the building blocks. These are then applied to the historical cost Balance Sheet (i.e. GBV and accumulated depreciation) and historical cost Profit and Loss (i.e. depreciation etc.) charges for System X local exchange equipment. The PGs that the apportionments point to are as follows:

Category	Plant Group
System X Concentrator Call set-up	PG288A
System X Concentrator Call duration	PG289A
PSTN Linecards	PG127A
ISDN2 Linecards	PG128A
ISDN30 Capital	PG124A
Payphones Linecards	PG120A
System X DLE Processor and Signalling Capital	PG285C
System X DLE Processor Capital	PG286C
System X DLE Switch Block	PG287A

PDTSYSXD_Diagram5

This is represented in the flowchart below:

		 *Data Source/s* EXPRES (Exchange Planning and Review System). LEMP (Local Exchange Modernisation Program) Contract - The figures that are used from this are the March 1995 figures. These figures are frozen as this equipment is no longer available for purchase.
PDTTPWC	**ALL**	**Costs – Core Microwave Radio Transmission Equipment** *Description* This base apportions balance sheet items and costs related to two core microwave radio transmission CoWs: • TPWC - equipment class of work (CoW). Unlike cable transmission, radio only utilises link related equipment. Examples of this equipment are antennas, masts and radio electronics. • MCRS – maintenance CoW, for Access Cord Radio Systems. This covers testing and maintenance of network radio systems in the inner and outer core inland telecommunications network. Network radio systems are maintained on MCRS Works orders. *Methodology* Costs are apportioned over the different bandwidth bearers based on an analysis of radio bearers in the core transmission network which is derived from the CTCS database. CTCS shows the relationship between equipment types and the bearers they support. The depreciation costs of radio equipment can be apportioned to radio bearers based on the bearers' usage of this equipment. Usage is measured as the number of times a certain type of bearer “hits” the equipment in the network. A usage factor is applied to these hits to get ‘factored hits’. The usage factor is used as for bearers on fibre cable, e.g. a 140 Mbps radio bearer can support 64 x 2 Mbps circuits, and so the usage factor is 1/64.

		 PDTTPWC_Diagram1 *Data Source/s* Period 6 CTCS data on factored bearer hits on each radio system type. Management believes this to be reflective of the full year.
PDTUDL	**BV**	**Distribution Side Copper Repair** *Description* This base apportions repair costs for drop wires. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs), NGA Visit Assure and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the manhour rate x KMH for the above activities. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI and TRC is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above will go to D-Side Copper Current. This base allocates costs to PG118M (D-Side Copper Current), PG981R (Openreach Time Related Charges), PG989A (Special Fault Investigation), PG154B (NGA Visit Assure) and PG150B (Abortive Visit Charges). *Data Source* Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT)
PDTUEL	**BV**	**Exchange Side Copper Repair** *Description* This base apportions repair costs for drop wires. *Methodology* The allocation is based on the share of kilo man hours (KMH) spent on Time Related Charges (TRCs), NGA Visit Assure and Special Fault Investigation (SFI). The cost for these activities is derived by multiplying the manhour rate x KMH for the above activities. The total cost for the CoW is obtained from CID and the proportion of cost allocated to SFI is based on the implied cost from the manhour rate x KMH. The residual proportion of the cost after subtracting the above will go to E-Side Copper Current. This base apportions costs to: PG117M (E-Side Copper Current), PG989A (Special Fault Investigation), PG154B (NGA Visit Assure) and PG981R (Time Related Charges).

		Data Source Workmanager data, CID, Openreach Manhour Rate (sourced from ORBIT)
PDTURSFI	**BV**	**Dropwire repair Underground Cable** *Description* This base apportions repair costs for drop wires (CoW UR)**.** *Methodology* The costs for this base are allocated to PG122M Residential PSTNN Maintenance.
PDTWDM21	**ALL**	**Wavelength Division Multiplexor transmission equipment used in 21CN (Ciena)** *Description* This base apportions cost and balance sheet for the transmission equipment of the WDMSAN chains, the METRO – CORE and CORE – CORE transmission electronic equipment, to Plant Groups (PGs). BT's strategic equipment suppliers for 21CN have been chosen across each of five (access, metro, core, i-nodes and transmissions) strategic domains. Ciena is one of these suppliers. The recipients are: • PG866A Core-Core Link • PG865A Core-Core Length • PG868A Core-Core WBMC Dedicated • PG886A Metro-Core Link • PG885A Metro-Core Length • PG899A WDM-Metro Link • PG900A WDM-Metro Length *Methodology* The WDM equipment contains functionality for the transport of connectivity, voice and broadband services over the WDM chains and the METRO/CORE layer nodes. We model 21CN CoW depreciation by a more detailed network element split than is on BT's general ledger, allowing us to allocate 21CN assets into detailed PGs. The model provides estimates of capital spend on a year by year basis, from which the annual depreciation for each network element is calculated and reconciled back to the LoP list at P12. The depreciation charge is calculated over the asset life of the network element. Each network element is mapped to a PG with the total depreciation charge relating to that PG driving the apportionment within the base. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life).
PROPSALE	**Q**	**Property Sales Proceeds** *Description* This base apportions the profits and losses from the sales of land and buildings. *Methodology* The proceeds from the sale of land and buildings are held in the F8 code: • Profit / Loss on Disposal of land & Bldg - F8 209927 A breakdown of the proceeds by building and amount is provided by Group

		Property Finance and this enables the total proceeds to be attributed to the four Group Property Activity Groups (AG170-173). This enables the sales proceeds to be attributed in the same way as the underlying property costs. *Data Source/s* REFINE reports for the balance on F8 209927 Report from Group Property Finance showing sales proceeds by building and value.
SLGETH	**BL**	**Service Level Guarantee scheme (SLG) – Ethernet** *Description* This base apportions revenue and costs associated with Service Level Guarantee compensation payments for provision and repair failures associated with Ethernet Products. The Service Level Guarantee scheme (SLG) pays compensation to customers if Openreach fails to meet agreed timescales for Provision or Repair activities. *Methodology* Costs for SLGs are held in the F8 Codes: • Internal Costs - F8 293753. • External Costs - F8 209280. A percentage split between provision and repair activities is calculated using the provision and repair compensation payments paid in the year and the costs are then mapped in accordance with this split to the PGs: • PG601B (SLG Ethernet Provision) • PG602B (SLG Ethernet Assurance) *Data Source/s* The compensation payment report is produced by the Openreach SLG Compensation team and reports all provision and repair SLGs payments, by market, made in the year.
SLGWLR	**BV**	**Service Level Guarantee scheme (SLG) – WLR** *Description* This base apportions revenue and costs associated with Service Level Guarantee compensation payments for provision and repair failures associated with WLR Products. The Service Level Guarantee scheme (SLG) pays compensation to customers if Openreach fails to meet agreed timescales for Provision or Repair activities. *Methodology* Costs for SLGs are held in the following F8 Codes: • Internal Costs F8 293752, 293271 and 293755 • External Costs F8 209260. A percentage split between provision and repair activities is calculated using compensation payments paid in the year, provided by the Openreach SLG Compensation team and the costs are then allocated in accordance with this split to the PGs: • PG603B (SLG WLR Provision). • PG604B (SLG WLR Assurance). *Data Source/s* The compensation payment report is produced by the Openreach SLG Compensation team and reports all provision and repair SLGs payments, by market,

		made to CPs in the year.
SOFTCAP	**All B OUCs**	**Software Capitalisation Entries** *Description* The SOFTCAP base apportions software capitalisation entries on the Profit and Loss and Balance Sheet relating to Openreach OUCs. *Methodology* SOFTCAP for Openreach uses the same methodology as the Openreach Development base. Data from Openreach shows how the development costs should be allocated by product which is translated into the relevant Plant Group. For the SOFTCAP base, Openreach CFU data shows the element of each project that will be capitalised. This will be very similar to the development base. This data enables us to map costs to key areas, for example NGA, Management Centres, etc. Costs identified as non-specific are allocated to AG410. *Data Source/s* CFU (Customer-Facing Unit) development base. Openreach development project data. Capital Expenditure details (cumulative total) - supplied by LoB finance analysts. REFINE P12 Organisational Unit Code (OUC) pay & fixed asset downloads.
SOFTCAP	**C**	**Software Capitalisation Entries** *Description* The SOFTCAP base apportions software capitalisation entries on the Profit and Loss and Balance Sheet relating to Group Organisational Unit Codes (OUCs). *Methodology* SOFTCAP uses the current year software capitalisation costs. The capitalisation costs for OUC C are allocated 100% to AG118 (BT Group PAC – including Overseas).
SOFTCAP	**K**	**Software Capitalisation Entries** *Description* The SOFTCAP base apportions software capitalisation entries on the Profit and Loss and Balance Sheet relating to Wholesale Organisational Unit Codes (OUCs). *Methodology* SOFTCAP for BT Wholesale uses the same analysis as the BT Wholesale element of the T OUC-driven development bases. The BT Wholesale element analyses the BT TSO development billing data specific to BT Wholesale. For the SOFTCAP element the TSO CIO Finance team provide the information on which projects are capitalised. The analysis of the billing data identifies the business case entries and maps these to the relevant SG&A Plant Group. Where the costs identified are non-specific, they are allocated to AG406. This base apportions costs to AG406 (Wholesale Pay Driver) and to various PGs. *Data Source/s*

		• LoB (Line of Business) development base. • BT TSO Development billing data P12. • REFINE P12 Organisational Unit Code (OUC) pay and fixed asset downloads.
SOFTDEP	**All B OUCs**	**Software Depreciation** *Description* The SOFTDEP base apportions software depreciation costs. Profit and Loss and Balance Sheet (Fixed Asset Accumulated Depreciation) relating to Openreach Organisational Unit Codes (OUCs). *Methodology* SOFTDEP uses the current year's depreciation figures extracted from the fixed asset register for Openreach and for Classes of Work COMPG (Externally purchased software) and COMPS (Internally developed software). Each line contains entries that can, for the majority, be mapped to a product range using Current Year depreciation to provide the allocation. Where necessary a further allocation to Plant Groups is required for example Duct or Service Management Centre entries from the FAR etc. then the LoB Development sub base is used. Where non-specific entries are identified from the FAR then the allocation is to AG410 Previously Allocated Pay (PAC). This base apportions costs to various AGs and PGs, primarily PG773A (Ethernet Systems Development), PG570B (OR Service Centre Provision Analogue/ISDN2), PG572B (OR Service Centre Provision LLU), AG410 (Openreach PAC), PG197A (FTTC Service Delivery & Development) and PG198A (FTTP Development). *Data Source/s* • LoB (Line of Business) development base. • Fixed Asset Register software data for Period 12. Management believe this period to be reflective of the full year. • REFINE P12 Organisational Unit Code (OUC) pay & fixed asset downloads.
SOFTDEP	**All K OUCs**	**Software Depreciation** *Description* The SOFTDEP base apportions software depreciation costs. Profit and Loss and Balance Sheet (Fixed Asset Accumulated Depreciation) relating to BT Wholesale Organisational Unit Codes (OUCs). *Methodology* SOFTDEP uses the current year's depreciation figures extracted from the fixed asset register for BT Wholesale and for Classes of Work COMPG (Externally purchased software) and COMPS (Internally developed software). Each line contains entries that can, for the majority, be mapped to a product range using Current Year depreciation to provide the allocation. Where necessary a further allocation to Plant Groups is required; for example 21CN entries from the FAR, when the LoB Development sub-base is used. This base apportions non-specific entries to AG409 (Wholesale Pay plus Return on Fixed Asset driver) and specific entries to various PGs. *Data Source/s* CFU (Customer-Facing Unit) development base. Fixed Asset Register software data for Period 12. Management believe this period to

		be reflective of the full year. REFINE P12 Organisational Unit Code (OUC) pay and fixed asset downloads.
SOFTDEP	**All C OUCs**	**Software Depreciation** *Description* The SOFTDEP base apportions software depreciation Profit and Loss and Balance Sheet (Fixed Asset Accumulated Depreciation) for BT Group Organisational Unit Code C for Classes of Work COMPG (Externally purchased software) and COMPS (Internally developed software). *Methodology* SOFTDEP uses the current year's depreciation figures. This base apportions costs 100% to AG118 (BT Group PAC – including Overseas).
TSOSOFTDEP	**All T OUCs**	**Software Depreciation** *Description* The SOFTDEP base apportions software depreciation costs. Profit and Loss and Balance Sheet (Fixed Asset Accumulated Depreciation) relating to BT Technology, Service & Operations (TSO) Organisational Unit Codes (OUCs). *Methodology* SOFTDEP uses the current year's depreciation figures extracted from the fixed asset register for TSO and for Classes of Work COMPG (Externally purchased software) and COMPS (Internally developed software). Each line contains entries that can be mapped to a product range, Customer-Facing Unit (CFU), core network infrastructure or support. Where necessary a further allocation to Plant Groups is required, e.g. 21CN entries from the FAR, and in which case the LoB Development sub base is used. LoB-specific entries allocate to LoB-specific P codes or Activity Groups. Where non-specific entries are identified from the FAR, the allocation is to AG102 for core network infrastructure or AG119 for TSO support functions. *Data Source/s* • CFU (Customer-Facing Unit) development base; • Fixed Asset Register software data for Period 12; • Management believe this period to be reflective of the full year; • REFINE P12 Organisational Unit Code (OUC) pay & fixed asset downloads.

8 OUC driven bases

Introduction

Each Customer-Facing Unit (CFU) or Corporate Unit (CU) in BT has its own organisational unit code (OUC) to which its revenues, costs, assets and liabilities are booked on BT's general ledger. The top level codes for each unit are referred to as Divisions, and are detailed below.

For some Divisions there is a consistent and straight forward attribution treatment of the OUC at either a first or a lower level OUC. Where this is the case the attribution process has been detailed below.

In instances where most of an OUC's cost/income (at a high level, i.e. 1 or 2 digits) are attributed in a certain way the treatment will be detailed below and it will be indicated that for lower level OUCs the relevant base dictionary will contain the methodology for the attribution of the exceptional costs/income. For example OUC C attributes costs/income to the Activity Group AG118 'BT Group PAC – including Overseas', however an exception to this is that OUC CW (a sub-OUC of C) attributes costs onwards to various Plant Groups and Residual products – the methodology for which can be found below in the OUC-driven base methodology dictionary.

Detail for each CFU and CU's OUC-driven bases

This section details, for each Division, how the OUC-driven bases operate and to which lower-level OUCs they are applied.

Openreach (OUC B)

OUC	OUC Description	Methodology
BA	Learning and Development The Openreach Learning and Development team is part of the Openreach HR team and is responsible for designing and delivering training and development programmes for all Openreach staff.	Allocated using the Openreach Learning and Development methodology, which attributes costs as follows: (a) costs are attributed pro-rata to Openreach OUCs on the basis of the number of learner days provided by the Openreach learning and development team in the current Financial Year, the information is held on the Enterprise Learning Management System. (b) costs are attributed within the Openreach OUCs referred to in paragraph a) pro-rata to each cost category (e.g. activity group, plant group, Retail residual) which has received an allocation of Openreach pay costs (Current Pay Costs and Capitalised Pay Costs) at the preceding level of REFINE. This methodology is predominantly implemented by allocating costs to AG407, Openreach Pay (see AG407 definition for more detail).
BD	CIO	Costs are not product-specific and so are attributed 100% to AG407, Openreach Pay.
BDL	Project Services	Costs for Project Services are identified by OUC and allocated 100% to PG254B (the Project Services Plant Group)
BE	Business Transformation	Allocated using the Openreach Development base. Further information on how this OUC is allocated is described against the 'Development/ICT' row in the Internal Trades table below. This base analyses development expenditure and apportions

OUC	OUC Description	Methodology
		as follows: • Product specific systems development is apportioned to PG772A • Customer service cost are apportioned using the Service Management base using the headcount data to calculate the number of heads allocated to each plant group relative to the services each employee works on • NGA costs are apportioned between FTTC and FTTP Development • Other costs are apportioned using the Openreach previously allocate costs driver, AG410
BEH1, BP	Sales and Product Management	100% allocation to PG502B, SG&A Openreach Sales Product Management
BET	NGA Assurance	100% allocation to PG579B, OR Service Centre - Assurance NGA
BF, BGE, BGD	Finance	Allocated using Openreach PAC (AG410)
BH	Human Resources	Allocated using Openreach Pay (AG401)
BJ	Legal	Allocated using the Openreach Legal methodology: (a) costs are attributed using the Openreach PAC methodology where the work undertaken supports the Openreach LoB (b) where the work undertaken does not support the Openreach LoB, costs are attributed to i) the LoB for which the work was undertaken where information is available to identify the relevant LoB, or ii) using the BT Group PAC methodology where such information is not available Any allocation relevant to non-Openreach CFUs/CUs are based upon management estimate.
B1	BDUK	Allocated 100% to PG999A (BDUK)
BLH	Copper Recovery This team recover and dispose of unused copper cables from the network. These cables are sold for scrap.	Allocated 100% to PG986R (Openreach Other Activities)
BO	Openreach Chief Engineers Office	Allocated to product specific Provision and Assurance Plant Groups using FTE analysis
BU	Communications and Public Affairs	Allocated using Openreach PAC (AG410)
BVR1	Transformation Programme: Service Delivery	Allocated using Openreach PAC (AG410)
BVL5, BVL6, BVL7	Customer Services	Allocated to product specific Provision and Assurance Plant Groups using headcount numbers. Management judgement is

OUC	OUC Description	Methodology
		applied to the headcount data to estimate the number of heads allocated to each plant group relative to the services each employee works on.
BX	Openreach Other, including elements of Supply Chain	Allocated using Openreach PAC (AG410)
BY	Openreach Central Costs	Allocated using Openreach Pay (AG401)
BZ	Openreach Adjustments	Allocated using Openreach Pay (AG401)

Group (OUC C)

BT Group costs are made up of a number of central functions that provide various services for BT as a whole. OUC C costs are allocated to AG118 (BT Group PAC – inc. Overseas) unless separately apportioned by other OUC driven base entries, or by specific rule type 1 or 3 allocations.
The specific OUC driven bases not allocated to AG118 are:

OUC	OUC Description	Methodology
CC	Learning Academy	AG116 (BT Factorised Pay inc. Overseas)
CH	Human Resources	BT Group Employees Methodology, either AG115 (exc. Overseas) or AG116 (inc. Overseas). The BT Group Employees Methodology reviews the OUCs cyclically to ensure that AG116 is used for teams that are not specific to BT in the UK, and AG115 for UK specific teams. • CHJ1 (UK-only Deployment) allocates to AG115 • CHR is split between Global (P646, Overseas) and UK-only HR support (AG115) using FTE • All other costs apportion to AG116
CPZ	Corporate Adjustments	Split between AG118 (BT Group PAC – inc. Overseas) and P008 (Retail Residual) based on an assessment of the individual specific projects booked in the year. This ensures items with no relevance to SMP markets are identified and apportioned to Retail Residual.
CS, CSA1, CSA3,CSA6	Central Business Services	Finance Shared Service Centre and Procurement costs are allocated to AG118.
CQ	Group NGA	Allocated to PG579B (NGA Service Centre)
CW	BT Billing	Split by CFU/CU using BT Billing internal trades, before being apportioned to service-specific PGs using revenue.

Corporate adjustments (OUC E)

Division E includes one OUC-driven base (for top-level OUC E), which attributes Miscellaneous Corporate Costs and Liabilities to AG118, BT Group PAC. Otherwise, OUC E includes:

- Rule Type 1 attributions to Retail Residual.

BT Facilities Management (OUC F)

Facilities costs are predominantly attributed using one OUC-driven base (at top-level OUC F). This attributes costs to four Property Activity Groups based on their respective weighting of accommodation costs:

- AG170 – Specialised Accommodation, BT Owned
- AG171 – Specialised Accommodation, Rented
- AG172 – Office Accommodation, BT Owned
- AG173 – Office Accommodation, Rented

EE (OUC G)

All EE costs, assets and liabilities are attributed using Rule Type 1 allocation to Retail Residual, so no OUC-driven bases are used.

BT Business & Public Sector (OUC H)

The CFU structure for BT Business and Public Sectors is reviewed cyclically to ensure OUC-driven bases attribute costs to Retail Residual, except for Northern Ireland (OUC HME) which costs are apportioned to AG410.

Wholesale & Ventures (OUC K)

BT Wholesale & Ventures' CFU structure is reviewed cyclically to ensure OUC-driven bases attribute costs to relevant destinations based on any movements in organisational structure. Alongside significant Rule Type 1 attributions, OUC K costs are apportioned using the following OUC-driven bases:

OUC	OUC Description	Methodology
K	BT Wholesale	Allocated to AG409 (Wholesale PAC)
K2, K3	Fault Diagnostics and MSD	Allocated to P008 (Retail Residual)
K4	BT Fleet	Costs are split between internal (apportioned to AG101, Motor Transport) and external (P008, Retail Residual) using transactional customer data and WILLOW (vehicle operational maintenance system)
KD	Wholesale Functional Units	The costs for each team are attributed to PG or product in proportion to the number of people working on each service group, with the portion of Managed Network Services apportioned based on the KV base: • PG506N (Customer Support – PPCs) • PG512A (Customer Support – Narrowband) • PG586N (Customer Support – Interconnect) • PG609N (Customer Support – Broadband) • P008 (Retail Residual)
KG	Internet of Things	Allocated to P008 (Retail Residual)
KK	Customer Services	Allocated to PG609N (SG&A Broadband)
KI	BT Supply Chain	The costs are attributed based on the proportion of work completed for each LoB which is based on the shared service centre's recoveries from each LoB: • Wholesale & Ventures: allocated to AG406 • Openreach: allocated to AG410 • BT TSO: allocated to AG119 • BT Business and Consumer: allocated to Retail Residual • BT Group: allocated to AG118 • Other costs (such as BT Global Services): allocated to Retail Residual.
KL, KL7A, KL7C	Residential Customer Contact Centres (CCC)	The Labour Costs within OUCs KL7A and KL7C associated with Operator Services are apportioned to PG911A (Operator Services OA Inland). The remaining costs in KL are allocated to P008 (Retail Residual)
KNA	Directory Solutions	Allocated to P008 (Retail Residual)

KU, KV	Managed Network Services	The costs associated with Managed Network Services (MNS) are attributed to PG or product in proportion to the split of the product revenue between each service group: • PG506N (Customer Support – PPCs) • PG512A (Customer Support – Narrowband) • PG586N (Customer Support – Interconnect) • PG609N (Customer Support – Broadband) • P008 (Retail Residual)
KY	BT Wholesale – White Label Managed Services	Allocated to P008 (Retail Residual)

TSO (OUC T)

TSO costs that are not attributed using direct (rule type 1) or modelled (rule type 3) apportionments are assigned using OUC-driven bases that either use:

- Fixed base (100% allocation to one Activity Group or Product)
- Apportioned by other OUC driven base entries, or by specific rule type 1 or 3 allocations

Fixed TSO OUC-driven bases:

OUC	OUC Description	Methodology
T	TSO	AG119 (TSO PAC)
TB	TSO Business Operations & Strategy	AG119 (TSO PAC)
TC	TSO Group CE	AG118 (Group PAC)
TD	TSO Other	AG402 (TSO Pay Costs)
TE	TSO BT TV	P008 (Retail Residual)
TF	Finance	AG119 (TSO PAC)
TH	TSO HR	AG402 (TSO Pay)
TL	TSO Mobile Unit	P008 (Retail Residual)
TNQ	Global Operations	AG118 (Group PAC)
TT	TSO Central	AG118 (Group PAC)
TUC	Licencing	P008 (Retail Residual)
TV	TSO Contingency	AG102 (BT Operational Costs)
TX	Centre	AG119 (TSO PAC)
TY	TSO Executive	AG119 (TSO PAC)
TZ	CEO	AG119 (TSO PAC)

Specific OUC driven bases:

OUC	OUC Description	Most material trades used to calculate base
TA	IT Platforms	The costs associated with IT platforms are attributed to specific activities or products Development. IT Support Network Maintenance & Management AG119 (TSO PAC)
TLB	Voice	The costs associated with the Voice teams are attributed to specific activities or products. This is predominantly AG118 (BT Group PAC) and P008 (Retail Residual).

OUC	OUC Description	Most material trades used to calculate base
TN	Dynamic Infrastructure	The costs associated with the Dynamic Infrastructure team who support the networks are attributed to specific activities or products Development. IT Support Network Maintenance & Management Engineering Infrastructre Plan & Build AG102 (TSO Operational PAC)
TQ	Architecture & Strategy	The costs associated with the Architecture & Strategy are attributed to specific activities or products, predominantly AG118 (BT Group PAC)
TS	Global Infrastructure Services	Predominantly attributed to AG102 (BT TSO Operational Costs)
TU	Research & Innovation	The costs associated with the Research & Innovations teams are attributed to specific activities or products, predominantly AG118 (BT Group PAC)

The following OUCs are for Chief Information Officers (CIO). Their OUC-driven bases are calculated based on a specific methodologies, where appropriate, but are predominantly allocated to one LoB:

OUC	OUC Description	Most material trades used	Predominantly allocated to
TG	CIO BT Global	Development/ICT	P008 (Retail Residual)
TK	CIO BT Consumer	Development/ICT	P008 (Retail Residual)
TM	CIO BT Group	Development/ICT; IT Support	AG118 (Group PAC)
TR	CIO BT Business & Public Sector	Development/ICT	P008 (Retail Residual)
TW	CIO BT Wholesale & Ventures	Development/ICT	P008 (Retail Residual), along with AG406 (Wholesale Pay), PG197A (FTTC Service Delivery & Development), PG198A (FTTP Development), PG609N (SG&A Broadband)

The internal trades used within the above are explained as follows:

Trade	Description
Development/ICT	These costs relate to software developers and the management of development projects, and include the costs for BT TSO developers and contracted developers, both UK and off-shore. These people book their time directly to projects and the BT TSO billing system includes details of all projects including “volume driven” projects where the CFU/CU orders a specific project and “non-volume” driven costs where BT TSO incur general costs in support system development for that LoB but are not specific to any one project. The apportionment rules for these trades are based on the detailed analysis of in the information recorded in the BT TSO billing data for each LoB: <u>Openreach</u> • Openreach specific Customer, Commercial & Propositions projects are apportioned to PG772A (Openreach Product Specific Development) • Customer Services are apportioned using the BW OUC-driven base • NGA Infrastructure: apportioned between PG197A (FTTC) and PG198A (FTTP)

	• General and less specific projects are allocated to AG410 (Openreach previously allocated costs) BT Wholesale & Ventures • Managed Network Services (MNS): apportioned using MNS OUC-driven base, OUC KU • Broadband: allocated to PG609N (Broadband Customer Support) • Fleet: allocated to AG101 (Motor Transport) and P008 (Retail Residual) • NGA: apportioned to PG609 (Broadband) • Non-regulated products support: apportioned to P008 (Retail Residual) • Mobile: apportioned to P008 (Retail Residual) • Non-product specific: allocated to AG406 (BT Wholesale Pay) BT Global Services, BT Business & Public Sector, and BT Consumer • Costs are allocated to Retail Residual BT Group • Costs are allocated to AG118 (BT Group PAC – including Overseas)
Oracle Licence	Oracle software licences are considered to be corporate in nature, and are attributed to AG118 (BT Group PAC – including Overseas).
GSNO	These costs cover the desktop based Operations Centre managing network traffic. It also covers support costs for BT GS Global & UK networks, including architects who manage the network and costs for radio spectrum licences. These costs are attributed to Retail Residual.
Media & Broadcast	These costs relate to the dedicated teams supporting the Media & Broadcast (including BT Sport), TV and Content portfolio. These costs are all attributed to Retail Residual.

Security (OUC V)

The BT Security team is situated within BT Global Services. The function is responsible for keeping BT buildings secure, and for protecting BT's networks and systems from outside interference.

Costs include those for BT staff, and also subcontracted security costs.

BT Security recovers its costs from CFUs/CUs via internal trades. The traded values are supported by an analysis of costs by activity and customer. We categorise activities and customers and relate them to activity groups or Retail Residual products and use this categorisation to determine the cost apportionment.

Rule Type 1 and 3 apportionments are used for OUC V (Rule Type 3 includes SOFTDEP and SOFTCAP modelled attributions for software assets), alongside the following OUC-driven exception bases:

OUC	OUC Description	Methodology
VA, VB, VC, VE, VF, VI, VT	Residual Security OUCs	100% to P008 (Retail Residual)
V	All other BT Security OUCs	Costs are apportioned by LoB based on internal trades • Global Services: to P008 (Retail Residual) • Consumer & Business: to P008 (Retail Residual) • Openreach: to AG401 (Openreach Pay Driver) • TSO: to AG402 (TSO Pay Driver) • Wholesale: to AG406 (Wholesale Pay Driver) • Group: to AG118 (BT Group PAC – including Overseas)

Property (OUC W)

BT Group Property is responsible for all aspects of real estate management in the UK and worldwide. This includes property strategy, real estate transactions, workplace management and utilisation, property and cumulo rates management, as well as property cost transformation activities.

Before utilising OUC-driven bases, costs and MCE for this Corporate Unit (CU) are attributed as follows:

- The cumulo rates bill is attributed using the base reference CUMNORM to two Plant Groups:
  - PG941A (Cumulo Rates NGA)
  - PG942A (Cumulo Rates Non-NGA)
- Rule Type 3 bases ACCOMM1 (for costs) and ACCOMMBS (for MCE) apportion other property costs and MCE to:
  - AG170 – Specialised Accommodation, BT-owned
  - AG171 – Specialised Accommodation, Rented
  - AG172 – Office Accommodation, BT-owned
  - AG173 – Office Accommodation, Rented
- Profits and losses realised on the sale of fixed assets are apportioned on the same basis as the costs and MCE for that property type and ownership (i.e. BT or Telereal) using PROPSALE Rule Type 3 base.

Costs and MCE not apportioned by the above rules are subject to the following OUC-driven bases:

OUC	OUC Description	Methodology
WP	Group Property Portfolio	Costs are apportioned in line with ACCOMM1 base explained above, to the following destinations: • AG170 – Specialised Accommodation, BT-owned • AG171 – Specialised Accommodation, Rented • AG172 – Office Accommodation, BT-owned • AG173 – Office Accommodation, Rented
W	All other Property OUCs	Costs are allocated to AG118 (BT Group PAC)

Group Procurement (OUC Y)

Group Procurement's LoB structure is reviewed cyclically to ensure OUC-driven bases attribute costs to relevant destinations (either Retail Residual or Activity Groups) based on the LoB that each OUC is supporting.

OUC	LoB supported by Group Procurement	Methodology
YF	BT Business & Public Sector	P008 (Retail Other)
YG	BT Consumer	P008 (Retail Other)
YK	Openreach	AG410 (Openreach PAC)
YKD	BT Wholesale & Ventures	AG409 (Wholesale PAC)
YO	Global	P008 (Retail Other)
YW	BT TSO	AG102 (BT TSO Operational Costs)
YE, YM, YN, YV	BT Group	AG118 (BT Group PAC – inc. Overseas)
Y	All other Procurement OUCs	Costs are allocated to AG118 (BT Group PAC)

Group Consolidation Units (OUC Z)

Accounting adjustments assigned to OUC Z do not use OUC-driven bases.

9 Transfer charges

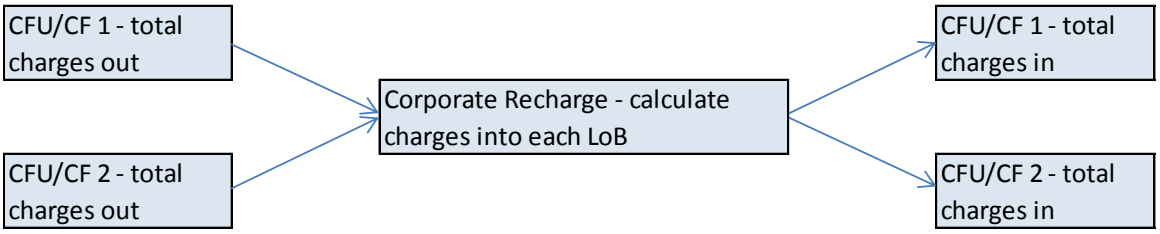
Introduction to transfer charging

Transfer charges occur in two ways:

- Where there are internal trades between CFUs and CUs (Customer-Facing Units and Corporate Units); and
- Where there are internal trades between CFUs/CUs and BT Groups 'Corporate Recharge' mechanism.

The accounting for transfer charges has two sides: transfers in and transfers out.

The treatment between CFUs/CUs and the corporate recharge mechanism is as follows:



The CFUs/CUs 'transfer out' their total internal charges into a centralised 'Corporate Recharge' held within BT Group. BT Group calculates the associated 'transfer in' that is recharged to each CFU/CU.

A transfer out is the charge received by the CFU/CU providing the service and this is accounted for in that CFU/CU as a credit to costs under an F8 code starting with "28" e.g. 284682 "Corporate Overhead Recharge Out".

A transfer in is the charge paid by the CFU/CU receiving the service and is accounted for in that CFU/CU as a debit to costs under a matching F8 code starting with "24" e.g. 244682 "Corporate Overhead Recharge In".

In most cases the transfers in and transfers out are matched within cost centres and do not affect the Regulatory Financial Reporting in any meaningful way.

9.1.1. The Attribution of Transfers In

Since the attribution of these costs do not normally affect the Regulatory Financial Reporting we have simply attributed the costs to Retail Residual and not attempted assessing the cost drivers that would be required to attribute them to activity groups and plant groups. The exceptions to this rule are:

(i) Transfer Charges from BT Fleet

The processing of the transfer charges from BT Fleet form an integral part of our attribution methodology for AG101 (Motor Transport). In order to attribute these costs rather than focus on the specific nature of the costs within the activity group we focus instead on how each LoB uses the services provided by BT Fleet.

The process works as follows:

- Step 1 - The costs of BT Fleet relating to services provided to other parts of BT are attributed to Activity Group AG101
- Step 2 – BT Fleet charges CFU/CU A for the provision of a service
- Step 3 – We attribute the "transfer in" paid by CFU/CU A to PGs using an attribution rule that reflects how it uses BT Fleet's services.
- Step 4 – REFINE creates a system generated base to attribute the "transfer out" received by BT Fleet to the same PGs as the "transfers in" for CFU/CU A so that they both net to nil.
- Step 5 – REFINE creates a system generated base to attribute Activity Group AG101 to PGs in proportion to the "transfers out" received by BT Fleet.

(ii) Transfers charges that do not net to zero within the SMP markets

In some cases our attributions of transfers in and transfers out are not attributed in the same way and do not net to nil in reported markets. We do this for one of two reasons:

1. The charge has been received is from a non-core unit. In these cases REFINE does not have a detailed view of the underlying costs in the charging unit but we believe that the transfer-in represents an appropriate estimate of the relevant costs e.g. BT Group insurance premiums.

2. The charge relates to an externally available service provided for internal use in which case the charges are shown at standard prices. In these cases, we consider the prices to be an appropriate estimate of the costs e.g. the provision of BT Conferencing services. In these instances, the transfer out is recorded on a "29" F8 code rather than a "28" code to prevent the transfer out automatically being attributed to the same destination as the transfer in (see below for an explanation of the automated treatment of "28" F8 codes).

We specify which trades do not net to nil within section 8.2.

9.1.2. The Attribution of Transfers Out

As explained above each transfer between CFUs/CUs has two matching F8 codes: a transfer in starting with "24" and a transfer out starting with "28". We normally attribute the transfer out using a system generated base called Rule Type 28 whereby the system apportions the costs of the transfers out in proportion to how the transfers in have already been attributed to activity groups and plant groups. In this way the transfers in and transfers out net off to nil at each stage in our attribution process. There exceptions to this treatment are:

(i) Transfers charges that do not net to zero within the SMP markets

Where we do not treat the transfers in and transfers out in the same way, for one of the reasons explained above, we attribute the transfers out to Retail Residual. In this way the relevant transfers in remain unmatched in each stage of the attribution process.

(ii) Transfer charges between core units and non-core units

Transfer charges in and transfer charges out all net to zero in total. However, in the case of transfer charges between CFU/CUs on our core ledgers and business units on our non-core ledger, we are unable to match the charges in and charges out for each specific trade. This is because the non-core ledger is at a lower level of granularity and all transfer charges from Core CFU/CUs are reported under the F8 code 772030 (Direct Transfer Charges In – Other). Therefore, REFINE appears to show in balance between transfer out and transfer in for these trades i.e. the transfers out are greater than the transfer in.

In these cases the Rule Type 28 matches the transfers out with all the core ledger transfers in and the remaining balance is attributed to Retail Residual. The Retail Residual balance is held in REFINE on a dedicated transfer out product code, P429_28.

Transfer charges – charges which do not net to nil within the SMP markets

For all transfer charges with values above £1m, where the transfers in do not equal the transfers out, we have provided below a brief analysis of the reasons for this. The ledger feed includes these charges so that we are able to reconcile the RFS back to our management and statutory accounts by ensuring that all F8 codes have been processed.

Openreach

F8 code	Explanation
244727	BT Cables subsidiary recharge Openreach the profit or loss on copper sales. However, a matching capitalisation within Openreach on a separate GL moves this to capex.
249015	This is a charge from Global Services (a non-core unit) for the provision of service for an EAD 'element management platform' that Openreach use to manage their EAD network.

Group overheads

F8 code	Explanation
243185	This trade is from BT Group Insurance and Risk Financing (a non-core self-accounting unit) to BT Group for diverse insurance services including vehicle insurance, employers' liability, public liability, personal accidents and death benefits.
244648	This trade is from BT Consumer to BT Group at external prices for the discounted broadband lines which employees are entitled to receive. Because this charge relates to an externally available service provided for internal use, the offsetting transfer out is recorded on F8 code 294648.
248885	This is a rental charge from the BT Centre subsidiary (a non-core unit).
240755	This is a charge from Global Services (a non-core unit) to BT Group Finance for the salary and operating costs of our offshore finance teams.

TSO

F8 code	Explanation
244345	This is a trade from Global Services (a non-core unit) to BT TSO for the salary and operating costs of our offshore IT development teams.
244772	This represents a charge from BT IT Services Ltd (a non-core subsidiary of BT Group) to TSO for IT hardware and services that are used in the services that TSO provides for the Customer-Facing Units (CFUs) or Corporate Units (CUs).
241701	This code is used to capitalise some the costs in F8 code 244772, above.

BT Wholesale & Ventures

F8 code	Explanation
24177A	This represents a charge from BT Global Services Solutions (a non-core unit) to BT Wholesale & Ventures. This cost is wholly attributed to Wholesale Residual.
242914	This is a trade from Global Services for computing services. This cost is wholly attributed to Wholesale Residual.

Multiple CFUs/CUs

F8 code	Explanation
246705	These are charges from Global Services (a non-core unit) to CFU/CUs relating to media and broadcast contracts. For BT Wholesale & Ventures, this cost is wholly attributed to Wholesale Residual. For BT Group, BT Security and BT Procurement, the costs follow OUC-driven bases.

Transfer charges as a basis for cost attribution

A number of the individual methodology/base descriptions set out in Section 6 Apportionment Models refer to the use of an 'internal transfer charge destination' as the basis for attribution of the actual cost underlying the transfer charge, within the AS process. This section explains the rationale for using this basis.

The purpose of transfer charging is to:

- Enable customer-facing units, which are responsible for their own profitability, to receive a correct allocation of income and expenditure.
- Enable support functions to charge for their services to other group units.
- Enable control to be exercised over the use of key resources.
- Maintain proper control in accounting units of certain balance sheet items.

There is a well-established process for the recording of transfer charges between organisational units, and for the monitoring and control by each unit to ensure that the amount of the charge is properly stated in accordance with the transfer charge agreement, and that the amounts are recorded in the correct organisational unit.

Within the AS process, the transfer charge amounts recorded by each unit are replaced with the actual cost underlying the charge, and for which the charge is made. The actual cost is then attributed, consistent with the treatment of the transfer charge. This occurs principally in respect of the following types of cost and is attributed on a cost-causal basis:

- Motor transport – charged on the basis of the number and types of vehicles used by each CFU/CF.
- Computing – charged on a monthly fixed charge, taking account of variations in volumes e.g. a reduction in volumes will result in lower charges.

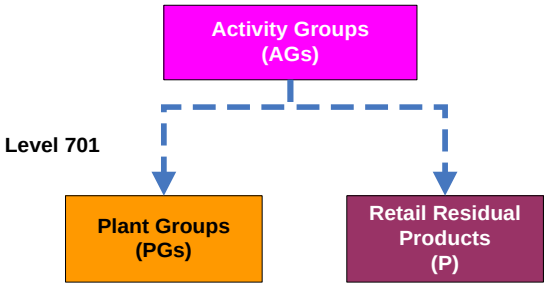
10 Activity Groups

Introduction to Activity Groups

Activity Groups are one of the five main categories of costs we use in the production of the RFS. Activity Groups are used to attribute onwards the costs and asset values of support functions (e.g. Duct, Motor Vehicles, Group Property and Facilities Management).

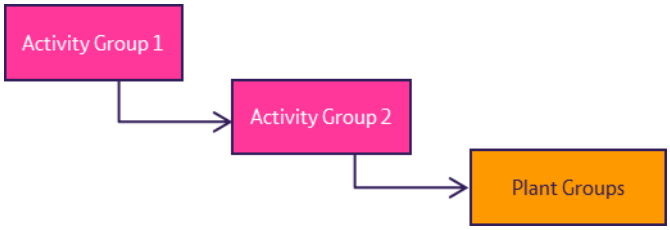
We attribute the costs of all Activity Groups into Plant Groups or Residual products. The attribution process takes place at level 701 within REFINE (see below diagram – full diagram shown and explained in Section 2 System Overview).

Illustration of REFINE processing levels 701



In this process some AGs are exhausted to remaining AGs prior to the ultimate attribution of costs onto either PGs or Residual products. A simplification of this process is illustrated below.

Illustration of Activity Group attribution



The following section is a dictionary of all Activity Groups and the methodologies which they use to attribute costs onwards.

Activity Group dictionary

Base Ref	Detailed Description
AG101	**Motor Transport** *Description* BT Fleet Management (within BT Wholesale & Ventures) provides motor vehicles, and associated products and services, to employees within BT. The group recovers its cost by charging other BT units for its activities at commercial rates. It does this by maintaining records of the units 'owning' the expenditure and can recover the costs using internal transactions. *Methodology* This is a system generated AG. Since the activity of this AG relates to the provision of motor vehicles and associated services to the whole of BT, F8 codes which directly relate to this activity should be apportioned directly to this AG. This base performs this process by creating a direct allocation to AG101 for these F8 codes. The apportionment of Motor Transport costs is made using an analysis of the activity of units receiving the transfer charge from BT Fleet Management. The internal billing systems used by the Fleet Management Unit hold details of every vehicle, the cost and the 'owner' (Organisational Unit Code - OUC) of the vehicle. This system, therefore, enables internal charges to be generated to the other BT units. The internal charges are all at commercial rates. It follows that the activities of the units being charged, weighted by the amounts each are being charged by Fleet Management, provide an appropriate base to apply to the costs that have been allocated to AG101. This result is produced automatically by the Regulatory Accounting system using the apportionment of the 'transfer out' (F8 code 28xxxx) charges in Motor Transport and apportioned on the same basis. This is appropriate as the underlying recharges are based on the activities of the units receiving the charges.
AG102	**BT TSO Operational Costs** *Description* AG102 is used to apportion BT TSO's common network management costs and balance sheet values, which cannot be allocated directly to individual Customer-Facing Units (CFUs) and Corporate Units (CUs). F8 codes which directly relate to these activities are allocated to this AG. *Apportionment* This is a system generated AG. The REFINE system uses the following values to generate an apportionment allocation: • Net book value of Core fixed assets, excluding the following fixed asset classes: Copper; Duct, Fibre, Core Transmission; Land and Buildings; Vehicles; Office Machines; and Materials Awaiting Installation. These asset classes are excluded because a separate attribution methodology exists for them. REFINE identifies the destinations (e.g. PGs or retail products) which the core fixed asset costs relate to and attributes the costs in this AG to the same destinations, in proportion to the

Base Ref	Detailed Description
	already attributed core fixed asset costs. This apportionment best represents the use of the common network management costs and assets across the business. The apportionment base is then applied to the amounts contained within AG102.
AG113	**Liquid Funds and Interest** *Description* The AG113 Activity Group apportions all liquid fund transactions, defined as Net Short-term Interest Payable (Profit and Loss) and Short-term Cash, Short-term Investments (both internal and third party), and Short-term Borrowings. *Methodology* This is a system generated AG. The apportionment is driven by cash costs, which are defined for these purposes as total current account costs and capital account expenditure. We attribute costs from AG113 to other activity groups, plant groups and retail products in proportion to previously allocated costs and capital expenditure**.**
AG115	**BT Factorised Pay – Excluding Overseas (P646)** *Description* AG115 is used to apportion BT Group pay costs where the specific Business unit only support UK operations, for example HR costs. F8 codes which directly relate to these activities are allocated to this AG. *Methodology* This is a system generated AG, its apportionment is based on factorised current salary and capital salary costs. The costs allocated to AG115 relate to HR type costs. The purpose of these activities is generally seen as being two-fold: • Management of the employees within the company. • Management of the assets of the company to create a return. The base to apportion these costs must reflect these activities if it is to reflect cost causality. The REFINE system is given instruction to take the following costs to generate an apportionment allocation: • Factorised salary. The AG115 base draws on the result of the previously attributed pay costs within the REFINE system following the base reference stage. The final base apportionment excludes subsidiaries and associates as these are overseas activities and the AG115 costs are being attributed solely to UK activities.
AG116	**BT Factorised Pay – Including Overseas (P646)** *Description* AG116 is used to apportion BT Group pay costs where specific Business unit support UK and Overseas operations. F8 codes which directly relate to these activities are allocated to this AG. *Methodology* This is a system generated AG, its apportionment is based on factorised current salary and capital salary costs.

Base Ref	Detailed Description
	The costs allocated to AG116 relate specific business unit costs. The purpose of these activities is generally seen as being two-fold: • Management of the employees within the company. The base to apportion these costs must reflect these activities if it is to reflect cost causality. The REFINE system is given instruction to take the following costs to generate an apportionment allocation: • Factorised salary. The AG116 base draws on the result of the previously attributed pay costs within the REFINE system following the base reference stage. The final base apportionment includes subsidiaries and associates as these are overseas activities.
AG117	**BT Group PAC – Excluding Overseas (P646)** *Description* AG117 is used to apportion BT Group costs where specific Business units support UK operations. F8 codes which directly relate to these activities are allocated to this AG. *Methodology* This is a system generated AG, its apportionment is based on previously allocated costs relating to specific OUC/ Business units, plus a return on assets, PAC is defined as follows: Current Pay, Non-Pay Costs, Current Depreciation on BT Group Fixed Assets and Return on Capital Employed associated with total BT Group Assets and BT Group Net Current Assets. The AG117 base draws on the result of the previously allocated costs within the REFINE system following the base reference stage. The final base apportionment excludes overseas activities.
AG118	**BT Group PAC – Including Overseas (P646)** *Description* AG118 is used to apportion BT Group costs where specific Business units support UK and Overseas operations. F8 codes which directly relate to these activities are allocated to this AG. *Methodology* This is a system generated AG, its apportionment is based on previously allocated costs relating to specific OUC/ Business units, plus a return on assets, PAC is defined as follows: Current pay, Non-Pay Costs, Current Depreciation on BT Group Fixed Assets and Return on Capital Employed associated with total BT Group Assets and BT Group Net Current Assets. The AG118 base draws on the result of the previously allocated costs within the REFINE system following the base reference stage. The final base apportionment includes overseas activities.
AG119	**TSO PAC** *Description* AG119 is used to apportion BT TSO's overall support functions costs and balance sheets values, such as the BT TSO Finance team and BT TSO Strategy function. F8 codes which directly relate to these activities are allocated to this AG.

Base Ref	Detailed Description
	Apportionment This is a system generated AG which generates its apportionment based on direct pay and return on assets which BT TSO directly manages. The costs allocated to AG119 relate to BT TSO's overall support function expenses, e.g. The Finance function, and the TSO Strategy team. The purpose of these TSO support function activities is generally seen as being two-fold: • Management of the employees within BT TSO. • Management of those assets managed by BT TSO to create a return. The AG119 base draws on the result of previously allocated cost (PAC) within the REFINE system following the base reference stage. PAC is defined as follows: Current pay, Non-Pay Costs, Current Depreciation on BT Group Fixed Assets and Return on Capital Employed associated with total BT Group Assets and BT Group Net Current Assets.
AG135	**Duct used by Access Cables** *Description* This activity group includes a proportion of the depreciation and assets values of our duct network which relates to duct carrying access copper cables and access fibre cables. It also includes a share of indirect costs associated with duct including the systems development costs for NEJ – an inventory system that includes the geographic location of our duct. *Methodology* Duct used by Access Cables is apportioned to specific plant groups set-up for the different types of access cables: Access Fibre Plant Groups • PG111C Access Spine Fibre • PG959C Access Distribution Fibre • PG948C GEA FTTP Access Fibre Spine • PG949C GEA FTTP Distribution Fibre • PG950C GEA FTTC Access Fibre Spine • PG951C GEA FTTC Distribution Fibre Access Copper Plant Groups • PG117C E-Side Copper Cable • PG118C D-Side Copper Cable *Step 1*: Split of Access Duct costs between copper cable and fibre cable The Absolute Duct Study (ADS) determined the split of GRC for access duct used for fibre cables and access duct used for copper cables when the survey was carried out in 1997. We update these GRCs on an annual basis by adding to the annual spend on duct build for access copper cables and duct built for by access fibre cables and by applying an RPI index. *Step 2*: Split of duct used by access fibres into duct used for spine cables and distribution cables. We have separate plant groups for Access Spine Fibre and Access Distribution Fibre and we therefore need to apportion duct to both. This information was not collected in the original ADS nor is it recorded in our fixed asset register so instead we split the costs in proportion to relative depreciation of the access fibre classes of work. This split is soured from LOPLIST, a report derived from our fixed asset register.

Base Ref	Detailed Description
	Step 3: Split of duct used by access fibre between Generic Ethernet Access (GEA–FTTP/FTTC) and non-GEA This split is made using the GRC valuation for access fibre. As explained in the detailed valuation methodologies, we calculate the GRC of access fibre by taking a count of cable sections from our engineering inventory the Integrated Network System (INS) and applying the latest stores costs, labour times and labour rates. INS includes a marker that shows whether the cable is for GEA or not. Note: The same GEA/Non GEA split is applied to both Spine and Distribution Fibre. Step 4: Split of Copper costs between E-Side, D-Side and LLU cable and attribution to PGs We split the duct used by access copper cables in to these plant groups in proportion to the depreciation arising from capital spend for duct built for E-side (CoW LMD) and D-Side (CoW LDD). The depreciation figures are taken from LOPLIST, a report derived from our fixed asset register. *Data Source/s* Absolute Duct Study (carried out in 1997), Life of Plant (LoP) list (a report derived from our fixed asset register), Integrated Network Systems (INS).
AG148	**Duct used by Backhaul Cables** *Description* This AG contains the costs and balance sheet items for Backhaul Duct. Backhaul Duct is the national network of underground bores and ducting between exchange nodes that are considered part of the Openreach division's assets and is used to house optical fibre and metallic communications transmission cables. Methodology The costs in this AG are allocated to PG170B (Openreach Backhaul Fibre).
AG149	**Duct used by Core Cables** *Description* This AG contains the costs and balance sheet items for Inner Core Duct. Inner Core Duct is the national network of underground bores and ducting between exchange nodes (excluding Openreach assets) and is used to house optical fibre and metallic communications transmission cables. *Methodology* The costs in this AG are allocated to PG350N (Wholesale Inner Core Fibre)
AG170	**Specialised Accommodation BT Owned** *Description* AG170 is used to capture BT Group Property depreciation, other operating costs and asset values for the Specialised estate which is BT owned. This is a base driven AG. *Methodology* AG170 is a base produced from an apportionment model. The costs are from a Building List report received annually at Period 9 from Group Property Finance which shows the accommodation transfer charges by building, the building type, LoB and whether BT owned or Telereal. The depreciation and MCE are from a Building Fixed Assets Report supplied by Group Property Finance which shows the Fixed Asset data by building. Using this data, the amount of depreciation, other operating costs and MCE relevant for this AG

Base Ref	Detailed Description
	are identified and attributed. These amounts then follow specific treatments dependent on LoB for onward apportionment to other AGs and Plant Groups.
AG171	**Specialised Accommodation Rented (Telereal)** *Description* AG171 is used to capture BT Group Property depreciation, other operating costs and asset values for the Specialised estate which are rented from Telereal. This is a base driven AG. *Methodology* AG171 is a base produced from an apportionment model. The costs are from a Building List report received annually at Period 9 from Group Property Finance which shows the accommodation transfer charges by building, the building type, LoB and whether BT owned or Telereal. The depreciation and MCE are from a Building Fixed Assets Report supplied by Group Property finance which shows the Fixed Asset data by building. Using this data, the amount of depreciation, other operating costs and MCE relevant for this AG are identified and attributed. These amounts then follow specific treatments dependent on LoB for onward apportionment to other AGs and Plant Groups.
AG172	**Office Accommodation BT Owned** *Description* AG172 is used to capture BT Group Property depreciation, other operating costs and asset values for Office accommodation which is BT owned. This is a base driven AG. *Methodology* AG172 is a base produced from an apportionment model. The costs are from a Building List report received annually at Period 9 from Group Property Finance which shows the accommodation transfer charges by building, the building type, LoB and whether BT owned or Telereal. The depreciation and MCE are from a Building Fixed Assets Report supplied by Group Property Finance which shows the Fixed Asset data by building. Using this data, the amount of depreciation, other operating costs and MCE relevant for this AG are identified and attributed. These amounts then follow specific treatments dependent on LoB for onward apportionment to other AGs and Plant Groups.
AG173	**Office Accommodation Rented (Telereal)** *Description* AG173 is used to capture BT Group Property costs, depreciation and asset values for the Office accommodation which is rented from Telereal. This is a base driven AG. *Methodology* AG173 is a base produced from an apportionment model. The costs are from a Building List report received annually at Period 9 from Group Property Finance which shows the accommodation transfer charges by building, the building type, LoB and whether BT owned or Telereal. The depreciation and MCE are from a Building Fixed Assets Report supplied by Group Property Finance which shows the Fixed Asset data by building. Using this data, the amount of depreciation, other operating costs and MCE relevant for this AG are identified and attributed. These amounts then follow specific treatments dependent on LoB for onward apportionment to other AGs and Plant Groups.
AG401 – AG410	For AG401 to 410 we apply a similar methodology to calculate the onwards attribution of costs. The costs and assets in each AG are indirect costs that we require to be attributed to plants group is proportion to the pay, asset values and or cost of capital of a specific CFU/CU or other organisational unit.

<table>
<tr><th>Base Ref</th><th>Detailed Description</th></tr>
<tr><td></td><td>
We have set up a series of AGs which we use to attribute indirect costs onwards to what we believe is the most appropriate destination. Each of the AGs uses the attribution destinations and associated attribution percentages of a particular set of direct costs as the basis for attributing the indirect costs. We identify which indirect costs we believe should follow a particular path of attribution and use the relevant AG4xx to implement this.

These AGs are all system generated and they are all mechanically the same. The process of attribution for each AG is as follows:
• We identify indirect costs and map these to the AG4xx which we believe to be the best basis for apportionment of the indirect cost e.g. we would map Openreach support pay costs to AG401 to be attributed in the same way as the direct pay costs.
• The REFINE system identifies the destinations to which the direct costs have been apportioned and the relative percentages of apportionment to these destinations.
• The REFINE system attributes the total cost held within the AG4xx to the same destinations and using the same percentage of apportionment that has been used for the directly attributed costs.

Example: BT TSO indirect costs
BT TSO provides services which are consumed by CFUs such as Openreach and Wholesale. In doing so we attribute direct costs relating to BT TSO activities to the appropriate CFU/CU using OUC-driven base methodologies.

In order to attribute the indirect costs we use AG4's. When attributing pay support costs of BT TSO we assume that Openreach, Wholesale and other CFU/CUs receive the benefit of the support costs which TSO incur as part of their operations. As these are pay costs we attribute them following the same destinations and using the same weightings as TSO direct pay costs attributed via our direct attribution methodologies.

This is demonstrated in the table below.

<table>
<tr><th>PGs to which direct costs have already been attributed</th><th>Costs in each PG</th><th>Attribution % of TSO support costs to PGs</th></tr>
<tr><td>PG: Openreach</td><td>100</td><td>100/800 = 12.5%</td></tr>
<tr><td>PG: Wholesale</td><td>200</td><td>200/800 = 25%</td></tr>
<tr><td>PG: Other CFUs</td><td>500</td><td>500/800 = 62.5%</td></tr>
<tr><td>Total</td><td>800</td><td>800/800 = 100%</td></tr>
</table>

In this example 12.5% of all TSO pay support costs would be attributed to Openreach PGs, 25% to Wholesale PGs and 62.5% to other CFU PGs.
</td></tr>
<tr><td>AG401</td><td>
Costs apportioned using Openreach pay costs
<u>Description</u>
AG401 captures costs such as Openreach Human Resources, Openreach HQ costs and miscellaneous costs supporting Openreach CFU.

<u>Methodology</u>
AG401 is a system generated base. The REFINE system is given instructions to take Openreach current and capital pay attributions to generate the apportionment destinations and percentages for the costs in this AG.
</td></tr>
</table>

Base Ref	Detailed Description
	These costs follow the attribution process explained in the AG401-AG410 summary section above.
AG402	**Costs apportion using TSO pay costs** *Description* AG402 captures costs such as miscellaneous expenditure used to support BT TSO such as Human Resource functions, HQ costs and support staff. *Methodology* AG402 is a system generated base. The REFINE system is given instructions to take BT TSO current and capital pay attributions to generate the apportionment destinations and percentages for the costs in this AG. These costs follow the attribution process explained in the AG401-AG410 summary section above.
AG406	**Costs apportioned using Wholesale pay costs** *Description* AG406 captures costs such as miscellaneous costs supporting BT Wholesale. *Methodology* AG406 is a system generated base. The REFINE system is given instructions to take BT Wholesale current and capital pay attributions to generate the apportionment destinations and percentages for the costs in this AG. These costs follow the attribution process explained in the AG401-AG410 summary section above.
AG407	**Costs apportioned using Openreach Operations pay costs** *Description* AG407 captures costs such as miscellaneous expenditure supporting Openreach Operations Units. *Methodology* AG407 is a system generated base. The REFINE system is given instructions to take Openreach Operations – organisational units BV, BL and BD current and capital pay attributions to generate the apportionment destinations and percentages for the costs in this AG. These costs follow the attribution process explained in the AG401-AG410 summary section above.
AG409	**Wholesale PAC** *Description* AG409 captures costs such as non–specific software depreciation costs for BT Wholesale *Methodology* AG409 is a system generated base. The REFINE system is given instruction to take the attributions for pay expenses for the BT Wholesale CFU (current and capital account) and the net book value of fixed assets revalued for current cost accounting (CCA) for the Wholesale CFU to generate the apportionment destinations and percentages for the costs in this AG. These costs follow the attribution process explained in the AG401-AG410 summary section above.

Base Ref	Detailed Description
AG410	**Openreach PAC** AG410 captures costs such as non–specific software depreciation for Openreach. *Methodology* AG410 is a system generated base. The costs are allocated based on the Previously Allocated Costs (PAC) methodology. The methodology is defined as: (a) costs are attributed pro-rata to each and every cost category (e.g. activity group, plant group, retail residual) which has received an allocation of one or more of the following at the preceding level of BT's cost attribution process: (i) Openreach Current Pay Costs, (ii) Openreach Non-Pay Costs, (iii) Current Cost Depreciation on Openreach Fixed Assets; and iv) Return on Capital Employed associated with total Openreach Fixed Assets and Openreach Net Current Assets at the preceding level of BT's cost attribution process; and (b) the pro-rata attribution to each cost category referred to in paragraph (a) of this definition is calculated by dividing the total cost of (i) Openreach Current Pay Costs, (ii) Openreach Non-Pay Costs, (iii) Current Cost Depreciation on Openreach Fixed Assets; and (iv) Return on Capital Employed associated with total Openreach Fixed Assets and Openreach Net Current Assets included in that cost category at the preceding level of BT's cost attribution process by the total cost of i. Openreach Current Pay Costs, ii. Openreach Non-Pay Costs, iii. Current Cost Depreciation on Openreach Fixed Assets and iv. Return on Capital Employed associated with total Openreach Fixed Assets and Openreach Net Current Assets in all cost categories at the preceding level of BT's cost attribution process.
AG415	**Fleet Fuel** *Description* This base apportions BT External Payment for Vehicle Fuel. *Methodology* AG415 is a system generated base. The cost of Motor Transport (MT) vehicle fuel is recovered from the CFU/CUs via the transfer charges to the Organisational Unit Codes (OUCs)/Organisational Units based on the utilisation of the services provided to the OUC. The transfer charges are used to provide an analysis of the fuel in the different parts of BT. The analysis of the transfer charge amounts are used to calculate an overall base that is then applied to the underlying actual costs, which are attributed pro-rata to the transfer charge.

WACC Percentages

In REFINE some AGs are system generated, for example AG119 but for REFINE to calculate the correct WACC a pre-determined list of percentages per entity is required. The information is based on the prior year's cost allocated to each entity. This is reviewed and updated yearly. For illustrative purposes the entities and WACC percentages are included below.

Base	Description	WACC
AG101	Motor Transport	8.8%
AG102	TSO Operational Costs	9.9%
AG113	Liquid Funds and Interest	9.9%
AG115	BT Group Factorised Pay (excl. Overseas subsidiaries)	9.9%
AG116	BT Group Factorised Pay (incl. Overseas Subsidiaries)	9.9%
AG117	BT Group Previously Allocated Costs (excl. Overseas subsidiaries)	12.4%
AG118	BT Group Previously Allocated Costs (incl. Overseas subsidiaries)	12.4%
AG119	TSO Previously Allocated Costs	9.9%
AG135	Duct used by Access Cables	8.8%
AG148	Duct used by Backhaul Cables	9.8%
AG149	Duct used by Core Cables	9.8%

Base	Description	WACC
AG170	Specialised Accommodation BT Buildings	9.9%
AG171	Specialised Accommodation Rented Buildings	9.8%
AG172	Office Space BT Buildings	12.4%
AG173	Office Space Rented Buildings	12.4%
AG401	OR Pay Driver	8.8%
AG402	TSO Pay Driver	9.9%
AG406	WS Pay driver	12.4%
AG407	OR Ops Pay Driver	8.8%
AG409	WS Pay plus % FA driver	12.4%
AG410	OR Pay plus % FA driver	8.8%
AG415	Fleet Fuel Driver	8.8%

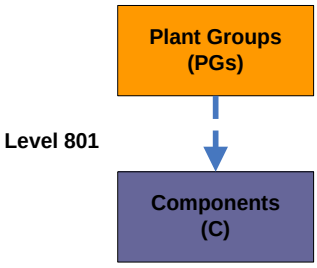
11 Plant Groups

Introduction to Plant Groups

Plant Groups are one of the five main categories of costs we use in the production of the RFS. Plant Groups are used to attribute onwards the costs and asset values of activities, equipment and infrastructure for the purposes of running and selling network services (e.g. Provision and maintenance activities, MSAN equipment, Copper infrastructure).

We attribute the costs of all Plant Groups to Network Components and Residual products. The attribution process takes place at level 801 in our REFINE system (see diagram below - full diagram shown and explained in Section 2 Business and system overview).

Illustration of REFINE processing level 801



Plant Group attributions are determined using apportionment percentages which are calculated externally and input to REFINE in tables. We use the outputs of various internal systems to determine the weights of apportionment to different Components. Approximately one third of Plant Groups have a direct allocation to Components and the remaining two-thirds use a methodology to apportion costs across multiple Network Components.

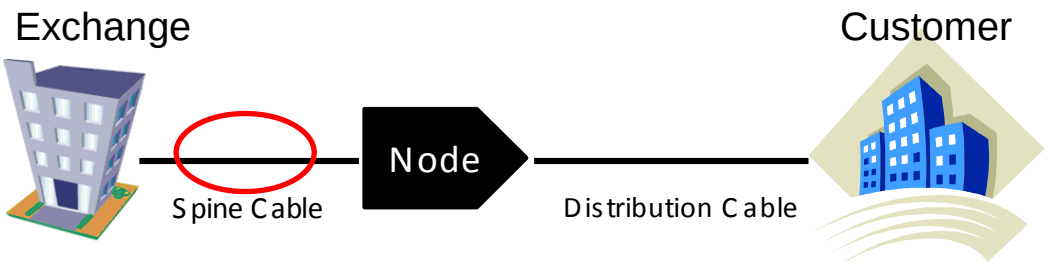
For example, the apportionment of costs from Access Fibre Spine (PG111C) is largely based on bearer volume data extracted from the CTCS system. Using this information, BT attributes the cost of PG111C to 14 different components (e.g. ISDN30 access, PC Rentals, Backhaul Extension Services, etc.)

The following section is a dictionary of Plant Groups and the methodologies which they use to attribute costs onwards.

Plant Group dictionary

Plant Group	Detailed Description and Methodology
PG001X	**POH Equipment Depreciation Adj Debit** *Description* This PG provides a debit adjustment, by bandwidth, for Equipment Depreciation. The Credit is allocated across many plant groups by the SDH base. *Methodology* Depreciation costs are derived from the revenues from Third Party Equipment related services (where costs are assumed to equal revenue) and spread across components according to bandwidth. The equipment count, which is sourced from COSMOSS, is multiplied by the price per circuit to give total equipment revenue. This revenue is then split across bandwidths (low, medium and high). This is then divided by the asset life of four years to give the depreciation charge by bandwidth. The accumulated depreciation is calculated by adding this year's depreciation charge to the prior three years charges and then added into REFINE. This PG apportions costs to TISBO 3rd party depreciation components, CD100, CD101 & CD102. *Data Source/s* REFINE, COSMOSS.
PG002X	**TISBO Excess Construction Adjustment Debit** *Description* Excess construction charges (ECCs) are levied when the capital investment required to provide a new connection exceeds a certain amount. In these cases the costs are recovered upfront in an excess construction charge. However the construction costs incurred in providing these new connections are capitalised in the same way for normal network construction i.e. under class of works for fibre and duct. This means that our duct and fibre costs include costs that have already been recovered from the customer as an ECC. In order to ensure that these assets are not allocated to other regulated products we raise a journal to move the depreciation and asset values associated with work which has incurred ECCs to this specific PG for ECCs. We calculate ECC adjustments for the CISBO Markets, Low TISBO Market and Residual markets. This PG allocates costs and MCE to a specific ECC component. This PG works in tandem with PG002Y (below) which removes costs from a number of TISBO services where ECC depreciation has been incurred. *Methodology* This PG allocates costs to CE103 (TISBO Excess Construction).
PG002Y	**TISBO Excess Construction Adjustment Credit** *Description* ECCs are described in PG002X above. This PG represents the reverse side of the journal referred to in PG002X. *Methodology* This PG allocates costs to CO439 (PC rentals 2Mbps local end fibre) By allocating this credit to CO439 we effectively reverse out the capital expenditure associated with work which has incurred

Plant Group	Detailed Description and Methodology
	ECCs.
PG003X	**CISBO Excess Construction Adjustment Debit** *Description* *Description* This PG contains the capital employed except in year capital expenditure (see PG006X) and depreciation relating to ECCs incurred on Ethernet (CISBO) services and works in tandem with PG003Y (below). ECCs are described in PG002X above. *Methodology* Costs from this PG are allocated to CE104 (CISBO Excess Construction component).
PG003Y	**CISBO Excess Construction Adjustment Credit** *Description* This PG contains a credit of the capital employed except in year capital expenditure (see PG006Y) and depreciation relating to Excess Construction Charges (ECCs) incurred on Ethernet (CISBO) services and represents the reverse side of the journal referred to in PG003X. ECCs are described in PG002X above. This PG represents the reverse side of the journal referred to in PG003X. *Methodology* This PG is apportioned to the CISBO fibre and duct components: CW609 (Ethernet Access Direct Fibre), CO450 (Wholesale & LAN extension services fibre) and CO447 (Backhaul extension services fibre). The apportionment is based on the volume of reported services used by each component. *Data Source/s* Volumes of reported services
PG005X	**OR Residual ECC Debit** *Description* Excess construction charges (ECCs) are levied when the capital investment required to provide a new connection exceeds a certain amount. In these cases the costs are recovered upfront in an excess construction charge. However the construction costs incurred in providing these new connections are capitalised in the same way for normal network construction i.e. under class of works for fibre and duct. This means that our duct and copper costs in the case of Residual ECCs include costs that have already been recovered from the customer as an ECC. In order to ensure that these assets are not allocated to other regulated products we raise a journal to move the depreciation and asset values associated with work which has incurred ECCs to this specific PG for ECCs. We calculate ECC adjustments for the CISBO Markets, Low TISBO and Residual Markets. This PG allocates costs and MCE to a specific ECC component. This PG works in tandem with PG005Y (below) which removes costs from a number of WLA and WLR services where ECC depreciation has been incurred. *Methodology* Costs from this PG are allocated to CE105 (Residual Excess Construction component).
PG005Y	**Residual Excess Construction Adjust Credit Duct** *Description*

Plant Group	Detailed Description and Methodology
	ECCs are described in PG005X above. This PG represents the reverse side of the journal referred to in PG005X. *Methodology* This PG is apportioned 100% to the Distribution Side Copper Capital component: CL173.
PG006X	**CISBO Excess Construction Capex Debit** *Description* This PG contains the capital expenditure relating to Excess Construction Charges (ECCs) incurred on Ethernet (CISBO) services and works in tandem with PG006Y (below). This PG is populated by a Journal. ECCs are described in PG002X above. In year capital expenditure is treated separately to other capital employed which is contained within PG003X. *Methodology* Costs from this PG are allocated to CE106 (CISBO Ethernet Excess Construction Capex).
PG006Y	**CISBO Excess Construction Capex Credit** *Description* This PG contains a credit of the capital expenditure relating to Excess Construction Charges (ECCs) incurred on Ethernet (CISBO) services and represents the reverse side of the journal referred to in PG006X. ECCs are described in PG002X above. *Methodology* This PG is apportioned to the CISBO fibre and duct components: CW609 (Ethernet Access Direct Fibre), CO450 (Wholesale & LAN extension services fibre) and CO447 (Backhaul extension services fibre). The apportionment is based on the volume of reported services used by each component. *Data Source/s* Volumes of reported services.
PG111C	**Access Fibre Spine** *Description*  This plant group includes costs associated with: • Assets and depreciation relating to fibre spine cables; • Duct used by these cables; • Indirect costs related to the capital expenditure e.g. the van costs incurred by the engineers installing the fibre; and This plant group excludes the access spine fibres used by our Generic Ethernet Access (GEA) products. *Methodology*

Plant Group	Detailed Description and Methodology

We apportion this plant group according the number of fibres used by each component. The number of fibres used by each component is derived from the following calculations:

Ethernet Services

Our Ethernet services our delivered using an end-to-end fibre pair or single fibre so we count the amount local ends for each component (from our published services) and multiply them by 1 for single fibre working circuits like EAD and by 2 for older services like WES.

These services use more than two thirds of our non-GEA access fibre and the main components are: CW609 Ethernet Access Direct (EAD) Fibre and CO450 Wholesale & LAN Extension Services (WES) fibre etc.

Traditional Interface Services

Our older traditional services are delivered by first providing bearers and then connecting circuits across them e.g. 4 x 2Mbps ASDH bearer is provided by connecting equipment with a fibre pair and this bearer can then carry up to four 2Mbps circuits thus with this technology more than one circuit can ran over the same fibre.

For these products we firstly count the number of different types of bearers and the number of fibres used by each type of bearer. This information is taken from CTCS and the most common bearer types are: single 2Mbps, .4x2Mbps ASDH, and 34 Mbps.

Illustrative example of CTCS bearer information

Total 34Mbits/s Bearers	900
Total access fibres	1,620
Average Fibres per bearer	1.8

Secondly, we use more CTCS data to count the volume of circuit (components) which use each type of bearer which we then convert into the number of bearer equivalents used by each type of circuit. We then multiply the number of bearer equivalents by the average number of fibres per bearer to calculate the total number of fibres used by each circuit.

Illustrative example of calculating the average number of fibre used by each circuit type

Circuit Types	Maximum Circuits / Bearer	No of Circuits	Utilised Bearers	Share of Spare Capacity	Bearer Equivalents	Average Fibre per bearer	**Number of Fibres used by circuit**
8 Mbit/s	4	600	150	95	245	1.8	**442**
2 Mbit/s	16	2,000	400	255	655	1.8	**1,178**
Sub-total lower bandwidth circuits		2,600	2,600	350	2,600		**900**
34 Mbit/s	1	200	200	-	200	1.8	**360**
Total for bearer type		**2,800**	**550**	**350**	**900**		**1,260**

Maximum Circuits / Bearer are engineering assumptions

No. of Circuits is from CTCS

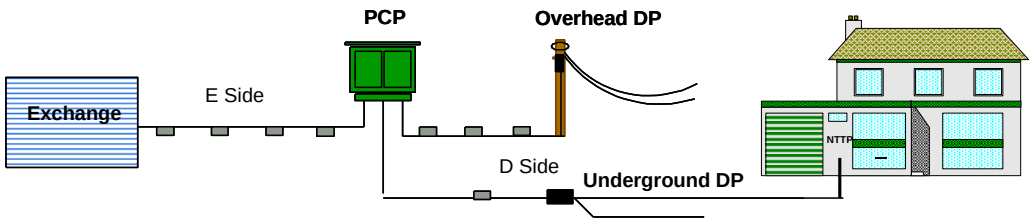
Utilised Bearers = No, of Circuits / Maximum Circuits per bearer

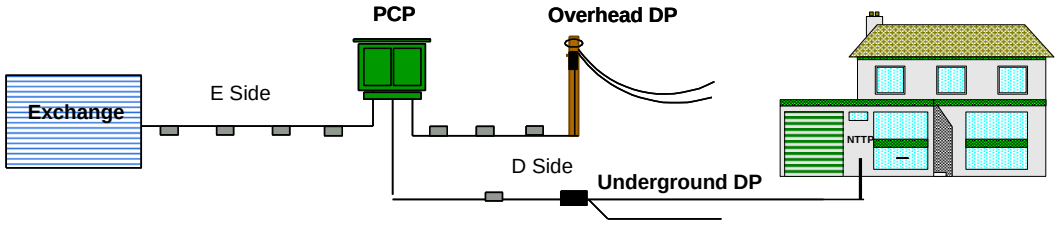
Share of spare capacity = Spare Capacity (total bearers – utilised bearers) share across the low bandwidth circuits since 34Mbits circuits would not be able to use this capacity.

Bearer equivalents = Utilised Bearers + Share of spare capacity

Average Fibres per bearer – from CTCS

Plant Group	Detailed Description and Methodology
	Number of fibres used by circuit type (component) = Bearer equivalents x Utilised Bearers Traditional services use less than one third of our non GEA access fibre and the main components are: CO439 PC rentals 2Mbps local ends *Data Source/s* Ethernet Services – published service volumes. Traditional Interface Services - bearer volumes, access fibre volumes and circuit volumes mapped to bearers are taken from CTCS.
PG111M	**Access Fibre Maintenance** *Description* This PG captures the maintenance costs associated with the local line fibre cable in the access network. The costs included are: • The engineering pay costs and stores incurred in repairing access fibres • The indirect costs incurred in supporting the engineers e.g. the van costs of the engineer's. *Methodology* We use the same allocation to components as for PG111C Access Spine Fibre.
PG112C	**Network Residual Miscellaneous** This PG captures the costs of miscellaneous activities involved in the cost of running the network, but which do not form any part of regulated services. *Methodology* Costs from this plant group are allocated to CZ600 (BTW Residual).
PG114L	**ISDN30 Connections** *Description* This PG captures the cost associated with the provision, cessation and rearrangement activities of ISDN30 circuits. The activities carried out include testing, line up of circuits, updating records, labelling equipment for onward connection and connecting transmission equipment at the specified bit rate. This PG includes: • Direct pay and stores costs associated with these activities and identified directly from classes of work (CoW). • Indirect costs associated with these activities e.g. van costs associated with engineers working on these activities. *Methodology* Costs from this PG are allocated to CL163 (ISDN30 Connection component).
PG115C	**Access Radio Equipment** *Description* This PG captures the costs associated with the construction, rearrangement and renewal of access radio systems. These systems are used to deliver Megastream and other non-voice services from the local exchange to customers' premises. This includes costs associated with: • Assets and depreciation relating to access radio equipment,

Plant Group	Detailed Description and Methodology
	• Indirect costs related to the capital expenditure e.g. the van costs incurred by the engineers installing the equipment; and • Indirect costs related to the assets themselves e.g. the electricity costs required to run the equipment. *Methodology* This PG apportions costs to circuit components based on the number of times each circuit uses access radio (converted into 2 Mbps equivalents) This information is sourced from our CTCS system which identifies maps circuits (components) across our the different parts of our network (plant groups). Key apportionments are to CO439 (PC rentals 2Mbps local end fibre), CL189 (ISDN30 access) and CF383 (OR PC rentals 2Mbps link). *Data Source/s* CTCS at period 6, which we believe to be reflective of the full year.
PG115M	**Access Radio Maintenance** *Description* This PG captures the maintenance costs of access radio equipment. Types of cost include the direct pay costs and stores costs for engineers working on this activity and the indirect costs associated with engineers e.g. the engineers van costs. *Methodology* We use the same methodology as we do for apportioning the equipment costs (see PG115C Local Lines Access Radio Capital above). *Data Source/s* CTCS at period 6, which we believe to be reflective of the full year.
PG117C	**E-Side Copper Cable** *Description* This PG captures the capital costs associated with E-Side Copper. The Access Network for Regulatory Accounting purposes is split between exchange (E-side) and distribution side (D-Side) copper cable. Types of cost include depreciation, stores and pay costs. E-Side cable is the cable that links the local exchange to the primary cross connection point. D-Side cable is the cable that links the primary cross connection point to the Distribution Point (see diagram below).  *Methodology* Costs from this PG are allocated to the CL171 (E-Side Copper Capital).
PG117M	**E-Side Copper Cable Maintenance** *Description*

Plant Group	Detailed Description and Methodology
	This PG captures the current costs associated with E-Side Copper. The Access Network for Regulatory Accounting purposes is split between exchange-side (E side) and distribution side (D-Side) copper cable. E-Side cable is the cable that links the local exchange to the primary cross connection point. D-Side cable is the cable that links the primary cross connection point to the Distribution Point (see diagram in PG117C above). Types of cost include non-ETG pay and stores. *Methodology* Costs from this PG are allocated to the CL172 (E-Side Copper Current).
PG118C	**D-Side Copper Cable** *Description* This PG captures the capital costs associated with D-Side Copper. Types of cost include depreciation, stores and pay costs. The Access Network for Regulatory Accounting purposes is split between exchange-side (E side) and distribution side (D-Side) copper cable. E-Side cable links the local exchange to the primary cross connection point. D-Side cable links the primary cross connection point to the Distribution Point (DP).  *Methodology* Costs from this PG are allocated to CL173 (D-Side Copper Capital).
PG118M	**D-Side Copper Cable Maintenance** *Description* This PG captures the current costs associated with D-Side Copper. Types of cost include non-ETG pay and stores. The Access Network is described in PG118C above. *Methodology* Costs from this PG are allocated to CL174 (D-Side Copper Current).
PG119A	**Telephony Over Passive Optical Network (TPON)** *Description* This PG captures costs associated with TPON. TPON is a technology which uses fibre from the exchange to the street cabinet and copper from the cabinet to the customer. It is now in the process of being removed as it does not support broadband. Types of cost include pay (from maintenance of exchange electronics and customer sited electronics), planning and depreciation costs from the provision, rearrangement, replacement and renewal of both exchange service modules and customer sited modules.

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CL173 (D-Side Copper).
PG120B	**LLU Electricity Usage – OR** *Description* This Plant Group (PG) captures the Openreach electricity costs related to Local Loop Unbundling. *Methodology* Costs from this plant group are allocated to CL120 (LLU Electricity Usage component).
PG121M	**Dropwire Maintenance Business** *Description* This PG captures the costs associated with the maintenance of Business PSTN, from the distribution point to the customer's premises. Types of cost include stores and pay costs. *Methodology* Costs from this PG are allocated to CL180 (Analogue line drop maintenance).
PG122M	**Dropwire Maintenance Residential** *Description* This PG captures costs associated with the maintenance of Residential PSTN, from the distribution point to the customer's premises. Types of cost include stores and pay costs. The distribution point is the point near to a customer's premises where the main cable from a Primary Cross connection point (PCP) is split in order to provide service at one or more localised premises. It could be at the top of telegraph pole, under a walkway or on the E-Side of a building etc. PCP boxes are the green metal cabinets located by the E-Side of the road. *Methodology* Costs from this PG are allocated to CL180 (Analogue line drop maintenance).
PG123M	**ISDN2 Maintenance** *Description* This PG captures the store and pay costs associated with the maintenance of ISDN2, from the distribution point to the customer's premises. *Methodology* Costs from this plant group are allocated to CL181 (ISDN2 drop maintenance).
PG124A	**ISDN30 Equipment** *Description* This PG captures the Capital costs of ISDN30. Types of cost include depreciation, stores and pay costs. *Methodology* Costs from this PG are allocated to CL190 (ISDN30 Line Cards).
PG127A	**Analogue Linecards** *Description* This PG captures Profit and Loss (e.g. Depreciation, ETG and Non ETG Pay, and Non-Pay) and Balance Sheet items associated with the provision of analogue line cards.

Plant Group	Detailed Description and Methodology
	Line cards are the electronic cards in the exchange that provide connectivity to the switch. *Methodology* Costs from this PG are allocated to CL183 (Analogue Line Cards).
PG128A	**ISDN2 Linecards** *Description* This PG captures the capital costs associated with ISDN2 line cards. Line cards are the electronic cards in the exchange that provide connectivity to the switch. Types of cost include depreciation, stores and pay costs. *Methodology* Costs from this PG are allocated to CL184 (ISDN2 Line Cards).
PG129A	**Pair Gain Systems** *Description* This Plant Group contains the cost of provisioning, rearranging and recovering pair gain electronics in the access network. Pair gain is a piece of equipment which provides to analogue lines over one pair of copper wires. Types of cost include depreciation, stores and pay costs. *Methodology* Costs from this PG are allocated to CL185 (Pair Gain).
PG130A	**Intra-exchange Tie Cables** *Description* This PG captures costs of tie cables for LLU. LLU enables other communication providers (OCP) to use BT's local loop to provide services to customers. This is delivered by co-mingling, in which BT provides a room in an exchange for an OCP and their equipment, and arranges for connection of the room to the BT Main Distribution Frame (MDF) via a tie cable. The OCP has to order 'ties' in items of 100 pair cables. *Methodology* This PG allocates costs 100% to CL133 (WLA Tie cables).
PG132B	**LLU Co-mingling Recurring Costs (OR)** *Description* This PG captures the cost of LLU Hosting Rental. Hosting Rental is the rental of a site for hosting LLU equipment. *Methodology* Costs from this PG are allocated to CL132 (Co-mingling rentals).
PG132N	**LLU Co-mingling Recurring costs (BT TSO)** *Description* This PG captures the cost of LLU Hosting Rental. Hosting Rental is the rental of a site for hosting LLU equipment. *Methodology*

Plant Group	Detailed Description and Methodology
	Costs from this PG are allocated to CT134 (Co-mingling power & vent).
PG136A	**LLU Co-mingling Surveys** *Description* This PG captures the costs of carrying out surveys on BT buildings to enable infrastructure such as Cabling, Vent and Chill equipment, access etc for LLU hostels. *Methodology* Costs from this PG are allocated to CL131 (Co-mingling set up).
PG136N	**LLU Co-mingling Provision** *Description* This PG captures the cost of building the LLU Hostels within BT Exchanges. *Methodology* Costs from this PG are allocated to CL131 (Co-mingling set up).
PG139A	**LLU Systems Development** *Description* This PG captures the cost of Research and Development (R&D) projects undertaken by Technology Service & Operations on behalf of Openreach that specifically relate to LLU products. Development projects can range from high-level strategy down to operational and logistical development. Development project costs are apportioned according to the nature of the individual projects. *Methodology* We analyse the FAR for CoWs COMPS and COMPG for Openreach LoB. We use the "Asset Description" and "Subgroup Description" fields to ascertain which specific products (of which there are four relevant to Openreach: Local Loop Unbundling (LLU), Wholesale Line Rental (WLR), ISDN or Ethernet) the asset entry in the FAR relates to. We apportion costs to four Plant Groups (matching the four products listed above) that relate to the specific products identified in this exercise. We use the proportion of current year depreciation for each asset that relates to a particular product class over total depreciation of all relevant assets to apportion costs to the Plant Groups. This PG apportions all costs to CL139 (Local Loop Unbundling systems development). *Data Source/s* Fixed Asset Register (FAR) for Class of Work COMPS & COMPG for Openreach.
PG140A	**Routing and Records** *Description* The Plant Group (PG) captures the costs and balance sheet (Depreciation, ETG and Non-ETG Pay and Non-Pay) of Routing and Records work for provision of analogue / ISDN lines, Local Loop Unbundling (LLU) and Fibre based circuits. *Methodology* This Plant Group allocates 100% to CL160 (Routing & Records).
PG142A	**Main Distribution Frame (MDF) Hardware Jumpering** *Description* This PG captures the costs and balance sheet associated with jumpering activities on the Main Distribution Frame (MDF) connecting the Exchange switch equipment to the Exchange-Side (E-Side) cable.

Plant Group	Detailed Description and Methodology
	An MDF jumper is a copper connection that provides a flexible connection between two terminal ends, commonly used to connect the line side to the exchange side of the MDF. *Methodology* Costs from this PG are allocated to CL161 (MDF Hardware Jumpering).
PG144A	**WLR Systems Development** *Description* This PG captures the cost of Research and Development (R&D) projects undertaken by Technology Service & Operations on behalf of Openreach that specifically relate to WLR products. Development projects can range from high-level strategy down to operational and logistical development. Development project costs are apportioned according to the nature of the individual projects. *Methodology* We analyse the FAR for CoWs COMPS and COMPG for Openreach LoB. We use the "Asset Description" and "Subgroup Description" fields to ascertain which specific products (of which there are four relevant to Openreach: Local Loop Unbundling (LLU), Wholesale Line Rental (WLR), ISDN or Ethernet) the asset entry in the FAR relates to. We apportion costs to four Plant Groups (matching the four products listed above) that relate to the specific products identified in this exercise. We use the proportion of current year depreciation for each asset that relates to a particular product class over total depreciation of all relevant assets to apportion costs to the Plant Groups. This PG apportions all costs to CL144 (Wholesale Access specific). *Data Source/s* Fixed Asset Register (FAR) for Class of Work COMPS & COMPG for Openreach.
PG145N	**WBA End User NTEs** *Description* This PG captures the costs associated with the Provision and Installation costs for Asymmetric Digital Subscriber Line (ADSL). The classes of work (CoW) associated with this Plant Group are Internally Developed Software (COMPS) and NOP (Network Operations Platform) Circuit Provision - ADSL. These CoWs cover all provision and software activities in serving exchanges and customer site, including end-to-end testing. *Methodology* Costs from this PG are allocated to CR118 (ADSL Connections).
PG149A	**Analogue Line Final Drop** *Description* Drop wires are wires connecting the Distribution Point to the customer's premises. This PG captures the Drop wire costs associated with specific analogue line based Products. *Methodology* Costs from this PG are allocated to CL178 (Dropwire Capital Analogue NTE).
PG150A	**ISDN2 Access Equipment** *Description*

Plant Group	Detailed Description and Methodology
	This PG captures the Network Terminal Equipment (NTE) costs for ISDN2 rentals. It includes Network Terminal Equipment (NTE) and line cards but excludes drop wire. *Methodology* Costs from this PG are allocated to CL186 (ISDN2 NTE).
PG150B	**Abortive Visits** *Description* An Abortive Visit Charge (AVC) is applied where an appointment is agreed for work at an End User's Site and the engineer arrives within the appointment slot but is unable to carry out the work at, or gain access to, the End User Site. This PG captures the Abortive Visit costs. *Methodology* Costs from this PG are allocated to CL182 (Abortive Visits).
PG151B	**Broadband Line Testing Equipment (Openreach)** *Description* This PG contains the Test Access Management Systems (TAMS) and EvoTAMs costs. These are used to provide remote access facilities on Metallic Path Facility (MPF), Shared Metallic Path Facility (SMPF), Wholesale Line Rental (WLR) and IPstream circuits for testing towards the customer and into the network. They are installed between the Main Distribution Frame (MDF) and the Digital Subscriber Line Access Multiplexer (DSLAM). Note: the regulatory asset life for assets which are booked to the asset policy code "XLLU - TAMs for LLU" is 7 years as opposed to 5 years. *Methodology* The costs in this PG are apportioned using the latest LOP list depreciation figures for CoWs LXTM and LMC. We use the Asset Policy Codes of the equipment, which tell us what type of equipment it is, to determine the depreciation which needs to be apportioned to each component. Assets will relate to MPF or EvoTAM testing systems. Costs relating to MPF equipment are apportioned to CF187 (LLU line testing systems). Costs relating to EvoTAM equipment are apportioned to CF189 (EvoTAM testing systems). Additional depreciation is apportioned to CF189 to account for installation of EvoTAMS, this depreciation is based on a survey from Openreach which identifies the number of EvoTAM installations in a period. *Data Source/s* Latest available Life of Plant (LoP) list, Openreach EvoTAM survey.
PG151N	**Broadband Line Testing Equipment (BT TSO)** *Description* Testing Access Matrices (TAMs) equipment is used in order to carry out accurate diagnostics fault diagnostics on broadband lines. TAMs can connect to the Digital Subscriber Line Access Multiplexers (DSLAMs) to emulate a modem from a customer and identify if a fault is at the customer end or in the exchange. This PG captures the Test Access Matrix (TAMS) costs incurred by BT TSO.

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CR187 (Broadband line testing systems). *Data Source/s* Latest available Life of Plant (LOP) list.
PG152B	**Other Openreach Repairs** *Description* This PG contains the values relating to the equipment that supports the DSL product rentals. DSL is a family of technologies that provide digital data transmission over the wires of a local telephone network. These lines that provide faster Internet access to the customer and also allows telephone calls to be made at the same time as Internet usage. This PG contains all the balance sheet values relating to the equipment that supports the DSL product rentals including Digital Subscriber Line Access Multiplexer (DSLAM) equipment. This PG also contains the depreciation and maintenance costs on this equipment as well as overhead type costs such as the accommodation to house equipment etc. *Methodology* Costs from this PG are allocated to CO989 (SFI (Special Fault Investigations)).
PG152N	**DSLAM – Overheads** *Description* This PG contains all the balance sheet values relating to the equipment that supports the DSL Product rentals except Digital Subscriber Line Access Multiplexer (DSLAM) equipment itself. This PG also contains the maintenance costs for this equipment as well as overhead type costs such as the accommodation to house equipment etc. *Methodology* Costs from this PG are allocated to CR188 (DSLAM support).
PG153N	**DSLAM – Equipment** *Description* This PG contains the balance sheet values relating to the Digital Subscriber Line Access Multiplexer (DSLAM) equipment. This PG also contains the depreciation cost relating to the DSL equipment. It does not include the maintenance costs on this equipment or overhead type costs such as the accommodation to house equipment etc. (This is included in PG152N). *Methodology* Costs from this PG are allocated to CL195 (NGA visit assure).
PG154B	**NGA Visit Assure** *Description* This plant group holds the costs and MCE relating to NGA Visit Assure jobs *Methodology* Costs from this PG are allocated to CL195 (NGA visit assure).
PG155B	**Expedite Provision costs** *Description* This plant group holds the costs and MCE relating to Expedite Provision jobs *Methodology* Costs from this PG are allocated to CL193 (expedite provision costs).
PG164A	**ISDN Systems Development** *Description*

Plant Group	Detailed Description and Methodology
	This PG captures the cost of Research and Development (R&D) projects undertaken by Technology Service & Operations on behalf of Openreach that specifically relate to ISDN products. Development projects can range from high-level strategy down to operational and logistical development. Development project costs are apportioned according to the nature of the individual projects. *Methodology* We analyse the FAR for CoWs COMPS and COMPG for Openreach LoB. We use the "Asset Description" and "Subgroup Description" fields to ascertain which specific products (of which there are four relevant to Openreach: Local Loop Unbundling (LLU), Wholesale Line Rental (WLR), ISDN or Ethernet) the asset entry in the FAR relates to. We apportion costs to four Plant Groups (matching the four products listed above) that relate to the specific products identified in this exercise. We use the proportion of current year depreciation for each asset that relates to a particular product class over total depreciation of all relevant assets to apportion costs to the Plant Groups. This PG apportions all costs to CL164 (ISDN Systems Development). *Data Source/s* Fixed Asset Register (FAR) for Class of Work COMPS & COMPG for Openreach.
PG170B	**Backhaul Fibre** *Description* This PG captures the depreciation costs and asset values of the backhaul length elements of the bearers in BT's Core Transmission network. Combinations of assets in the transmission network (i.e. two bits of electronics joined by fibre and duct) make up what is known as a "bearer". The bearers within the network carry circuits that relate to different products and bandwidths. More detail can be found CTCS (Core Transmission Costing System) in the Data Sources section. *Methodology* The costs and asset values on these PGs are allocated to network components (circuits) based on how the circuits use the different bearers. The relationship between circuits and bearers is held in CTCS. Extracts from CTCS give us the total length of fibre used by the circuits over each bearer. Fibre lengths for Ethernet main links are not captured in CTCS but need to pick up some of the costs of backhaul fibre. The fibre km volumes are taken from Openreach volumes and then included in the CTCS output. Ethernet circuits have one circuit per fibre therefore allowing the fibre km to be used as the bearer length. This PG apportions costs to various 21CN and 20CN components, primarily CO484 (Ethernet main links), CO681 (broadband backhaul circuits) and CF371 (OR PC rentals 2Mbps link per km distribution). *Data Source/s* CTCS and Openreach volumes for Ethernet main links data for Period 6. Management believes this Period is reflective of the full year.
PG192A	**FTTC Copper Tie Cables** *Description* This Plant Group captures the balance sheet values and depreciation associated with Next Generation Access Exchange-Side cables.

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CL192 (NGA E-Side Copper Capital).
PG197A	**FTTC Service Delivery & Development** *Description* This PG captures the costs associated with the Openreach (OR) Next Generation Access (NGA) Fibre to the Cabinet (FTTC) product. *Methodology* Costs from this PG are allocated to CL197 (FTTC development).
PG198A	**FTTP Development** *Description* This PG captures the costs associated with the Openreach (OR) Next Generation Access (NGA) Fibre to the Premises (FTTP) product currently under development. These costs are identified via a transfer charge made from BT TSO to OR. *Methodology* Costs from this PG are allocated to CL198 (FTTP development).
PG213C	**Local Exchanges UXD** *Description* This PG captures the cost of constructing, extending and rearranging local UXD5 Exchanges. Types of cost include pay, depreciation and overheads. UXD5 exchanges are deployed in rural areas and cater for about 460 Public Switched Telephone Network (PSTN) customers each. They are in effect mini Local Exchanges (LE). *Methodology* The methodology uses a modern equivalent asset. This is calculated using the volumes of UXD5 from Express multiplied by the cost of the building blocks for equivalent System X and AXE10 exchanges. Matrices supplied by the manufacturer, which map the different elements of the building blocks into Call set, duration, Access and Common are then applied to this. The base produced by this methodology was frozen in 2010-11 as UXD5 is no longer produced. Costs are apportioned to three components: CL183 (Analogue line cards), CO214 (Local exchange concentrator set up) and CO215 (Local exchange concentrator duration). *Data Source/s* System X and AXE10 volumes in the network from the EXPRES system.
PG216C	**Operator Assistance Systems Equipment** *Description* This PG captures the depreciation costs of switching equipment used to support Operator Assistance (OA) calls. *Methodology* Onwards attribution is achieved through a Period 12 Operfile, this is a spreadsheet used to derive apportionment information for Operator and Directory Assistance costs. The file is a summary of information from a variety of other data sources (see data sources below) and is updated monthly on a cumulative basis. Attribution is carried out as follows:

Plant Group	Detailed Description and Methodology
	1. Call duration information from the central data store (CDS) and Call Statistics Centralisation System (CSCS) is summarised on the basis of call types. 2. A link is then made between the nature of the call and the type of equipment required to carry it. 3. As this is a capital base, the initial summary is then allocated to components on the basis of depreciation charges per switch type. This depreciation is extracted from the Fixed Asset Register. The Operator Assistance costs are attributed to the following components pro-rata to the call minute volumes: • CO911 (National operator assistance) • CO 912 (International operator assistance) • CO919 (Emergency Operator Assistance (999)) • CO941 (National OA non-chargeable) • CO942 (Emergency OA (999) non-chargeable) *Data Source/s* • Inland and International Directory Assistance (DA). • CDS. • CSCS and Featurenet (from the Powerhouse system). • Inland and International Operator Assistance (OA). • Call Centre Management Information System (CCMIS). • CSCS (for Retail chargeable). • 6A Report (for Wholesale Chargeable). • Fixed Asset download by Accounting Policy Code (APC). • Lucent Switch billing system – (this is incorporated into the CDS file that is produced monthly and used to populate the Operfile).
PG216M	**Operator Assistance Systems Maintenance** *Description* This PG captures the maintenance costs of the switching equipment used to support Operator Assistance (OA) calls. *Methodology* We use a spreadsheet (the P12 Operfile) to derive cost information for Operator and Directory Assistance costs. The file is summarises information from a variety of other data sources and is updated monthly on a cumulative basis. The costs are attributed on the same basis as the depreciation costs of this equipment (See PG216C above), on the basis that maintenance activity is carried out to support the performance of the switching equipment and can therefore be regarded as an overhead of the capital/depreciation expenditure incurred. It should therefore be attributed on a consistent basis with the capital costs. This PG apportions costs to the same components as PG216C above. *Data Source/s* This PG uses the same data sources as PG216C above. In addition to this the P12 Operfile is used to supply cost data.
PG217E	**Main Distribution Frames Equipment** *Description* This PG captures the cost of provision, extension, upgrade, replacement, re-arrangement and recovery of Main Distribution Frames (MDFs).

Plant Group	Detailed Description and Methodology
	MDFs are those distribution frames providing direct interface with external circuits terminations (customer or other exchanges). *Methodology* Costs from this PG are allocated to CL175 (Local exchanges general frames capital).
PG217F	**Main Distribution Frames Maintenance** *Description* This PG captures the maintenance cost of Main Distribution Frames (MDFs). *Methodology* This PG allocates to CL176 (Local exchanges general frames current).
PG217R	**Main Distribution Frames Maintenance (BT TSO)** *Description* This PG captures the maintenance cost of Main Distribution Frames (MDFs). *Methodology* Costs from this PG are allocated to CL176 (Local exchanges general frames current).
PG227A	**Advanced Switching Units** *Description* This PG captures the cost of construction, installation, re-arrangement, recovery and renewal and maintenance of Advance Service Units (ASUs) equipment and Call Centre DMS100s to provide the platform to support the provision of the Virtual Private Network Service (VPNS). The VPNS Services being Virtual Private Network (VPN) and Virtual Private Services (VPS). This PG also captures the maintenance costs of the above types of equipment. *Methodology* Costs from this PG are allocated to CO227 (Advanced Switching Units).
PG228A	**Signalling Transfer Point (STP) and Edge Link Monitors** *Description* This PG captures the costs of BT's signalling network, signalling network management system and interconnect equipment. For example STP and Signalling Point Relay (SPR) switches, Signalling Traffic Management (STMS) equipment, link monitors and associated equipment (core and edge), on site spares, initial data build associated with switches, testing apparatus and initial provision of spares held for changing purposes. *Methodology* Costs from this PG are allocated to CO270 (Signalling transfer point).
PG229A	**Signalling Point Relay (SPR) and Core Link Monitors** *Description* This PG captures costs of the following signalling equipment: SPR switches and core link monitors, both with associated on site spares. It also captures the costs of the initial data build associated with the switches. The core link monitors and Signalling Point Relay (SPR) switches are both items of signalling equipment used to interface Public Switched Telephone Network (PSTN) switches with the Intelligent Network (IN)/Common Intelligent Service layer (CISL). The former provides a signalling assurance function whilst the latter concentrates signalling from the PSTN switches onto the Intelligent Network/CISL. *Methodology*

Plant Group	Detailed Description and Methodology
	Costs are allocated to the IN components CISL and Intelligent Contact Manager (ICM) based on the latest available CISL and PSTN internal and external call volumes. The CISL volumes provide the split between select services and the IN/CISL Services whilst the PSTN call volumes are used to provide the split between the two select services components. This PG apportions costs to six components: CO261 (Intelligent contact manager), CO266 (common intelligence service layer (CISL)), CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals) *Data Source/s* Cumulative CISL platform volumes and PSTN internal and external call volumes.
PG240A	**Analogue Line Testing Equipment** *Description* This PG captures the costs associated with the equipment that supports line testing of Public Switched Telephone Network (PSTN) and ISDN circuits. *Methodology* Costs from this PG are allocated to CL177 (Analogue line test equipment).
PG249C	**Main Exchange DLT** *Description* This PG captures the capital and depreciation costs of the Main Digital Exchange DLT equipment. The DLT is part of the Main Exchange System X Processor unit and NGS (Next Generation Switch) that also comprises a switch block and processor and signalling functional groups, and is used for call setup and call duration. Main exchanges come in two types, the older System X unit and a newer NGS. System X units are not available and are being replaced by NGS units. *Methodology* *Call setup and duration* The main digital exchange is made up of System X, which is part of the legacy network, and the newer Next Generation Switch (NGS). System X is valued as CCA and NGS valued as a Modern Equivalent Asset. The switch is grouped into its constituent parts and costed up. The newer NGS have a higher capacity than the system X and this is taken into account in the costing. Using information from the manufactures, the costs are split into setup and duration. With information from the manufacturers we are able to determine the call setup and duration split for each element. The total cost of all the elements of all the units in the network is summed and then these costs are analysed into setup and duration splits. Common costs are not factored into this calculation as they do not make a difference to the overall attribution weightings, as they would be apportioned pro-rata to set up or duration costs and would not themselves change the weighting of costs to either category. The relative costs of call setup and call duration are expressed as percentages, and these percentages are applied to the year-end (Period 12) PG costs to determine the attribution to call set up and call duration components. *DLT cost for OCPs* The DLT cost relating to Other Communications Provider (OCP) has also to be determined and apportioned. Mid-year port information is downloaded from the Network Recording System (NRS). This provides the origin and destination of each 2Mbps port on every local, trunk and main

Plant Group	Detailed Description and Methodology
	exchange. This data can then be manipulated to analyse where the ports are mapped and what type of switch and of which system type is involved. The number of ports utilised by OCPs can be identified as a percentage of the total. This percentage is then attributed to CR470 (Intra Building Circuit (IBC) rental). The residual costs are re-based so that the new total equals 100% and attributed to main exchange call set up and main exchange call duration using the same weighting as determined above. Call setup costs are apportioned to CO220 (main exchange setup) and duration costs to CO221 (main exchange call duration). *Data Source/s* Network Recording System (NRS). Exchange Planning and Review System (EXPRES).
PG252B	**Openreach Residual Elimination** *Description* This PG captures the variance between the calculated notional revenues associated with Other Communication Providers (OCPs), and the actual revenues received from OCPs, relating to Openreach activity. The related revenue receivable debtor variance is also captured by this PG. *Methodology* Costs, revenues and debtors from this PG are allocated to CZ252B (OR residual elimination).
PG252N	**Network Residual Elimination** *Description* This PG captures the variance between the calculated notional revenues associated with Other Communication Providers (OCPs), and the actual revenues received from OCPs relating to Wholesale activity. The related revenue receivable debtor variance is also captured by this PG. *Methodology* Costs from this PG are allocated to CZ252N (WH residual elimination).
PG253B	**CPE Switches** This plant group relates to the Openreach labour costs incurred in installing and repair Customer Premises Equipment. *Methodology* Costs from this PG are allocated to component CO253 (CPE Switches).
PG254A	**Main Digital Exchange - Intelligent Access and Messaging** *Description* This PG captures the depreciation costs of Main Digital exchange intelligent access and messaging equipment to calls components only. *Methodology* Apportionment to the Call Set-Up components for Local and Main Exchanges is based on the relative number of Local Exchanges and Main Exchanges in the network sourced from the EXPRES system. Data amendments are more numerous and more time consuming for Main Exchanges

Plant Group	Detailed Description and Methodology
	than for Local Exchanges, so each Main Exchange is weighted by a factor determined by a survey of time spent on Data Amendments. This factor is determined on the basis of the experience and expertise of the data amendment team, (a management estimate). This gives an estimate of the time and hence relative cost for data amendments on Local relative to Main Exchanges. Costs for this PG are apportioned on the basis of minutes for CNA (Change Number Announcement) relative to minutes for the Televote service and other messaging applications. This PG apportions costs to CO260 (Cambridge Voice Intelligent Peripherals), CO210 (Local exchange processor duration) and CO220 (Main exchange setup). *Data Source/s* Exchange Planning and Review System (EXPRES). Data Amendments survey. Minutes Data from Recorded Information Distribution Equipment (RIDE) - Statistics Data Warehouse (SDW).
PG255B	**Main Digital Switchblock** *Description* This PG captures the capital depreciation and maintenance costs of the Main Digital Exchange Switch Block equipment. Main exchanges come in two types, the older System X unit and a newer Next Generation Switch (NGS). System X units are not available and are being replaced by NGS units. The Switch Block is part of the Main Exchange System X Processor and NGS (Next Generation Switch) unit that also comprises of a Processor and Digital Line Termination (DLT) functional groups, and is used for call setup and call duration. *Methodology* This PG follows the methodology in PG249C above. *Data Source/s* This PG uses the same data sources as PG249C above.
PG257C	**Main Exchange Processor** *Description* This PG captures the capital and depreciation costs of the Main Digital Exchange Processor and Signalling equipment. Main exchanges come in two types, an older System X unit and a newer Next Generation Switch (NGS). System X units are not available and are being replaced by NGS units. The processor is part of the Main Exchange System X Processor unit that also comprises a Switch Block and Digital Line Termination (DLT) functional groups, and is used for call setup and call duration. *Methodology* This PG follows the methodology in PG249C above. Data Source/s

Plant Group	Detailed Description and Methodology
	This PG uses the same data sources as PG249C above.
PG260A	**Intelligent Network Platform** *Description* This PG captures the costs of all equipment and associated costs incurred as part of provision, extension, re-arrangement and recovery of Intelligent Contact Manager equipment excluding Alfredo equipment. It also includes Intelligent Peripherals (IP) Service Control Point (SCP) equipment, on site spares, initial data build associated with switches, Testing Apparatus and initial provision of spares held for changing purposes. *Methodology* Costs from this PG are allocated to CO261 (Intelligent Contact Manager).
PG280C	**AXE10 Local Exchange Processor** *Description* This PG captures the costs relating to the AXE10 Digital Local Exchange Processor and Signalling switch. The switch comprises both concentrator and processor functionality, and is used for call set up and call duration. ***Methodology*** LEMP2 was the Local Exchange Modernisation Programme (LEMP). The LEMP contract is indicative of normal course of business. It sets out the contract prices for the various switch elements and is negotiated with suppliers by BT's procurement function. The aggregate cost within the network of each of the elements of the switch is determined on the basis of Local Exchange Modernisation Programme 2 (LEMP2) contract prices, by multiplying the volume by the unit cost of each element. The elements of the processor are assigned into three main blocks: • Digital Line Termination (DLT) • Switch Block • Processor and Signalling We are concerned with Processor and Signalling only for this PG. Based on advice from switching suppliers, the function of each switch element is analysed between call set up and call duration. This advice shows an analysis between set-up and duration which will not change on a year by year basis as the building elements of the asset remain a constant. Certain elements support both functions. All of the above is based historical data until such time as the base is unfrozen. The procedures below are updated each year and any changes mean that historical data is re-based to accommodate these. The processor usage of Network Features (previously called Select Service) calls has also to be determined. An extract of billing call record information is gathered from a sample of ten System X and ten AXE 10 Local Exchanges and analysed into whether the record type is Select Service driven or not. Below is a table of billing record types:

Plant Group	Detailed Description and Methodology

Record Type	Description
RT21	Normal subs billing records
RT22 (Select Service Driven)	Diverted calls and A, D and C ring backs
RT29 (Select Service Driven)	Activation/Deactivation of Select Services
RT34	Integrated Services Digital Network (ISDN) call records

Diagram2_PG280C

Record Types 34 were ignored in this calculation on the assumption that the Network Features to ordinary calls without Select Services is in the same ratio for ISDN as for analogue calls.

Billing records were extracted for one whole week during the year at 20 Digital Local Exchange (DLE) sites in the country. The number of processor instructions was derived for call usage types to derive a weighted processor average.

The final weighted processor usage percentage for Network Features is then applied to the PG cost, which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. This cost is apportioned to CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals).

Caller Display is a subset of Network Features. The Type 29 billing record activations which are Network Features driven also contain Calling Line Identity and these can be separately identified as a subset. The proportion of Network Features volumes relating to CLI (Calling Line Identity) is derived using billing data volumes and this fraction is used to map costs to a separate Caller Display Component. The quantity of processor cost relating to DLE call set up and call duration is then re-based so that the new total equals 100%.

Costs from this PG are apportioned to CO210 (Local exchange processor duration), CO212 (Local exchange processor set up), CO292 (Caller Display), CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals) and CR470 (Intra Building Circuit IBC rental).

Data Source/s

- NRS.
- EXPRES.
- Billing records from the Meridian switch and the latest available data derived from the CRAFT Route Factors data ORBIT.
- Billing records from ORBIT for Network Features and Caller Line Identity.

PG281C

AXE10 Local Exchange Digital Line Termination

Description

This PG captures the costs and balance sheet of AXE10 Digital Line Termination (DLT)

The DLT switch comprises both call set-up and call duration functionality.

Methodology

The aggregate cost within the network of each of these switch elements is determined on the basis of LEMP2 contract prices i.e. the volume of each element is multiplied by the unit cost of each element. LEMP2 was the Local Exchange Modernisation Programme. It set out the contract prices for the various switch elements and is negotiated with suppliers by BT's procurement function. The LEMP2 contract is indicative of normal course of business and covers both Local and System X main Exchanges based on advice from switching suppliers. The function of each switch

Plant Group	Detailed Description and Methodology
	element is analysed between call set-up and call duration. This advice showing an analysis between set-up and duration will not change on a year by year basis as the building elements of the asset remain a constant. These percentages are then weighted for the relative proportion of the PG total cost represented by processor costs as opposed to concentrator costs and are used to apportion costs to CO212 (Local Exchange Processor Set-Up) and CO210 (Local Exchange Processor Duration). All of the above is based historical data until such time as the base is unfrozen. The procedures below are updated each year and any changes mean that historical data is re-based to accommodate these. The DLT cost relating to Other Communications Providers (OCPs) also needs to be determined. For this mid-year port information is downloaded from the NRS. This provides the origin and destination of each 2Mbps port on every local, trunk and main exchange. This data can then be manipulated to analyse where the ports are pointed, what type of switch, of which system type and the system type involved. The fraction of ports that relate to OCPs can be expressed as a fraction of the total and is apportioned to CR470 (Intra Building Circuit (IBC) rental). The residual amount is then re-based so that the new total equals 100% and apportioned to CO212 (Local Exchange Processor Set-Up) and CO210 (Local Exchange Processor Duration). *Data Source/s* • Network Records System (NRS). • Exchange Planning and Review System (EXPRES). • Billing records.
PG282A	**Local Exchange Switch Block (AXE10)** *Description* This PG captures cost and balance sheet costs of AXE10 Digital LE Switch Blocks. The switch comprises both concentrator and processor functionality, and is used for call set up and call duration. ***Methodology*** This PG follows the same methodology as PG281C above. *Data Source/s* This PG uses the same data sources as PG281C above.
PG283A	**Local Exchange Conc (AXE10) Call set-up** *Description* This PG captures the costs and balance sheet relating to AXE10 DLE Digital Concentrator Call Set-Up. These assets comprise both call set-up and call duration functionality. The PG contains both Capital and Maintenance costs. *Methodology* The amount of concentrator usage for Select Service calls has to be determined. An extract of the Billing Call Record information is gathered from a sample of ten System X Local Exchanges and analysed into whether the record type is Select Service driven or not.

Plant Group	Detailed Description and Methodology

Record Type	Description
RT21	Normal subs billing records
RT22 (Select Service Driven)	Diverted calls and A, D and C ring backs
RT29 (Select Service Driven)	Activation/Deactivation of Select Services
RT34	Integrated Services Digital Network (ISDN) call records

Diagram1_PG283A

Only RT22 makes use of the Concentrator Duration element of the switch assets and the fraction of these compared to the total (RT21+RT22+RT29) are used to determine the relative use of the Concentrator for Select Services.

RT34 is ignored in this calculation on the assumption that the Select Services to ordinary calls without Select Services is in the same ratio for ISDN as for Analogue calls.

Billing Records are generated only for outgoing calls and do not represent all of the concentrator call set-up capacity. The total amount of Select Service related concentrator usage is further refined relative to the quantity of Originating Calls and Own Exchange Calls in relation to the total.

The final weighted concentrator usage percentage for Select Services is then applied to the PG cost, which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. This cost is apportioned to CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals)

The residual quantity of concentrator cost relating to Call Set-Up is apportioned to CO214 (Local Exchange Concentrator Set-Up).

Data Source/s

- Billing Records obtained from a sample of ten AXE10 and ten System X Local Exchange.
- Billing records from the Meridian switch and the latest available data derived from the CRAFT Route Factors data.
- ORBIT.

PG284A

Local Exchange Conc (AXE10) Call Duration

Description

This PG captures the costs and balance sheet relating to AXE10 DLE Digital Concentrator Call Duration. The switch comprises both concentrator and processor functionality, and is used for call set-up and call duration.

Methodology

The amount of concentrator usage for Select Service calls has to be determined.
A sample extract of Billing Call Record information is gathered from a sample of ten System X local and ten AXE10 Local Exchanges and analysed into whether the record type is Select Service driven or not.

Plant Group	Detailed Description and Methodology

Record Type	Description
RT21	Normal subs billing records
RT22 (Select Service Driven)	Diverted calls and A, D and C ring backs
RT29 (Select Service Driven)	Activation/Deactivation of Select Services
RT34	Integrated Services Digital Network (ISDN) call records

Diagram1_PG284A

Only RT22 makes use of the Concentrator Duration element of the switch assets and the fraction of these compared to the total (RT21+RT22+RT29) are used to determine the relative use of the Concentrator for Select Services.

RT34 record types are ignored in this calculation on the assumption that the Select Services to ordinary calls without Select Services is in the same ratio for ISDN as for Analogue calls.

Billing records are generated only for outgoing calls and therefore do not represent all of the concentrator call set-up capacity. The total amount of Select Service related concentrator usage is further refined relative to the quantity of Originating Calls and Own Exchange Calls in relation to the total which also includes Call Terminating and DLE Transit.

The final weighted concentrator usage percentage for Select Services is then applied to the PG cost which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. This cost is apportioned to CO293 (Network Features) , CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals)

The residual quantity of concentrator cost relating to Call Set-Up is apportioned to CO215 (LE Concentrator Duration).

Data Source/s

- Billing records from the Meridian switch and the latest available data derived from the CRAFT Route Factors data.
- ORBIT.

PG285C

System X Processor

Description

This PG captures the costs and balance sheet relating to System X Digital DLE Processor and Signalling which flow through from classes of work (CoW) LDX via base PDTSYSXD.

The costs are identified by the CoW to PG exhaustion process. This enables the relative proportions of concentrator and processor costs to be identified.

Methodology

The attribution of processor costs follows a number of steps.

The LE processor is analysed into its constituent elements:

- Flexible Voice Platforms.
- Alarm Utility Subsystems.
- Network Interface Subsystems.
- Analogue Junction Line Shelf.

This analysis is carried out on the basis of various capacity measures (such as the number of processing clusters, the number of 2Mbps switch ports and the number of signalling channels)

Plant Group	Detailed Description and Methodology

actually present in the BT Network, as shown in Exchange Planning and Review System (EXPRES) and Processor Utilisation and Loading of Switch Equipment (PULSE).

The next step is to determine the number of switches and switching elements within each switch that would be required to provide such capacity if the switching functionality were optimally dimensioned. This gives the number of switch elements of each type for the purposes of this analysis.

It is necessary to carry out this step in the process because switching assets are not always purchased and recorded on a switch element-by-element basis, and it would not otherwise be possible to determine the relative split between set up and duration costs.

The aggregate cost within the network of each of these switch elements is determined on the basis of Local Exchange Modernisation Programme2 (LEMP2) contract prices. The volume of each element is multiplied by the unit cost of each element.

The elements of the processor are assigned into three main blocks:

- Digital Line Termination (DLT).
- Switch Block.
- Processor and Signalling.

We are concerned with the Processor and Signalling only for this PG.

Based on advice from switching suppliers, the function of each switch element is analysed between call set up and call duration. This advice showing an analysis between set-up and duration will not change on a year by year basis as the building elements of the asset remain a constant.

Certain elements support both functions.

This overall process is illustrated below:

Switch Element	£/%	1	2	3	etc	Total 1+2+3 etc
Volume (from NRS and EXPRES)		A				
Unit cost (from LEMP2)	£	B				
Total Cost	£	AxB=C				
Utilisation						
Setup	%	X				
Duration		Y				
Both		Z				
Cost of call setup functionality	£	CxX				P
Cost of call duration functionality	£	CxY				Q
Cost of elements supporting both functions	£	CxZ				R

Diagram1_PG285C_v1

The cost of those switch elements that are common to both call set up and call duration functions is loaded to the cost of those functions pro-rata to their unloaded costs:

These percentages are then weighted for the relative proportion of the PG's total cost represented by processor costs as opposed to concentrator costs and are used to attribute costs to processor set up CO212 and processor duration CO210).

Plant Group	Detailed Description and Methodology

All of the above is based historical data until such time as the base is unfrozen. The procedures below are updated each year and any changes mean that historical data is re-based to accommodate these.
However, the Processor usage of Select Service calls has also to be determined. An extract of billing call record information is gathered from a sample of ten System X Local Exchanges (Data Source/s: Billing Records) and ten AXE10 Local Exchanges then analysed into whether the record type is Select Service driven or not.

Record Type	Description
RT21	Normal subs billing records
RT22 (Select Service Driven)	Diverted calls and A, D and C ring backs
RT29 (Select Service Driven)	Activation/Deactivation of Select Services
RT34	Integrated Services Digital Network (ISDN) call records

Diagram2_PG285C

RT34s are ignored in this calculation on the assumption that the Select Services to ordinary calls without Select Services is in the same ratio for Integrated Services Digital Network (ISDN) as for analogue calls.

Billing records were extracted for one whole week during the year at twenty Digital LE sites in the country.

The number of processor instructions was derived for call usage types to derive a weighted processor average.

Billing records are generated only for outgoing calls and therefore do not represent all of the processing capacity. The total amount of Network Features related processor usage is further refined relative to the quantity of Originating Calls and Own Exchange Calls relative to the total which also includes Call Terminating any Tandem traffic.

The final weighted processor usage percentage for Network Features is then applied to the PG cost, which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. The quantity of processor cost relating to LE call set up and call duration is then re-based so that the new total equals 100%. This cost is apportioned to CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals).

Caller Display is a subset of Network Features. The Type 29 billing record activations which are Network Features driven also contain Calling Line Identity and these can be separately identified as a subset. The proportion of Network Features volumes relating to CLI (Calling Line Identity) is derived using billing data volumes and this fraction is used to point costs to a separate Caller Display Component.

The signalling usage and cost relating to other operators has yet to be determined. Information from Network Recording System (NRS) is downloaded showing destinations including those relevant to Other Operators and compared to the total. Signalling costs form part of the PG total costs but the separate signalling cost is clearly identifiable so on this basis an apportionment is made from this PG to CR470 (Intra Building Circuits (IBC) Rentals).

Data Source/s

- EXPRES.
- Billing records from the Meridian switch and the latest available data derived from the

Plant Group	Detailed Description and Methodology
	CRAFT Route Factors data NRS. Billing records from ORBIT for Network Features and Caller Line Identity.
PG287A	**Local Exchange Switch Block (AXE10)** *Description* This PG captures the costs and balance sheet relating to the System X Digital Local Exchange Switch Block. The switch comprises both concentrator and processor functionality, and is used for call set-up and call duration. *Methodology* The attribution of processor costs follows a number of steps. The local exchange processor is analysed into its constituent elements: • Flexible Voice Platforms. • Alarm Utility Subsystems. • Network Interface Subsystems. • Analogue Junction Line Shelf. This analysis is carried out on the basis of various capacity measures (such as the number of processing clusters, the number of 2Mbps switch ports and the number of signalling channels) actually present in the BT Network, as shown in Exchange Planning and Review System (EXPRES) and NRS (Network Recording System). The next step is to determine the number of switches and switching elements within each switch that would be required to provide such capacity. It is necessary to carry out this step in the process as switching assets are not always purchased and recorded on a switch element-by-element basis. Otherwise it would not be possible to determine the relative split between set-up and duration costs. The aggregate cost within the network of each of these switch elements is determined on the basis of Local Exchange Modernisation Programme2 (LEMP2) contract prices i.e. the volume of each element is multiplied by the unit cost of each element. LEMP2 was the Local Exchange Modernisation Programme. It set out the contract prices for the various switch elements and is negotiated with suppliers by BT's procurement function. The LEMP2 contract is indicative of normal course of business and covers both Local and System X Main Exchanges. The elements of the processor are assigned into four main blocks. Digital Line Termination (DLT), Switch Block, Processor and Signalling. For this PG we are only concerned with the switch block. Based on advice from switching suppliers, the function of each switch element is analysed as between call set up and call duration. Certain elements support both functions. This overall process is illustrated below:

Plant Group	Detailed Description and Methodology

Switch Element	£/%	1	2	3	etc	Total 1+2+3 etc
Volume (from NRS and EXPRES)		A				
Unit cost (from LEMP2)	£	B				
Total Cost	£	AxB=C				
Utilisation Setup Duration Both	%	 X Y Z				
Cost of call setup functionality	£	CxX				P
Cost of call duration functionality	£	CxY				Q
Cost of elements supporting both functions	£	CxZ				R

Diagram1_PG2867A_v1

These percentages are then weighted for the relative proportion of the PG total cost represented by processor costs as opposed to concentrator costs and are used to apportion costs to CO212 (Local Exchange processor set up) and CO210 (Local Exchange Processor Duration).

The base is currently frozen.

Data Source/s

- NRS.
- EXPRES.

PG288A

Local Exchange Concentrator (Sys X) Call Set-Up

Description

This PG captures the costs and balance sheet relating to the System X Digital Concentrator Call Set-Up which flows from classes of work (CoW) LDX via PDTSYSXD. The switch comprises both concentrator and processor functionality, and is used for call set-up and call duration.

Methodology

The processor call related costs (DLT, Switch Block and Processor and Signalling) are attributed to CO210 Local Exchange processor duration and CO212 LE Processor set-up. Additional apportionment is made from the Local Exchange DLT PG to Interconnect Connections and from Local Exchange Processor to Chargeable Services (Select Services). The costs are identified by the CoW to PG exhaustion process. This enables the relative proportions of concentrator and processor costs to be identified.

The attribution of Concentrator Call Set-Up costs follows a number of steps and the procedures below are updated each year.

The amount of concentrator usage for Select Service calls has to be determined. An extract of billing call record information is gathered from a sample of ten System X Local Exchanges and ten AXE10 Local Exchanges analysed into whether the record type is Select Service driven or not.

Plant Group	Detailed Description and Methodology

Record Type	Description
RT21	Normal subs billing records
RT22 (Select Service Driven)	Diverted calls and A, D and C ring backs
RT29 (Select Service Driven)	Activation/Deactivation of Select Services
RT34	Integrated Services Digital Network (ISDN) call records

Diagram2_PG288A

Only RT22s make use of the Concentrator Set-Up element of the switch assets and the fraction of these compared to the total (Calls and Own Exchange Calls in relation to the total which also includes Call Terminating and DLE Transit.

The final weighted concentrator usage percentage for Select Services is then applied to the PG, which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. This cost is apportioned to CO293 (Network Features), CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals).

The residual quantity of concentrator cost relating to Call Set-Up is pointed to CO214 Local Exchange Concentrator Set-Up.

RT21+RT22+RT29 are used to determine the relative use of the Concentrator for Select Services.

RT34 record types were ignored in this calculation on the assumption that the Select Services to ordinary calls without Select Services is in the same ratio for ISDN as for Analogue calls.

Billing records are generated only for outgoing calls and therefore do not represent all of the concentrator call set-up capacity.

The total amount of Select Service related concentrator usage is further refined relative to the quantity of Originating Calls and Own Exchange Calls in relation to the total which also includes Call Terminating and DLE Transit.

The final weighted concentrator usage percentage for Select Services is then applied to the PG. This is further split into Select Services relating to Wholesale and Retail by using volumes from ORBIT. The retail fraction is pointed at CO290 Openreach Network Features - external and the Wholesale fraction at CO291 Openreach Network Features - internal.

The residual quantity of concentrator cost relating to Call Set-Up is pointed to CO214 Local Exchange Concentrator Set-Up.

The PG contains both Capital and Maintenance costs.

Data Source/s

- Billing records from the Meridian switch and the latest available data derived from the CRAFT Route Factors data.
- ORBIT.

PG289A

Local Exchange Concentrator (Sys X) Call Duration

Description

This PG captures costs and balance sheet relating to System X DLE Digital Concentrator Call Duration which flows from classes of work (CoW) LDX via PDTSYSXD.

The System X switch comprises both concentrator and processor functionality, and is used for call

<table>
<tr><th>Plant Group</th><th>Detailed Description and Methodology</th></tr>
<tr><td></td><td>
set-up and call duration.

Methodology
The processor call related costs (Digital Line Termination (DLT), Switch Block and Processor and Signalling) are attributed to CO210 Local Exchange processor duration and CO212 LE Processor Set-Up. Additional apportionments are made from the LE DLT PG to Interconnect Connections and from LE Processor to Chargeable Services (Select Services). The costs are identified by the CoW to PG exhaustion process.

This enables the relative proportions of concentrator and processor costs to be identified. The attribution of Concentrator Duration costs follows a number of steps.

The procedures below are updated each year.

The amount of concentrator usage for Select Service calls has to be determined. An extract of billing call record information is gathered from a sample of ten System X Local Exchanges and ten AXE10 Local Exchanges analysed into whether the record type is Select Service driven or not.

<table>
<tr><th>Record Type</th><th>Description</th></tr>
<tr><td>RT21</td><td>Normal subs billing records</td></tr>
<tr><td>RT22 (Select Service Driven)</td><td>Diverted calls and A, D and C ring backs</td></tr>
<tr><td>RT29 (Select Service Driven)</td><td>Activation/Deactivation of Select Services</td></tr>
<tr><td>RT34</td><td>Integrated Services Digital Network (ISDN) call records</td></tr>
</table>
Diagram1_PG289A

Only RT22s make use of the Concentrator Duration element of the switch assets and the fraction of these compared to the total (RT21+RT22+RT29) are used to determine the relative use of the Concentrator for Select Services. RT34s are ignored in this calculation on the assumption that the Select Services to ordinary calls without Select Services is in the same ratio for ISDN as for Analogue calls. Billing records are generated only for outgoing calls and therefore do not represent all of the concentrator call set-up capacity.

The total amount of Select Service related concentrator usage is further refined relative to the quantity of Originating Calls and Own Exchange Calls in relation to the total which also includes Call Terminating and Call Originating.

The final weighted concentrator usage percentage for Select Services is then applied to the PG cost. This is further split into Select Services relating to Wholesale and Retail by using volumes from ORBIT, which is then further apportioned by service volumes for WLR/ISDN2/ISDN30/ISDN30 DDI Rentals. This cost is apportioned to CO293 Network Features CO294 (ISDN2 Network Feature), CO295 (ISDN30 Network Features) and CO296 (ISDN30 DDI Rentals).

The residual quantity of concentrator cost relating to Call Set-Up is pointed to CO215 LE Concentrator Duration. The PG contains both Capital and Maintenance costs.

Data Source/s
• Billing records from the Meridian switch and the latest available data derived from the CRAFT Route Factors data.
• ORBIT.
</td></tr>
<tr><td>PG300T</td><td>PPC Point of Handover
Description</td></tr>
</table>

Plant Group	Detailed Description and Methodology
	This PG captures costs and balance sheet associated with providing customer sited point of handover equipment. *Methodology* Costs from this PG are allocated to CO379 (Point of Handover Electronics).
PG301T	**SDH Tier 0 Equipment** *Description* This PG captures depreciation costs and asset values of the link element of Global Backhaul bearers. Bearers provide the transmission capability for the circuits that support BT's Products. Global Backhaul bearers are at Tier 0 (zero) in the core transmission network. This tier is associated with international circuits between Digital International Switching Centres (DISCs) and Satellite earth stations as well as international private circuits. *Methodology* Costs from this PG are allocated to CB367 (ISC to Frontier Link).
PG311T, PG313T, PG315T, PG321T, PG323T, PG325T, PG331T, PG333T, PG335T, PG341T, PG343T, PG345T, PG351T, PG353T, PG355T, PG359T, PG381T, PG383T, PG385T	**SDH Tier Equipment** *Description* These Plant Groups (PGs) capture the depreciation, maintenance and other overhead (e.g. accommodation) costs and asset values associated with the link elements of SDH and MSH (Marconi Synchronous Hierarchy) bearers. SDH and MSH are types of technology that form part of BT's Core Transmission network. Combinations of these assets (i.e. two bits of electronics joined by fibre and duct) make up what is known as a "bearer". The bearers within the network carry circuits that relate to different products and bandwidths. More detail can be found in Annex 3 Data Sources under CTCS (Core Transmission Costing System). Different PGs exist to differentiate the different tiers of bearers in the network and their transmission rate. • Tier 0 is the highest level in the network, intended to handle international traffic. • Tier 1 is the long haul intricate or backbone network. It consists of 4/1 and 4/4 cross connect switches. A cell or Supercell is an additional ring between Tiers 1 and 2. • Tier 2 is the Regional network linking important cities and local towns. Every Tier 2 ring is dual parented on two separate Tier 1 nodes. • Tier 3 is the level used for Booster schemes. • Tier 4 is the access network for SDH Customers. MSH is the high capacity platform to cater for traffic at 140Mbps and above. SDH bearers have various transmission rates as indicated by the Synchronous Transport Module (STM). • STM1 – 155Mbps. [MSH STM1 Equipment] • STM4 – 622Mbps. • STM16 – 2.48Gbit/s. [MSH STM16 Equipment] • STM64 – 10Gbit/s. [MSH STM64 Equipment] *Methodology* The costs and asset values on these PGs are apportioned to network components (representing circuits) based on how the circuits use the bandwidth of a bearer. The relationship between circuits and bearers is held in CTCS. Extracts from CTCS give us the data required to derive an allocation, specifically:

Plant Group	Detailed Description and Methodology
	• The bearer equipment that a circuit 'Hits' along its route. • The factored volumes (reflecting relative usage of capacity) of the circuit segments carried by a bearer together with the length of these segments. In general a bearer can support many circuits. The cost of an individual bearer is therefore apportioned across all the segments of circuits carried by the bearer. The apportionment of cost is based on a factored volume which is calculated by factoring the raw volume (circuit-bearer equipment hits) figure by a usage factor: The usage factor is the proportion of the total bandwidth of a bearer used by a circuit. For example a 155Mbps SDH bearer can support 63 2Mbps circuits, 3 34Mbps circuits or a single 155Mbps circuit so a 2Mbit/sMbps circuit would have a usage factor of one 63rd of a 155Mbps bearer whereas a 34Mbps circuit would have a usage factor of a third. PG341T, PG343T and PG345T relate to the Tier 4 bearers and need to be split between both Core and Access components. However in CTCS we only see the data for Core components. To calculate the split between the Core and Access elements we the use the output of the base PDTSDH (SDH electronic assets). To derive an appropriate allocation to Access components we take the PG to Component data from the Access Rentals model. This is to allocate the costs of electronics in the last serving exchange to the Local end component. Costs are apportioned to 70 network components including PPC, PC rental, CCT, ISI, Framestream Broadband and ASU and POH components for both Openreach and Wholesale. The largest apportionments across all of the PGs are to: CO681 (Broadband backhaul circuits), CO316 (Inter ATM transmissions) and CO325 (Remote local transmission link). *Data Source/s* CTCS data for Period 6. Management believes this Period to be reflective of the full year. For PG341T, PG343T and PG345T we also use output from PDTSDH base and Access Rentals model.
PG350N	**Core Fibre** *Description* This PG captures the depreciation costs and asset values of the core length elements of the bearers in BT's Core Transmission network. Bearers provide the transmission capability for the circuits that support BT's products. A bearer consists of electronics located at intermediate nodes, together with a fibre cable and the duct through which it passes. A fibre cable between two nodes can support many bearers (a bearer generally uses a pair of fibres whereas a fibre cable can have up to 240 fibres). The length element of a bearer relates to the fibre cable, duct and the repeating equipment between the nodes. *Methodology* This PG apportions costs to network components (circuits) based on how the circuits use the different bearers. The relationship between circuits and bearers is held in CTCS. Analysis of the CTCS database, which itself extracts information from engineering databases, provides details of the relationships between bearers and circuits, specifically: • The bearer equipment that a circuit 'Hits' along its route. • The factored volumes (reflecting relative usage of capacity) of the circuit segments carried by a bearer together with the length of these segments.

Plant Group	Detailed Description and Methodology
	We use the length of fibre used by the circuits over each bearer to generate the relative weightings which we use to attribute costs to components. This PG apportions costs to multiple 21CN and 20CN components, primarily CO316 (Inter ATM transmissions), CN879 (Core and metro 10GB) and CO370 (Inter – tandem transmission length). *Data Source/s* CTCS data for Period 6. Management believes this Period is reflective of the full year.
PG361T, PG365T, PG367T, PG371T, PG373T, PG375T, PG377T, PG379T, PG399T	**Plesiochronous Digital Hierarchy (PDH) Bearer Link** *Description* These Plant Groups (PGs) capture the depreciation, maintenance and other overhead costs and asset values of the link elements of PDH bearers. Bearers provide the transmission capability for the circuits that support BT's Products. PDH technology forms part of BT's Core Transmission network. Combinations of assets in the transmission network (i.e. two bits of electronics joined by fibre and duct) make up what is known as a "bearer". The bearers within the network carry circuits that relate to different products and bandwidths. More detail can be found in Annex 3 Data Sources under CTCS (Core Transmission Costing System). PDH bearers have various transmission rates and can use an optical or metallic path. The variations are represented in by the different PGs. • 2Mbps. [PDH Metal and PDH Optical] • 8Mbps. [PDH Optical] • 34Mbps. [PDH Metal and PDH Optical] • 140Mbps. [PDH Metal and PDH Optical] • 565Mbps. [PDH Optical] *Methodology* The costs and asset values on these PGs are apportioned to network components (representing circuits) based on how the circuits use the bandwidth of a bearer. The relationship between circuits and bearers is held in CTCS. Extracts from CTCS give us the data required to derive an allocation, specifically: • The bearer equipment that a circuit 'Hits' along its route. • The factored volumes (reflecting relative usage of capacity) of the circuit segments carried by a bearer together with the length of these segments. In general a bearer can support many circuits. The cost of an individual bearer is therefore apportioned across all the segments of circuits carried by the bearer. The apportionment of cost is based on a factored volume which is calculated by factoring the raw volume (circuit-bearer equipment hits) figure by a usage factor: The usage factor is the proportion of the total bandwidth of a bearer used by a circuit. For example a 155Mbps SDH bearer can support 63 2Mbps circuits, 3 34Mbps circuits or a single 155Mbps circuit so a 2Mbps circuit would have a usage factor of one 63rd of a 155Mbps bearer whereas a 34Mbps circuit would have a usage factor of a third. These PGs apportion costs to more than 40 network components. The most significant cost apportionments are to CO325 (Remote local transmission link), CO360 (Inter -tandem transmission link), and CF371 (OR PC Rental 2Mbps link per km distribution).

Plant Group	Detailed Description and Methodology
	Data Source/s CTCS Database for Period 6 Management believes this Period to be reflective of the full year.
PG391T, PG393T, PG395T	**Plesiochronous Digital Hierarchy (PDH) Radio Bearer Link** *Description* These Plant Groups (PGs) capture the depreciation costs and asset values of the link elements of PDH Radio bearers. Radio Bearers provide the core microwave radio transmission capability for the circuits that support BT's Products. Radio bearers are predominantly used for high capacity, city to city routes (e.g. London to Birmingham) and in inaccessible areas (such as remote parts of Scotland). PDH Radio bearers have various transmission rates which are represented by the different PGs: • 8Mbps. • 34Mbps. • 140Mbps. *Methodology* The costs and asset values on these PGs are allocated to network components (circuits) based on how the circuits use the bandwidth of a bearer. The relationship between circuits and bearers is held in CTCS. Extracts from CTCS give us the data required to derive an allocation, specifically: • The bearer equipment that a circuit 'Hits' along its route. • The factored volumes (reflecting relative usage of capacity) of the circuit segments carried by a bearer together with the length of these segments. In general a bearer can support many circuits. The cost of an individual bearer is therefore apportioned across all the segments of circuits carried by the bearer. The apportionment of cost is based on a factored volume which is calculated by factoring the raw volume (circuit-bearer equipment hits) figure by a usage factor: The usage factor is the proportion of the total bandwidth of a bearer used by a circuit. For example a 155Mbps SDH bearer can support 63 2Mbps circuits, 3 34Mbps circuits or a single 155Mbps circuit so a 2Mbps circuit would have a usage factor of one 63rd of a 155Mbps bearer whereas a 34Mbps circuit would have a usage factor of a third. PG391T and PG393T apportion costs to eleven network components, PG395T apportions costs 100% to CO325 (Remote - local transmission link). The most significant cost apportionments are to CF371 (OR PC Rental 2Mbi/s link per km distribution), CO325 (Remote local transmission link), and CL189 (ISDN30 access). *Data Source/s* CTCS data for Period 6. Management believes this Period to be reflective of the full year.
PG400T	**ACE (Access Control Equipment) / ENA (Equipment Network Access) Core Equipment** *Description* This PG captures the network transmission costs associated with ACE/ENA core equipment. This equipment is used to supply Kilostream. Types of cost include depreciation, stores and pay costs. *Methodology* Costs from this PG are allocated to CF381 (Openreach PC Rental 64Kbit/s link).

Plant Group	Detailed Description and Methodology
PG405A	**DMS100 Call Centre Switches** *Description* This PG captures the equipment costs associated with DMS100 Call Centre Switches. The DMS100 (Digital Multiplexer System) is a digital facility that processes OA (Operator Assistance) telephone calls. *Methodology* Costs from this PG are allocated to CO405 (DMS 100 call centre).
PG411P	**Analogue Private Circuit Connections** *Description* This PG captures the connection costs of providing analogue circuits for National Business Customers. The work takes place primarily within the transmission network. *Methodology* Costs from this PG are allocated to CO411 (Analogue PC link Connection circuit provision).
PG412C	**Local End Equipment 64kbit/s** This PG captures the depreciation costs associated with 64Kbit/s (Kilostream) private circuits. *Methodology* Costs from this plant group are allocated to CO432 (PC rental 64Kbit link local end).
PG412M	**Local End Equipment 64kit/s Repair** *Description* This PG captures the maintenance costs associated with 64Kbit/s (Kilostream) private circuits. *Methodology* Costs from this PG are allocated to CO432 (PC rentals 64Kbit/s link local end).
PG412P	**64Kbit/s Private Circuit Connections** *Description* This PG captures the connection costs of providing Kilostream circuits. The work takes place primarily within the transmission network and includes provision of private circuits. *Methodology* Costs are apportioned to components based on the relative volumes of each activity extracted from Powerhouse and COSMOSS. This PG apportions costs to CO417 (64 Kbit/s link connection circuit provision) and CO418 (64 Kbit/s PC Link Connection cct Rearrangements). *Data Source/s* Powerhouse and COSMOSS.
PG413P	**Private Circuits MegaStream and IX Conns** *Description* This PG captures the connection costs of providing 2 MegaStream circuits of 2Mbps or higher bandwidth. The work takes place primarily within the transmission network and includes re-arrangement and transfers. *Methodology* Costs from this PG are apportioned to components based on a price-weighted volume of circuits provided during the year. The volumes are sourced from Powerhouse and Customer Oriented

Plant Group	Detailed Description and Methodology
	System for the Management of Special Services (COSMOSS) and prices from the Carrier Price List. The price-weighting takes into account the difference in providing a connection with that of carrying out a re-arrangement or a transfer. From these price-weighted volumes usage factors are calculated and applied. This PG apportions costs to CO413 (2Mbps and above PC link connection cct provision) and CF453 (OR interconnect 2Mbps connection). *Data Source/s* IX Vols / Prices from BTW Interconnect Revenue and related Pay Costs download from CID.
PG421S	**Private Circuits Analogue Installation** *Description* This PG captures the connection costs in providing and rearranging analogue circuits. *Methodology* Costs from this PG are allocated to CO421 (OR Analogue PC installation).
PG422S	**Private Circuits Analogue Installation** ***Description*** This PG captures the connection costs in providing and rearranging KiloStream circuits. *Methodology* Costs are apportioned to components based on the relative volumes of each activity from Powerhouse and COSMOSS. This PG apportions costs to CO417 (64Kbit/s link connection circuit provision) and CO418 (64 Kbit/s PC Link Connection cct Rearrangements) *Data Source/s* Powerhouse and COSMOSS.
PG440C	**Local End Equipment ASDH 4x2Mbps Equipment** *Description* This PG captures the depreciation costs for ASDH 4x2 Bearer/Line systems, that is, electronics equipment for a Bearer/Line System capacity of 4x2Mbps. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these Bearer/Line Systems. These 4x2 bearers are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Clients) and ISDN30. Each of these circuit types has its own component and the PG costs are attributed to them based on the relative circuit count of each component sourced from CTCS. This PG apportions costs to various components, primarily CL189 (ISDN30 access) and CO439 (PC rentals 2Mbps local end fibre) *Data Source/s* The data source for the number of circuits is the CTCS for Period 6. Management believes this period to be reflective of the full year.

Plant Group	Detailed Description and Methodology
PG440M	**Local End Equipment ASDH 4x2Mbps Maintenance** *Description* This PG captures the costs associated with maintenance of ASDH 4x2 Line systems, i.e. electronics equipment that can carry up to 4x2Mbps bearers. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these line systems and follows the attribution of the Capital costs (PG440C). This assumes that a line system with only (for example) private circuits connected to it has the same maintenance profile as the same line systems with only (for example) interconnect circuits. This assumption is consistent with BT's experience of maintenance in this area.
PG441C	**Local End Equipment ASDH 16x2Mbps Equipment** *Description* This PG captures the depreciation costs for ASDH 16x2 Bearer/Line systems, electronics equipment for a Bearer/Line System capacity of 16x2Mbps. Types of cost include depreciation, stores and pay costs. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these Bearer/Line Systems. These line systems are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Clients) and ISDN30 and the PG costs are therefore attributed to the components that are used in the provision of these services. This PG apportions costs to multiple components, primarily CL189 (ISDN30 access) and CO439 (PC rentals 2Mbps local end fibre). *Data Source/s* The data source for the number of circuits is CTCS for Period 6 Management believes this period to be reflective of the full year.
PG441M	**Local End Equipment ASDH 16x2Mbps Maintenance** *Description* This PG captures the costs associated with maintenance of ASDH 16x2 Line systems, i.e. electronics equipment that can carry up to 16x2Mbps bearers. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers using these line systems and follows the attribution of the Capital costs (PG441C). *Data Source/s* Core Transmission Circuit costing System (CTCS) for Period 6. Management believes this period to be reflective of the full year.
PG442C	**Local End Equipment 2Mbps (Copper) Equipment** *Description* This PG captures the depreciation costs for 2Mbps copper Bearer/Line systems, i.e. electronics equipment that supports 2Mbps circuits carried over copper pairs. The circuits are almost wholly 2Mbps private circuits, but there is a small number of interconnect circuits carried over copper.

Plant Group	Detailed Description and Methodology
	Methodology The attribution of the PG costs to components is based on the number of circuits of different types (obtained from CTCS) that are carried over bearers that use these line systems. As PG443C covers both 2Mbps and 4x2Mbps circuits, the volume of each type of circuit is weighted by the cost of the relevant electronics. These line systems are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Circuits) and ISDN30 and the PG costs are therefore apportioned to the components that are used in the provision of these services. The PG costs are apportioned to multiple components pro-rata to these volumes, primarily CL189 (ISDN30 access) and CO438 (PC rentals 2Mbps local end (Copper). *Data Source/s* The data source for the number of circuits is CTCS. Circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG442M	**Local End Equipment 2Mbps (Copper) Maintenance** *Description* This PG captures the maintenance costs for 2Mbps copper Bearer/Line systems, i.e. electronics equipment that supports 2Mbps circuits carried over copper pairs. The circuits are almost wholly 2Mbps Private Circuits, but a small number of interconnect circuits are carried over copper. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types (obtained from CTCS) that are carried over bearers that use these line systems. These line systems are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Clients) and SMDS (Switched Multimegabit Data Services) and the PG costs are therefore attributed to the components that are used in the provision of these services. This base follows the attribution of the Capital costs (see PG442C). This assumes that a line system with only (for example) private circuits connected to it has the same maintenance profile as the same line systems with only interconnect circuits (for example). This assumption is consistent with BT's experience of maintenance in this area. *Data Source/s* Powerhouse volumes and Core Transmission Circuit costing System (CTCS) data for Period 6. Management believes this period to be reflective of the full year.
PG443C	**Local End Equipment 2Mbps (Fibre) Equipment** *Description* This PG captures the depreciation costs for 2Mbps Bearer/Line systems i.e. electronics equipment that supports 2Mbps circuits carried over fibre. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types (obtained from CTCS) that are carried over bearers that use these line systems. As PG443C covers both 2Mbps and 4x2Mbps circuits, the volume of each type of circuit is weighted by the cost of the relevant electronics. These line systems are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Circuits) and ISDN30 and the PG costs are therefore apportioned to the components that are used in the provision of these services.

Plant Group	Detailed Description and Methodology
	The PG costs are apportioned to multiple components pro-rata to these volumes, primarily CL189 (ISDN30 access) and CO439 (PC rentals 2Mbps local end fibre). *Data Source/s* The data source for the number of circuits is CTCS. Circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG443M	**Local End Equipment 2Mbps (Fibre) Maintenance** *Description* This PG Captures the maintenance costs for 2Mbps Bearer/Line systems i.e. electronics equipment that supports 2Mbps circuits carried over fibre. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types (obtained from CTCS) that are carried over bearers that use these line systems. These line systems are used in the provision of 2Mbps private circuits, interconnection circuits, PPCs (Partial Private Clients) and SMDS (Switched Multimegabit Data Services) and the PG costs are therefore attributed to the components that are used in the provision of these services. This base follows the attribution of the Capital costs (see PG443C). This assumes that a line system with only (for example) private circuits connected to it has the same maintenance profile as the same line systems with only interconnect circuits (for example). This assumption is consistent with BT's experience of maintenance in this area. *Data Source/s* The data source for the number of circuits is CTCS. Circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG444C	**Local End Equipment 34Mbps Equipment** *Description* This PG Captures the depreciation costs for 34Mbps Bearer/Line systems i.e. electronics equipment on which circuits with a bandwidth of up to and including 34Mbps can travel over. *Methodology* The attribution of the PG costs to components is based on the number of bandwidth specific circuits that are carried over 34Mbps bearers/Line Systems. These line systems are used to provide a medium for the circuits to travel over. CTCS holds a record of the total number of circuit types that use 34Mbps line systems. Circuits for 34Mbps and above are taken from CTCS circuit volumes, whereas the 2Mbps volumes are derived from the balance of total bearer volumes less the volume of 34Mbps and above circuits. It is necessary to take into account the different capacity utilisation of each circuit. A 34Mbps line system can support 1x34Mbps circuit or 16x2Mbps circuits. So for example the number of 2Mbps circuits is therefore weighted by a factor of 16, to reflect the capacity utilisation, and express the number of 2Mbps circuits in terms of their 34Mbps equivalent. This PG apportions costs to the components that are used in the provision of line system services, primarily CL189 (ISDN30 access), CO439 (PC rentals 2Mbps local end fibre) and CO432 (PC rentals 64Kbit/s link local end). *Data Source/s*

Plant Group	Detailed Description and Methodology
	CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG444M	**Local End Equipment 34Mbps Maintenance** *Description* This PG captures the maintenance costs for 34Mbps Bearer/Line systems i.e. electronics equipment that supports 34Mbps circuits carried over fibre. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these line systems and follows the attribution of the capital costs (see PG444C). This assumes that a line system with only (for example) 2Mbps private circuits connected to it has the same maintenance profile as the same line system with only (for example) 34Mbps circuits. This assumption is consistent with BT's actual experience of maintenance in this area. *Data Source/s* CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG445C	**Local End Equipment 140Mbps Equipment** *Description* This PG captures the depreciation costs for 140Mbps Bearer/Line systems i.e. electronics equipment on which circuits with a bandwidth of up to and including 140Mbps can travel over. *Methodology* The attribution of the PG costs to components is based on the number of bandwidth specific circuits that are carried over 140Mbps bearers/Line Systems. These line systems are used to provide a medium for the circuits to travel over. CTCS holds a record of the total number of circuit types that use 140Mbps line systems. Circuits for 34Mbps and above are taken from CTCS circuit volumes, whereas the 2Mbps volumes are derived from the balance of total bearer volumes less the volume of 34Mbps and above circuits. It is necessary to take into account the different capacity utilisation of each circuit. A 140Mbps line system can support one 140Mbps circuit or four 34Mbps circuits, or 63 2Mbps circuits, or some Combination of 34 and 2Mbps circuits. The number of 2Mbps interconnect circuits is therefore weighted by a factor of 63, to reflect the capacity utilisation, and express the number of 34Mbps circuits in terms of their 140Mbps equivalent. Similarly, the number of 34Mbps circuits is weighted by a factor of four. This PG apportions costs to the components that are used in the provision of line system services, primarily Co452 (Interconnect local end rental 2Mbps) and CO439 (PC rentals 2Mbps local end fibre). *Data Source/s* CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG445M	**Local End Equipment 140Mbps Maintenance** *Description* This PG captures the maintenance costs for 140Mbps Bearer/Line systems i.e. electronics

Plant Group	Detailed Description and Methodology
	equipment that supports 140Mbps circuits carried over fibre. *Methodology* The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these line systems and follows the attribution of the Capital costs (see PG445C). This assumes that a line system with only 2Mbps private circuits connected to it has the same maintenance profile as the same line system with only 34Mbps circuits. This assumption is consistent with BT's experience of maintenance in this area. *Data Source/s* The data source for the number of circuits is CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG446C	**Local End Equipment 622Mbps Equipment** *Description* This PG captures the costs for 622Mbps Bearer/Line systems i.e. electronics equipment on which circuits with a bandwidth of up to and including 622Mbps can travel over. *Methodology* The attribution of the PG costs to components is based on the number of bandwidth specific circuits that are carried over 622Mbps bearers/Line Systems. These line systems are used to provide a medium for the circuits to travel over and the PG costs are therefore attributed to the components that are used in the provision of these services. CTCS holds a record of the total number of circuit types that use 622Mbps line systems. Circuits for 34Mbps and above are taken from CTCS circuit volumes, whereas the 2Mbps volumes are derived from the balance of total bearer volumes less the volume of 34Mbps and above circuits. It is necessary to take into account the different capacity utilisation of each circuit. A 622Mbps line system can support one 622Mbps circuit, four 140Mbps circuits, 16 34Mbps circuits, or 252 2Mbps circuits, or some Combination of 140, 34 and 2Mbps circuits. The number of 2Mbps interconnect circuits is therefore weighted by a factor of 252, to reflect the capacity utilisation, and express the number of these circuits in terms of their 622Mbps equivalent. Similarly, the number of 140Mbps circuits is weighted by a factor of four and the number of 34Mbps circuits is weighted by a factor of 16. This PG apportions costs to CO452 (Interconnect local end rental 2Mbps) and CO439 (PC rentals 2Mbps local end fibre). *Data Source/s* The data source for the number of circuits is CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG446M	**Local End Equipment 622Mbps Maintenance** *Description* This PG captures the maintenance costs for 622Mbps Bearer/Line systems, electronics equipment that supports 622Mbps circuits carried over fibre.

Plant Group	Detailed Description and Methodology
	Methodology The attribution of the PG costs to components is based on the number of circuits of different types that are carried over bearers that use these line systems and follows the attribution of the capital costs (see PG446C). This assumes that a line system with only (for example) 2Mbps private circuits connected to it has the same maintenance profile as the same line system with only (say) 34Mbps circuits. This assumption is consistent with BT's actual experience of maintenance in this area. CTCS holds a record of the total number of circuit types that use 622Mbps line systems. Circuits for 34Mbps and above are taken from CTCS circuit volumes, whereas the 2Mbps volumes are derived from the balance of total bearer volumes less the volume of 34Mbps and above circuits. It is necessary to take into account the different capacity utilisation of each circuit. A 622Mbps line system can support 1 622Mbps circuit, 4 140Mbps circuits, 16 34Mbps circuits, or 252 2Mbps circuits, or some Combination of 140, 34 and 2Mbps circuits. The number of 2Mbps interconnect circuits is therefore weighted by a factor of 252, to reflect the capacity utilisation, and express the number of these circuits in terms of their 622Mbps equivalent. Similarly, the number of 140Mbps circuits is weighted by a factor of 4 and the number of 34Mbps circuits is weighted by a factor of 16. *Data Source/s* CTCS. The circuit numbers are based on Period 6 and are believed by management to be representative of the full year.
PG447A	**Ethernet Access Equipment** *Description* This PG captures costs associated with the overheads associated with the rental costs of electronics used to provide Ethernet Access Direct (EAD) services, Wholesale Extension Services (WES), LAN Extension Services (LES), Ethernet services, Backhaul Extension Services (BES), Wholesale and LAN extension services and Optical Ethernet Services. *Methodology* Costs from this PG are allocated to CO485 (Ethernet Electronics).
PG448A	**CCTV Rental** *Description* This PG captures costs associated with the rental of CCTV circuits. *Methodology* Costs from this PG are allocated to CW617 (Other Ethernet rentals - CCTV).
PG448L	**CCTV Connection** *Description* This PG captures costs associated with the connection of CCTV circuits. *Methodology* Costs from this PG are allocated to CW619 (Other Ethernet new provides - CCTV).
PG449A	**Ethernet Monitoring Platform** *Description* This PG captures costs associated with an Internal Transfer Charge between Openreach and Global Services for an Ethernet Monitoring Platform.

Plant Group	Detailed Description and Methodology
	Methodology This PG allocates costs to component CO445 (Ethernet Monitoring Platform).
PG457A	**Optical Ethernet Electronics Capital** *Description* This PG captures costs associated with the direct operating costs and balance sheet values associated with the dedicated equipment for Optical Ethernet electronics rentals. *Methodology* This PG allocates costs to CO457 (Optical Ethernet Electronics Capital).
PG461A	**Private Circuits Test and Maintenance System** *Description* This PG captures the costs associated with Private Circuit maintenance and testing work carried out in the Work Manager Control Centres. It includes jeopardy management of jobs, Work Manager Helpdesk and administration costs. *Methodology* Costs from this PG are allocated to CO461 (Private Circuit test system).
PG462A	**Private Circuits Customer Premises** *Description* This PG captures the cost of dealing with Private Circuit maintenance and faulting work in customer premises on analogue private circuits and access lines. *Methodology* Costs from this PG are allocated to CK982 (Openreach Managed Services for Wholesale).
PG463A	**Private Circuits Testing** *Description* This PG captures the cost of dealing with Private Circuit maintenance and testing carried out in the Work Manager Control Centres. It includes jeopardy management of jobs, Work Manager Helpdesk and administration costs. It also captures the cost of time spent by exchange maintenance people in co-operation with field people for line test in order to localise a fault. *Methodology* Costs from this PG are allocated to CK982 (Openreach Managed Services for Wholesale).
PG467A	**EAD Electronics Capital** *Description* This PG captures costs associated with the direct operating costs and balance sheet values associated with the dedicated equipment for EAD (Ethernet Access Direct) electronics rentals. *Methodology* Costs from this PG are allocated to CO487 (EAD Electronics Capital).
PG502B	**SG&A Openreach Sales Product Management** *Description* This PG captures the Profit and Loss (Current non-ETG Pay) and Balance Sheet (Fixed Asset, Gross Book Value (GBV) costs associated with Organisational Unit Code (OUC) BP. BP is the Sales and Product Management division of Openreach. As the various sub-teams support specific services, their costs cannot be spread on a Direct pay or revenue basis.

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CP502 (Openreach Sales Product Management).
PG506N	**Customer Support Partial Private Circuits** *Description* This PG captures the cost and balance sheet of the SG&A activity in BT Wholesale supporting PPCs. *Methodology* Costs from this PG are allocated to CO506 (Customer Support Partial Private Circuits).
PG511M	**Interconnect OCP Maintenance** *Description* This Plant Group captures the costs and balance sheet associated with Interconnecting with OCPs for building activity. *Methodology* Costs from this PG are allocated to CR470 (Intra Building Circuit (IBC) rental).
PG511P	**Interconnect OCP Provision** *Description* This PG captures provision costs specific to Interconnect Operational Capacity Planning (OCP) circuits. Interconnect OCP circuits are circuits which connect the BT Network to the networks of Other Communications Providers. *Methodology* This PG apportions costs based on the relative connection volumes of each of the Interconnect and Interconnect intra-building circuit (IBC) components it allocates to. We source these volumes from the Wholesale Customer Reporting System, which distinctly identifies the volumes for intra building circuits. This PG apportions costs to CR453 (Interconnect 2Mbps connections) and CR469 (Intra Building Circuit IBC Connection). *Data Source/s* Wholesale Customer Reporting System (WCR).
PG512A	**Customer Support Calls** *Description* This PG captures the costs incurred by BT in servicing and supporting the Interconnect market. The primary unit concerned is BT Wholesale Products with minor contributions from the rest of BT Wholesale. *Methodology* Costs from this PG are allocated to CO512 (Customer Support Calls).
PG570B	**OR Service Centre Provision Analogue/ISDN2** *Description* This PG captures the cost and balance sheet of Service Centres for the Provision of Wholesale Line Rental (WLR) and ISDN2. *Methodology* Costs from this PG are allocated to CL570 (OR Service Centre - Provision WLR/PSTN/ISDN2).

Plant Group	Detailed Description and Methodology
PG571B	**OR Service Centre Provision ISDN30** *Description* This PG captures the cost and balance sheet Service Centre for the Provision of Wholesale Line Rental ISDN30. *Methodology* Costs from this PG are allocated to CL571 (OR Service Centre - Provision WLR ISDN30).
PG572B	**OR Service Centre Provision LLU** *Description* This PG captures the cost and balance sheet Service Centre for the Provision of Wholesale Line Rental (WLR) Local Loop Unbundling. *Methodology* Costs from this PG are allocated to CL572 (OR Service Centre - Provision LLU).
PG573B	**OR Service Centre Provision Ethernet** *Description* This PG captures the cost and balance sheet Service Centre for the Provision of Ethernet. *Methodology* Costs from this PG are allocated to CL573 (OR Service Centre - Provision CISBO).
PG574B	**OR Service Centre Provision NGA** *Description* This PG captures the cost and balance sheet Service Centre for the Provision of Next Generation Access (NGA). *Methodology* Costs from this PG are allocated to CL574 (OR Service Centre - Provision NGA).
PG575B	**OR Service Centre Assurance WLR PSTN/ISDN2** *Description* This PG captures the cost and balance sheet Service Centre for the Assurance Wholesale Line Rental (WLR) PSTN/ISDN2. *Methodology* Costs from this PG are allocated to CL575 (OR Service Centre - Assurance Analogue/ISDN2).
PG576B	**OR Service Centre Assurance WLR ISDN30** *Description* This PG captures the cost and balance sheet Service Centre for the Assurance Wholesale Line Rental ISDN30. *Methodology* Costs from this PG are allocated to CL576 (OR Service Centre - Assurance WLR ISDN30).
PG577B	**OR Service Centre Assurance LLU** *Description* This PG captures the cost and balance sheet of assurance LLU costs associated with Organisational Unit Code (OUC) BV. BV is the Service division of Openreach. The teams within BV are primarily call centre based, with staff supporting the provisioning and repair of Openreach services. As the various teams support specific services, their costs cannot be spread on a direct pay or revenue

Plant Group	Detailed Description and Methodology
	basis. *Methodology* Costs from this PG are allocated to CL577 (OR Service Centre - Assurance WLA).
PG578B	**OR Service Centre Assurance Ethernet** *Description* This PG captures the cost and balance sheet of Service Centre Assurance Ethernet. *Methodology* Costs from this PG are allocated to CL578 (OR Service Centre - Assurance Ethernet).
PG579B	**OR Service Centre Assurance NGA** *Description* This PG captures the cost and balance sheet of Assurance Next Generation Access (NGA). *Methodology* Costs from this PG are allocated to CL579 (OR Service Centre - Assurance NGA).
PG580B	**Broadband Boost** *Description* This PG captures the Openreach engineering costs associated with Broadband Boost jobs. Broadband Boost is a solution to improving speed, quality and reliability of customer's Broadband service. *Methodology* Costs from this PG are allocated to CO580 (Broadband Boost).
PG583N	**SG&A Wholesale Residual** *Description* This PG costs and balance sheet of the SG&A activity by BT Wholesale supporting unregulated products which will include Wholesale calls. *Methodology* Costs from this PG are allocated to CO583 (SG&A Wholesale Residual).
PG584N	**SG&A Wholesale Other** *Description* This PG captures the costs and balance sheet of the SG&A activity by BT Wholesale supporting unregulated products which will include Managed Wholesale Ethernet. *Methodology* Costs from this PG are allocated to CO584 (SG&A Wholesale other).
PG586N	**SG&A Interconnect** *Description* This PG costs and balance sheet of the SG&A activity by BT Wholesale supporting the Interconnect market. *Methodology* Costs from this PG are allocated to CO586 (Customer support - interconnect).
PG590B	**LLU Service Level Guarantees External** *Description*

Plant Group	Detailed Description and Methodology
	This PG captures costs associated with External LLU SLG costs. *Methodology* Costs from this PG are allocated to CL590 (External Local Loop Unbundling SLGs).
PG591B	**LLU Service Level Guarantees Internal** *Description* This PG captures costs associated with Internal LLU SLG costs. *Methodology* Costs from this PG are allocated to CL590 (External Local Loop Unbundling SLGs).
PG599A	**Interconnect Outpayments Inland** *Description* This PG captures the cost of Interconnect payments made to Other Communication Providers (OCPs). *Methodology* Costs from this PG are allocated to CB599 (Interconnect Payments to OLOs).
PG601B	**SLG Ethernet Provision** *Description* This PG captures the costs associated with Service Level Guarantee payments to CPs for Ethernet provision. *Methodology* Costs from this PG are allocated to CL601 (SLG Ethernet Provision).
PG602B	**SLG Ethernet Assurance** *Description* This PG captures the costs associated with Service Level Guarantee payments to CPs for Ethernet assurance. *Methodology* Costs from this PG are allocated to CL602 (SLG Ethernet Assurance).
PG603B	**SLG WLR Provision** *Description* This PG captures the costs associated with Service Level Guarantee payments to CPs for WLR provision. *Methodology* Costs from this PG are allocated to CL603 (SLG WLRProvision).
PG604B	**SLG WLR Assurance** *Description* This PG captures the costs associated with Service Level Guarantee payments to CPs for WLR assurance. *Methodology* Costs from this PG are allocated to CL604 (SLG WLR Assurance).
PG609N	**SG&A Broadband** *Description*

Plant Group	Detailed Description and Methodology
	This PG captures the costs and balance sheet of the SG&A activity by BT Wholesale supporting the Wholesale Broadband Access markets. *Methodology* Costs from this PG are allocated to CO609 (Customer Support Broadband).
PG622A	**Public Payphones Operations** *Description* This Plant Groups (PG) captures the costs and balance sheet associated with the Openreach's maintenance of BT Retail Public Payphone kiosks. *Methodology* Costs from this PG are allocated to CR446 (Public Payphones - Operations).
PG622B	**Public Payphones Operations (Openreach)** *Description* This Plant Groups (PG) captures the Profit and Loss (P&L) and Balance Sheet costs associated with the Openreach's maintenance of BT Retail Public Payphone kiosks. *Methodology* Costs from this PG are allocated to CF446 (Public Payphones – Lines).
PG653A	**ATM Customer Interface 2Mbps Cards** *Description* This PG captures the cost of capital expenditure incurred from the deployment of 2Mbps Customer Interface Cards, namely, the cost of equipment provision, rearrangement or recovery. These costs fall within the ATM classes of work (CoW). This equipment is located in the ATM PoP (Point of Presence) at the edge of the ATM Network and links the customer's premises via a private circuit, to the ATM network. *Methodology* Costs from this PG are allocated to CO310 (ATM customer interface 2Mbps).
PG654A	**ATM Customer Interface 34Mbps Cards** *Description* This PG captures the cost of capital expenditure incurred from the deployment of 34Mbps Customer Interface Cards, namely, the cost of equipment provision, rearrangement or recovery. These costs fall within the classes of work (CoW). The types of cost include pay and stores costs. This equipment is located in the ATM PoP (Point of Presence) at the edge of the ATM Network and links the customer's premises via a private circuit, to the ATM network. *Methodology* Costs from this PG are allocated to CO311 (ATM customer interface 34Mbps).
PG656A	**ATM Network Switching** *Description* This PG captures the cost of network switching ports deployed in the ATM platform. ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (multimegabit) data rates, multiple virtual circuits per network access, and flexible bandwidth per connection. *Methodology*

Plant Group	Detailed Description and Methodology
	Costs from this PG are allocated to CO314 (ATM Network Switching).
PG657A	**FrameStream Switch** *Description* This PG captures the cost of Frame relay equipment booked to the Asynchronous Transfer Mode (ATM) classes of work (CoW). This CoW falls within the ATMR asset policy code. The ATMR asset policy code captures the costs for all frame relay equipment. Frame relay equipment is a small network which works alongside the ATM. FrameStream/Frame Relay is a simple, cost effective, frame relay-based Virtual Private Network (VPN) solution that supports high-speed data and Internet Protocol (IP) connectivity in the UK and abroad. *Methodology* Costs from this PG are allocated to CO657 (FrameStream Switch).
PG658A	**ATM Customer Interface >155Mbps Cards** *Description* This PG captures the cost of capital expenditure incurred from the deployment of 155Mbps and higher bandwidth Customer Interface Cards, namely, the cost of equipment provision, rearrangement or recovery. These costs fall within the ATM classes of work (CoW). ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (multimegabit) data rates, multiple virtual circuits per network access, and flexible bandwidth per connection. *Methodology* Costs from this PG are allocated to CO312 (ATM customer interface > 155Mbps).
PG659A	**ATM Network Interface Cards** *Description* This PG captures the cost of capital expenditure incurred from the deployment of Network Interface Cards, namely, the cost of equipment provision, rearrangement or recovery. These costs fall within the ATM classes of work (CoW). Types of cost include pay and stores pay. ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (multimegabit) data rates, multiple virtual circuits per network access, and flexible bandwidth per connection. *Methodology* Costs from this PG are allocated to CO313 (ATM Network Interface).
PG666A	**TV Connect** *Description* TVC provides headend capabilities for receiving, and optionally encoding, TV channels provided by an ISP. It then distributes the channels over 21C to the Openreach NGA interconnection points and consumes capacity from Openreach to deliver the channels to the ISP end users. The TV Connect traffic will be delivered across the end to end network over a separate logical path from the WBC data traffic.BT Wholesale will provide interfaces to support provision, repair, service monitoring and billing. For TVC costs BTW pays for dedicated (VLAN) capacity within 21C, connectivity to Openreach and for infrastructure in the TVC Headend. *Methodology* Allocation is 100% to the component CN666.

Plant Group	Detailed Description and Methodology
PG668A	**IP Network Management** *Description* This PG captures the costs of IP Network Management including all the costs associated with Operational Support Systems (OSS) – these are activities used to run the network and business. Typical activities that are part of OSS are taking a customer's order, configuring network components, logging and managing faults. The types of cost include pay and stores costs. *Methodology* Costs from this PG are allocated to CO668 (IP Network Management).
PG670A	**IP Network Fixed Access** *Description* This PG captures the cost of the following types of equipment: • BTnet Direct and Flex NTE (Network Terminal Equipment) Routers, which connect the customer to the BT Network. • BTnet Access Routers, which connect the MSIP (Multi Services Intranet Platform) and Synchronous Digital Hierarchy (SDH) access to the IP Network at Colossus PoPs (Point of Presences). *Methodology* Costs from this PG are allocated to CO670 (IP Network Fixed Access).
PG671A	**IP Network VPN** *Description* This PG captures the cost of the platform that delivers the following VPN products: Metro, Equip, and Internet Protocol (IP) Clear and Ethernet delivery services (e.g. Fusion and IP Clear). There are three main types of equipment in this platform: • Provider Edge Routers, used to terminate customer ports. • Provider Router, used to route traffic through network. • Catalyst Switch, used to aggregates traffic into a Provider router. *Methodology* Costs from this PG are allocated to CO671 (IP Network VPN).
PG672A	**IP Network Broadband** *Description* This PG captures the cost of the following types of equipment: • Remote Authentication Servers (RAS) (which connect Asymmetric Digital Subscriber Line (ADSL) users into IP cloud, for direct connection to the Internet Service Provider Home Gateways. • Broadband Access Routers, which connect RAS into IP cloud. • Broadband Service Provider Home Gateways. *Methodology* Costs from this PG are allocated to CO672 (IP Network Broadband).
PG673A	**IP Network BT Intranet** *Description* This PG captures the cost of the Command Control Router Network (CCRN) or Information Network (iNet). Command Control Router Network (CCRN) is a BT internal structure for the transport of management traffic.

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CO673 (IP Network BT Intranet).
PG674A	**IP Core/Colossus** *Description* This PG captures the cost of: • Gigabit Core Routers. • Catalyst LAN (Local Area Network). Switches that aggregate and link router ports from the IP back bone core. *Methodology* Costs from this PG are allocated to CO674 (IP Core Node Equipment).
PG675A	**IP VOIP Infrastructure** *Description* VoIP is a method of transporting speech over the internet. This PG captures the cost of the following types of equipment: • Gigabit Routers - Gigabit Routers are high bandwidth switches, used for switching Internet traffic. • Gateways and Access Routers are for transmitting voice over the IP Network. Costs include provision, extension, rearrangement and recovery of IP Networks by the Broadband and Data division in BT Wholesale. *Methodology* Costs from this PG are allocated to CO675 (IP VoIP Platform).
PG675B	**Hosted Communications Services Infrastructure** *Description* Hosted Centrex is an IP based telephony solution that replaces UK business' traditional ISDN & onsite PBX solution. This PG captures the cost of the following types of equipment: • Gigabit Routers - Gigabit Routers are high bandwidth switches, used for switching Internet traffic. • Gateways and Access Routers are for transmitting voice over the IP Network. Costs include provision, extension, rearrangement and recovery of IP Networks by the Broadband and Data division in BT Wholesale. *Methodology* Costs from this PG are allocated to CO676 (Hosted Communications Services).
PG678A	**SIP Servers** *Description* This PG captures the cost of the SIP server equipment. SIP is a signalling protocol used for establishing sessions in an IP network. *Methodology* Costs from this PG are allocated to CO678 (SIP Servers).

Plant Group	Detailed Description and Methodology
PG772A	**Openreach Systems and Development (Product Specific)** *Description* This Plant Group includes software development and capitalisation entries on the Profit and Loss and Balance Sheet relating to products for Openreach OUCs. This PG captures the cost of Research and Development (R&D) projects undertaken by Technology Service & Operations on behalf of Openreach that specifically relate to Openreach products. Development projects can range from high-level strategy down to operational and logistical development. Development project costs are apportioned according to the individual projects. *Methodology* We analyse the development projects that Technology Service & Operations do on behalf of Openreach. The projects that are specific to Openreach products are allocated to this plant group. Costs from the plant group are allocated to CL139, CL144 and CO772. *Data Source/s* Billing data from Technology Service & Operations.
PG773A	**Ethernet Systems Development** *Description* This PG captures the cost of Research and Development (R&D) projects undertaken by Technology, Service & Operations on behalf of Openreach that specifically relate to Ethernet products. Development projects can range from high-level strategy down to operational and logistical development. Development project costs are apportioned according to the nature of the individual projects. *Methodology* We analyse the FAR for CoWs COMPS and COMPG for Openreach LoB. We use the "Asset Description" and "Subgroup Description" fields to ascertain which costs are proper to Ethernet. This PG apportions all costs to CO772 (Openreach Systems Development Ethernet Specific). *Data Source/s* Fixed Asset Register (FAR) for Class of Work COMPS & COMPG for Openreach.
PG855A	**Border Gateway and Signalling Firewall** *Description* This Plant Group (PG) captures the Capital costs of the Border Gateway and Signalling Firewall costs contained within Metro Nodes. The Border Gateway provides a connectivity point or POSI (Point of Service interconnect) for Other Communication Providers (OCPs) into the 21CN network. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to the Border Gateway and Signalling Firewall component CN867.
PG857A	**Copper MSAN Combi Cards Broadband element** *Description* This Plant Group (PG) captures the capital costs of the Broadband element of Combi Cards contained within Multi Service Access Nodes (MSANs). Line cards are the electronic cards in the exchange that provide connectivity to the switch.

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	Methodology The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN854 (Combi Card Broadband).
PG859A	**Copper MSAN Control Access** *Description* This Plant Group (PG) captures the capital costs of the control and common elements of a Copper Multi Service Access Node (MSAN) that are relevant to line cards. Line cards are the electronic cards in the exchange that provide connectivity to the switch. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Costs are apportioned to the line card components: • CN853 Combi Card and MSAN Access - Voice • CN890 EES & MSAN Access Broadband *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LoP list (Asset Life). Volumes are from: GVF for calls, GVF, WELF and TSO for WBA.
PG860A	**Copper MSAN Control Transport** *Description* This Plant Group (PG) captures the capital costs of the control and common elements of a MSAN that are relevant to the transport of calls or traffic through the switch. *Methodology* The control/common element of the Copper MSAN is exhausted to the traffic component that utilises the Copper MSAN. The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN890 (EES and MSAN Access - Broadband).
PG861A	**Copper MSAN ISDN30 cards** *Description* This Plant Group (PG) captures the capital costs of ISDN30 contained within MSANs. Line cards are the electronic cards in the exchange that provide connectivity to the switch. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to the 21CN ISDN30 component CN851.
PG862A	**Copper MSAN SDSL cards =<2Mbps** *Description* This Plant Group (PG) captures the capital costs of SDSL contained within MSANs. Line cards are the electronic cards in the exchange that provide connectivity to the switch. Types of cost include

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	depreciation, stores and pay costs. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Costs are allocated to CN851 (21CN ISDN30).
PG864A	**Copper-Fibre MSAN Link** *Description* This PG captures the Capital costs associated with transmission electronics between a CMSAN and a FMSAN. Types of cost include Non-ETG Pay and Fixed Assets. *Methodology* Costs from this PG are allocated to CN859 (EAD).
PG865A	**Core-Core Length** *Description* This Plant Group (PG) captures the Capital costs associated with transmission Length related elements (Duct and Fibre) between a Core Node and another Core Node. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. This Plant Group allocates to EBDs by assuming that c2% of EBDs use metro-core and core-core links to provide resilience back to a single Metro for EBD, calculated based on historical estimates of the number of external resilient EBDs using metro/core transmission compared to the total number of EBDs. The need for the EBD allocation is due to each 'EBD site' being linked via a WDM chain to two metro nodes. In a small number of cases where resilience is required to Metro node 'A' the resilient link uses EBD to Metro node 'B' and then metro-core and core-core links back to Metro node 'A'. To split EBD costs between resilience and extended reach, a weighting of costs is created by comparing the number of resilient lines for any EBDs that are not extended reach to the volume of extended reach resilient circuits. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 11% of the total TVC volume is relevant to core transmission and is used in apportioning costs for this plant group. This is calculated based on the number of

Plant Group	Detailed Description and Methodology
	routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments. The traffic components that are recipients are: • CN906 Core-Core Broadband Transmission • CN866 POSI - POSI Length Voice. • CN879 Core and Metro 10GB. • CN902 Core Metro HE/MEAS. • CN617 Ethernet Backhaul Direct extended reach. • CN624 Ethernet Backhaul Direct – Resilience Passive. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; EBD volumes are sourced from GVF; Core to Core 10Gbit/s Links are sourced from Discoverer.
PG866A	**Core-Core Link** *Description* This Plant Group (PG) captures the Capital costs associated with transmission electronics between a Core Node and another Core Node. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. This Plant Group allocates to EBDs by assuming that c2% of EBDs use metro-core and core-core links to provide resilience back to a single Metro for EBD, calculated based on historical estimates of the number of external resilient EBDs using metro/core transmission compared to the total

Plant Group	Detailed Description and Methodology
	number of EBDs. The need for the EBD allocation is due to each 'EBD site' being linked via a WDM chain to two metro nodes. In a small number of cases where resilience is required to Metro node 'A' the resilient link uses EBD to Metro node 'B' and then metro-core and core-core links back to Metro node 'A'. To split EBD costs between resilience and extended reach, a weighting of costs is created by comparing the number of resilient lines for any EBDs that are not extended reach to the volume of extended reach resilient circuits. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 11% of the total TVC volume is relevant to core transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments The traffic components that are recipients are: • CN906 Core-Core Broadband Transmission. • CN879 Core and Metro 10GB. • CN865 POSI - POSI Link Voice. • CN902 Core Metro HE/MEAS. • CN617 Ethernet Backhaul Direct extended reach. • CN623 Ethernet Backhaul Direct – Resilience Active. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for copper and fibre shared WBMC; GVF for TVC; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; EBD volumes are sourced from GVF; Core to Core 10Gbit/s Links are sourced from Discoverer.
PG867A	**Ethernet NTE** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the customer sited Ethernet NTE. This is where the BT line from the exchange terminates and allows the customers' equipment to be connected. Ethernet is the most widely-installed Local Area Network (LAN) technology. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN902 (Metro Core HE/MEAS).

Plant Group	Detailed Description and Methodology
PG868A	**Core - Core WBMC Dedicated** *Description* This Plant Group (PG) captures the Capital costs associated with transmission electronics and length related elements between a Core Node and another Core Node for dedicated core link and length traffic, which are only relevant to WBMC dedicated services and do not share their transmission with other services such as WBMC shared. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN897 (WBMC Dedicated Link).
PG869A	**Fibre MSAN Control Access** *Description* This Plant Group (PG) captures the Capital costs of the Control and common elements of a FMSAN that are relevant to the transport of calls or traffic through the switch. *Methodology* The control/common element of the FMSAN is exhausted to the traffic and calls components that utilise the Copper MSAN. The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. The traffic components that are recipients are: • CN890 EES & MSAN Access Broadband. • CN861 MSAN - POSI Link Voice. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF, WELF and TSO for WBA.
PG875A	**iNode Network Features** *Description* This Plant Group (PG) captures the Capital costs of Network Features functionality contained within iNode. The iNode represents the part of the network that contains intelligence associated with routing, verifying and controlling end to end service. Line cards are the electronic cards in the exchange that provide connectivity to the switch. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN855 (iNode Features).
PG876A	**iNode Voice Call Set-Up** *Description* This Plant Group (PG) captures the Capital costs of Voice Call Set-Up functionality contained within iNode. The iNode represents the part of the network that contains intelligence associated with routing, verifying and controlling end to end service. Line cards are the electronic cards in the exchange that provide connectivity to the switch.

Plant Group	Detailed Description and Methodology
	Methodology The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN868 (iNode Voice Call Set-Up).
PG878A	**Metro Broadband LNS** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the BB LNS. The L2TP (Tunnelling Protocol) Network Server is the Layer 2 Network Server. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN904 (21C BB Service provider Link).
PG879A	**Metro BBL3** *Description* This PG captures the cost of capital expenditure incurred for the deployment of the BBL3 BBL3 is a device used to interface 21C Broadband to the internet. Traffic is either switched directly to the internet, or looped via CP cages where additional packet processing may be carried out before onward transmission. The cost is allocated to component based on management's knowledge of the relationship between service and components. *Methodology* Costs from this PG are allocated to CN860 Core/Metro (broadband).
PG880A	**Metro Broadband Edge Aggregator** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the BEA. BEAs are deployed across 21CN Core Point of Presence (PoP). A BEA is essentially the device which a Communication Provider (CP) will interface to, in order to aggregate its traffic from the Broadband Remote Access Server (BRAS) located within a PoP. Initially a BEA will aggregate a single Logical PoP or 8 BRAS'. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN860 Core/Metro (broadband).
PG881A	**Metro Broadband Remote Access Server and MSE** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the BRAS. BRAS routes traffic to and from the digital subscriber line access multiplexers (DSLAM) on an Internet service provider's (ISP) network. The BRAS sits at the core of an ISP's network, and aggregates user sessions from the access network.

Plant Group	Detailed Description and Methodology
	Methodology The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN889 (Metro BRAS and MSE).
PG882A	**Metro Front End Router (FER)** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the FER. The FERs are used to connect to Communications Providers (CPs) for the Aggregated Wholesale Broadband Managed Connect (WBMC) service. They provide load-balancing and shaping/policing functions. Traffic from the Core to the L2 MPLS (Multi-Protocol Label Switching) network via the FERs will be over L2TP (Tunnelling Protocol) tunnels (for L2TP Pass through). *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN904 (21CN broadband service provider link).
PG885A	**Metro-Core Length** *Description* This Plant Group (PG) captures the Capital costs associated with transmission length related elements (Duct and Fibre) between a Metro Node and a Core Node. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. This Plant Group allocates to EBDs by assuming that c2% of EBDs use metro-core and core-core links to provide resilience back to a single Metro for EBD, calculated based on historical estimates of the number of external resilient EBDs using metro/core transmission compared to the total number of EBDs. The need for the EBD allocation is due to each 'EBD site' being linked via a WDM chain to two metro nodes. In a small number of cases where resilience is required to Metro node 'A' the resilient link uses EBD to Metro node 'B' and then metro-core and core-core links back to Metro node 'A'.

Plant Group	Detailed Description and Methodology
	To split EBD costs between resilience and extended reach, a weighting of costs is created by comparing the number of resilient lines for any EBDs that are not extended reach to the volume of extended reach resilient circuits. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 14% of the total TVC volume is relevant to metro transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments. The traffic components that are recipients are: • CN617 EBD Extended Reach. • CN624 Ethernet Backhaul Direct – Resilience Passive. • CN903 Metro-Core Broadband Xmsn • CN862 MSAN - POSI Dense Length Voice. • CN879 Core and Metro 10GB. • CN902 Metro Core HE/MEAS. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; EBD volumes are sourced from GVF; Metro to Core 10Gbit/s Links are sourced from Discoverer.
PG886A	**Metro-Core Link** *Description* This Plant Group (PG) captures the Capital costs associated with transmission electronics between a Metro Node and a Core Node. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected

Plant Group	Detailed Description and Methodology
	exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. This Plant Group allocates to EBDs by assuming that c2% of EBDs use metro-core and core-core links to provide resilience back to a single Metro for EBD, calculated based on historical estimates of the number of external resilient EBDs using metro/core transmission compared to the total number of EBDs. The need for the EBD allocation is due to each 'EBD site' being linked via a WDM chain to two metro nodes. In a small number of cases where resilience is required to Metro node 'A' the resilient link uses EBD to Metro node 'B' and then metro-core and core-core links back to Metro node 'A'. To split EBD costs between resilience and extended reach, a weighting of costs is created by comparing the number of resilient lines for any EBDs that are not extended reach to the volume of extended reach resilient circuits. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 14% of the total TVC volume is relevant to metro transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments. The traffic components that are recipients are: • CN617 (EBD Extended Reach). • CN623 (Ethernet Backhaul Direct – Resilience Active). • CN903 (Metro-Core Broadband Transmission). • CN861 (MSAN - POSI Voice Link). • CN879 (Core and Metro 10GB). • CN902 (Metro Core HE/MEAS). *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; EBD volumes are sourced from GVF; Metro to Core 10Gbit/s Links are sourced from Discoverer.
PG887A	**METRO-Edge Ethernet Bandwidth** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the

Plant Group	Detailed Description and Methodology
	Edge Ethernet Bandwidth. The Edge Ethernet Bandwidth is used to groom Virtual Local Area Networks (VLANs) from the Multi-Service Access Nodes (MSANs) to the relevant Metro device such as the Voice PE using Pseudo-Wire Emulation (PWE) tunnels (across the core if necessary). It is also used to provide point to point connectivity for Broadband traffic via Pseudo-Wire Emulation Edge to Edge (PWE3) tunnels. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. The apportionment from this Plant Group to MSIL 1Gbit/s and MSIL 10Gbit/s include an assumption that half of the links are resilient and that not all links are fully utilised (assumes 70% utilisation). For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 75% of the total TVC volume is relevant to EBD transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments. The components that are recipients are: • CN860 – Core/Metro (broadband). • CN869 – Core/Metro (voice). • CN902 – Metro Core HE/MEAS. • CN905 – Multi Service Interconnect Link. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC; for HE/MEAs circuits are

Plant Group	Detailed Description and Methodology
	sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; MSIL from OneSiebel and WCR.
PG888A	**METRO-Edge Ethernet Port** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the Edge Ethernet Port. The Edge Ethernet Port terminates: • VLAN - Virtual Local Area Networks. • MSIL - Multi Service Interconnect Link. • Ethernet services. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 75% of the total TVC volume is relevant to EBD transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. The components that are recipients are: • CN883 - Edge Ethernet ports voice. • CN884 - Edge Ethernet ports broadband. • CN885 - Edge Ethernet ports TVC. • CN902 – Metro Core HE/MEAS. • CN905 - Multi Service Interconnect Link. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user; MSIL from OneSiebel and WCR.
PG889A	**Metro-Infrastructure Ethernet** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the Infrastructure Ethernet. The infrastructure switches are used to provide basic fast, Gigabit and 10 Gigabit Ethernet connectivity within a metro node and Intelligent Node (iNode) function. They are used to give efficient port utilisation on the expensive PE (Provider Edge) router Ethernet interfaces and because they provide higher port densities for low-speed interfaces than are typically available on PE routers. The switches are not customer-facing and therefore do not

Plant Group	Detailed Description and Methodology
	require complex edge features or Virtual Private LAN Services (VPLS) capabilities. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN860 Core/Metro (broadband). *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TVC.
PG890A	**Metro-Media Gateway** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the Media Gateways. The Media GateWay (MGW) components provide inter-working between the packet switched Internet Protocol (IP) domain and the legacy TDM domain. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN869 (Core/Metro Voice).
PG892A	**Metro-Sync Racks** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the Sync racks. Each Core/Metro Point of Presence (PoP) is equipped with sync equipment to ensure that accurate timing is maintained across the BT network. The sync equipment provides reference clock to equipment within the PoP (e.g. Media Gateway) down to the Multi-Service Access Nodes (MSANs). *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to the Core/Metro Voice component CN869.
PG893A	**Multi Service Provider Edge Routers** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the Voice Router. The PE (Provider Edge) routers provide the customer interfaces to the Internet Protocol (IP) / Multi-Protocol Label Switching (MPLS) network, receiving customer traffic and encapsulating it as MPLS frames for transmission across the core of the network. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of

Plant Group	Detailed Description and Methodology
	the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. PE Routers are located in all Metro nodes, but have dual purposes. In smaller Metro nodes they act as the management router to all services, whereas in the large metro nodes they are used more specifically for the WBMC shared services. We therefore double the WBMC services' usage factor in order to reflect this dual purpose. The components that are recipients are: • CN869 Core/Metro (voice). • CN860 Core/Metro (broadband). • CN902 Metro Core HE/MEAS. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TV; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user.
PG895A	**Network Router (large) Core** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the P Router. The P Routers in the Core nodes (Provider routers) form the core of the network, aggregating traffic from a number of Provider Edge (PE) routers and connecting to P routers in other Point of Presence (PoP) across wide-area transmission links. Methodology The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network.

Plant Group	Detailed Description and Methodology
	This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. Network element 'METRO/CORE-P Router: Intra Node' is split between PG895A and PG896A based on the number of core to core links compared to the number of metro to core links in the 21C network. For WBC/WBMC traffic that uses a VPN pathway rather than WBMC shared in Market B, a factor is applied to reduce the bandwidth volume used in the Plant Group to Component apportionment to represent how not all bandwidth uses core transmission. This is because a VPN solution can bypass elements of the core network for Market B traffic, e.g. it can be directed to core nodes before metro nodes. A factor representing the core nodes as a % of total nodes is applied to the VPN based bandwidth in order to reflect its lower usage of core transmission. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 75% of the total TVC volume is relevant to EBD transmission and 11% is relevant to core transmission. This is calculated based on the number of routes between each section of the network where TVC is multicast. For Harmonised Ethernet and MEAs we include a product network turn-around factor, to reflect how all Ethernet traffic will not traverse the full core network. It is assumed that 100% of the traffic flows into the tier 1 Edge Ethernet Switches, but that a diminishing amount of Ethernet driven bandwidth flows over the Metro nodes, outer core nodes, and inner core nodes. This is calculated by comparing all Etherflow bandwidths' A end and B ends by location, with the % that does not flow from or to a metro node being used to reduce the factor applied for metro node plant groups, and the % of etherflows that do not reach outer and then inner core nodes being used to reduce the factor for core plant group apportionments. The components that are recipients are: • CN894 - Core/Metro (broadband Shared). • CN869 - Core/Metro (voice). • CN902 - Metro Core HE/MEAS. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TV; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user.
PG896A	**Network Router Metro** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the P Router. The P Routers in the METRO nodes (Provider Routers) form the core of the network, aggregating traffic from a number of Provider Edge (PE) Routers and connecting to P Routers in other Point of Presence (PoP) across wide-area transmission links. *Methodology*

Plant Group	Detailed Description and Methodology
	The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. Network element 'METRO/CORE-P Router: Intra Node' is split between PG895A and PG896A based on the number of core to core links compared to the number of metro to core links in the 21C network. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 75% of the total TVC volume is relevant to EBD transmission and is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. The components that are recipients are: • CN860 – Core/Metro (broadband). • CN869 – Core/Metro (voice). • CN902 – Metro Core HE/MEAS. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TV; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user.
PG898A	**Core Directors** *Description* This Plant Group (PG) captures the cost of capital expenditure incurred for the deployment of the 21C Core Directors which are used to carry former MSIP data traffic as the MSIP Platform is closed. The components that are recipients are: • CN878 – Core Directors broadband. • CN869 – Core/Metro (voice). *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of

Plant Group	Detailed Description and Methodology
	the relationship between service and components. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; WCR for IPstream.
PG899A	**WDM-Metro Link** *Description* This Plant Group captures the Capital costs associated with transmission electronics between WDM Multi Service Access Node (MSAN) and a Metro Node. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to the Ethernet Backhaul Direct component CN619 (Underlying Broadband EBD Costs).
PG900A	**WDM-Metro Length** *Description* This Plant Group (PG) captures the Capital costs associated with transmission length related elements (Duct and Fibre) between WDM Multi Service Access Node (MSAN) and a Metro Node. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN620 (Underlying Broadband EBD Costs).
PG901A	**Ethernet Switches** *Description* This Plant Group (PG) captures the Capital costs associated with Ethernet Switches. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. Because volume data used in the 21CN apportionment model contains a mixture of actual bandwidth used (such as for WBMC service volumes) and headline bandwidth sold (such as for downstream Ethernet service volumes), the Ethernet services have a factor applied to their volumes so that they also reflect actual utilisation. This utilisation factor is calculated separately for Harmonised Ethernet and MEAs services, and is based on detailed samples at selected exchanges. TSO regularly verify the volumes derived from these sample based assumptions by comparing against the total traffic over the 21C network. This Plant Group uses the utilisation factors for the allocations to both Harmonised Ethernet and MEAs services. For TVC, because the bandwidth volume loaded onto the residual TVC service is the total multicast bandwidth volume across the 21CN, the total volume will not be relevant to each individual part of the network. It is assumed that 75% of the total TVC volume is relevant to EBD transmission and

Plant Group	Detailed Description and Methodology
	is used in apportioning costs for this plant group. This is calculated based on the number of routes between each section of the network where TVC is multicast. The components that are recipients are: • CN861 MSAN - POSI Link Voice. • CN882 Ethernet Switch Access HE/MEAS. • CN891 Ethernet Switch BB. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF for Calls; GVF and WELF for WBA; GVF for TV; for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user.
PG902A	**Ethernet Switch Access Cards** *Description* This Plant Group (PG) captures the Capital costs of Ethernet Switch Customer Access Cards contained within Ethernet Switch. Line cards are the electronic cards in the exchange that provide connectivity to the switch. The components that are recipients are: • CN882 Ethernet Switch Access HE/MEAS. • CN896 Ethernet Switch BB Access • CN890 EES & MSAN Access Broadband. *Methodology* The depreciation cost of the network element is apportioned across the services which it supports based on the volumes applicable to each service using the network element. The cost now allocated to each service is split between the components based on management's knowledge of the relationship between service and components. *Data Source/s* CAPEX analysis from BT Technology, Service & Operations (BT TSO), LOPLIST (Asset Life) Volumes are from: GVF and WELF for WBA, for HE/MEAs circuits are sourced from GVF, the number of bandwidth and circuit ends are sourced from PACs, and then CUG ID data (customer ID code from MIS system) and status data of circuit orders from Enterprise Information Oracle Platform (EIP) are used to provide the etherways and the class of service for the PWE3 etherflows in order to show bandwidth per end user.
PG903A	**Metro MAR** *Description* This Plant Group holds the costs for the Multicast Access Router (MAR) which includes all of the TV Connect (TVC) head end equipment sited at central core node exchanges. *Methodology* The cost is allocated to component based on management's knowledge of the relationship between service and components. Allocates 100% to CN886 (Metro MAR).

Plant Group	Detailed Description and Methodology
PG911A	**Operator Services Inland** *Description* This PG captures the pay and non-pay costs of operators working on Inland Operator Assistance (OA) 100 and 999 calls. Customers dial 100 (OA) and speak to an Operator if they require help making a call. *Methodology* This PG apportions costs by creating a weighting for each cost type based on average total operator handling time and volume of calls for both services (100 and 999 calls) which we source from various data sources (see below) This PG apportions costs to the Operator Assistance components: • CO911 (National Operator Assistance). • CO919 (Emergency operator assistance (999)). • CO941 (National OA non chargeable). • CO942 (Emergency OA - 999 non chargeable). *Data Source/s* • Inland and International Directory Assistance (DA). • Central Data Store (CDS). • Call Statistics Centralisation System (CSCS) and Featurenet (from the Powerhouse system). • Inland and International Operator Assistance (OA). • Call Centre Management Information Systems (CCMIS). • CSCS (for Retail chargeable). • 6A Report (for Wholesale Chargeable).
PG924A	**Directory Enquiries Non Chargeable** *Description* This PG captures the pay and non-pay costs of operators working on Directory Enquires (DQ) non chargeable calls. These type of calls include: • Blind and Disabled calls. An Operator service available for Blind, Disabled, Hearing or Speech impaired customers on 195. • Internal service line calls to Directory Enquiries (DQ). • Calls from foreign operators requesting an inland number. • Calls requesting a credit for a previous call where incorrect information had been given. • Calls from text phones. *Methodology* Costs from this PG are allocated to CO927 (Directory enquiries non chargeable).
PG941A	**Cumulo Rates NGA** *Description* This Plant Group (PG) includes the Cumulo charge payable for the NGA (Next Generation Access) assets. *Methodology* The Cumulo charge is apportioned to the NGA components only on the basis of Profit Weighted Net Replacement Costs (PWNRC). A base is derived for apportionment of the Cumulo charge to components in accordance with the following formula:

Plant Group	Detailed Description and Methodology

$$Cumall_{i=} NGACC \times \left(\sum_{j=1}^{m} nrc_{ij}\, land\%_j wacc_i \Big/ \sum_{i=1}^{n} \sum_{j=1}^{m} nrc_{ij} land\%_j wacc_i \right)$$

Where

$Cumall_i$ = the allocation of the NGA related Cumulo costs to component $_i$

NGACC = NGA related Cumulo costs

nrc_{ij} = the Net Replacement Costs of the Cumulo Rateable Asset $_j$ that has been attributed to component $_i$

$land\%_j$ = the percentage of the Cumulo Rateable Asset $_j$ that is regarded as being a landlord asset within the most recent rating model used by the Valuation Office Agency in England and Wales to value BT's Cumulo assessment

$wacc_i$ = the weighted average cost of capital that is applicable for component $_i$

m = the number of the Cumulo Rateable Asset categories

n = the number of the NGA Network Components

Specialised Buildings are not part of BT's fixed assets following their sale to what is now Telereal Trillium in 2001. However BT is the rateable occupier of these assets so they need to be included. The NRCs of exchange buildings are updated every year by Telereal Trillium.

The Specialised Building NRC value is apportioned to the NGA components in accordance with Group Property's charges for the Occupation of Specialised Buildings. A report from REFINE is produced which shows the Group Property charges apportioned by component and this is then used as the basis for apportioning the Specialised Buildings NRC to NGA components.

Costs are apportioned to various NGA Components, primarily CL999 (Funded Fibre Rollout Spend, CL953 (GEA DSLAM Cabinets), CL192 (NGA E side Copper Capital), CL948 (GEA FTTP Distribution Fibre) and CL951 (GEA FTTC Distribution Fibre).

The table below is a list of the Classes of Work that contain the Rateable Assets:

Plant Group	Detailed Description and Methodology

COW	CoW Title
ACPA	Accommodation Plant for ASD
ACPB	Accommodation Plant, Building Related (FAR)
ACPS	Accommodation Plant, Security
AFH	ACP Freehold - ACPFH
ALL	ACP Longlease - ACPLL
ASL	ACP Shortlease - ACPSL
BCB	Buildings construction, New (FAR)
BCR	Buildings construction, Refurbishment (FAR)
BCS	Buildings construction, Security
BFH	Building Freehold - BLDFH
BHQ	Construction, Submarine Cable Inland
BLL	Buildings Long Lease - BLDLL
BP	Building Purchases
BSL	Buildings Shortlease - BLDSL
CJC	Construction, Junction Metallic Pair Cable
CJCR	Renewal, Junction Metallic Pair Cable
CJD	Construction, Junction Duct
CJDR	Renewal, Junction Duct
CJF	Construction Junction Cable - Optical Fibre
LDC	Construction, Local Distribution Cable
LDCP	POS-Rearrange, Local Line Copper Distr'n
LDCR	Renewal, Local Line Copper Distribution
LDD	Construction, Local Distribution Duct for Copper Cable
LDR	Renewal, Local line Duct for Copper Cabl
LFCR	Local Opital Fibre Cable Renewal
LFD	Construction, Local Duct for OF Cable
LFDC	Construction, Local Line OF Distribution
LFH	Land Freehold - SITFH
LFME	Construction, Local Network Service Module Equipment
LFSC	Construction, Local Line OF Spine Cable
LLL	Land Long Lease - SITLL
LMC	Construction, Local/Main Exchange-side Cable
LMCP	POS-Rearrange, Local Line Copper Main Cable
LMCR	Renewal, Local Line Copper Main Cable
LMD	Construction, Local Main(Exchange-side)
LQA	Local Lines Fault Volume Reduction - Duct
LQD	Local Line Plant Improvement, Dist'bn-side
LQM	Local Line Plant Improvement, Main-side
LSA	Local Lines Asset Assurancey Programmme
LSB	Local Lines Asset Assurancey Programmme
LSL	Land Shortlease - SITSL
MICRO	Microconnect Provision
MUC	Construction, Main Underground Cable
MUD	Construction, Main Underground Duct
NPPD	Local Network Illct & Physical Protection
NWB	P&I Exchange Lines (Business)
NWR	P&I:Exchange lines (Res)
PCOH	Public Call Offices:Provision of Housing
PSC	Property Site Clearance
TCN	CRIMINAL DAMAGE, NETWORKS
TPC	Construction, Telecom Power Plant
TVD	Cable TV:All ductwork

PG942A

Cumulo Rates Non-NGA

Description

This Plant Group (PG) includes the Cumulo charge payable for the non-NGA (Next Generation Access) assets.

Plant Group	Detailed Description and Methodology
	Methodology The Cumulo charge is apportioned to the non-NGA components only on the basis of Profit Weighted Net Replacement Costs (PWNRC). A base is derived for apportionment of the Cumulo charge to components in accordance with the following formula; $$\text{Cumall}_{i=}\text{NNGACC} \times \left(\sum_{j=1}^{m} \text{nrc}_{ij}\, \text{land\%}_j \text{wacc}_i \Big/ \sum_{i=1}^{n} \sum_{j=1}^{m} \text{nrc}_{ij} \text{land\%}_j \text{wacc}_i \right)$$ Where Cumall_i = the allocation of the Non-NGA related Cumulo costs to component $_i$ NNGACC = Non-NGA related Cumulo costs nrc_{ij} = the Net Replacement Costs of the Cumulo Rateable Asset $_j$ that has been attributed to component $_i$ $\text{land\%}_j$ = the percentage of the Cumulo Rateable Asset $_j$ that is regarded as being a landlord asset within the most recent rating model used by the Valuation Office Agency in England and Wales to value BT's Cumulo assessment wacc_i = the weighted average cost of capital that is applicable for component $_i$ m = the number of the Cumulo Rateable Asset categories n = the number of the Non-NGA Network Components Specialised Buildings are not part of BT's fixed assets following their sale to what is now Telereal Trillium in 2001. However BT is the rateable occupier of these assets so they need to be included. The NRCs of exchange buildings are updated every year by Telereal Trillium. The Specialised Building NRC value is apportioned to the NGA components in accordance with Group Property's charges for the Occupation of Specialised Buildings. A report from REFINE is produced which shows the Group Property charges apportioned by component and this is then used as the basis for apportioning the Specialised Buildings NRC to non-NGA components. Costs are apportioned to over 200 non-NGA components – the largest attributions are to CL173 (D side copper capital), CL171 (E side copper capital), CO484 (Ethernet main links) and CW609 (Ethernet Access Direct Fibre). The table below is a list of the Classes of Work that contain the Rateable Assets:

Plant Group	Detailed Description and Methodology

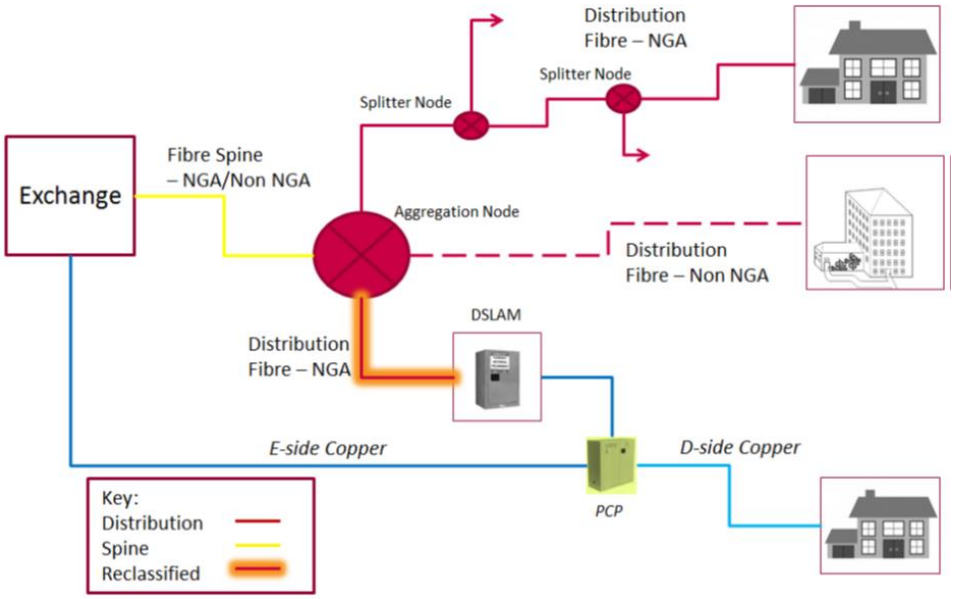
COW	CoW Title
ACPA	Accommodation Plant for ASD
ACPB	Accommodation Plant, Building Related (FAR)
ACPS	Accommodation Plant, Security
AFH	ACP Freehold - ACPFH
ALL	ACP Longlease - ACPLL
ASL	ACP Shortlease - ACPSL
BCB	Buildings construction, New (FAR)
BCR	Buildings construction, Refurbishment (FAR)
BCS	Buildings construction, Security
BFH	Building Freehold - BLDFH
BHQ	Construction, Submarine Cable Inland
BLL	Buildings Long Lease - BLDLL
BP	Building Purchases
BSL	Buildings Shortlease - BLDSL
CJC	Construction, Junction Metallic Pair Cable
CJCR	Renewal, Junction Metallic Pair Cable
CJD	Construction, Junction Duct
CJDR	Renewal, Junction Duct
CJF	Construction Junction Cable - Optical Fibre
LDC	Construction, Local Distribution Cable
LDCP	POS-Rearrange, Local Line Copper Distr'n
LDCR	Renewal, Local Line Copper Distribution
LDD	Construction, Local Distribution Duct for Copper Cable
LDR	Renewal, Local line Duct for Copper Cabl
LFCR	Local Opital Fibre Cable Renewal
LFD	Construction, Local Duct for OF Cable
LFDC	Construction, Local Line OF Distribution
LFH	Land Freehold - SITFH
LFME	Construction, Local Network Service Module Equipment
LFSC	Construction, Local Line OF Spine Cable
LLL	Land Long Lease - SITLL
LMC	Construction, Local/Main Exchange-side Cable
LMCP	POS-Rearrange, Local Line Copper Main Cable
LMCR	Renewal, Local Line Copper Main Cable
LMD	Construction, Local Main(Exchange-side)
LQA	Local Lines Fault Volume Reduction - Duct
LQD	Local Line Plant Improvement, Dist'bn-side
LQM	Local Line Plant Improvement, Main-side
LSA	Local Lines Asset Assurancey Programmme
LSB	Local Lines Asset Assurancey Programmme
LSL	Land Shortlease - SITSL
MICRO	Microconnect Provision
MUC	Construction, Main Underground Cable
MUD	Construction, Main Underground Duct
NPPD	Local Network Illct & Physical Protection
NWB	P&I Exchange Lines (Business)
NWR	P&I:Exchange lines (Res)
PCOH	Public Call Offices:Provision of Housing
PSC	Property Site Clearance
TCN	CRIMINAL DAMAGE, NETWORKS
TPC	Construction, Telecom Power Plant
TVD	Cable TV:All ductwork

PG948C

GEA FTTP Access Fibre Spine

Description

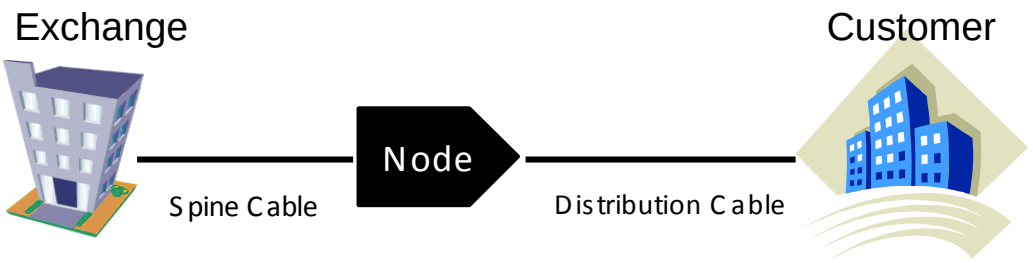
This PG captures the costs associated with the provision, installation and recovery of NGA FTTP fibre cable in the spine access network i.e. the network between the local exchange and a BT Aggregation node. This includes costs associated with clearing existing duct (to allow cable to be installed), jointing and spine cable (splicing). Specifically this PG captures costs from the following areas/functions:

Plant Group	Detailed Description and Methodology
	• Pay costs associated with the installation of NGA FTTP access fibre. • Indirect costs of optical fibre replacement from the Local optical Fibre Cable Renewal (LFCR) classes of work (CoW). • Contract costs associated with renewal of optical fibre. • Planning costs, adding fibre to the access network. • Costs associated with installing optical spine cable between the local exchange and last connection point before local distribution fibre or street optical Multiplexors (MUX). • Depreciation costs from Local Fibre Spine Cable (LFSC). Methodology Costs from this PG are allocated to CL948 (GEA FTTP Access Fibre Spine). 
PG948M	GEA FTTP Access Fibre Spine Maintenance *Description* This PG captures the maintenance costs associated with NGA FTTP fibre cable in the spine access network i.e. the network between the local exchange and a BT Aggregation node. This includes LFCM (Local Fibre Maintenance) CoW costs. *Methodology* Costs from this PG are allocated to CL948 (GEA FTTP Access Fibre Spine).
PG949C	**GEA FTTP Distribution Fibre** *Description* This PG captures the costs associated with the provision, installation and recovery of NGA fibre cable in the FTTC distribution access network (i.e. the network between the aggregation node and the customer premise). This includes costs associated with clearing existing duct (to allow cable to be installed), jointing distribution (splicing). Specifically this PG captures costs from the following areas/functions: • Pay costs associated with the installation of NGA access fibre. • Costs associated with the optical fibre replacement from the Local Optical Fibre Cable Renewal (LFCR) class of work (CoW). • Contract costs associated with renewal of optical fibre. • Planning costs, for adding fibre to the access network. • Costs associated with installing optical spine cable between the Intermediate node and the customer premises.

Plant Group	Detailed Description and Methodology
	• Depreciation costs from Local Fibre Distribution Cable (LFDC). *Methodology* Costs from this PG are allocated to CL949 (GEA FTTP distribution fibre).
PG949M	**GEA FTTP Distribution Fibre Maintenance** *Description* This PG captures the maintenance costs associated with the NGA FTTP fibre cable in the distribution access network. This includes LFCM (Local Fibre Maintenance) CoW costs. *Methodology* Costs from this PG are allocated to CL949 (GEA FTTP distribution fibre).
PG950C	**GEA FTTC Access Fibre Spine** *Description* This PG captures the costs associated with the provision, installation and recovery of NGA FTTC fibre cable in the spine access network i.e. the network between the local exchange and a BT Aggregation node. This includes costs associated with clearing existing duct (to allow cable to be installed), jointing and spine cable (splicing). Specifically this PG captures costs from the following areas/functions: • Pay costs associated with the installation of NGA FTTC access fibre. • Indirect costs of optical fibre replacement from the Local optical Fibre Cable Renewal (LFCR) classes of work (CoW). • Contract costs associated with renewal of optical fibre. • Planning costs, adding fibre to the access network. • Costs associated with installing optical spine cable between the local exchange and last connection point before local distribution fibre or street optical Multiplexors (MUX). • Depreciation costs from Local Fibre Spine Cable (LFSC). *Methodology* Costs from this PG are allocated to CL950 (GEA FTTC Access Fibre Spine).
PG950M	**GEA FTTC Access Fibre Spine Maintenance** *Description* This PG captures the maintenance costs associated with NGA FTTC fibre cable in the spine access network i.e. the network between the local exchange and a BT Aggregation node. This includes LFCM (Local Fibre Maintenance) CoW costs. *Methodology* Costs from this PG are allocated to CL950 (GEA FTTC Access Fibre Spine).
PG951C	**GEA FTTC Distribution Fibre** *Description* This PG captures the costs associated with the provision, installation and recovery of NGA fibre cable in the FTTC distribution access network (i.e. the network between the aggregation node and the street cabinet). This includes costs associated with clearing existing duct (to allow cable to be installed), jointing distribution (splicing). Specifically this PG captures costs from the following areas/functions: • Pay costs associated with the installation of NGA access fibre. • Costs associated with the optical fibre replacement from the Local Optical Fibre Cable Renewal (LFCR) class of work (CoW).

Plant Group	Detailed Description and Methodology
	• Contract costs associated with renewal of optical fibre. • Planning costs, for adding fibre to the access network. • Costs associated with installing optical spine cable between the Intermediate node and the customer premises. • Depreciation costs from Local Fibre Distribution Cable (LFDC). *Methodology* Costs from this PG are allocated to CL951 (GEA FTTC distribution fibre).
PG951M	**GEA FTTC Distribution Fibre Maintenance** *Description* This PG captures the maintenance costs associated with the NGA FTTC fibre cable in the distribution access network. This includes LFCM (Local Fibre Maintenance) CoW costs. *Methodology* Costs from this PG are allocated to CL951 (GEA FTTC distribution fibre).
PG952C	**GEA Electronics** *Description* This PG captures the NGA costs associated with the provision, rearrangement, recovery, replacement and renewal of NGA Local Access Network equipment at the exchange end of Local Access Optical Fibre Cables. • Pay costs associated with the installation of NGA access electronics • Contract costs associated with renewal of NGA Electronics. • Planning costs. • Depreciation costs from the LFXE CoW (for Construction of local line exchange service module, • NGA costs booked to the following non-NGA CoWs: Circuit Provision for Megastream Services (CPDM); and Circuit Provision for Asymmetric Digital Subscriber line (ADSL) (CPDSL). *Methodology* Costs from this PG are allocated to CL952 (GEA electronics).
PG953C	**GEA DSLAM and Cabinets** *Description* This PG includes the NGA costs associated with the DSLAM cabinets, cabinet shells, and cabinet tie cables relevant for installation. • Pay costs associated with the installation of NGA DSLAM and Cabinets. • Contract costs associated with renewal DSLAM and Cabinets. • Planning costs. • Depreciation costs from the following CoW – Construction, Local Network Service Module Equipment (LFME). • Associated NGA power and accommodation costs. *Methodology* Costs from this PG are allocated to CL953 (GEA DSLAM and cabinet).
PG954C	**GEA Customer Site Installations** *Description* This PG captures the costs associated with the provision, installation and recovery of NGA Customer sited equipment. Specifically this PG captures costs from the following areas/functions: • Pay costs associated with the installation of NGA Customer sited Installs. • Indirect costs of Customer sited Installs.

Plant Group	Detailed Description and Methodology
	• Contract costs. • Planning costs. • Depreciation costs from the following CoW – Customer Premises Provision (FTTX). *Methodology* Costs from this PG are allocated to CL954 (GEA customer site installation).
PG955M	**GEA FTTC Maintenance** *Description* This PG includes the NGA FTTC costs associated with the repair/ maintenance of the head end electronics, and DSLAM cabinets and specific NGA customer equipment. • Pay costs associated with the repair / maintenance of NGA equipment. • Indirect costs of any repair / maintenance of NGA specific equipment. *Methodology* Costs from this PG are allocated to CL955 (GEA FTTC Repairs).
PG956M	**GEA FTTP Maintenance** *Description* This PG includes the NGA FTTP costs associated with the repair / maintenance of the head end electronics and specific NGA customer equipment. • Pay costs associated with the repair / maintenance of NGA equipment. • Indirect costs of any repair / maintenance of NGA specific equipment. *Methodology* Costs from this PG are allocated to CL956 (GEA FTTP Repairs).
PG957P	**GEA FTTP Provision** *Description* This PG includes the NGA FTTP costs associated with the Provision of the head end electronics and specific NGA customer equipment. • Pay costs associated with the repair / maintenance of NGA equipment. • Indirect costs of any repair / maintenance of NGA specific equipment. *Methodology* Costs from this PG are allocated to CL957 (GEA FTTP provision).
PG958P	**GEA FTTC Provision** *Description* This PG includes the NGA FTTC costs associated with the Provision of the head end electronics, and DSLAM cabinets and specific NGA customer equipment. • Pay costs associated with the repair / maintenance of NGA equipment. • Indirect costs of any repair / maintenance of NGA specific equipment. *Methodology* Costs from this PG are allocated to CL958 (GEA FTTC provision).
PG959C	**Access Distribution Fibre** This PG captures the costs associated with the provision, installation and recovery of fibre cable in the access network i.e. the network between the Node and customer's premises (see diagram) or fibre installed up to street multiplexers.

Plant Group	Detailed Description and Methodology
	 This plant group includes costs associated with: • Assets and depreciation relating to fibre distribution cables; • Duct used by these cables; • Indirect costs related to the capital expenditure e.g. the van costs incurred by the engineers installing the fibre; and • Indirect costs related to the assets themselves e.g. certain overhead types which are apportioned on the basis of asset value and pay. This plant group excludes the access distribution fibres used by our Generic Ethernet Access (GEA) products. *Methodology* We use the same methodology to allocate these costs to components as we do for PG111C Access Spine Fibre except that for EAD circuits we calculate the number of fibres used per circuit as 2 instead of 1. This because as circuits move legacy WES services to single fibre working EAD services we do not believe that the freed-up fibre will be reused in the distribution network. See PG111C for more details. *Data Source/s* See PG111C.
PG980R	**Repayment Works** *Description* This PG captures the costs and balance sheet of Openreach repayment works. The main role of the Repayment Works unit is to ensure the integrity and protection of BT's network, where the highway infrastructure is required to be altered due to promoting authority works under an act of parliament and protecting the network from damage as a result of third party works. The main direct classes of works (CoW) are, HK, HM, HO, HE, HPL, HDM, HUR, HSW, HL HNE. *Methodology* Costs from this PG are allocated to CK980 (Openreach Repayment Works).
PG981R	**Time Related Charges** *Description* This PG captures the costs and balance sheet of time scale charges. Time scale charges refer to time spent on planned / unplanned jobs when a timescale charge is appropriate. Key costs are allocated to this PG from the following classes of work (CoW): • MG – Maintenance Control. • SUNR – Repair Customer Wiring (Residential). • Various CoWs starting with AP/AM e.g. AMCBB, AMBSB

Plant Group	Detailed Description and Methodology
	Methodology Costs from this PG are allocated to CK981 (Openreach Time Related charges).
PG982R	**Openreach Managed Services for BT Wholesale** *Description* This PG captures the costs of any work done by Openreach that specifically supports BT Wholesale Products and services or activities. *Methodology* Costs from this PG are allocated to CK982 (Openreach Managed Services for Wholesale).
PG984R	**Openreach Managed Services for BT Global Services** *Description* This PG captures the costs of any work done by Openreach that specifically supports BT Global Services or activities. *Methodology* Costs from this PG are allocated to CK984 (Openreach Managed Services for Global).
PG985R	**Openreach Managed Services for BT Retail** *Description* This PG captures the costs of any work done by Openreach that specifically supports BT Retail Products and services or activities. *Methodology* Costs from this PG are allocated to CK985 (Openreach Managed Services for Retail).
PG986R	**Openreach Other Activities** *Description* This PG captures the income for Openreach other activities that have not been allocated to other plant groups. *Methodology* Costs from this PG are allocated to CK986 (Openreach Other Activities).
PG987R	**Unregulated Time Related Charges** *Description* This PG captures the costs and balance sheet of time scale charges. Time scale charges refer to time spent on planned / unplanned jobs when a timescale charge is appropriate. Key costs are allocated to this PG from the following classes of work (CoW): CNS – Customer Network Services TMPT – Temporary Plant MG – Maintenance Control SUNR – Repair Customer Wiring (Residential) Various CoWs starting with AP/AM e.g. AMCBB, AMBSB *Methodology* Costs from this PG are allocated to CK987 (Openreach Unregulated Time Related charges.
PG989A	**Special Fault Investigation (SFI)** *Description* This PG captures the costs and balance sheet of SFI.

Plant Group	Detailed Description and Methodology
	A Local Loop Unbundling (LLU) SFI can be initiated by an LLU Communications Provider (CP) when a Metallic Path Facility (MPF) or Shared Metallic Path Facility (SMPF) tests OK on the Openreach line test system, but where there might be a problem with the CP's Asymmetric Digital Subscriber Line (ADSL) or Symmetric Digital Subscriber Line (SDSL) service. The LLU SFI is a chargeable investigation product which attempts to identify and resolve DSL service affecting problems. *Methodology* Costs from this PG are allocated to CO989 (Special Fault Investigations).
PG998A	**Fibre Rollout Funding** PG998A captures the funding of the BDUK Development Programme *Methodology* Costs from this plant group are allocated to CL998 (Fibre Rollout Funding)
PG999A	**Funded Fibre Rollout Spend** PG999A captures the expenditure on fibre rollout across BDUK areas. *Methodology* Costs from this plant group are allocated to CL999 (Funded Fibre Rollout Spend)

WACC Percentages

The Weighted Average Cost of Capital (WACC) for each Plant Group is defined below:

A WACC of 8.8% is used for the following Plant Groups:

PG	PG Description
PG117C	E-side Copper Cable
PG117M	E-side Copper Cable Maintenance
PG118C	D-side Copper Cable
PG118M	D-side Copper Cable Maintenance
PG119A	Telephony Over Passive Optical Network
PG120B	LLU Electricity Usage - OR
PG121M	Dropwire Maintenance Business
PG122M	Dropwire Maintenance Residential
PG123M	ISDN2 Maintenance
PG127A	Analogue Linecards
PG128A	ISDN2 Linecards
PG129A	Pair Gain Systems
PG130A	Intra-exchange Tie Cables
PG132B	LLU Co-mingling Recurring Costs (OR)
PG132N	LLU Co-mingling Recurring costs (TSO)
PG135A	Local Loop Unbundling Room Build
PG136A	LLU Co-mingling Surveys
PG136N	LLU Co-mingling Provision
PG139A	LLU Systems Development
PG140A	Routing and Records
PG142A	MDF Hardware Jumpering
PG144A	WLR Systems Development
PG149A	Analogue Line Final Drop
PG150A	ISDN 2 Access Equipment

PG	PG Description
PG152B	Other Openreach Repairs
PG154B	NGA Visit Assure
PG155B	Expedite Provision Costs
PG164A	ISDN Systems Development
PG180A	Other WLA
PG213C	Local Exchanges UXD
PG217E	Main Distribution Frames Equipment
PG217F	Main Distribution Frames Maintenance
PG217R	Main Distribution Frames Maintenance (TSO)
PG240A	Analogue Line Testing Equipment
PG570B	OR Service Centre Provision Analogue/ISDN2
PG572B	OR Service Centre Provision LLU
PG575B	OR Service Centre Assurance WLR PSTN/ISDN2
PG577B	OR Service Centre Assurance LLU
PG590B	LLU Service Level Guarantees External
PG591B	LLU Service Level Guarantees Internal
PG603B	SLG WLR Provision
PG604B	SLG WLR Assurance
PG875A	INODE Network Features
PG942A	Cumulo Rates Non-NGA
PG981R	Regulated Time Related Charges
PG989A	Special Fault Investigation
PG998A	Fibre Rollout Funding
PG999A	Funded Fibre Rollout Spend

A WACC of 9.8% is used for the following Plant Groups:

PG	PG Description
PG001X	PoH Equipment Depreciation Adj Debit
PG001Y	PoH Equipment Depreciation Adj Credit
PG002X	TISBO Excess Construction Adjustment Debit
PG002Y	TISBO Excess Construction Adjustment Credit
PG002Z	TISBO ECC GBV credit
PG003X	CISBO Excess Construction Adjustment Debit
PG003Y	CISBO Excess Construction Adjustment Credit
PG003Z	CISBO Excess Construction Adjustment Credit
PG004X	POH Depreciation Local End Adjustment Debit
PG004Y	POH Depreciation Local End Adjustment Credit
PG005X	OR Residual ECC Debit
PG005Y	Residual EXCESS CON ADJUST CREDIT DUCT
PG006X	CISBO ECC Capex Debit
PG006Y	CISBO ECC Capex Credit
PG111C	Access Fibre Spine
PG111M	Access Fibre Maintenance
PG112C	Network Residual Miscellaneous
PG114C	Local Lines Service Access Switches Cap
PG114L	ISDN30 Connections
PG114M	Local Lines Service Access Switches Cur
PG115C	Access Radio Equipment
PG115M	Access Radio Maintenance
PG120A	Payphone Line Cards
PG124A	ISDN30 Equipment
PG145B	ADSL Connections (Openreach)
PG145N	WBA End User NTEs
PG147B	SDSL Connections (Openreach)
PG147N	SDSL Connections (Wholesale)
PG150B	Abortive Visits
PG151N	Broadband Line Testing Equipment (TSO)
PG152N	DSLAM - Overheads
PG153N	DSLAM - Equipment
PG161A	BT Retail Access Costs
PG170B	Backhaul Fibre
PG192A	FTTC Copper Tie Cables

PG	PG Description
PG445M	Local End Equipment 140Mbit/s Maintenance
PG446A	OR Pay Costs reallocation CF446
PG446B	OR Pay Costs reallocation CR446
PG446C	Local End Equipment 622Mbit/s Equipment
PG446M	Local End Equipment 622Mbit/s Maintenance
PG447A	Ethernet Access Equipment
PG448A	CCTV Rental
PG448L	CCTV Connection
PG461A	Private Circuits Test & Maintenance Systems
PG462A	Private Circuits Customer Premises
PG463A	Private Circuits Testing
PG506N	SG&A PPC (Wholesale)
PG444M	Local End Equipment 34Mbit/s Maintenance
PG510B	Openreach Bad Debts
PG510N	Wholesale Bad Debts
PG511M	Interconnect OCP Maintenance
PG511P	Interconnect OCP Provision
PG512A	SG&A Calls
PG561A	Interconnect Outpayments International
PG571B	OR Service Centre Provision ISDN30
PG573B	OR Service Centre Provision Ethernet
PG574B	OR Service Centre Provision NGA
PG576B	OR Service Centre Assurance WLR ISDN30
PG578B	OR Service Centre Assurance Ethernet
PG579B	OR Service Centre Assurance NGA
PG580B	Broadband Boost
PG583N	SG&A Wholesale Residual
PG584N	SG&A Wholesale Other
PG585A	SG&A downstream Residual
PG586N	SG&A Interconnect
PG599A	Interconnect Outpayments Inland
PG608N	SG&A Other
PG609N	SG&A Broadband
PG610N	SG&A Calls
PG622A	Public Payphones Operations

PG	PG Description
PG197A	FTTC Service Delivery & Development
PG198A	FTTP Development
PG216C	Operator Assistance Systems Equipment
PG216M	Operator Assistance Systems Maintenance
PG217Q	LE Frames Capital (Wholesale)
PG224A	Universal Card Platform Equipment
PG227A	Advanced Switching Units
PG228A	Signalling Transfer Point and Edge Link Monitors
PG229A	Signalling Point Relay and Core Link Monitors
PG241A	Repair Handling Duty
PG249C	Main Exchange DLT
PG252B	Openreach Residual Elimination
PG252N	Network Residual Elimination
PG253B	OR CPE Switch Cost
PG254A	Main Exchange - Intelligent Access & Messaging
PG254B	OR Project Services - Residual
PG255B	Main Exchange Switchblock
PG256B	OR Project Simple - Residual
PG257C	Main Exchange Procesor
PG260A	Intelligent Network Platform
PG276A	Common Capability - Intelligence Service Layer
PG280C	AXE10 LE Processor
PG281C	AXE10 LE DLT
PG282A	Local Exchange Switch Block (AXE10)
PG283A	Local Exchange Conc (AXE10) Call set-up
PG284A	Local Exchange Conc (AXE10) Call Duration
PG285C	System X Processor
PG286C	System X LE DLT
PG287A	Local Exchange Switch Block (AXE10)
PG288A	Local Exchange Concentrator (Sys X) Call Set-up
PG289A	Local Exchange Concentrator (Sys X) Call Duration
PG300T	PPC Point of Handover
PG301T	SDH Tier 0 Equipment
PG311T	SDH Tier 1 STM1 Equipment
PG313T	SDH Tier 1 STM4 Equipment
PG315T	SDH Tier 1 STM16 Equipment

PG	PG Description
PG622B	Public Payphones Operations - OR
PG653A	ATM Customer Interface 2Mbit/s Cards
PG654A	ATM Customer Interface 34Mbit/s Cards
PG656A	ATM Network Switching
PG657A	Framestream Switch
PG658A	ATM Customer Interface >155Mbit/s Cards
PG659A	ATM Network Interface Cards
PG662B	Dummy to be Removed
PG666A	TVC
PG667A	IP International Peering
PG668A	IP Network Management
PG669A	IP Network Dial IP
PG670A	IP Network Fixed Access
PG671A	IP Network VPN
PG672A	IP Network Broadband
PG673A	IP Network BT Intranet
PG674A	IP Core/Colossus
PG675A	IP VOIP Infrastructure
PG675B	Hosted Communications Services Infrastructure
PG676A	IP Applications
PG678A	SIP servers
PG732A	Generic Data Amendments Network Costs
PG771A	Special Applications Other Development
PG773A	Ethernet Systems Development
PG855A	Border Gateway & Signalling Firewall
PG856A	CMSAN ISDN2 cards
PG857A	Copper MSAN Combi Cards Broadband element
PG859A	Copper MSAN Control Access
PG860A	Copper MSAN Control Transport
PG861A	Copper MSAN ISDN30 cards
PG862A	Copper MSAN SDSL cards =<2Mbit/s
PG863A	Copper-Fibre MSAN Length
PG864A	Copper-Fibre MSAN Link
PG865A	Core-Core Length
PG866A	Core-Core Link
PG867A	Ethernet NTE

PG	PG Description
PG321T	SDH Tier 2 STM1 Equipment
PG323T	SDH Tier 2 STM4 Equipment
PG325T	SDH Tier 2 STM16 Equipment
PG331T	SDH Tier 3 STM1 Equipment
PG333T	SDH Tier 3 STM4 Equipment
PG335T	SDH Tier 3 STM16 Equipment
PG341T	SDH Tier 4 STM1 Equipment
PG343T	SDH Tier 4 STM4 Equipment
PG345T	SDH Tier 4 STM16 Equipment
PG350N	Core Fibre
PG351T	SDH TierSC STM1 Equipment
PG353T	SDH TierSC STM4 Equipment
PG355T	SDH TierSC STM16 Equipment
PG359T	SDH Traffic Grooming
PG361T	PDH Metal 2Mbits/s Equipment
PG365T	PDH Metal 34Mbits/s Equipment
PG367T	PDH Metal 140Mbits/s Equipment
PG371T	PDH Optical 2Mbits/s Equipment
PG373T	PDH Optical 8Mbits/s Equipment
PG375T	PDH Optical 34Mbits/s Equipment
PG377T	PDH Optical 140Mbits/s Equipment
PG379T	PDH Optical 565Mbits/s Equipment
PG381T	MSH STM1 Equipment
PG383T	MSH STM16 Equipment
PG385T	MSH STM64 Equipment
PG391T	PDH Radio 8Mbits/s Equipment
PG393T	PDH Radio 34Mbits/s Equipment
PG395T	PDH Radio 140Mbits/s Equipment
PG399T	PDH Traffic Grooming
PG400T	ACE/ENA Core Equipment
PG401A	Netstream Equipment
PG405A	DMS100 Call Centre Switches
PG411C	Analogue Private Circuit Equipment
PG411M	Analogue Electric Maintenance
PG411P	Analogue Private Circuit Connections
PG412C	Local End Equipment 64kbit/s
PG412M	Local End Equipment 64kit/s Repair
PG412P	64kbit/s Private Circuit Connections
PG413P	Private Circuits Megastream and IX Conns
PG414M	Private Circuits Intntl Analogue IPLC Cur

PG	PG Description
PG868A	Core Core WBMC Dedicated
PG869A	FMSAN Control Access
PG873A	Fibre MSAN-WDM Length
PG874A	Fibre MSAN-WDM Link
PG876A	INODE Voice Call Set-Up
PG877A	ISDN30 NTE
PG878A	Metro Broadband LNS
PG879A	Metro BBL3
PG880A	Metro Broadband Edge Aggregator
PG881A	METRO BRAS and MSE
PG882A	Metro Front End Router
PG885A	Metro-Core Length
PG886A	Metro-Core Link
PG887A	Metro-Edge Ethernet Bandwidth
PG888A	Metro-Edge Ethernet Port
PG889A	Metro-Infrastructure Ethernet
PG890A	Metro-Media Gateway
PG892A	Metro-Sync Racks
PG893A	Multi Service Provider Edge Routers
PG895A	Network Router (large) Core
PG896A	Network Router Metro
PG898A	Core Directors
PG899A	WDM-Metro Link
PG900A	WDM-Metro Length
PG901A	Ethernet Switches
PG902A	Ethernet Switch Access Cards
PG903A	Metro MAR
PG911A	Operator Services Inland
PG912A	Operator Services International
PG924A	Directory Enquiries Non Chargeable
PG941A	Cumulo Rates NGA
PG948C	GEA FTTP Access Fibre Spine
PG948M	GEA FTTP Access Fibre Spine Maintenance
PG949C	GEA FTTP Distribution Fibre
PG949M	GEA FTTP Distribution Fibre Maintenance
PG950C	GEA FTTC Access Fibre Spine
PG950M	GEA FTTC Access Fibre Spine Maintenance
PG951C	GEA FTTC Distribution Fibre
PG951M	GEA FTTC Distribution Fibre Maintenance
PG952C	GEA Electronics

PG	PG Description
PG415M	Private Circuits Intntl Digital IPLC Current
PG421S	Private Circuits Analogue Installation
PG422S	Private Circuits Analogue Installation
PG426S	Private Circuits AccessLine Installation
PG440C	Local End Equipment ASDH 4x2Mbit/s Equipment
PG440M	Local End Equipment ASDH 4x2Mbit/s Maintenance
PG441C	Local End Equipment ASDH 16x2Mbit/s Equipment
PG441M	Local End Equipment ASDH 16x2Mbit/s Maintenance
PG442C	Local End Equipment 2Mbit/s (Copper) Equipment
PG442M	Local End Equipment 2Mbit/s (Copper) Maintenance
PG443C	Local End Equipment 2Mbit/s (Fibre) Equipment
PG443M	Local End Equipment 2Mbit/s (Fibre) Maintenance
PG444C	Local End Equipment 34Mbit/s Equipment
PG445C	Local End Equipment 140Mbit/s Equipment

PG	PG Description
PG953C	GEA DSLAM & Cabinets
PG954C	GEA Customer Site Installations
PG955M	GEA FTTC Maintenance
PG956M	GEA FTTP Maintenance
PG957P	GEA FTTP Provision
PG958P	GEA FTTC Provision
PG959C	Access Distribution Fibre
PG980R	Repayment Works
PG982R	Openreach Managed Services for Wholesale
PG984R	Openreach Managed Services for Global Services
PG985R	Openreach Managed Services for Retail
PG986R	Openreach Other Activities
PG987R	Unregulated Time Related Charges
PG988R	Openreach Total Care

A WACC of 9.9% is used for the following Plant Groups:

PG	PG Description
PG151B	Broadband Line Testing Equipment (Openreach)
PG449A	Ethernet Monitoring Platform
PG457A	Optical Ethernet Electronics Capital
PG467A	EAD Electronics Capital

PG	PG Description
PG502B	SG&A Openreach Sales Product Management
PG601B	SLG Ethernet Provision
PG602B	SLG Ethernet Assurance
PG772A	Openreach Systems & Development (Product Specific)
PG800A	Ofcom Licence Fee

12 Components

12.1 Introduction to Components

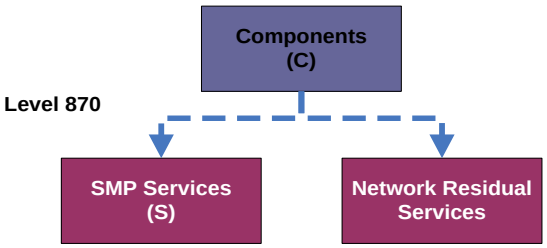
Components (sometimes called Network Components) are one of the five main categories of costs we use in the production of the RFS. Components are used to attribute onwards the costs and asset values representing discrete parts of BT's Network (e.g. MDF Equipment, Access Fibre Spine and ISDN30 Connections). Costs within these network components are attributed to various Services.

Network components represent the collection of various different cost types. One of the distinguishing features of a component is that it would usually have a single cost driver. E.g. Call switching is consumed in the provision of minutes of conversation time, and so conversation time is used as the cost driver for switching costs. In the case of switching, component costs or charges flow to downstream retail products via services pro-rata to the volume of call minutes generated by each product or service.

Component attribution is the final stage of the cost attribution process relevant to our regulatory reporting obligations. We attribute the costs of all Network Components to Standard Services. The attribution process takes place at level 8 in our REFINE system (see diagram below - full diagram shown and explained in Section 2 Business and system overview).

At the end of this stage all relevant network and non-network costs have been attributed to wholesale services (Openreach and Wholesale & Ventures). These services are then grouped to represent different markets for regulatory purposes.

Illustration of REFINE processing level 870



12.2 Component to Service attribution

The cost of each network component can either be directly allocated to an individual product/service or an attribution methodology can be used to apportion the cost to multiple products/services. These attribution methodologies are often directly linked to service volumes and hence drive the attribution of costs. For example, if Component A is used by two services, each with equal volume usage, then the attribution of costs of Component A to the two services will reflect an equal split.

12.2.1. Introduction to factors and factored volumes

The total costs of the Wholesale Markets can be obtained by aggregating the costs of all Network Components. However, it is necessary to attribute that total cost to individual wholesale services. In cases where Network Components are used by multiple Services it is necessary to factorise the component volume per Service to determine the cost attribution.

For Services provided on a cost basis, the cost to Wholesale Markets of providing such service is the cost of each component used in providing the Service. For some Wholesale Services, the calculation of the cost of service provision is more complicated, as each service represents the utilisation of one or more network components, and its cost is therefore determined by an attribution of component costs. This attribution can involve the calculation and application of route factors, usage factors or other appropriate basis of apportioning components costs.

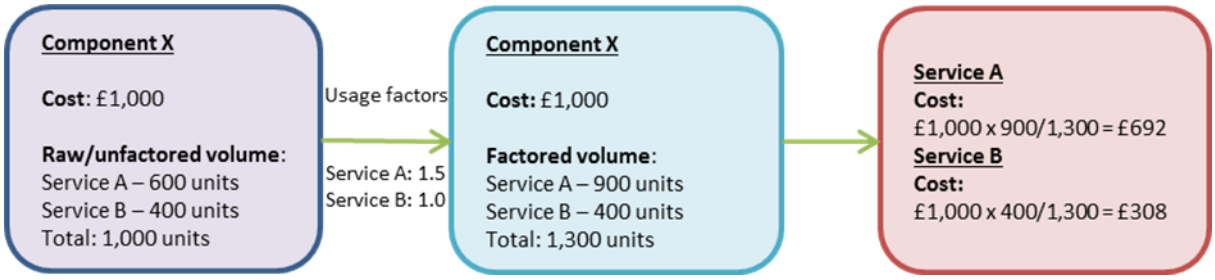
Usage factors are one of the most common ways of determining a Service's usage of a particular Network Component.

12.2.2. Derivation of usage factors

Usage factors reflect the usage of a particular component by a service compared to the other services which also use that component. It is therefore specific to each Component-Service combination. The determination of relevant usage factors varies dependant on the type of service.

This variation arises because individual markets use different components which are representative of costs incurred and measurable in very distinct ways. E.g. call routes and route sampling are relevant in determining call related component to service usage factors, whereas in the Business Connectivity Markets the usage factors for services depend on the geography of the different segments in the network used to provide the service (i.e. whether they are located in Central London Area, London Periphery or Rest of UK regions).

The diagram below shows how component costs are attributed to services.



1. Component factored volume is calculated by multiplying the Service volume by the Component-Service usage factor (i.e. how many Components are used by that Service). The costs are those that have been attributed through to the component level in the REFINE system.

2. These volumes are then used to calculate the cost of the Service. Note that in most cases the Product/Service volume weighting is 1, and in this instance we can use raw volumes to derive the cost of the Service. In the above example without using factors the cost would be split between A and B in the ratio £600:£400, this demonstrates that because Service A uses Component X comparatively more than Service B does, it should take a higher proportion of its cost.

The calculation of usage factors for the most significant components used to populate the RFS is described in the following dictionary section. Following this is a table which shows the services to which components attribute costs alongside the usage factors.

12.3 Component to Super Component mapping and Usage Factors

Component Code	Component Description	Super Component
CB599	**Interconnect Payments to OLOs** *Description* The costs within CB599 are Payments to Other Communications Providers (i.e. NTL, Energis, C&W) – previously known as OLOs (other licensed operators), for the cost applicable to terminating a call on the OCPs network. *Basis for Usage Factor Calculation* The usage factor for this component is 1.	**CB599 Interconnect Payments to OLOs**
CD100	**Low TISBO 3rd Party Equipment Depreciation** *Description* CD100 contains the estimated depreciation costs for the low TISBO 3rd party customer sited equipment which connects to the local end access circuit of the Private Circuit. The costs are estimated based on the connection revenue. These are depreciated over four years in line with SDH CoW SDHC asset policy code where the 3rd party equipment is registered. Whilst the equipment can be partially identified within this asset policy code based on the description of the individual items booked to this asset policy code, such imprecise identification cannot be used to quantify the costs within this CoW, which is why the costs are estimated based on the connection revenues. The estimated cost is then stripped out from all components that draw its cost from the SDH CoW. *Basis for Usage Factor Calculation* The usage factor for this component is 1.	**CD100 Low TISBO 3rd Party Equipment Depn**
CD101	**Medium TISBO 3rd Party Equipment Depreciation** *Description* CD101 contains the estimated depreciation costs for the Mid TISBO 3rd party customer sited equipment which connects to the local end access circuit of the Private Circuit. The costs are estimated based on the connection revenue. These are depreciated over four years in line with SDH CoW SDHC asset policy code where the 3rd party equipment is registered. Whilst the equipment can be partially identified within this asset policy code based on the description of the individual items booked to this asset policy code, such imprecise identification cannot be used to quantify the costs within this CoW, which is why the costs are	**CD101 Medium TISBO 3rd Party Equipment Depn**

	estimated based on the connection revenues. The estimated cost is then stripped out from all components that draw its cost from the SDH CoW. *Basis for Usage Factor Calculation* The usage factor for this component is 1.	
CE103	**TISBO Excess Construction** *Description* Excess Construction costs are based on excess construction revenue plus an estimated margin that BT makes. This component attributes the debit adjustment from a number of TISBO services where Excess Construction depreciation that has been recovered under rental services has been extracted. *Basis for Usage Factor Calculation* The usage factor for this component is 1.	**CE103 TISBO Excess Construction**
CE104	**CISBO Excess Construction** *Description* This component attributes the capital employed except in-year capital expenditure (see CE106) and depreciation relating to Excess Construction Charges (ECCs) incurred on Ethernet (CISBO) services to ECC services including EAD connections for the ECC fixed fee element in the CISBO markets. This component receives a 100% allocation from PG003X. *Basis for Usage Factor Calculation* This component relates to the CISBO markets. The volumes for the relevant services are nominal values and the attribution is performed entirely using the usage factors. To derive the usage factors we use the depreciation split between ECC and EAD connection services and then use the relative values of the revenues of each service.	**CE104 CISBO Excess Construction**
CE105	**Residual Excess Construction** *Description* Residual Excess Construction costs (ECC) are based on excess construction revenue plus an estimated margin that BT makes. ECC costs are recovered from both Openreach Other Activities Internal and External services. *Basis for Usage Factor Calculation* The component relates to the Residual market. To derive the usage factors we use the relative values of the accumulated depreciation of the Internal and External service.	**CE105 Residual Excess Construction**

CE106	**CISBO Ethernet Excess Construction Capex** *Description* This component attributes capital expenditure relating to Excess Construction Charges (ECCs incurred on Ethernet (CISBO) services including EAD connections for the ECC fixed fee element in the CISBO markets. This component receives a 100% allocation from PG006X. *Basis for Usage Factor Calculation* This component relates to the CISBO markets. The volumes for the relevant services are nominal values for every service and the attribution is performed entirely using the usage factors. To derive the usage factors we use the relative values of the revenues of each service.	**CE106** **CISBO Ethernet Excess Construction Capex**
CF187	**MPF Line Testing Systems** *Description* This component attributes Test Access Management Systems (TAMS) costs. These are used to provide remote access facilities on broadband circuits for testing towards the customer and into the network. TAMS are installed between the Main Distribution Frame (MDF) and the Digital Subscriber Line Access Multiplexer (DSLAM). *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CF187** **MPF Line Testing Systems**
CF189	**EVOTAM Testing Systems** *Description* This component attributes EvoTAMs systems costs. EvoTAMs are installed on SMPF lines to test SMPF lines that are supplied internally to provide Wholesale Broadband Connect services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CF189** **EVOTAM Testing Systems**
CF371	**OR PC Rental 2Mbit link per km distribution** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. The distribution components encompass the costs the electronics across the backhaul network and the associated bearers. This component attributes the costs for the 2Mbit bandwidth services.	**CO371** **PC Rental 2Mbit link per km distribution**

	Basis for Usage Factor Calculation The usage factors for this component are 1.	
CF373	**OR PC Rental 34Mbit link per km distribution** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. The distribution components encompass the costs the electronics across the backhaul network and the associated bearers. This component attributes the costs for the 34Mbit bandwidth services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO373** **PC Rental 34Mbit link per km distribution**
CF375	**OR PC Rental 140Mbit link per km distribution** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. The distribution components encompass the costs the electronics across the backhaul network and the associated bearers. This component attributes the costs for the 140Mbit bandwidth services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO375** **PC Rental 140Mbit link per km distribution**
CF381	**OR PC Rental 64Kbit/s link** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. This link component captures the costs of the electronics (but not the cables) that connect the BT terminating ends into the core network. This component captures the costs of 64Kbit/s bandwidth Openreach circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO381** **PC rental 64kbit/s link**
CF383	**OR PC Rental 2Mb link** *Description* Private Circuits provide a dedicated point-to-point connection for	**CO383** **PC rental 2Mbps link**

	exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. This link component captures the costs of the electronics (but not the cables) that connect the BT terminating ends into the core network. This component captures the costs of 2Mbps bandwidth Openreach circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CF388	**OR PC rental 140Mb link** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites. They utilise bearers and line systems which consist of electronics and interconnecting cable. This component attributes the costs of the electronics (not the cables) that connect the BT terminating ends into the core network. This component is specific to Openreach 140Mbit circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO388** **PC rental 140Mb link**
CF391	**OR PC rental 64Kbit link per km transmission** *Description* This component captures the costs of the Digital Private Circuits Network (DPCN) Transmission Links. The major products using this component are Kilostream N (KxN), sub-2Mb PPCs and IP Clear. Volumes are measured in number of 64kb (Kx) equivalent circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO391** **PC rental 64Kbit link per km transmission**
CF453	**OR Interconnect 2Mbit connection** *Description* Interconnect circuits provide the physical infrastructure to connect the exchanges (switches) of two CPs in order to allow traffic to pass between them. The cost of interconnect circuits is borne by BT and is used to connect BT's network to another operator. The circuit may be used by both BT and the operator and charges are apportioned according to ownership of traffic between the parties. The circuit is charged as an upfront connection and ongoing rental. The connection and ongoing rental of the circuit is shared by three	**CO453** **Interconnect 2Mbit connection**

	parties as follows: • The terminating network operator for use of the circuit to transit and terminate its calls; • BT for own use of the circuit; and • The originating transit network operator. This component attributes the costs of providing the connection of an Interconnect 2Mbit circuit (including associated overheads) as applied to Customer Sited Interconnect (CSI) and Interconnect Extension Circuits (IEC) connections and re-arrangements. *Basis for Usage Factor Calculation* Usage factors for this component are derived from the price weighted volume of circuits provided during the year. The price-weighting takes into account the difference in providing a connection with that of carrying out a re-arrangement or a transfer. From these price-weighted volumes usage factors are calculated and applied. As this methodology uses price weighted volumes, factors will be the same for tandem (non-SMP) and DLE (SMP) services where prices are the same.	
CG101	**PC rental 2Mbps regional trunk** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites (BT or customer). They utilise bearers and line systems which consist of electronics and interconnecting cable. This component attributes the cost of connecting between the Parent Nodes (preferred Tier 1 site) of the serving exchanges for 2Mbps bandwidth services. *Basis for Usage Factor Calculation* CTCS volumes are used to attribute costs to Services. We use the network inventory, routing and network topology information to derive these factors.	**CG101** **PC rental 2Mbps regional trunk**
CG102	**PC rental 34Mbps regional trunk** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites (BT or customer). They utilise bearers and line systems which consist of electronics and interconnecting cable. This component attributes the cost of connecting between the Parent Nodes (preferred Tier 1 site) of the serving exchanges for 34Mbps bandwidth services. *Basis for Usage Factor Calculation*	**CG102** **PC rental 34Mbps regional trunk**

	CTCS volumes are used to attribute costs to Services. We use the network inventory, routing and network topology information to derive these factors.	
CG103	**PC rental 140Mbps regional trunk** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites (BT or customer). They utilise bearers and line systems which consist of electronics and interconnecting cable. This component attributes the cost of connecting between the Parent Nodes (preferred Tier 1 site) of the serving exchanges for 140Mbps bandwidth services for regional trunk. *Basis for Usage Factor Calculation* CTCS volumes are used to attribute costs to Services. We use the network inventory, routing and network topology information to derive these factors.	**CG103** **PC rental 140Mbps regional trunk**
CG201	**PC rental 2Mbps link per km national trunk** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites (BT or customer). They utilise bearers and line systems which consist of electronics and interconnecting cable. This component captures the cost of connecting between the Parent Nodes (preferred Tier 1 site) of the serving exchanges. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CG201** **PC rental 2Mbps link per km national trunk**
CG203	**PC rental 140Mbit link per km national trunk** *Description* Private Circuits provide a dedicated point-to-point connection for exclusive voice and data communications between two sites (BT or customer). They utilise bearers and line systems which consist of electronics and interconnecting cable. This component attributes the cost of connecting between the Parent Nodes (preferred Tier 1 site) of the serving exchanges for 140Mbit bandwidths for national trunk. *Basis for Usage Factor Calculation* CTCS volumes are used to attribute costs to Services. We use the network inventory, routing and network topology information to derive these factors.	**CG203** **PC rental 140Mbit link per km national trunk**

CK980	**Openreach repayment works** *Description* This component captures the costs and balance sheet of Openreach repayment works. The main role of the Repayment Works unit is to ensure the integrity and protection of BT's network, where the highway infrastructure is required to be altered due to promoting authority works under an act of parliament and protecting the network from damage as a result of third party works. The main direct classes of works (CoW) are, HK, HM, HO, HE, HPL, HDM, HUR, HSW, HL HNE. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CK980** **Openreach Repayment works**
CK981	**Openreach Regulated Time Related Charges** *Description* TRCs refer to repair and provisioning jobs carried out by Openreach engineers. The activity could be on Openreach's network or outside of this network, e.g. wiring in the customer's home. *Basis for Usage Factor Calculation* The usage factors for this component are calculated based on the revenue of each service as a proportion of the total revenue of all services attributed to by the component.	**CK981** **Openreach time related charges**
CK987	**Openreach Unregulated Time Related Charges** *Description* TRCs refer to repair and provisioning jobs carried out by Openreach engineers. The activity could be on Openreach's network or outside of this network, e.g. wiring in the customer's home. *Basis for Usage Factor Calculation* The usage factors for this component are calculated based on the revenue of each service as a proportion of the total revenue of all services attributed to by the component.	
CL120	**LLU Electricity Usage - OR** *Description* This component attributes the costs of all LLU related electricity charges. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL120** **LLU Electricity Usage - OR**
CL131	**Co-mingling set up** *Description*	**CL131** **Co-mingling set up**

	Hostels are the location of an operator's equipment in a site; they are rooms that are built to a standard design to house a number of operators. This component attributes the cost of building Local Loop Unbundling (LLU) Hostels within BT Exchanges. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CL132	**Co-mingling rentals** *Description* This component attributes the direct costs and associated overheads relating to the accommodation of Communication Providers' (CP) Local loop Unbundling (LLU) equipment. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL132** **Co-mingling rentals**
CL133	**WLA tie cables** *Description* This Component attributes the depreciation and overheads associated with external and Internal LLU Tie Cables that provide access to BT Exchange and access copper network to enable operators, other than BT, to use the BT's local loop to provide services to customers. It facilitates the opening up of BT's copper network to Other Communication Providers (OCPs). *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL133** **WLA tie cables**
CL139	**Local Loop Unbundling systems development** *Description* This component captures the costs of development specific to Local Loop Unbundling. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL139** **Local Loop Unbundling systems development**
CL144	**Wholesale Access specific** *Description* CL144 relates to Openreach Development for WLR. *Basis for Usage Factor Calculation* The usage factors for these components show how many copper lines (copper pairs) are used by each service. Services such as WLR rentals are reported by lines, and we use a usage factor of 1 for WLR and SMPF Rentals, as well as WLR Connections and Transfers.	**CL144** **Wholesale Access specific**

CL160	**Routing & Records** *Description* The Component captures the costs and balance sheet (Depreciation, ETG and Non-ETG Pay and Non-Pay) of Routing and Records work for provision of analogue / ISDN lines, Local Loop Unbundling (LLU) and Fibre based circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL160** **Routing & Records**
CL161	**MDF Hardware jumpering** *Description* This component attributes the cost of exchange jumpering activities on the Main Distribution Frame (MDF) connecting the exchange switch equipment to the exchange side (E-Side) cable. *Basis for Usage Factor Calculation* The usage factor of this component is calculated based on a survey of the amount of time to provide services for this activity. The usage factor is the time relative to the time taken in the provision of WLR: therefore if a service takes 150% of time taken for WLR the usage factor is 1.5.	**CL161** **MDF Hardware jumpering**
CL171	**E side copper capital** *Description* Access Copper cables connect BT's exchanges to distribution points in the access network and are used to provide voice and broadband services. These cables are categorised as Exchange (E-side) and Distribution side (D-side) copper. E-side cables connect an exchange to street cabinets and D-side cables connect street cabinets to distribution points. This component attributes the capital costs associated with the provision and use of E-side copper cables. *Basis for Usage Factor Calculation* This component is apportioned to services that use copper lines using a usage factor which is the product of: • Number of Channels used per copper line (e.g. ISDN2 rentals are measured in lines and there are two channels per line); • the relative fault rates (e.g. broadband enabled lines develop faults more often than voice only lines); and • The service level (e.g. typically we expect that Openreach aims to repair MPF lines sooner than basic WLR Lines, and consequently we estimate Care Level 2 for WLR premium services is 20% greater than Care Level 1 for basic WLR services).	**CL171** **E side copper capital**

CL172	**E side copper current** *Description* Access Copper cables connect BT's exchanges to distribution points in the access network and are used to provide voice and broadband services. These cables are categorised as Exchange (E-side) and Distribution side (D-side) copper. E-side cables connect an exchange to street cabinets and D-side cables connect street cabinets to distribution points. This component attributes the operational and maintenance costs associated with the provision and use of E-side copper cables. *Basis for Usage Factor Calculation* This component is apportioned to services that use copper lines using a usage factor which is the product of: • Number of Channels used per copper line (e.g. ISDN2 rentals are measured in lines and there are two channels per line); • the relative fault rates (e.g. broadband enabled lines develop faults more often than voice only lines); and • The service level (e.g. typically we expect that Openreach aims to repair MPF lines sooner than basic WLR Lines, and consequently we estimate Care Level 2 for WLR premium services is 20% greater than Care Level 1 for basic WLR services).	**CL172** **E side copper current**
CL173	**D side copper capital** *Description* Access copper cables connect BT's exchanges to distribution points in the access network and are used to provide voice and broadband services to customers. These cables are categorised as Exchange side (E-side) and Distribution side (D-side) copper. E-side cables connect an exchange to street cabinets and D-side cables connect street cabinets to distribution points. This component attributes the capital costs related to the provision and use of D-side copper cables. *Basis for Usage Factor Calculation* This component is apportioned to services that use copper lines using a usage factor which is the product of: • Number of Channels used per copper line (e.g. ISDN2 rentals are measured in lines and there are two channels per line); • the relative fault rates (e.g. broadband enabled lines develop faults more often than voice only lines); and • The service level (e.g. typically we expect that Openreach aims to repair MPF lines sooner than basic WLR Lines, and consequently we estimate Care Level 2 for WLR premium	**CL173** **D side copper capital**

	services is 20% greater than Care Level 1 for basic WLR services).	
CL174	**D side copper current** *Description* Access copper cables connect BT's exchanges to distribution points in the access network and are used to provide voice and broadband services to customers. These cables are categorised as Exchange side (E-side) and Distribution side (D-side) copper. E-side cables connect an exchange to street cabinets and D-side cables connect street cabinets to distribution points. This component attributes the operational and maintenance costs associated with the provision and use of D-side copper cables. *Basis for Usage Factor Calculation* This component is apportioned to services that use copper lines using a usage factor which is the product of: • Number of Channels used per copper line (e.g. ISDN2 rentals are measured in lines and there are two channels per line); • the relative fault rates (e.g. broadband enabled lines develop faults more often than voice only lines); and • The service level (e.g. typically we expect that Openreach aims to repair MPF lines sooner than basic WLR Lines, and consequently we estimate Care Level 2 for WLR premium services is 20% greater than Care Level 1 for basic WLR services).	**CL174** **D side copper current**
CL175	**Local exchanges general frames equipment** *Description* This component captures the costs of equipment of frames at Local Exchanges. *Basis for Usage Factor Calculation* The usage factor of this component represents the number of jumpers, which is one per copper line for WLR and ISDN services. For ISDN services, it is divided by the number of channels (i.e. 2 for ISDN2 and 14.4 for ISDN30). In the case of MPF, however, it requires two per line, hence the factor is 2.0.	**CL175** **Local exchanges general frames equipment**
CL176	**Local exchanges general frames maintenance** *Description* This component captures the costs of maintenance of frames at Local Exchanges. *Basis for Usage Factor Calculation*	**CL176** **Local exchanges general frames maintenance**

	These costs relate to the maintenance of frames. The usage factors of this component are the product of four variables: • Number of copper lines used, e.g. ISDN2 is reported in channels, but there are 2 channels per line, we therefore use a usage factor of 0.5; • Number of jumpers used per line, e.g. a WLR line uses one pair of jumpers per line, but MPF uses two; • Care (service) level, e.g. we estimate Care Level 2 for WLR premium services is 20% greater than Care Level 1 for basic WLR services; and • Relative fault rate, e.g. MPF has higher fault rates than WLR.	
CL178	**Dropwire capital & analogue NTE** *Description* This component attributes the capital costs of dropwire from the Distribution Point up to and including the customer Network Terminating Equipment (NTE). *Basis for Usage Factor Calculation* The factors are based on the usage of dropwire by the services taking into account the volume measure of the service. ISDN2 has a usage factor of 0.5 and this takes account of the fact that there are 2 channels per line. The usage factor is calculated as 1 / 2 = 0.5.	**CL178 Dropwire capital & analogue NTE**
CL180	**Analogue line drop maintenance** *Description* This component attributes the maintenance costs of residential dropwire from the Distribution Point up to and including the customer Network Terminating Equipment. *Basis for Usage Factor Calculation* We use a usage factor that takes account of: • The number of copper lines used (e.g. ISDN2 rentals are measured in lines and there are two channels per line); • The relative fault rates (e.g. broadband enabled lines develop faults more often than voice only lines); and • The service level (e.g. Openreach aims to repair MPF lines sooner than basic WLR Lines).	**CL180 Analogue line drop maintenance**
CL182	**Abortive Visits** *Description* This component attributes Abortive Visit Charges (AVC). An Abortive Visit is applied where an appointment is agreed for work at an End User's Site and the engineer arrives within the appointment slot but is unable to carry out the work at, or gain access to, the End User Site. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL182 Abortive Visits**

CL183	**Analogue line cards** *Description* Line cards are the electronic cards in the exchange that provide connectivity to the switch. This component attributes the costs of the line cards that provide customer access into the BT network. They sit within the Concentrator Asset of Local exchanges and support Residential and Business Line rental products. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL183** **Analogue line cards**
CL184	**ISDN2 line cards** *Description* Line cards are the electronic cards in the exchange that provide connectivity to the switch. This Component attributes the costs associated with the Integrated Services Digital Network 2 (ISDN2) line cards. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL184** **ISDN2 line cards**
CL189	**ISDN30 access** *Description* This component captures the 'Access' or 'Local End' costs associated with ISDN30 circuits. These costs consist of access copper, access fibre, backhaul fibre and network equipment costs including overheads. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL189** **ISDN30 access**
CL190	**ISDN30 line cards** *Description* Line cards are the electronic cards in the exchange that provide connectivity to the switch. This component attributes the costs associated with the Integrated Services Digital Network 30 (ISDN30) line cards. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL190** **ISDN30 line cards**
CL192	**NGA E-side Copper Capital** *Description* Access copper cables connect BT's exchanges to distribution points in the access network and are used to provide voice and broadband services to customers. These cables are categorised as Exchange side (E-side) and	**CL192** **NGA E side Copper Capital**

	Distribution side (D-side) copper. E-side cables connect an exchange to street cabinets and D-side cables connect street cabinets to distribution points. This component attributes the capital costs related to the provision and use of NGA E-side Copper cable. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CL193	**Expedite Provision Costs** *Description* This component attributes the costs and MCE relating to Expedite Provision jobs *Basis for Usage Factor Calculation* The usage factors for this component are 1	**CL193** **Expedite Provision Costs**
CL195	**NGA Visit Assure** *Description* This component attributes the costs and MCE relating to NGA Visit Assure jobs *Basis for Usage Factor Calculation* The usage factors for this component are 1	**CL195** **NGA Visit Assure**
CL197	**FTTC Development** *Description* This component attributes the development costs for Fibre To The Cabinet (FTTC). This digital subscriber line access multiplexer (DSLAM) technology is used in delivering the rollout of the NGA network, which is used to supply super-fast broadband products. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL197** **FTTC Development**
CL570	**OR Service Centre - Provision WLR PSTN/ISDN2** *Description* This component attributes the costs of Openreach service management centres that deal with the provision of WLR and ISDN2 services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL570** **OR Service Centre - Provision WLR PSTN/ISDN2**
CL571	**OR Service Centre - Provision WLR ISDN30** *Description* This component attributes the costs of Openreach service management centres that deal with the provision of WLR and	**CL571** **OR Service Centre - Provision WLR ISDN29**

	ISDN30 services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CL572	**OR Service Centre - Provision LLU** *Description* This component attributes the costs of Openreach service management centres that deal with the provision of LLU. *Basis for Usage Factor Calculation* These components are allocated at Level 850 (Openreach services and part services) in proportion to volumes so we use a usage factor of 1. For the internal services there is a further attribution step that allocates the costs from Openreach part-service to a final service in a downstream market. An additional factor is introduced at this stage which represents the difference between upstream and downstream volumes. This factor will not affect the attribution of costs between internal and external services.	**CL572** **OR Service Centre - Provision LLU**
CL573	**OR Service Centre - Provision CISBO** *Description* This component captures the costs of Openreach service management centres that deal with the provision of Ethernet services. *Basis for Usage Factor Calculation* The usage factor is based on the unit of volume of the Ethernet service. Some services are measured in Local Ends whilst others are measured in circuits. The factor derived takes account of the different unit measure to apportion costs equally by volume. WES and BES volumes are expressed in Local Ends therefore circuit volumes for these have a Usage Factor of 0.5. In all other instances (e.g. EBD) Usage Factors for this component are 1.	**CL573** **OR Service Centre - Provision CISBO**
CL574	**OR Service Centre - Provision NGA** *Description* This component captures the cost and balance sheet - Service Centre for the Provision of Next Generation Access (NGA *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL574** **Service Centre Provision NGA**
CL575	**OR Service Centre - Assurance Analogue/ISDN2** *Description* This component captures the costs of Openreach service management centres that deal with the repair of ISDN2 and PSTN	**CL575** **OR Service Centre - Assurance Analogue/ISDN2**

	services (i.e. traditional telephone lines). *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CL577	**OR Service Centre - Assurance WLA** *Description* This component captures the costs of Openreach service management centres that deal with the repair of WLA services e.g. Local Loop Unbundling (LLU). *Basis for Usage Factor Calculation* The usage factor apportions cost equally by volume i.e. all factors are 1.00 except in the case of MPF services where the ratio of the fault rate for MPF to SMPF is used.	**CL577** **OR Service Centre - Assurance WLA**
CL578	**OR Service Centre Assurance Ethernet** *Description* This component captures the costs of Openreach service management centres that deal with the repair of Ethernet services. *Basis for Usage Factor Calculation* The usage factor is based on the unit of volume of the Ethernet service. Some services are measured in Local Ends whilst others are measured in circuits. The factor derived takes account of the different unit measure to apportion costs equally by volume. WES and BES volumes are expressed in Local Ends therefore circuit volumes for these have a Usage Factor of 0.5. In all other instances (e.g. EBD) Usage Factors for this component are 1.	**CL578** **OR Service Centre - Assurance Ethernet**
CL579	**OR Service Centre - Assurance NGA** *Description* This component captures the costs of Openreach service management centres that deal with the repair of NGA (Next Generation Access) services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL579** **Service Centre Assurance NGA**
CL590	**Service Level Guarantees WLA** *Description* This component captures the costs of Openreach Service Level Agreements for LLU both Internal and External. *Basis for Usage Factor Calculation* This component contains service level guarantee payments/refunds to customers of LLU services. The usage factors are a combination of three elements: • The relative total amounts paid in compensation for repairs	**CL590** **Service Level Guarantees WLA**

	(i.e. in respect of rentals) and provision delays (i.e. in respect of connections); • The relative price of the individual services; and • The relative fault rate between SMPF and MPF services.	
CL948	**GEA FTTP Access Spine Fibre** *Description* This component contains costs for the provision; installation; recovery; and depreciation of NGA FTTP Access Spine fibre cable i.e. the fibre cables between the Exchange and the aggregation node in the fibre network. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL948** **GEA FTTP Access Spine Fibre**
CL949	**GEA FTTP Distribution Fibre** *Description* This component contains costs for the provision; installation; recovery; and depreciation of NGA FTTP distribution fibre cable i.e. the fibre cables between the Cabinet and the customer premises. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL949** **GEA FTTP Distribution Fibre**
CL950	**GEA FTTC Access Fibre Spine** *Description* This component contains costs for the provision; installation; recovery; and depreciation of NGA FTTC Access fibre spine cable i.e. the fibre cables between the Exchange and the aggregation node in the fibre network. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL950** **GEA FTTC Access Fibre Spine**
CL951	**GEA FTTC Distribution Fibre** *Description* This component contains costs for the provision; installation; recovery; and depreciation of NGA FTTC distribution fibre cable i.e. the fibre cables between the Cabinet and the aggregation node in the fibre network. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL951** **GEA FTTC Distribution Fibre**
CL601	**SLG Ethernet Provision** *Description* This component contains 'Service Level Guarantee' costs associated with Ethernet provision. Compensation is paid to customers if Openreach fails to meet agreed timescales for Provision or Repair activities.	**CL601** **SLG Ethernet Provision**

	Basis for Usage Factor Calculation The usage factors for this component are 1.	
CL602	**SLG Ethernet Assurance** *Description* This component contains 'Service Level Guarantee' costs associated with Ethernet assurance. Compensation is paid to customers if Openreach fails to meet agreed timescales for Provision or Repair activities. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL602** **SLG Ethernet Assurance**
CL603	**SLG WLR Provision** *Description* This component contains 'Service Level Guarantee' costs associated with WLR provision. Compensation is paid to customers if Openreach fails to meet agreed timescales for Provision or Repair activities. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL603** **SLG WLR Provision**
CL604	**SLG WLR Assurance** *Description* This component contains 'Service Level Guarantee' costs associated with WLR assurance. Compensation is paid to customers if Openreach fails to meet agreed timescales for Provision or Repair activities. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL604** **SLG WLR Assurance**
CL952	**GEA Electronics** *Description* This component captures the costs of the exchange based electronics required for the delivery of GEA (Generic Ethernet Access). It connects the high-speed digital communications channels from the customer to the backhaul network. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL952** **GEA Electronics**
CL953	**GEA DSLAM & Cabinets** *Description* This component captures the costs of the DSLAM (digital subscriber line access multiplexer) network device required for the delivery of GEA (Generic Ethernet Access). It connects multiple customer digital subscriber line (DSL) interfaces to a high-speed	**CL953** **GEA DSLAM Cabinets**

	digital communications channel using multiplexing techniques. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CL954	**GEA Customer Site Installation** *Description* This component attributes the costs for customer site Super-Fast Fibre Broadband provision and installation activity. It covers costs for the part of the network that is beyond the end of the Access Network and up to the DSL Modem in the customer premises. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL954** **GEA Customer Site Installation**
CL958	**GEA FTTC Provisions** *Description* This component contains provision costs for the Fibre to the Cabinet connection services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL958** **GEA FTTC Provisions**
CL998	**Fibre Rollout Funding** *Description* This component attributes the funding received in relation to BT's fibre rollout. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL998** **Fibre Rollout Funding**
CL999	**Funded Fibre Rollout Spend** *Description* This component attributes the funded region fibre rollout spend. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CL999** **Funded Fibre Rollout Spend**
CN619	**Ethernet Backhaul Direct - Active** *Description* This component attributes the capital costs associated with transmission electronics between WDM Multi Service Access Node (MSAN) and a Metro Node. *Basis for Usage Factor Calculation* This component is used by Ethernet Backhaul Direct (EBD) 10Gbit/s and EBD 1Gbit/s services.	**CN619** **Ethernet Backhaul Direct - Active**

	The usage factors for this component reflect the relative costs of providing transponders for 10Gbit/s services compared to 1Gbit/s services.	
CN620	**Ethernet Backhaul Direct - Passive** *Description* This component attributes the backhaul fibre and duct between WDM Multi Service Access Node (MSAN) and a Metro Node. *Basis for Usage Factor Calculation* This component is used by Ethernet Backhaul Direct (EBD) 10Gbit/s and EBD 1Gbit/s services. The usage factors for this component take into account the different CISBO geographical areas. It represents the relative costs of providing fibre links between BT exchanges in the different CISBO geographical areas. It is derived from a study of the fibre infrastructure in different parts of the network. It also takes account of the different average lengths of circuit by geography derived from Revenue data.	**CN620 Ethernet Backhaul Direct - Passive**
CN623	**Ethernet Backhaul Direct – Resilience Active** *Description* This component attributes the capital costs associated with transmission electronics between Metro Nodes that are used for providing resilience to EBD services. *Basis for Usage Factor Calculation* This component is used by Ethernet Backhaul Direct (EBD) 10Gbit/s and EBD 1Gbit/s services. The usage factors for this component take into account the different CISBO geographical areas and are the same as used for CN620 (Ethernet Backhaul Direct – Passive).	**CN623 Ethernet Backhaul Direct - Resilience Active**
CN624	**Ethernet Backhaul Direct – Resilience Passive** *Description* This component attributes the backhaul, fibre and duct costs between Metro Nodes for links that are used for providing resilience to EBD services. *Basis for Usage Factor Calculation* This component is used by Ethernet Backhaul Direct (EBD) 10Gbit/s and EBD 1Gbit/s services. The usage factors for this component take into account the different CISBO geographical areas and are the same as used for CN620 (Ethernet Backhaul Direct – Passive).	**CN624 Ethernet Backhaul Direct – Resilience Passive**

CN666	**TV Connect** *Description* TVC provides headend capabilities for receiving, and optionally encoding, TV channels provided by an ISP. It then distributes the channels over 21C to the Openreach NGA interconnection points and consumes capacity from Openreach to deliver the channels to the ISP end users. The TV Connect traffic will be delivered across the end to end network over a separate logical path from the WBC data traffic.BT Wholesale will provide interfaces to support provision, repair, service monitoring and billing. For TVC costs BTW pays for dedicated (VLAN) capacity within 21C, connectivity to Openreach and for infrastructure in the TVC Headend. *Basis for Usage Factor Calculation* The usage factor for this component will be 1.	**CN666** **TV Connect**
CN854	**Combi Card - Broadband** *Description* Combi cards can be used to provide Voice services or Broadband. This component attributes the costs for the Broadband associated costs within the Combi card. The Combi card is situated in the MSAN. *Basis for Usage Factor Calculation* The usage factors for this component are based on usage by location.	**CN854** **Combi card broadband**
CN860	**Core/Metro (broadband)** *Description* This component contains costs for the Broadband associated costs within the Metro and Core nodes. Core and Metro nodes are not used exclusively for Broadband however this component captures the cost within these assets that are consumed by Broadband products. *Basis for Usage Factor Calculation* The usage factors for this component are 1 except for TV Connect (TVC) for which we calculate the total channel bandwidth required by TVC and the number of Core/Metro nodes it uses, and factor by this percentage of the total channel bandwidth (currently 0.75).	**CN860** **Core/Metro (broadband)**
CN868	**iNode voice call set-up** *Description* The iNode represents the part of the network that contains intelligence associated with routing, verifying and controlling end to end service.	**CN868** **iNode voice call set-up**

	This Component attributes the capital costs of Voice Call Set-Up functionality contained within iNode. *Basis for Usage Factor Calculation* The routing factors for 21CN voice components have been derived from the 20CN call routing information and adjusted to show how calls would be routed across the 21CN network. The volume of calls crossing the 21CN network is very small, limited to the Pathfinder trial in Cardiff.	
CN879	**Core and Metro 10GB** *Description* This component is allocated costs relevant to the dedicated core to core and metro to core 10Gbit/s links that are not used to carry wholesale broadband, voice or Ethernet services. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CN879** **Core and Metro 10GB**
CN882	**Ethernet Switch Access HE/MEAS** *Description* This component captures all Ethernet Switch costs for downstream Ethernet and MEAS (both Residual) services. *Basis for Usage Factor Calculation* Total costs for the Services using this component are modelled in the 21CN model using capex that has been depreciated over the life of the given asset/s. These costs are modelled through the 21CN model with all agreed assumptions applied and costs are allocated to the HE/MEAS services. We take the Product/Service volumes for HE/MEAS from the 21CN model and divide the aforementioned total costs by the volume to derive a unit price. We then apply a factor of 1 to the highest priced Service (Ethernet Premium 10G), all the other service factors are then derived as a proportion of the Ethernet Premium 10G service price. The Services are: SE586 Ethernet - Premium (GS) - <10M copper SE587 Ethernet - Premium (GS) - 10M fibre SE588 Ethernet - Premium (GS) - 100M fibre SE589 Ethernet - Premium (GS) - 1G fibre SE590 Ethernet - Premium (GS) - 10G fibre SE591 Premium - SFBB - FTTC (Excludes MEAS) SE592 Ethernet - MEAS (MNOs) 100M fibre SE593 Ethernet - MEAS (MNOs) 1G fibre SE594 Ethernet - MEAS (MNOs) 10G fibre	**CN882** **Ethernet Switch Access HE/MEAS**
CN889	**Metro BRAS and MSE** *Description*	**CN889** **Metro BRAS and MSE**

	This component attributes the cost of capital expenditure incurred for the deployment of the BRAS. BRAS routes traffic to and from the digital subscriber line access multiplexers (DSLAM) on an Internet service provider's (ISP) network. The BRAS sits at the core of an ISP's network, and aggregates user sessions from the access network. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CN890	**EES and MSAN Access - Broadband** *Description* This component captures the maintenance (Profit and Loss, Pay, Non-Pay, Materials etc.) costs of the electronics in the backhaul transmission between the MSAN and up to and including the access port on the Ethernet Switch that are relevant to Broadband products. The backhaul is a shared element of the network. *Basis for Usage Factor Calculation* The usage factors for this component are based on usage by location.	**CN890** **EES and MSAN Access - Broadband**
CN891	**Ethernet Switch BB** *Description* This component captures the maintenance (Pay, Non-Pay, Materials etc.) costs of the electronics in the backhaul transmission contained in the Ethernet Switch that is the element of the Ethernet Switch which is not used for access. This is a shared element of the network. *Basis for Usage Factor Calculation* The usage factors to services for this component are 1.	**CN891** **Ethernet Switch BB**
CN902	**Metro Core HE/MEAs** *Description* This component captures the Metro to Core transmission costs for downstream Ethernet and MEAs (both Residual) services. *Basis for Usage Factor Calculation* Total costs for the Services using this component are modelled in the 21CN model using capex that has been depreciated over the life of the given asset/s. These costs are modelled through the 21CN model with all agreed assumptions applied and costs are allocated to the HE/MEAS services. We take the Product/Service volumes for HE/MEAS from the 21CN model and divide the aforementioned total costs by the volume to derive a unit price. We then apply a factor of 1 to the highest priced Service (Ethernet Premium 10G), all the other service factors are then derived as a proportion of the Ethernet Premium 10G service price. The	**CN902** **Metro Core HE/MEAs**

	Services are: SE586 Ethernet - Premium (GS) - <10M copper SE587 Ethernet - Premium (GS) - 10M fibre SE588 Ethernet - Premium (GS) - 100M fibre SE589 Ethernet - Premium (GS) - 1G fibre SE590 Ethernet - Premium (GS) - 10G fibre SE591 Premium - SFBB - FTTC (Excludes MEAs) SE592 Ethernet - MEAs (MNOs) 100M fibre SE593 Ethernet - MEAs (MNOs) 1G fibre SE594 Ethernet - MEAs (MNOs) 10G fibre	
CN903	**Metro-Core Broadband transmission** *Description* This component contains costs for the transmission between Core and Metro nodes consumed by Broadband products. These assets comprise the electronics of Wave Division Multiplexing and Fibre. *Basis for Usage Factor Calculation* The usage factors for this component are 1 except for TV Connect (TVC) for which we calculate the total channel bandwidth required by TVC and the number of Metro-Core Transmission routes it uses, and factor by this percentage of the total channel bandwidth (currently 0.66).	**CN903** **Metro-core broadband transmission**
CO210	**Local exchange processor duration** *Description* Digital Local Exchanges (DLE) form two distinct assets Concentrators and Host Processor or DLE. Only the Host costs get allocated to this component as Concentrator switching has its own components. The costs attributed via this component relate to activities required to activities associated with holding a speech path open for the period the link is made across the network. It includes the costs associated with providing tones, recorded announcements, and the conversations between the called and calling lines within Local Exchanges. *Basis for Usage Factor Calculation* We apportion this component based on time of day and routing factor. This component is apportioned to the two relevant call origination and call origination services in proportion to factored call minutes. The routing factors for these services are 1.00. In addition a small amount is also apportioned to conveyance and transit due to the routing of a small percentage of calls.	**CO210** **Local exchange processor duration**

CO212	**Local exchange processor set-up** *Description* This component attributes the costs of the activities required to set up an end to end speech path on the network. The costs of the signalling and processing needed to set up and clear down calls within local exchanges are included in this component. Traditional PSTN, calls from other CPs to BT and international voice calls are all encompassed within this component. The component is one part of two with the other (CO210), dealing with the call duration and clearing the call whereby the speech path needs to be held open during the time the link is open. *Basis for Usage Factor Calculation* We apportion this component based on time of day and routing factor. This component is apportioned to the two relevant call origination and call origination services in proportion to factored call minutes. The routing factors for these services are 1.00. In addition a small amount is also apportioned to conveyance and transit due to the routing of a small percentage of calls.	**CO212** **Local exchange processor set up**
CO214	**Local exchange concentrator set-up** *Description* This component relates to the activities required to set up an end to end speech path on the network and covers the call related costs contained in the concentrator asset and chiefly the activities required to establish a connection. Traditional PSTN calls, calls from other CPs to BT and international voice calls are all attributed by this component. This component, along with CO215 (Local exchange concentrator duration) attribute the costs of call duration and of holding paths open for the duration of the call. Both are needed to complete the end to end speech path. *Basis for Usage Factor Calculation* This component is apportioned based on time of day weighting only as the routing factor is 1. This component is apportioned only to the two relevant call origination and call termination services in proportion to factored call minutes.	**CO214** **Local exchange concentrator set up**
CO215	**Local exchange concentrator duration** *Description* This component relates to the activities required to set up an end	**CO215** **Local exchange concentrator duration**

	to end speech path on the network and covers the call related costs contained in the concentrator asset and chiefly the activities required for holding a speech path open for the duration of the call. Traditional PSTN calls, calls from other CPs to BT and international voice calls are all attributed by this component. This component, along with CO214 (Local exchange concentrator set-up) attribute the costs of call duration and of holding paths open for the duration of the call. Both are needed to complete the end to end speech path. *Basis for Usage Factor Calculation* This component is apportioned based on time of day weighting only as the routing factor is one. This component is apportioned only to the two relevant call origination and call termination services in proportion to factored call minutes.	
CO227	**ASU switches** *Description* This component attributes the costs of the Advanced Services Units (ASU). ASU assets consist of DMS100 switches and equipment required to interface to equipment sited at customer premises - e.g. PBX's (Private Branch Exchanges), Telephones, Faxes, and Modems etc. It supports products such as Featurenet which enables customers to have facilities which are normally available only on their PBX. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO227** **ASU switches**
CO254	**Project Services** *Description* Project Services relate to project management services provided by Openreach to Communication Providers who seek coordination of a programme of orders, such as Ethernet provision, that typically include an engineer visit. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO254** **Project Services**
CO292	**Caller Display** *Description* This component contains costs associated with Caller display, and apportions to those WLR customers which opt in to the caller display service.	**CO292** **Caller Display**

	Basis for Usage Factor Calculation The usage factors for this component are 1.	
CO314	**ATM network switching** *Description* This Component captures the cost of network switching ports deployed in the ATM (Asynchronous Transfer Mode) platform. ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (multimegabit) data rates, multiple virtual circuits per network access, and flexible bandwidth per connection. Methodology to split costs between WBA and Other services Allocated to the WBA Services (SMxxx) and SOC14 (ATM network switching). The basis of allocation is the volume of Switched Bandwidth required by the ATM Network to carry the products across the ATM Network. The sum of the residual product bandwidth (non WBA) over the total product bandwidth form the allocation to SOC14 and the remainder goes to the WBA Services. *Data Source/s* AIM (Analysis and Inventory Module). *Methodology to split costs across WBA services* Step 1 – Using data from the element manager [source AIM] a list of all Virtual Paths (VPs) on the ATM is compiled showing the VPID along with the booked bandwidth and A end port (customer interface port). Step 2 – The first four characters of the VPID is used to determine the product. Step 3 – Using data reports from NuNCAS, the Broadband's VPIDs are matched to their originating DSLAM and exchange. The exchange code is compared to the published Ofcom market document so that each DSLAM (and therefore VPID) can be allocated to its relevant market. Any exchanges that are not included in Ofcom's document are shown as allocated to market 0. This would include DSLAMs such as those used for trials, annual events such as The Suffolk Show and specific sites such as Heathrow Terminal 5. Step 4 – The A end port identifiers are matched to the port file report [source element manager via AIM] in order to determine the type of port, for example E1 (2 Mbps), E3 (34 Mbps), STM1 (155 Mbps), Ethernet etc. Step 5 – The data is then combined to produce a list of all A end ports with their associated type (e.g. E1), and details of how much	**CO314** **ATM network switching**

	booked bandwidth by product is using that port. Step 6 – Using the booked bandwidth by product (and market) as a percentage of the total booked bandwidth on each port, a proportion of each port is allocated to the relevant products. Step 7 – As the Ethernet ports could be used for either a 10 Mbps, 30 Mbps or 100 Mbps service, the Ethernet ports are now split into their relevant bandwidth. This is done by utilising the data in the PSID Notes field in the Portfile report [source Network Equipment Inventory NEI]. Step 8 – Using the port allocations calculated in step 6 and 7, the total port allocation by port type and product is calculated and a summary produced. Then, in order to calculate the actual bandwidth switched by product, the port allocations are multiplied by the port bandwidth. This is then doubled to account for bandwidth being switched at both ends. Step 9 – The total switch bandwidth by product is then calculated by adding together the switched bandwidth of every port type. Step 10 – In order to produce a complete allocation for Broadband, the entries specifically for Broadband are put into a separate table. The market 0 allocation is allocated proportionately across the other three markets, both for Datastream and then for IPStream. Also, the IPStream Mix line is allocated proportionately across the three IPStream markets. Finally the Broadband test circuits allocation is shared proportionately across both IPStream and Datastream by market. Step 11 – Using the previous steps, the actual percentage allocation by product and market can be determined. Step 12 – An allocation by internal and external is then calculated using end user volumes (source Wholesale Customer Reporting (WCR) system). *Data Source* AIM (Analysis and Inventory Module) takes its data from the MSIP element managers, interrogates the ATM platform to compile lists of ports and routing, and uses the WCR System.	
CO316	**Inter ATM transmissions** *Description* ATM is a high throughput packet switching protocol that provides statistical multiplexing, broadband (Multimegabit) data rates, multiple virtual circuits per network access, and flexible bandwidth per connection.	**CO316** **Inter ATM transmissions**

	This component attributes the costs of transmission connecting all of the Asynchronous Transfer Mode (ATM) Points of Presence nodes together. *Basis for Usage Factor Calculation* The factors for CO316 to service are calculated by analysing the virtual paths using the component, and matching these virtual paths to the relevant services using the following these steps: • **Step 1**. Costs are split by Service: Using data from the element manager [source AIM] a list of all transmission circuits in the ATM platform is compiled, along with all the Virtual Paths (VPs) using each circuit. Also included is the booked bandwidth for each VP. The first four characters of the VPID are used to determine the service using the component, which gives us a service level split of the component. • **Step 2**. Service costs are split by Market: Using data reports from NuNCAS, the Broadband's VPIDs are matched to their originating DSLAM and exchange. The exchange code is compared to the published Ofcom market document so that each DSLAM (and therefore VPID) can be allocated to its relevant market, allowing us to split our service level factors by Market A and Market B. • **Step 3**. Factors are calculated to ensure REFINE allocates using output of Steps 1 and 2: The allocation of Inter ATM transmission costs to Wholesale Broadband services and to residual services shown by the above two steps is then inserted in to the regulatory accounting system by assuming a 1,000 volume on the residual service with a factor of 1, then comparing the % allocation of costs needed on the broadband services as per step 1 and 2 with the bandwidth volumes already on these services, a factor is calculated that will align the factored volume for these services to the % allocation shown in step 1 and 2. This factor is then loaded into REFINE between CO316 and the relevant 20CN broadband services.	
CO325	**Remote - local transmission link** *Description* This component forms part of the PSTN (Public Switched Telephony Network) Call Origination/Termination Standard Services and attributes the costs of the transmission electronics associated with the link between the Remote concentrator and the Local exchange. *Basis for Usage Factor Calculation* The usage factors represent the percentage of calls routed across these components weighted by time of day. Part services are used where the rest of BT purchase EPPCs from Openreach in order to provide backhaul between local exchanges and main exchanges.	**CO325** **Remote local transmission link**

	The routing factors for all destination services are 0.82.	
CO326	**Remote - local transmission length** *Description* This component forms part of the PSTN (Public Switched Telephony Network) Call Origination/Termination Standard Services and attributes the costs of the transmission electronics associated with the length between the Remote concentrator and the Local exchange. *Basis for Usage Factor Calculation* The usage factors represent the percentage of calls routed across these components weighted by time of day. Part services are used where the rest of BT purchase EPPCs from Openreach in order to provide backhaul between local exchanges and main exchanges. The routing factors for all destination services are 1.55.	**CO326** **Remote local transmission length**
CO379	**Point of Handover electronics** *Description* A POH is a high capacity link, which connects an Other Communication Provider's network with that of BT's, and comprises the physical infrastructure (duct and fibre) as well as electronics at both or one end of the link. It is one element of a Partial Private Circuit (PPC). A PPC provides connectivity between OCPs (other than BT) and an end user, across BTs network. The POH provides a single high speed connection between BT and an OCP for an aggregated group of PPCs. This component attributes the costs of the electronics associated with providing a POH. *Basis for Usage Factor Calculation* These are costing usage factors based on analysis of the ratio of depreciation costs to maintenance costs in this component. The usage factors are calculated such that when applied to rental and connection volumes the costs relating to depreciation are allocated to connections and those relating to maintenance are allocated to rentals.	**CO379** **Point of Handover electronics**
CO413	**2Mbps and above PC link connection CCT provision** *Description* This component attributes the costs associated with the provision	**CO413** **2Mbps and above PC link connection CCT**

	and testing of 2Mb and above links for inland private circuits. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**provision**
CO432	**PC rental 64kbit/s link local end** *Description* This component attributes the capital and maintenance costs associated with 64kbit/s (Kilostream) private circuits. *Basis for Usage Factor Calculation* The usage factor for this component is used to transfer the costs associated with PoH, which are captured in local end components, into third party PoH services. The factor for SE760B (OR EPPC External 3rd Party POH Rental 64kbit) is set at 0.17 following Ofcom's review of PoH pricing in 2011. The usage factor for the main local end services is 1 as each service uses one component.	**CO432** **PC rental 64kbit/s link local end**
CO434	**PC rental 34Mbps link local end** *Description* This component attributes the capital and maintenance costs associated with 34Mbps (Kilostream) private circuits. *Basis for Usage Factor Calculation* The usage factor for this component is used to transfer the costs associated with PoH, which are captured in local end components, into third party PoH services. The factor for SE761B (OR EPPC External 3rd Party POH Rental 34-45mbit) is set at 0.17 following Ofcom's review of PoH pricing in 2011. The usage factor for the main local end services is 1 as each service uses one component.	**CO434** **PC rental 34Mbps link local end**
CO436	**PC rental 140Mbps link local end** *Description* *Basis for Usage Factor Calculation* The usage factor for this component is used to transfer the costs associated with PoH, which are captured in local end components, into third party PoH services. The factor for SE762B (OR EPPC External 3rd Party POH Rental 155mbit) is set at 0.17 following Ofcom's review of PoH pricing in	**CO436** **PC rental 140Mbps link local end**

	2011. The usage factor for the main local end services is 1 as each service uses one component.	
CO438	**PC rental 2Mbps local end copper** *Description* This component attributes the depreciation and overheads associated with the copper and electronics providing access from the BT exchange to the customer premises for 2Mbps Private Circuit components. This component also attributes the cost of duct where the copper resides. *Basis for Usage Factor Calculation* The usage factor for this component is used to transfer the costs associated with PoH, which are captured in local end components, into third party PoH services. The factor for SE763B (OR EPPC External 3rd Party PoH Rental 2mbit Copper) is set at 0.17 following Ofcom's review of PoH pricing in 2011. The usage factor for the main local end services is 1 as each service uses one component.	**CO438** **PC rental 2Mbps local end copper**
CO439	**PC rental 2Mbps local end fibre** *Description* This component attributes the depreciation and overheads associated with the fibre and electronics providing access from the BT exchange to the customer premises for 2Mbps Private Circuit components. These components also include the cost of duct where the fibre resides. *Basis for Usage Factor Calculation* The usage factor for this component is used to transfer the costs associated with PoH, which are captured in local end components, into third party PoH services. The factors for SY764B (OR EPPC Ext 3rd Party PoH Rentl 2mbit CLZ) and SE764B (OR EPPC External 3rd Party PoH Rental 2mbit Fibre) are set at 0.17 following Ofcom's review of PoH pricing in 2011. The usage factor for the main local end services is 1 as each service uses one component.	**CO439** **PC rental 2Mbps local end fibre**

CO445	**Ethernet Monitoring Platform** *Description* This component attributes the costs within the Internal Transfer Charge between Global Services and Openreach Global Services for the Ethernet Monitoring Platform. *Basis for Usage Factor Calculation* The usage factors are based on an analysis of the number of management link ports utilised. *Data Source* Inventory System PACs	**CO445**
CO447	**Backhaul extension services fibre** *Description* This component captures the costs associated with BES (Backhaul extension services). *Basis for Usage Factor Calculation* The usage factor is derived from a combination of the usage of fibre for each service that uses this component and the relative cost of providing fibre by customer end in the different CISBO geographic areas. The usage factor also takes into account the take-up of resilience options - higher bandwidth options have increased resilience requiring additional fibres e.g. 1,000 Mbps CISBO Rest of UK has a different usage factor to 10 Mbps CISBO Rest of UK.	**CO447** **Backhaul Extension Services Fibre**
CO450	**Wholesale Extension Services Fibre** *Description* This Component attributes the depreciation and overheads associated with the fibre providing access from the BT Exchange to the Customer premises for Wholesale Extension Services (WES). This component also includes the cost of duct where the fibre resides. *Basis for Usage Factor Calculation* The usage factor is derived from a combination of the usage of fibre for each service that uses this component and the relative cost of providing fibre by customer end in the different CISBO geographic areas. The usage factor also takes into account the take-up of resilience options - higher bandwidth options have increased resilience requiring additional fibres e.g. 1,000 Mbps CISBO Rest of UK has a different usage factor to 10 Mbps CISBO Rest of UK.	**CO450** **Wholesale Extension Services Fibre**
CO457	**Optical Ethernet Electronics Capital** *Description* This component attributes the direct operating costs and balance	**CO457** **Optical Ethernet Electronics Capital**

	sheet values associated with the dedicated equipment used for Optical Ethernet electronics rentals. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CO466	**Interconnect Extension Circuits (IEC) 2Mbps per km** *Description* Interconnect circuits provide the physical infrastructure to connect the exchanges (switches) of two CPs in order to allow traffic to pass between them. Interconnect Extension Circuits (IECs) provides a CP with the ability to extend the reach of their network, by providing a 2Mbps circuit from an In-Span Interconnect (ISI) Point of Connection to a remote BT switch location via BT's network. IECs are only available in conjunction with In-Span Interconnect (ISI) circuits. The cost of interconnect circuits is borne by BT and is used to connect BT's network to another operator. The circuit may be used by both BT and the operator and charges are apportioned according to ownership of traffic between the parties. The circuit is charged as an upfront connection and ongoing rental. This component attributes the distance related costs and associated overheads of providing IECs. *Basis for Usage Factor Calculation* The usage factors to tandem and DLE services for this component are 1.	**CO466 Interconnect Extension Circuits (IEC) 2Mbps per km**
CO468	**In Span Interconnect circuits (ISI) transmission** *Description* Interconnect circuits provide the physical infrastructure to connect the exchanges (switches) of two CPs in order to allow traffic to pass between them. In-Span Interconnect (ISI) provides a Communications Provider (CP) with the ability to offer telephony services to their customers that connect with BTR customers. ISI is a lower cost alternative to Customer Sited Interconnect (CSI). It provides a 2Mbps connection from a BT switch. CPs install equipment at their premises and this interconnects at an agreed Point of Connection (PoC) in the public highway. CPs can then benefit from Call Origination and Call Termination on BT's network This component attributes the transmission costs and associated overheads required to provide ISI services.	**CO468 In Span Interconnect circuits ISI transmission**

	Basis for Usage Factor Calculation This component factors to one tandem service using a usage factor of 1.	
CO484	**Ethernet main links** *Description* This component attributes all costs associated with Ethernet main links. *Basis for Usage Factor Calculation* The usage factors for this component take into account the different CISBO geographical areas. It represents the relative costs of providing fibre links between BT exchanges in the different CISBO geographical areas. It is derived from a study of the fibre infrastructure in different parts of the network.	**CO484** **Ethernet main links**
CO485	**Ethernet Electronics Current** *Description* This component attributes the overheads associated with the rental costs of electronics used to provide Ethernet Access Direct (EAD) services, Wholesale Extension Services (WES), LAN Extension Services. (LES), Ethernet services, Backhaul Extension Services (BES), Wholesale and LAN extension services, and Optical Ethernet services. *Basis for Usage Factor Calculation* The usage factor for this component is based on the unit of measure of the different services to which it allocates.	**CO485** **Ethernet Electronics**
CO487	**EAD Electronics Capital** *Description* This component attributes the operating costs and balance sheet values associated with the dedicated equipment for EAD (Ethernet Access Direct) electronics rentals. *Basis for Usage Factor Calculation* The usage factor for this component is based on the relative price of the electronics used to provide the service.	**CO487** **EAD Electronics Capital**
CO506	**Customer Support - partial private circuits** *Description* A Partial Private Circuit (PPC) is a service that has the attributes of a Wholesale half circuit. The PPC routes from the network Point of Presence (PoP) by means of Point of Handover (PoH) between a communication provider's network and BT's network. A path is then set up across the BT network to the 3rd party customers to supply an end-to-end path at the appropriate bandwidth. This component attributes the costs of the Selling, General and Administration (SG&A) activities of BT Wholesale in supporting	**CO506** **Customer Support - partial private circuits**

	Partial Private Circuit products. The bulk of the costs are FTE pay and people related costs within BT Wholesale and BT Wholesale support costs incurred from BT TSO. It also includes overheads from other Customer-Facing Units (CFUs) or Corporate Units (CUs), such as support costs for IT and accommodation. *Basis for Usage Factor Calculation* These usage factors represent the unit price of the services to which these components map to, so that costs are allocated on the basis of revenue.	
CO512	**Customer Support Calls** *Description* This component attributes the costs of the Selling, General and Administration (SG&A) activities of BT Wholesale in supporting Calls products. *Basis for Usage Factor Calculation* Usage factors (to 2 decimal places) are either 1.58 (Day), 0.31 (Evening) or 0.17 (Weekend) to reflect time of day.	**CO512** **Customer Support Calls**
CO583	**SG&A Wholesale Residual** *Description* This component captures the activities that make up the costs incurred by BT Wholesale for Selling, General and Administration (SG&A) activities supporting Wholesale Residual products. The bulk of the costs are FTE pay and people related costs within BT Wholesale and BT TSO. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO583** **SG&A Wholesale Residual**
CO586	**Customer Support - interconnect** *Description* Interconnect circuits are circuits that connect the BT Network to the networks of Other Communication Providers (OCPs). The costs attributed by this component include all SG&A cost incurred in supporting Interconnect circuits, excluding PPP which is captured separately within the Call Origination market. Costs in other business units that rely on BT Wholesale allocations will also be picked up. These costs are mainly FTE pay and people related support costs. *Basis for Usage Factor Calculation* These usage factors represent the unit price of the services to	**CO586** **Customer Support - interconnect**

	which these components map to, so that costs are allocated on the basis of revenue.	
CO609	**Customer Support - broadband** *Description* This component attributes the SG&A Broadband costs incurred by BT Wholesale in supporting Wholesale Broadband Access (WBA). The costs are determined by the annual FTE activity analysis of the primary BT Wholesale functional units. *Basis for Usage Factor Calculation* Many of the usage factors are prices (calendarised weighted average prices) and consequently move year on year to reflect price changes. Other Ancillaries include all services which we do not separately break out and we therefore reflect the total revenue in the usage factor (with a volume of 1).	**CO609** **Customer Support - broadband**
CO668	**IP Network management** *Description* IP network management relates to the set of communication tools which enables computers to 'talk' to each other over the Internet for 20CN services such as IPstream and Datastream. This component attributes Internet Protocol (IP) network management costs. It includes all the costs associated with Operational Support Systems (OSS) – these are activities used to run the network and business. Typical activities that are part of OSS are taking a customer's order, configuring network components, logging and managing faults. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO668** **IP Network Management**
CO670	**IP Network Fixed Access** *Description* This Component attributes the costs of the following types of equipment: • BTnet Direct and Flex NTE (Network Terminal Equipment) Routers, which connect the customer to the BT Network. • BTnet Access Routers, which connect the MSIP (Multi Services Intranet Platform) and Synchronous Digital Hierarchy (SDH) access to the IP Network at Colossus PoPs (Point of Presences). *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CO670** **IP Network Fixed Access**
CO676	**IP VoIP Infrastructure** *Description* VoIP is a method of transporting speech over the internet.	**CO676** **IP VoIP Infrastructure**

	This Component captures the cost of the following types of equipment: • Gigabit Routers - Gigabit Routers are high bandwidth switches, used for switching Internet traffic. • Gateways and Access Routers are for transmitting voice over the IP Network. Costs include provision, extension, rearrangement and recovery of IP Networks by the Broadband and Data division in BT Wholesale. *Basis for Usage Factor Calculation* The usage factor for this component is 1.	
CO681	**Broadband backhaul circuits excl. Virtual Paths** *Description* This component attributes the costs of SDH Broadband backhaul circuits. SDH Broadband backhaul circuits are dedicated circuits that connect the DSLAM to the ATM platform. The circuits are used to provide bandwidth and virtual path services to BT Retail and other service providers for 20CN services such as IPstream, Max, Max Premium and Home & Office. *Basis for Usage Factor Calculation* This component is attributed to services based on original end-user volume factored by bandwidth. This factoring has been taken into account in the service volumes, so the usage factor is 1 (e.g. the service SM124 external IPstream Connect - Bandwidth had a volume of 407,533 average Mbps which is calculated from 479,144 end users factored by an average bandwidth usage of 0.85 Mbps).	**CO681 Broadband backhaul circuits excl. Virtual Paths**
CO772	**OR Systems & Development - Ethernet** *Description* This component attributes the development costs for Openreach products specific to Ethernet. *Basis for Usage Factor Calculation* The costs of this component are attributed based on the number of circuits ordered or rented during the year. The usage factors are normally 1 except in these cases: • WES and BES service volumes are measured as local ends so we use a usage factor of 0.5 to convert into circuits. • Main Link service volumes are measured in km so the usage factor is based on the average circuit length of 7.1km and is calculated as 1 / 7.1 = 0.14.	**CO772 OR Systems & Development - Ethernet**
CO989	**Special Fault Investigation** *Description* This component captures the costs of Special Fault Investigations (SFI). A Local Loop Unbundling (LLU) SFI can be initiated by an LLU Communications Provider (CP) when a Metallic Path Facility (MPF) or Shared Metallic Path Facility (SMPF) tests OK on the Openreach	**CO989 Special Fault Investigation**

	line test system, but where there might be a problem with the CP's Asymmetric Digital Subscriber Line (ADSL) or Symmetric Digital Subscriber Line (SDSL) service. The LLU SFI is a chargeable investigation product which attempts to identify and resolve DSL service affecting problems. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CP502	**Openreach sales product management** *Description* This component contains costs for Openreach Sales Product Management. *Basis for Usage Factor Calculation* For non-sales and market activities such as product management, Usage Factors are calculated using a survey of staff (expressed as FTE) which relates people to activities. However this survey does not provide sufficient granularity to map the FTEs directly to services for Ethernet. To gain this granularity, the FTE volumes are split using product revenue and volumes data. Usage Factors are calculated using these weightings. For sales and marketing activities costs are allocated based on revenue data.	**CP502** **Openreach sales product management**
CR188	**DSLAM Support** *Description* Digital Subscriber Line Access Multiplexer (DSLAM) is network equipment located in telephone exchange that provides access for the broadband end user. It connects multiple customers' Digital Subscriber Lines (DSL) to a high speed internet backbone and allows customers to make faster connections to the internet. This component attributes the overhead costs of DSLAMs. *Basis for Usage Factor Calculation* We have modelled the detailed costs of each individual DSLAM and have been able to attribute the modelled costs to specific services as we have information on the number of end-users connected at each site, by service, for each DSLAM. We use this information to calculate the usage factors such that a proportion of this component's costs are allocated to each service. This component is attributed in proportion to cost analysis for all of our DSLAMs.	**CR188** **DSLAM Support**

CR470	**Intra Building Circuit (IBC) rental** *Description* Interconnect circuits provide the physical infrastructure to connect the exchanges (switches) of two Communication Providers in order to allow traffic to pass between them. This component attributes the costs associated with the provision and testing of Intra Building Circuits (IBC), which are part of the interconnect links. IBCs are 2mb links required for customer sited and in span interconnect circuits, which allow other operators to connect to BTs network, primarily for PSTN traffic. These require the use of 2Mbps ports on local and trunk exchanges along with operator signalling links. *Basis for Usage Factor Calculation* The usage factors to tandem and DLE services for this component are 1**.**	**CO470** **Intra Building Circuit IBC rental**
CT134	**Co-mingling power & vent** *Description* This component captures the costs for local loop unbundling (LLU) power and ventilation. *Basis for Usage Factor Calculation* The usage factors for this component are calculated using relative FACs derived from different electricity bases and allocated to SL207 and SL132.	**CT134** **Co-mingling power & vent**
CW609	**Ethernet Access Direct Fibre** *Description* This Component attributes the depreciation and overheads for fibre providing access from BT Exchange to Customer premises for Ethernet Access Direct (EAD) and Optical Ethernet services. This component also includes the cost of duct that the fibre resides in. *Basis for Usage Factor Calculation* The usage factor is derived from a combination of the usage of fibre for each service that uses this component and the relative cost of providing fibre by customer end in the different CISBO geographic areas. The usage factor also takes into account the take-up of resilience options - higher bandwidth options have increased resilience requiring additional fibres e.g. 1,000 Mbps CISBO Rest of UK has a different usage factor to 10 Mbps CISBO Rest of UK.	**CW609** **Ethernet Access Direct Fibre**

CW900, CW901, CX902	**Revenue Receivables** *Description* These components capture system generated figures for receivables for the RFS. These receivables are an approximation of the amounts owed to BT, both internal (i.e. for Openreach representing receivables that would be generated if trades between BT's Customer-Facing Units (CFUs) were undertaken to a third party and at arm's length) and external. They are based upon a five year moving average of Openreach's debtor days. Any anomalous years within the five year moving average are excluded. For example, the calculation for 2013/14 showed debtor days well in excess of the preceding and subsequent years, and thus was excluded from relevant five year moving average calculations. *Basis for Usage Factor Calculation* The Usage Factors are system generated. The attribution of receivables is directly in proportion to the revenue of each revenue-generating service. REFINE therefore uses the price of each service as the Usage Factor.	**CD900** **Revenue Receivables**
CX997	**Notional Creditors** *Description* This component captures system generated figures for notional creditors for WBA Market A in the RFS. These creditors are an approximation of the amounts owed to Openreach by BT Wholesale for Equivalence of Input (EOI) charges. They represent an approximation of the creditor balances which would exist if trades between BT's Customer-Facing Units (CFUs) were undertaken to a third party and at arm's length. They are based a five year moving average of Openreach's debtor days. Note that there is no component code as REFINE automatically overlays the calculated figure to the services as required in the WBA market. Note that any anomalous debtors days excluded from the Revenue Receivables methodology are also excluded from this Notional Creditors calculation. *Basis for Usage Factor Calculation* The Usage Factors are system generated. The attribution of notional creditors is directly in proportion to the costs incurred by BT Wholesale for each EOI service consumed as part of providing a Wholesale service. REFINE therefore uses the cost of each EOI service as the Usage Factor.	**CD900** **Revenue Receivables**
CZ252B	**OR Residual Elimination** *Description* This component captures the variance between the calculated	**CZ252B** **OR Residual elimination**

	notional revenues associated with Other Communication Providers (OCPs), and the actual revenues received from OCPs, relating to Openreach activity. It can also include some ad hoc adjustments and provisions that are not associated with the regulated market and not included within other components. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	
CZ252N	**WH Residual elimination** *Description* This component captures the variance between the calculated notional revenues associated with Other Communication Providers (OCPs), and the actual revenues received from OCPs, relating to BT Wholesale activity. *Basis for Usage Factor Calculation* The usage factors for this component are 1.	**CZ252N** **WH Residual elimination**
CZ600	**BTW Residual** *Description* This PG captures the costs of miscellaneous activities involved in the cost of running the network, but which do not form any part of regulated services. *Basis for Usage Factor Calculation* The usage factor for this component will be 1	**CZ600** **BTW Residual**

12.4 Component to Service mappings including Usage Factors

The component to service mapping for all components listed in the above dictionary and the factors which are applied to these components is separately published as a separate annex (A9) on our website.

13 Equivalence of input services

As a result of the 2014 Ofcom WBA Market Review, BT is required to report separately on certain Openreach charges for the WBA Markets.

These Openreach charges are required to be reported on Equivalence of Input (EOI) basis.

The approach employed to generate EOI charges is to identify the Openreach services used as an input for the WBA services. Volumes of these services used for WBA are established. The most appropriate market volume driver available is identified based on either BT Openreach or BT Wholesale & Ventures data. Weighted average EOI prices are applied to these volumes to get the total charges. The charges are allocated to services within each of the geographic markets with the best available volume driver. The charges are loaded to EOI specific services in the regulatory accounting system, which are then mapped to individual published services.

EBD and ONBS Connections and Rentals

SD661B	ONBS Rentals Low Bandwidth CISBO Combined Geographic
SD662B	ONBS Connections Low Bandwidth CISBO Combined Geographic
SD319B	EBD ONBS Rentals Low Bandwidth CISBO Rest of UK
SD327B	EBD ONBS Connections Low Bandwidth CISBO Rest of UK
SD561B	ONBS Rentals CISBO Residual
SD562B	ONBS Connections CISBO Residual
SD833B	ONBS 10Gbps Rentals CISBO Combined Geographic area
SD832B	ONBS 10Gbps Connections CISBO Combined Geographic area
SD328B	EBD ONBS 10Gbps Rentals CISBO Rest of UK area
SD329B	EBD ONBS 10Gbps Connections CISBO Rest of UK area
SD733B	ONBS 10Gbps Rentals CISBO Residual
SD732B	ONBS 10Gbps Connections CISBO Residual

Description

The above part services hold the EOI rental and connection charges for EBD and ONBS:

- Ethernet Backhaul Direct (EBD) is an efficient, cost effective way of delivering large volumes of data, quickly and securely. It delivers permanently connected, uncontended bandwidth from an Access Serving Node (ASN) to an Openreach Handover Point (OHP).
- Openreach Network Backhaul Service (ONBS) provides connectivity between a Communications Providers equipment installed within Co-location, Netlocate or BT Locate at a BT MSAN Site, and their equipment installed within Co-location, Netlocate or BT Locate at either the nearest BT MSAN Site, BT Metro Node Site or another BT MSAN Site or Metro Node Site which is within a distance of 15 radial kilometres of the first BT MSAN/Metro Site.

Methodology

These EOI charges are apportioned on the basis of bandwidth for the 21CN services that use EBDs. The relative bandwidth volumes of copper and fibre broadband, TV Connect (TVC), Harmonised Ethernet, Managed Ethernet Access services (MEAs), and dedicated Core and Metro 10 Gbit/s links are used to create a base that apportions the charges to the following services:

- SN113 Market A - OR Int WBC 21CN Backhaul
- SN114 Market A - OR Ext WBC 21CN Backhaul
- SN313 Market B - OR Int WBC 21CN Backhaul

- SN314 Market B - OR Ext WBC 21CN Backhaul
- SM413 OR TVC
- SM416 OR HE/MEAS
- SN161 Market A - SFBB OR Fibre BW Int
- SN162 Market A - SFBB OR Fibre BW Ext
- SN361 Market B - SFBB OR Fibre BW Int
- SN362 Market B - SFBB OR Fibre BW Ext

Data Sources

The total EOI charge is sourced using Openreach commercial volumes from COSMOSS and EST and Price List prices.

The bandwidth volumes are sourced from: WCR for broadband; GVF for TV Connect; GVF, PACs, MIS, And Enterprise Information Oracle Platform (EIP) for Harmonised Ethernet and MEAs; and Discoverer for Core and Metro 10 Gbit/s links.

SMPF Connections

SL138B SMPF New Provides

Description

The above part services hold the EOI charges for Shared Metallic Path Facility (SMPF) new provides. The SMPF service allows CPs to provide broadband services over the BT copper network. It enables customers to share a line with another Communications Provider providing a voice service to the same customer.

Methodology

These EOI charges are apportioned on the basis of connections for the copper services that use SMPF. The number of connections in the year to IPstream and WBC split by internal and external connections and by geographic market are used to create a base that apportions the charges to the following services:

- SM101 Market A - OR Int IPS Connections
- SM102 Market A - OR Ext IPS Connections
- SN133 Market A - OR Int WBC Connections
- SN134 Market A - OR Ext WBC Connections
- SM301 Market B - OR Int IPS Connections
- SM302 Market B - OR Ext IPS Connections
- SN333 Market B - OR Int WBC Connections
- SN334 Market B - OR Ext WBC Connections
- SM450 WBA end user access - Conns OR/WS rec service

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The connection volumes (split by service, market and internal/external) are sourced from WCR.

SMPF Rentals

SL158B SMPF Rentals

Description

The above part services hold the ongoing EOI rental charges for SMPF services. This service allows customers to provide broadband services over the BT copper network. It enables CPs to share a line with another Communications Provider providing a voice service to the same customer.

Methodology

These EOI charges are apportioned on the basis of end user rentals for the copper services that use SMPF. The end user rental volumes for IPstream and WBC split by internal and external rentals and by geographic market are used to create a base that apportions the charges to the following services:

- SM103 Market A - OR Int IPS Max and Max Premium Rentals
- SM104 Market A - OR Ext IPS Max and Max Premium Rentals
- SM107 Market A - OR Int WBC end user access Rentals
- SM108 Market A - OR Ext WBC end user access Rentals
- SN129 Market A - OR Int IPS Home and Office Rentals
- SN130 Market A - OR Ext IPS Home and Office Rentals
- SM303 Market B - OR Int IPS Max and Max Premium Rentals
- SM304 Market B - OR Ext IPS Max and Max Premium Rentals
- SM307 Market B - OR Int WBC end user access Rentals
- SM308 Market B - OR Ext WBC end user access Rentals
- SN329 Market B - OR Int IPS Home and Office Rentals
- SN330 Market B - OR Ext IPS Home and Office Rentals

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The end user rental volumes (split by service, market and internal/external) are sourced from WCR.

Migrations

SL139B SMPF Single Migrations

SL199B SMPF Bulk Migrations

Description

The above part services hold the EOI charges where an SMPF service is migrated between two customers. SMPF service allows customers to provide broadband services over the BT copper network. It enables customers to share a line with another Communications Provider providing a voice service to the same customer.

Methodology

The volume of single migrations and multiple migrations are added together to create a base. The EOI charges are then apportioned in total to the migration services based on the geographical location of the migration and an internal/external split, with the charge apportioned to the following services:

- SM175 Market A - OR Int IPstream Migrations

- SM176 Market A - OR Ext IPstream Migrations
- SM375 Market B - OR Int IPstream Migrations
- SM376 Market B - OR Ext IPstream Migrations
- SN145 Market A – OR Int WBC Migrations
- SN146 Market A – OR Ext WBC Migrations
- SN345 Market B – OR Int WBC Migrations
- SN346 Market B – OR Ext WBC Migrations

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The single and multiple migration volumes (split by service, market and internal/external) are sourced from WCR.

Ceases

SL201B	MPF Hard Ceases
SL202B	SMPF Hard Ceases

Description

The above part services hold the EOI charges for:

- The cessation of MPF lines - MPF services enable customers offer both voice and broadband services. It provides a two-wire metallic transmission path between the Network Terminating Equipment at a customer's premises and a main distribution or jumper frame at the exchange.
- The cessation of SMPF lines - SMPF services allow CPs to provide broadband services over the BT copper network. It enables CPs to share a line with another Communications Provider providing a voice service to the same customer.

Methodology

The volume of ceases in Market A and Market B, split by internal and external, are used as a base to apportion all EOI cease charges to the following services:

- SM109 Market A - OR Int WBA end user access ceases
- SM110 Market A - OR Ext WBA end user access ceases
- SM309 Market B - OR Int WBA end user access ceases
- SM310 Market B - OR Ext WBA end user access ceases

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The cease volumes (split by service, market and internal/external) are sourced from WCR.

Other Tie Pair Modifications

SL236B	SMPF Enhanced Care - Internal
SL242B	NGA Enhanced Care - Internal

Description

The above part services hold the EOI charges for SMPF and NGA Enhanced Care. This service allows customers a variety of service management levels above the standard offering.

Methodology

These EOI charges are apportioned on the basis of end user rentals for the WBC copper services that use SMPF. The end user rental volumes for WBC split by internal and external rentals and by geographic market are used to create a base that apportions the charges to the following services:

- SM191 Market A - OR Int WBA SMPF enhanced care
- SM192 Market A - OR Ext WBA SMPF enhanced care
- SM391 Market B - OR Int WBA SMPF enhanced care
- SM392 Market B - OR Ext WBA SMPF enhanced care

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The end user rental volumes (split by service, market and internal/external) are sourced from WCR.

Tie Cables

SL128B Tie Cables

SL206B Other Tie-cables and Comingling

Description

The above part services hold the EOI charges for SMPF and MPF tie cables. Tie Cables connect customers' equipment within a BT exchange building.

Methodology

The input data is firstly split out between 20CN and 21CN tie cables so that the 21CN tie cables are only allocated to WBC services whereas the 20CN services are allocated to IPstream.

Both the 20CN and 21CN tie cable EOI charges are apportioned on the basis of end user rentals, so the 21CN tie cables are apportioned between market and internal/external using WBC rental information and 20CN are apportioned using IPstream rentals.

The 21CN charges are apportioned to the following services:

- SM185 Market A - OR Int WBC 21CN Tie cables
- SM186 Market A - OR Ext WBC 21CN Tie cables
- SM385 Market B - OR Int WBC 21CN Tie cables
- SM386 Market B - OR Ext WBC 21CN Tie cables

The 20CN charges are apportioned to the following services:

- SM187 Market A - OR Int IPstream Connect 20CN Tie cables
- SM188 Market A - OR Ext IPstream Connect 20CN Tie cables
- SM387 Market B - OR Int IPstream Connect 20CN Tie cables
- SM388 Market B - OR Ext IPstream Connect 20CN Tie cables

Data Sources

The total EOI charge and the split between 20C and 21C for this service is sourced from the Actual Reporting

Cube (ARC) reporting system managed by Openreach Finance.

The end user rental volumes (split by service, market and internal/external) are sourced from WCR.

Enhanced Care

SL244B NGA Visit Assure EOI - Internal

Description

The above part service holds the EOI charges for the NGA Visit Assure service. NGA Visit Assure provides higher quality of service on fault repair for NGA products.

Methodology

These EOI charges are apportioned on the basis of end user rentals for the fibre SFBB services. The end user rental volumes split by internal and external rentals and by geographic market are added together to create a base that apportions the charges to the following services:

- SN159 SFBB OR Fibre EU Market A Int
- SN160 SFBB OR Fibre EU Market A Ext
- SN359 SFBB OR Fibre EU Market B Int
- SN360 SFBB OR Fibre EU Market B Ext

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The end user rental volumes (split by service, market and internal/external) are sourced from WCR.

SMPF and NGA Expedite

SL228B SMPF Expedites EOI – Internal

SL230B NGA Expedites EOI - Internal

Description

The above part services hold the EOI charges for the SMPF and NGA Expedite service, which provides CPs with faster connection times.

Methodology

These EOI charges are apportioned on the basis of connections for the services that use SMPF or NGA. The connection volumes for IPstream and WBC (copper and fibre) split by internal and external connections and by geographic market are added together to create a base that apportions the charges to the following services:

- SM197 Market A - OR Int WBA SMPF Expedite
- SM198 Market A - OR Ext WBA SMPF Expedite
- SM397 Market B - OR Int WBA SMPF Expedite
- SM398 Market B - OR Ext WBA SMPF Expedite

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The connection volumes (split by service, market and internal/external) are sourced from WCR.

Broadband Boost

SL246B Copper WBA Broadband Boost

SL248B NGA WBA Broadband Boost

Description

The above part services hold the EOI charges for the Broadband Boost service. This offers a cost-effective way to try to solve issues that CP customers have with their broadband speed and reliability. A range of activities can be carried out by BT engineers including; work relating to CPs customer's own wiring, equipment CP provided them with, and work on the Openreach access network (back to the local exchange).

Methodology

These EOI charges are apportioned on the basis of broadband boost volumes. The number of copper boost volumes is split by Market A and Market B based on the total market split of WBC and IPstream connections. Fibre boosts are apportioned to SN403, and any further residual boost volumes charged for by Openreach are apportioned to a residual reconciliation service (SM459). The following services are those that are apportioned the charges:

- SN103 Market A - OR Int Broadband Boost
- SN303 Market B - OR Int Broadband Boost
- SN403 Residual - OR Int Broadband Boost
- SM459 WBA Broadband Boost OR/WS rec service

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The broadband boost volumes are sourced from Openreach Analytics from the Reporting, Planning and Analysis team.

The connections based split by market for copper boosts is sourced from WCR.

GEA

SL574B GEA Other

SL950B GEA FTTC Rentals

SL951B GEA FTTC Connections

SL952B GEA FTTP Rentals

SL953B GEA FTTP Connections

SL955B GEA CP to CP Migration

Description

The above part services hold the EOI charges for BT's Super-Fast Fibre Access service:

- Generic Ethernet Access over Fibre to the Cabinet (GEA-FTTC) enables CPs to offer superfast broadband (SFBB) services at up to 80/20 Mbps and multiple-play services to SME and residential end user customers.
- Generic Ethernet Access over Fibre to the Premises (GEA-FTTP) enables customers to offer superfast broadband services to SME and residential end user customers, and develop new high-bandwidth services.

Methodology

SL748B (GEA Other) is allocated directly to SM412 (OR WBA Other Residual).

The other GEA EOI charges are all apportioned to the following WBC Fibre access services for Rentals, Connections and Migrations based on relevant volumes:

- SN157 WBC OR Fibre Connections Mkt A Int
- SN158 WBC OR Fibre Connections Mkt A Ext
- SN357 WBC OR Fibre Connections Mkt B Int
- SN358 WBC OR Fibre Connections Mkt B Ext
- SN159 WBC OR Fibre EU Mkt A Int
- SN160 WBC OR Fibre EU Mkt A Ext
- SN359 WBC OR Fibre EU Mkt B Int
- SN360 WBC OR Fibre EU Mkt B Ext
- SN145 Mkt A OR Int WBC Migrations
- SN146 Mkt A OR Ext WBC Migrations
- SN345 Mkt B OR Int WBC Migrations
- SN346 Mkt B OR Ext WBC Migrations

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

Re-grades

SL178B Other LLU Ancillaries Basket

Description

The above part services hold the EOI charges for several ancillary services related to SMPF and MPF:

- SMPF and MPF Tie Pair Modifications (3 working day lead time re-terminations and Multiple re-terminations).
- Cancellations of SMPF and MPF orders for Provide, Simultaneous provide, migration, modification or amend.
- SMPF and MPF amend orders.
- SMPF Flexi Cease Fault Investigation Charges.
- SMPF and MPF Standard Line Test.

Methodology

The ARC system provides the volume and price data to enable this EOI charge to be split between Regrades and Migrations charges. These distinguishable EOI charges are then apportioned in total to the relevant volumes for each charge: migration services using migration volumes and regrade services using regrade volumes. The split to WBA service is based on the geographical location of the migration/regrade and an internal/external split, with the charge apportioned to the following services:

- SM161 Market A - Int end user access OR IPstream regrades
- SM162 Market A - Ext end user access OR IPstream regrades

- SM361 Market B - Int end user access OR IPstream regrades
- SM362 Market B - Ext end user access OR IPstream regrades
- SM175 Market A - OR Int IPstream Migrations
- SM176 Market A - OR Ext IPstream Migrations
- SM375 Market B - OR Int IPstream Migrations
- SM376 Market B - OR Ext IPstream Migrations
- SN145 Market A – OR Int WBC Migrations
- SN146 Market A – OR Ext WBC Migrations
- SN345 Market B – OR Int WBC Migrations
- SN346 Market B – OR Ext WBC Migrations
- SN127 Mkt A OR Int IPS ADSL Cancellation
- SN126 Mkt A OR End IPS ADSL Cancellation
- SN327 Mkt B OR Int IPS ADSL Cancellation
- SN328 Mkt B OR Ent IPS ADSL Cancellation

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The single and multiple migration volumes (split by service, market and internal/external) are sourced from WCR.

SFIs

SO481B Special Faults Investigations (SFIs)

Description

The above part service holds the EOI charge for a range of Special Fault Investigation 'module' services. These services fix certain faults that are not covered by the standard rental service. The module types are:

- Base Module
- Network Module
- Frame Module
- Internal Wiring Module
- Internal Equipment Module
- Frame Direct Module

Methodology

The SFI based EOI charge is split between non chargeable SFIs (which are apportioned to rental services) and chargeable SFIs (which are apportioned to individual SFI services). The split between non chargeable and chargeable SFI volumes is sourced from WCR with a market and internal/external split. The chargeable apportionment is then shared over the following services based on the WCR split by market and internal/external for chargeable SFIs:

- SM165 Market A - Int SFI - OR
- SM166 Market A - Ext SFI - OR

- SM365 Market B - Int SFI - OR
- SM366 Market B - Ext SFI - OR

The non-chargeable apportionment is then shared over the following services based on the WCR split by market and internal/external for end user rentals:

- SM103 Market A - OR Int IPS Max and Max Premium Rentals
- SM104 Market A - OR Ext IPS Max and Max Premium Rentals
- SM107 Market A - OR Int WBC end user access Rentals
- SM108 Market A - OR Ext WBC end user access Rentals
- SN129 Market A - OR Int IPS Home and Office Rentals
- SN130 Market A - OR Ext IPS Home and Office Rentals
- SM303 Market B - OR Int IPS Max and Max Premium Rentals
- SM304 Market B - OR Ext IPS Max and Max Premium Rentals
- SM307 Market B - OR Int WBC end user access Rentals
- SM308 Market B - OR Ext WBC end user access Rentals
- SN329 Market B - OR Int IPS Home and Office Rentals
- SN330 Market B - OR Ext IPS Home and Office Rentals

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The chargeable SFI volumes and the end user rental volumes (split by service, market and internal/external) are sourced from WCR.

EAD

SO646B 21CN Backhaul EAD

Description

The above part service holds the EOI charges for Ethernet Access Direct (EAD).

Ethernet Access Direct (EAD) provides point-to-point data connectivity between sites. It can be used to build and extend customer networks, develop new infrastructure, and meet low-capacity backhaul requirements (i.e. up to 1Gb, which is the starting bandwidth for Ethernet Backhaul Direct). EAD supports a range of requirements including cloud computing, simultaneous online pupil access in classrooms and storage area network connectivity.

Methodology

These EOI charges are apportioned on the basis of bandwidth for the 21CN services that use EAD. TV Connect (TVC) and fibre-access broadband volumes are factored to reflect their usage of only Tier 1 EADs.

The relative bandwidth volumes of copper broadband, fibre broadband and TVC are used to create a base that apportions the charges to the following services:

- SN113 Market A - OR Int WBC 21CN Backhaul
- SN114 Market A - OR Ext WBC 21CN Backhaul
- SN161 SFBB OR Fibre BW Mkt A Int
- SN162 SFBB OR Fibre BW Mkt A Ext

- SN313 Market B OR Int WBC EBD
- SN314 Market B OR Ext WBC EBD
- SN361 SFBB OR Fibre BW Mkt B Int
- SN362 SFBB OR Fibre BW Mkt B Ext
- SM413 OR TVC

A usage factor is applied to Fibre and TVC services to apportion only Tier 1 Links in the EAD backhaul network.

Data Sources

The total EOI charge is sourced from internal trading data.

The bandwidth volumes are sourced from: WCR for broadband; and GVF for TV Connect.

Time Related Charges (TRCs)

SK990B Time Related Charges

Description

The above part services hold the EOI charges for Time Related Charge work relating to SMPF and MPF lines.

Time Related Charges (TRCs) are raised to recover the cost incurred when BT Openreach engineers perform work that is not covered under the terms of the Openreach service. For example, TRCs apply where there are no standard prices for the work required, if it falls outside normal hours, if it is needed earlier than standard timescales or is at a CP's site and not covered under our terms.

Methodology

These EOI charges are apportioned on the basis of connections for the copper services that use SMPF. The number of connections in the year to IPstream and WBC split by internal and external connections and by geographic market are used to create a base that apportions the charges to the following services:

- SM103 Market A - OR Int IPS Max and Max Premium Rentals
- SM104 Market A - OR Ext IPS Max and Max Premium Rentals
- SM107 Market A - OR Int WBC end user access Rentals
- SM108 Market A - OR Ext WBC end user access Rentals
- SN129 Market A - OR Int IPS Home and Office Rentals
- SN130 Market A - OR Ext IPS Home and Office Rentals
- SM303 Market B - OR Int IPS Max and Max Premium Rentals
- SM304 Market B - OR Ext IPS Max and Max Premium Rentals
- SM307 Market B - OR Int WBC end user access Rentals
- SM308 Market B - OR Ext WBC end user access Rentals
- SN329 Market B - OR Int IPS Home and Office Rentals
- SN330 Market B - OR Ext IPS Home and Office Rentals

Data Sources

The total EOI charge for this service is sourced from the Actual Reporting Cube (ARC) reporting system managed by Openreach Finance.

The connection volumes (split by service, market and internal/external) are sourced from WCR.

ANNEXES

Annex 1 Sectors

1.1 Sectors introduction

This section provides a description of key REFINE sectors involved in the cost allocation process. A sector:

- Consists of two alphanumeric characters
- Is a group of similar or like F8 Codes used for regulatory reporting purposes

A sector can be defined as the:

- Types of service provided by BT (revenues);
- Main functional activities performed by BT (Operating Costs);
- Main fixed assets underpinning BT activities; or
- Other assets, liabilities and provisions incurred by BT in support of its services and activities.

As described in Section 2 (Business and System Overview) sectors are used as a way or grouping one or many F8 codes into similar functional categories to make regulatory reporting more manageable. A list of all sectors identified in the RFS is included below.

1.2 Operating cost sectors

This section describes the operating cost sectors relating to activities that we provide to our customers.

Provision/Maintenance

Provision/Maintenance consists of the following REFINE sectors. The most material cost relates to D-side copper which is apportioned on the basis of the number of lines.

REFINE sector	Description	Includes:
B1	Provision and Installation	Installation activities such as the physical installation of network equipment, cable and/or customer premises equipment to provide network connectivity and other services to customers. Provision activities such as work to activate and enable the service to a customer. This may involve software configuration to activate or de-activate particular services, using the underlying physical equipment and network provided through installation activities.
B2	Maintenance	Costs to operate and maintain our network in good working condition to meet service requirements. This includes performing activities to test, maintain and repair the network e.g. scheduled or planned maintenance of particular network assets or ad hoc maintenance problems reported by BT staff or customers.

Network Support

Network Support consists of the REFINE sectors below. The key drivers for the apportionment of network support costs include pay, the relative floor space occupied by fixed assets and the current cost replacement value of assets.

REFINE sector	Description	Includes:
BK	Plant Support	The costs of activities undertaken to support the running of our Network. This includes: government levied business rates payable on BT network installations and specialised estates such as telephone exchanges and radio stations; coaching pay costs booked by Customer Service Coach (CSC) staff; Transmission Repair and Control pay costs on all core transmission equipment and private circuits; pay costs for the provision, re-arrangement or cessation of network services; pay costs relating to plant protection and inspection associated with statutory notices (e.g. inspection of low voltage overhead power crossing clearance); and miscellaneous support work costs (e.g. the cost of installation (and subsequent recovery) of emergency plant incorporated in the network at the time of failure of other plant).

General Support

General Support consists of the REFINE sectors below. The key drivers for the apportionment of General Support include pay costs and activity surveys.

REFINE sector	Description	Includes:
B0	General Support	Staff costs for BT people in the UK transition centre or completing project work. Other costs related to computing, security, mobile and general network maintenance. Also includes cost for payments relating to service level guarantee scheme, wayleaves payments in respect of network plant and the Ofcom administration fee.
B4	Planning and Development	Costs relating to the planning of the network and the development of new technologies and service offerings e.g. pay costs for operational planning, including agency staff, and research and development contracts.
B6	Supplies	Costs associated with the procurement of materials and services (to support business operations) and the issuing of supplies from stores. This includes outsourcing of finance and accounting work, logistics and procurement pay costs, freight and carriage costs of items held in stores, tools and small items.
B7	Transport	Costs associated with vehicles e.g. costs of acquiring, maintaining, leasing, managing and retiring our fleet of vehicles.
BA	Computing	Mainly BT TSO costs re-charged to the rest of BT Group for their use of services such as computer operations, research and development and user support to our employees e.g. installing, setting up computers and helpdesk support.
BB	Customer Service	Costs associated with customer service activities to maintain customer satisfaction e.g. call centre management and customer service field operations such as faults and maintenance tests.

BE	Personnel and Administration	Costs associated with the provision of personnel services e.g. recruitment, release of staff/redundancies, development and implementation of performance management processes and other human resources (HR) support activities.
BV	Customer Support	Costs associated with performing diagnostic tests in support of maintenance and repair work and operation of the work manager system to schedule and control repair and maintenance work undertaken by BT engineers.

General Management

General Management consists of the REFINE sectors below. The key drivers are activity surveys and pay costs.

REFINE sector	Description	Includes:
BF	General Management and Other	Costs associated with general management activities and other general expenses. This includes: New Starter or Leaver payments; general management pay costs for board members of business units; senior managers and support staff working on general management activities; general management and other incidentals such as costs for conference facilities; general legal charges; group insurance charges; corporate provisions; and operating costs incurred by our non-core businesses (i.e. subsidiaries and self-accounting units).
B5	Operator Services	Costs associated with operator assistance (OA) services, emergency calls, and directory enquiry (DQ) services.

Finance and Billing

Finance and Billing consists of the REFINE sectors below. The key drivers for the apportionment of Finance and Billing include activity surveys and pay costs.

REFINE sector	Description	Includes:
B9	Finance and Billing	Costs incurred from various activities of a financial nature, such as budget building and management reporting, and costs incurred to generate a bill for the customer and to collect payment. Accounting and general finance activities include financial and management accounting, budgeting, forecasting and payroll processing. Billing activities include customer service, billing and credit control, bad debt costs and post office handling costs.

Accommodation

Accommodation sector consists of the following REFINE sectors. Accommodation costs are mainly apportioned based on the use of floor space and utilities.

REFINE sector	Description	Includes:
BC	Accommodation	Costs incurred for buildings maintenance, decoration of sites and buildings, costs of rent payable to landlords on buildings occupied by BT, costs of business rates on land and buildings, building electricity supply costs in both operational and office buildings, and payments to external contractors for cleaning services in BT accommodation.

Bad Debts

Bad debts include costs associated with writing off amounts that cannot be collected from customers.

REFINE sector	Description	Includes:
BW	Bad Debts	The internal and external costs associated with writing off amounts that cannot be collected from customers. The majority of these costs relate to the Retail Residual market.

Other Costs

Other Costs consists of the REFINE sectors below. The key drivers include the pence per minute charging of the other operators for BT traffic on their network.

REFINE sector	Description	Includes:
B8	Marketing and Sales	Costs to retain and win business from existing or new business and retail customers. This includes: conducting market research to gain intelligence on BT's markets and understanding the demands of our customers and competitor services; providing marketing services such as the design, planning and implementation of marketing activities, publicity and promotions; managing contact with customers; and handling customer orders such as understanding the specific needs of the customers, confirming their credit vetting, and determining the feasibility of meeting the order requirements.
BG	SLRC Variance	Cost variances between actual labour costs and the standard rates used for management costing purposes.
BU	Elimination of Intra-group	Transactions between BT Group businesses.
C1	Other Operating Income	Other operating income relating to non-telecommunications services and hence separately recorded from BT's core revenue (calls, connections and rental charges, etc.). This mainly consists of profits on the disposal of land, buildings and sale of scrap copper

		cables.
C2	Payments to OCP	Payments made to OCPs (other communication providers) for use of their network e.g. where BT carries a call originating from a BT customer but terminating on another operator's network, BT makes a payment to the Operator for carrying the call over their network. Payments may also arise from transit traffic where BT carries traffic over its network for part of a call, but also uses another operator's network. Payments are also made for Premium Rate Services (PRS) where BT customers make calls to the premium rate service telephone numbers of other operators and calls to BT Freephone numbers.
C3	Payments to OA	Same as sector C2, but for International CPs.
C7	Internal Product Charge from Core	Transfer charges for products used internally within BT. For internal management purposes, BT runs a 'transfer-charging' process. GL codes for the transfer charges are set up as matched pairs, one for the charge out and one for the charge in. These GL codes are associated with F8 codes. Therefore there will be matching pairs of F8 codes, one for the charge out (F8 codes beginning with '24') and one for the charge in (F8 codes beginning with '28').
F0	Specific item interest	The net amount of interest payable and receivable by BT on its bank balance which relates to specific items e.g. pensions.
F1	Employee Profit Sharing	The cost of provisions made for payments under the employee profit sharing scheme.
F2	Net Short Term Interest	The net amount of short term interest payable and receivable by BT on its bank balances.
F3	Associated Companies	The share of profit or loss before tax of associated undertaking and the profit and loss account charges for the amortisation of goodwill arising from the acquisition of subsidiary undertakings.
F4	Corporation Tax	The current year corporation tax charge for BT and subsidiaries, as well as prior year adjustments.
F5	Deferred Tax	The current year deferred tax charge and prior year adjustments.
T3	Divisional Supply Service Out	Internal trading for BT Basic / Social telephony, billing services, directories billing, retail billing to Redcare. (Costs transfer out)
U3	Divisional Sup Service In	Internal trading for BT Basic / Social telephony, billing services, directories billing, retail billing to Redcare. (Costs transfer in)

Depreciation

Depreciation is analysed between land and buildings, access, switch and transmission and other (including network power, computers and software). This is described in the individual asset sectors below.

The key drivers are engineering models and direct mapping of BT classes of work to network components and then onto the appropriate service, based on usage factors and actual service volumes.

1.3 Balance Sheet sectors

Land & Buildings

This sector contains the asset values that are booked to BT Classes of Work for land and buildings, including freehold, long leases and short leases. The sector includes corporate office and network buildings owned by BT. Asset values are mainly apportioned based on the use of floor space and utilities.

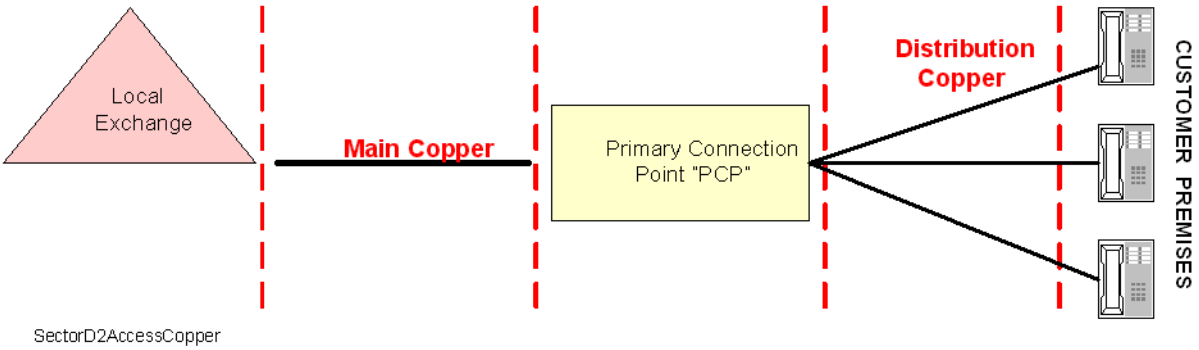
REFINE sector	Description	Includes:
DF	Accommodation Plant Network	The asset values and depreciation for Network Plant Accommodation necessary for the operation of network equipment e.g. ventilation and cooling plant. Specific assets held within this sector (by CoW) include: • ACPM - Accommodation Plant, Equipment-Related Motor Transport. This includes purchasing, installing and recovery of transport related equipment. • ACPS - Accommodation Plant, Security. This covers the provision and installation of security equipment for Land and Buildings. • ACPR - Accommodation Communication Plant Rooms. • ACPA - Accommodation Plant Access Services Division (ASD) such as the cost of construction provision, installation and recovery of ASD (i.e. Openreach network equipment-related plant, also known as accommodation plant). • ACPN - Accommodation Plant, Equipment Related Network Operational Buildings. • ACPC - Accommodation Plant - Computer Centres. • BTSSE - BT Sport Studio and Equipment.
DP	Land	The asset values for land analysed between historical cost values and the CCA adjustments applied to provide a current cost valuation of the assets. The main classes of work against which land values are recorded are land freehold, land long lease (LFH) and land short lease.
DQ	Buildings	The asset values and depreciation for buildings fixed assets. Buildings relate to the freehold, long leasehold and short leasehold buildings that we own such as corporate office building, our shops and service centres, and network buildings (e.g. exchange buildings) that we own. This

		includes: • BCB – New building construction costs: building costs incurred in constructing a new building on a cleared site. • BCR – Refurbishment costs: building costs which, excluding work as defined as extensions, results in a genuine improvement and will lead to an enhancement in the letting value of the property. • BCS – Security costs: the provision, installation and recovery of security fencing.
DR	Accommodation Plant Other	The asset values and depreciation costs for other accommodation plant. Accommodation plant assets are held in our freehold, long leasehold and short leasehold buildings, and contains asset items such as furniture and sundry other items used in the buildings. This includes: • ACPB - Accommodation plant, Buildings Related, comprises the cost of construction, installation and recovery of those parts of buildings which qualify as plant; • ACPI - Integral Accommodation Plant: cost of construction installation and recovery of those integral parts of buildings which is on the integral features list; • AFH - Accommodation Plant in our Freehold buildings; • ALL - Accommodation Plant in our Long lease buildings; and • ASL - Accommodation Plant in our Short lease buildings.

Access - Copper

This sector contains the asset values for access copper (all the copper cables in the access network and all other necessary equipment required to carry signals between the user and the exchange). It includes 'Main' Copper and 'Distribution' Copper, as illustrated in the diagram below. The key driver is the direct mapping of Classes of Work (CoW) to network components and then onto the appropriate service based on usage factors and actual service volumes.

The sector consists of:



SectorD2AccessCopper

REFINE sector	Description	Includes:
D2	Access: Copper	• LDC and LDCP – Construction, Local Distribution Cable for the provision or recovery of Access Copper Distribution and Branch Cables applicable to the copper build programme. This covers all work to increase the capacity of the network. Excludes duct. • LDCR – Renewal, Local Line Copper Distribution Cable for the replacement of Access network metallic distribution and branch cables. • LMC and LMCP – Construction, Local/Main Exchange-side Cable relating to the provision or recovery of Access Copper main cables to increase the capacity of the network. • LMCR – Renewal, Local Line Copper Main Cable for the replacement of Access network metallic main cables and ancillary plant as a result of a fault. • NWB/NWR - Provision and Installation of business and residential Exchange lines. • TCN – Renewal of any Network asset as a result of criminal damage (Duct and Cable) • UMAG – Equipment purchased to support, maintain and develop the infrastructure for BT TV and BT Sport service delivery platform

Access – Fibre

This sector contains the asset values and depreciation for access fibre and radio. The key driver is the mapping of CoW to network components and then onto the appropriate service based on usage factors and actual service volumes.

REFINE sector	Description	Includes:
D0	Grant Funded Assets	This includes receipt of government grant funding in relation to eligible capex spend that has been incurred and relates to: • GFA – This includes grant funded assets, received from a local or regional authority or from a devolved government body such as: Broadband Delivery UK (BDUK) grant funding received from the Department of Culture Media and Sport; and European Regional Development Fund (ERDF) grants.
D1	Access: Fibre and Radio	The asset values and depreciation for Access Fibre (optical fibre cables in the access network) and Access Radio (cellular, microwave and satellite radio systems used to connect the user and the exchange). This includes costs relating to: • FTTX - Super Fast Fibre Broadband provision and installation for Business or Residential tariffs, including both fibre to the cabinet (FTTC) and fibre to the premise (FTTP) • LFDC and LFSC - Construction of Local Line Optical Fibre Spine and Distribution Cable such as the provision, re-arrangement

		and recovery of optical fibre cable, blown fibre tubing, blown fibre bundle, and sub duct in the access fibre network. • LFXE - Construction of Local Line Exchange Service Module. • LFME - Construction of Local Network Service Module Equipment. • MICRO - Provision of Micro connect equipment • TPWA - Construction of Access Radio Systems.

Access – Duct

This sector contains the asset and depreciation values for duct. Duct is a pipe, tube or conduit through which underground copper or fibre cables are passed. Duct in the network is split into 'main'/'Exchange Side' (Class of Work LMD) and 'Distribution' (Class of Work LDD), Main Underground Duct (Class of Work MUD) and Core Junction Duct (Class of Work CJD). The fibre Network is split into similar sections; the Exchange side is known as 'Spine Fibre' and the Distribution side is known as Distribution Fibre and the main is Core Fibre. The key driver is a duct occupancy model that allocates CoW to network cable components and then onto the appropriate service based on usage factors and actual service volumes.

REFINE sector	Description	Includes:
D3 & DB	Access: Duct Core Transmission: Duct	Asset values and depreciation for Access Duct. Specific assets include the costs of provision or recovery of: • CJD/CJDR - Construction/Renewal of Backhaul/Inner Core Duct. This asset class covers the provision and recovery/renewal of Core network duct. LDD - Construction of Local Distribution Duct for Copper Cable. • LMD - Construction, Local main (Exchange-side) Duct for Copper. • LDR - Renewal, Local line Duct for Copper Cable (either Main or Distribution) to replace or partially replace duct for Access copper cables. • LFD - Construction, Local Duct for Optical Fibre Cable in the Access Fibre Network. • MUD/MUDR - Construction/Renewal of Backhaul/Inner Core Duct. This asset class covers the provision and recovery/renewal of Backhaul/Inner Core Duct. Construction covers all Core Network duct work.

Switch

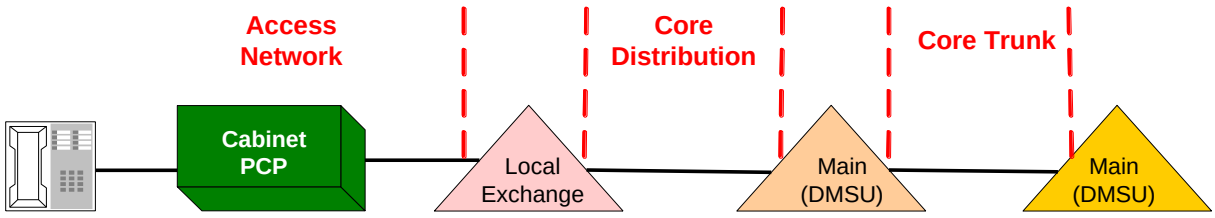
This sector contains the asset values and depreciation for switching equipment located in BT exchanges and provides the switching function of telephone networks. The key drivers are engineering models that allocate CoW to network component and then onto the appropriate service based on usage factors and actual service volumes.

REFINE sector	Description	Includes:
D4	Local Exchanges: Digital	The asset values and depreciation for: • DMC - Construction Operator Service System - Provision and recovery of operating access, Automatic Voice Response (AVR), Directory Assistance System and Operator Keyboard Display Terminal equipment controlled by Operator Services. • Digital Local Exchanges LDX/LUX/LYX - Construction, Local Digital Exchange. This asset class covers all equipment and associated costs incurred as part of basic exchange provision, extension, or re-arrangement. This includes CoWs: LDX for Digital Local Exchanges manufactured by System X; LYX for Digital Local Exchanges manufactured by Ericsson. • Main Distribution Frames LMDF - Construction, MDF for exchanges. This asset class covers the provision, extension, upgrade, replacement, re-arrangement and recovery of MDFs connected with Inland (BTUK) telephone exchanges. MDFs are those distribution frames providing direct interface with external circuits terminations (customer or other exchanges).
D8	Main Exchanges	The asset values and depreciation for the provision, rearrangement, recovery and upgrade of: • ASU - Construction, Advance Service Units Switching • CSNC - Construction, Universal Card Platform (FAR) • MDX - Main Network Switching Digital which are digital exchanges providing certain functions to digital traffic e.g. setting up and clearing down calls, switching traffic and signalling to other exchanges and subscribers. • NGS - Next Generation Switch, which is a newer form of switch. There are two types: one using traditional circuit switching technology; the other a hybrid using ATM packet switching technology.
DC	Intelligent Networks	The asset values and depreciation for the Intelligent Networks Platform that allows functionality to be distributed flexibly at a variety of nodes on and off the network and allows the architecture to be modified to control the services. The 'Intelligent Network' provides network functionality beyond basic switching. Specific assets include: • Costs of construction of the Intelligent Networks Platform (INC) • Costs of the Signalling Network and Interconnect (SIGNI) including Signalling Transfer Point (STP) and Signalling Point Relay (STP) switches and Signalling Traffic Management (STMS) equipment.

Transmission

This sector contains the asset values for transmission. Transmission includes Core Transmission Synchronous Digital Hierarchy (SDH), Plesiochronous Digital Hierarchy (PDH), Asynchronous Transfer Mode (ATM), Cables and Repeaters.

The Core transmission network is used to link exchanges. For AS purposes the Core Transmission network is split into the Core Distribution network and the Core trunk network, illustrated below:



SectorDaCoreTransmission

REFINE sector	Description	Includes:
DA	Core Transmission: Cable and Other	• BHQ – Construction of Submarine Cable Inland • CJC – Construction of Junction Metallic Pair Cable • CJF – costs associated with the Construction of Core Optical Fibre Cable in the Core Network. • CRF – costs associated with the Construction of Repeaters, Optical Fibre in the Core Network. • CRD – costs associated with the Construction of repeaters, digital, non-optical in the Core Network. • MUC – costs associated with the Construction of Main Underground (Core) Cable to increase the capacity of the network.
DD	Other Transmission	• ATM/ATMW - capital expenditure for Asynchronous Transfer Mode platform equipment. ATM (also referred to as Broadband Integrated Services Digital Network (ISDN) is a cell-switched technology. All broadband transmissions (whether audio, data, imaging or video) are divided into a series of cells and routed across an ATM network consisting of links connected by ATM switches. • CRHQ - provision of analogue, plesiochronous digital or optical equipment in the Trunk Network. • NCRR - International Radio and Repeaters. This asset class is used for Earth Station Capital expenditure on Broadcast Services or Shared Infrastructure Earth Station Assets. • SDH - Costs of provision and re-arrangement of Construction of Synchronous Digital Hierarchy transmission equipment. SDH is a key element of BT's core transmission network.

		• TPWC – Construction of Trunk & Junction Radio Systems.
DK	Private Circuits and SMDS	• DTTM - Construction of Customer Wideband Services. This asset class covers contract, stores and labour for the construction, installation, commissioning, replacement, re-arrangement of equipment at local exchanges and customer's premises to carry wideband services to customers such as: Wideband bearer electronics to support Kilostream service; Access SDH; and test equipment for testing and maintaining customers' wideband services. • DTTK - Construction of Kilostream/Automatic cross Connect Equipment (ACE) Services. This asset class covers contract, stores and labour for the construction, installation, commissioning replacement, and re-arrangement of core network equipment for Kilostream Private Circuits. • DTTS - Construction of Customer Wideband Services. This asset class covers construction, provision, installation, commissioning, replacement, re-arrangement or recovery of electronic equipment (but not service) for the various Short Haul Data Services (SHDS). • DTTW - This asset class covers cost of provisions (such as stores and labour) for the construction, installation, commissioning, replacement and upgrade of equipment at BT local exchanges and customer premises. • DTTSW - Construction of SHDS links. Includes: construction; provision; installation; commissioning and replacement; and electronic equipment for products incorporating SHDS equipment.
DT	21st Century Network	• CCI (Common Capability Intelligence) - Common Capability Intelligence is a set of re-usable components used to build our products and services. It includes session management and intelligence voice routing, authentication of customer identity, identification of customer location and instant messaging. • Ethernet Switches - Ethernet Switches are for Connectivity access into the network and are located at sites that can take advantage of WDM transmission to send and receive traffic to the Metro node. • MSAN (Multi Service Access Nodes) - provide customer access into the network for Voice, Broadband and some Connectivity via line-cards and the traffic generated is sent to Metro Nodes for switching. This can be via other MSANs.

		• Metro/Core Nodes - Core Nodes are a special type of Metro Node where there is a mesh or net of transmission between them. Most Core nodes are connected to all other Core Nodes. Metro Nodes switch traffic and contain the intelligence to direct its path. All traffic will traverse the Metro Node to some degree whether it falls into the category of Voice, Broadband or Connectivity. • 21C WDM Transmission (Wave Division Multiplexing). • i-Nodes (Call Servers) - i-Nodes are used just for Voice customers and contain intelligence for numbering and the intelligence for routing i.e. Call Set-Up and Network Features.

The key drivers are engineering inventories and models that allocate CoW to network components and then onto the appropriate service based on usage factors and actual service volumes.

Other Fixed Assets

This sector contains the asset values for a range of assets used by BT businesses including categories such as Software and Motor Transport. The key drivers are surveys, engineering models and direct mapping of CoW to network components and then onto the appropriate service based on usage factors and actual service volumes.

REFINE sector	Description	Includes:
DG	Network Power	• TPC - Construction of Telecom Power Plant. This asset class covers the provision, installation, construction, replacement and re-arrangement of power plant systems and distributions feeding network operational equipment in operational buildings, i.e. telephone, radio and repeater stations.
DH	Capital Miscellaneous	• Miscellaneous capital expenditure. This includes: • ADSL – costs of contract, store and labour for the Construction of Digital Subscriber-line. • LXTM - Provision of common or centralised test, monitoring or access equipment for Local Exchanges • NTC - Initial purchase of high value tools and testers used in the construction and maintenance of the Core and Access networks • WMSCA - Capital Expenditure associated with Wholesale Managed Services
DI	Other Non-Voice Plant	• IPNC (Internet Protocol Network Capital) and IPNCW (IPNC Wholesale) including assets and depreciation. • MMC - All equipment and associated costs incurred solely by Internet and Multimedia Services (IMS) as part of the basic provision, extension, re-arrangement and recovery of equipment associated with the provision of

		IP products.
DJ	Net Enabling Computers	• Network enabling computing fixed assets and depreciation.
DL	Public Payphones	• PCOH and PCOP - the planning, provision and recovery of payphone housing and mechanisms, including lighting and power, other than managed sites. • PIN - All costs associated with the provision and installation of PIN operated Payphones, excluding the cost of maintenance.
DM	Apparatus	• This sector predominantly contains the asset values and depreciation of non-core ledger fixtures and fittings. This includes: • FRNCP - comprises the cost of installation of general office furniture (including individual desk, chairs, pedestals, side tables, cabinets, cupboards, bookcases, discussion area furniture and meeting room furniture)
DN	Motor Transport	• NVAC - New Vehicles and Accessories purchased and include pool cars, vans, light goods vehicles, heavy goods vehicles and 4 wheel drive vehicles and trailers.
DO	General Computers	• COMPA - BT Own Use Computer Mainframes and Peripherals. This includes computers which require a controlled environment e.g. air conditioning, water cooling, includes front end processors, tape drives, disk drives, silos, dedicated terminals etc. • COMPD - Computers which may perform similar kinds of applications as mainframes but have less storage capacity, processing power and speed than a mainframe. Also they do not require a controlled environment. • COMPE - BT Own Use Personal Computers. Includes the processor, display monitor, keyboard, internal CD ROM and modem, one or more diskette drives, internal fixed disk storage and the operating system software purchased as an integral part of the PC. • COMPF - BT Own Use Data Communication Equipment. These includes data transmission hardware and test equipment such as modems, multiplexors, routers, bridges, patch panels, protocol converters, line testers, monitor protocol analysers, cluster controllers, hyper-channels, file servers and Open System Cabling Architecture (OSCA) cables. • IABC - Internal Infrastructure Cabling and Local Area Networks (LAN) in BT offices.
DS	Office Machines	• IDX - Big and Large Switches. This asset class covers the provision of all big and large switches and of small/medium switches with an installed cost in excess of £1,500.

		• OM - Office machines (BT own use). This asset class covers the procurement and installation of office machines for BT's own use, where the cost is £1,500 or more.
E4	Materials Awaiting Installation	• Items awaiting installation are not yet booked against specific Classes of Work.
EA	Software	• Application system software - Designed to meet a specific business need with an established intended use (and not for use for any other purposes). • Operating system software - Manages the basic operations of a computer system and the flow of information into and out of the main processor. • Example CoW included is LIC (Licences for Intangible assets)
EB	Goodwill	• Includes goodwill.
EC	Other Intangible Asset	• Identifiable intangible assets such as indefinite life assets.

Investments

REFINE sector	Description	Includes:
E5	Other Non-Current Assets	• This includes miscellaneous other non-current assets
E7	Other Investments	• This includes miscellaneous other investments

Inventories

REFINE sector	Description	Includes:
G0	Programme Rights	• TV Programme Rights, e.g. BT Sport
G1	Trading Inventories	• Trade and finished goods inventories; • Work in progress; and • Raw material inventory.

Internal Receivables

REFINE sector	Description	Includes:
GN	AS Notional Receivables	• Notional receivables are based on an approximation of the debtors that would be incurred if trades between BT's Customer-Facing Units (CFUs) were undertaken to a third party and at arm's length. The moving average debtor days is applied to all revenue (internal and external) by market to calculate the reported Notional Receivable value.

External Receivables

REFINE sector	Description	Includes:
G2	Trade Receivables	• Geneva receivables - These are receivables associated with invoices raised through the Geneva system, a billing system used by BT Retail, Global Services and BT Wholesale. It contains customer data, such as the Products they currently rent, usage and any discounts applied. • Customer Service System (CSS) billed receivables - These are receivables associated with invoices raised through the CSS. These receivables' balances are generated by the Retail business unit of BT and include, for example, balances for invoices due from PSTN call services provided to business and residential customers. • Other Communication Provider (OCP) receivables.
G3	Intra-group Receivables	• Internal trading between our Customer-Facing Units (CFUs) relating to receivables.
G4	Short Term Investments: TP	• Listed UK investments; • Listed non-UK investments; • Unlisted investments; • Overnight deposits; • Term deposits at banks; and • Certificates of tax deposits.
G5	Short Term Investments: IG	• BT's intra-group investments (funds deposited by one area of the business into another part of the business) are directly allocated to Retail Residual.
G6	Cash At Bank	• The material balances in this sector represent sterling bank accounts, with different F8 codes used for accounts with different banks.
G9	Accrued Income	• This sector relates to the balance sheet value of accrued income for services provided to and used by customers but not yet invoiced by BT. Accrued income arises where the invoice schedule for a particular customer service allows the customer to use the service in advance of being billed e.g. for telephony calls made by residential customers, where customers are billed quarterly in arrears for the call charges.
GA	Prepayments	• Prepayments of general expenditure from BT.
GB	Other Receivables	• This sector relates to the balance sheet value of Other Receivables for amounts owing to BT. It contains sundry and miscellaneous receivable balances.
GC	Pay Recharges	• Relates to pay accounting in BT - this sector always nets to zero.

GD	Derivative Financial Instrument (Current Assets)	• This sector holds the balance sheet value of current derivative financial instruments and relates purely to Retail Residual products.

Current Liabilities - Internal

REFINE sector	Description	Includes:
HN	AS Notional Payables	• This is the calculated amount owed by BT Wholesale to BT Openreach for EOI services

Current Liabilities - External

REFINE sector	Description	Includes:
H1	Short Term Borrowing	The borrowings include: • Overdrafts; • Short-term loans; • Other short-term loans (excluding bank overdrafts); • Commercial paper; and • Liability balances on commercial paper held by the Treasury.
H2	Provisions under one year	• Potential liabilities faced by BT that are due within a year.
H3	Trade Payables	The key balances of trade Payables in this sector include: • Accounts Payable control; • Other Communication Provider (OCP) Payables; and • Capital Trade Payables other.
H4	Intra-group Payable	• Internal trading between our Customer-Facing Units (CFUs) relating to payables.
H6	Other Tax and Social Security	Key balances include: • Output VAT payables, arising from VAT collected by BT from its customers; • Input VAT receivable balances, arising from VAT paid by BT on inputs purchased; and • National Insurance contributions for employees, payable by BT.
H7	Provisions	• Miscellaneous provisions.

H8	Other Payables	• Sundry and miscellaneous payable balances.
H9	Accrued Expenses	• Accrued expenses not yet paid by BT.
HA	Deferred Income	• Income received for services not yet provided to customers.
HF	Derivative Financial Instrument (Payables)	• This sector holds the balance sheet value of derivative financial instrument payables and relates purely to Retail Residual products.
HZ	Other Payables	• Non-current portion of leases and deferred income which is recognised in Retail Residual.

Provisions for Liabilities and Charges

REFINE sector	Description	Includes:
I2	Other Provisions (i.e. those not included in sector H7)	• Regulatory provisions • Dilapidation provisions • Deafness and Lung provisions
I4	Pension Provisions	• This includes pension-related provisions

Annex 2 Openreach reporting

2.1 Introduction

On 22 September 2005, we entered into legally binding undertakings with Ofcom in lieu of a reference under the Enterprise Act 2002 ("the Undertakings"). In accordance with section 5.31 of the Undertakings, the RFS separately present the financial results of Openreach and include a reconciliation of Openreach's revenue and operating profit (and other items agreed between us and Ofcom) with the financial information about Openreach as shown in BT Group plc's Annual Report. This financial information is subject to an independent audit.

This section outlines the methodologies used to present the financial results of Openreach ('Openreach Information') within the RFS and the reconciliation of that statement to the Openreach segmental financial information as shown in BT's Annual Report.

As required in the Undertakings, the form, content and basis of preparation of the Openreach Information follows that used in the preparation of the RFS.

Commitments

In July 2017 Ofcom confirmed it would release us from the Undertakings once the arrangements for our voluntary commitments were all in place. This included the employees working for Openreach being transferred to Openreach Limited and adopting the new model of functional separation for Openreach to secure greater strategic and operational independence.

Openreach Limited has been legally incorporated and the members of the Openreach Board were appointed as Directors of Openreach Limited in leadership team voluntarily transferred to Openreach Limited in January 2018. On 9 April 2018 BT formally adopted all the elements of the Commitments and Governance Protocol that can be adopted without triggering the TUPE transfer. We continue to work towards the TUPE of all employees working for Openreach to Openreach Limited as soon as practicable.

For the period to the 31 March 2018 BT adhered to the undertakings. Since 8 April 2018 BT has adopted similar conditions which exist in the commitments (such as the requirement to separately present the financial results of Openreach) and these will continue from this date.

2.2 Openreach product groups

In accordance with section 5.31 of the Undertakings we have broken down the Openreach Information into the broad product groups that Openreach provides. The product groups that we use are the same as the relevant markets we have used in the main RFS except for "Other Openreach Markets & Activities (with no SMP reporting obligation)".

The following is a list of our product groups. The mapping of services into these product groups can be found in the Wholesale Catalogue, with the exception of "Other Openreach Markets & Activities (with no SMP reporting obligation)":

- Wholesale local access
- Low Bandwidth CISBO Rest of UK
- Low Bandwidth CISBO Combined Geographic
- Wholesale fixed analogue exchange lines
- Wholesale ISDN2 exchange line services
- Wholesale ISDN30 exchange line services
- Other Openreach Markets & Activities (with no SMP reporting obligation). These activities include CISBO Residual area and some services only sold internally such as element-Partial Private Circuits (ePPCs).

All of these services, with the exception of ePPCs, are described on Openreach's website: www.openreach.co.uk.

ePPCs are an internally supplied service that provides the access network and backhaul network elements necessary for the rest of BT to provide Partial Private Circuits (PPCs). ePPC costs, assets and liabilities are included (together with additional rest of BT costs, assets and liabilities) in the RFS as an input to PPC services in Wholesale Residual and the regulated market: Traditional interface symmetric broadband origination (up to and including 8Mbps).

2.3 Format of the Openreach information statements

The format of the Openreach regulatory Income and Mean Capital Employed statements are consistent with the sector analysis in the RFS.

2.4 Disaggregating SMP defined information into Openreach regulatory statements

The basis of disaggregating the SMP defined revenue, associated costs and capital employed into information used to prepare the Openreach regulatory statements is described below.

2.5 Openreach revenue

Revenue is based upon published prices multiplied by Openreach volumes, consistent with our RFS. We have used volumes associated with Openreach products. Against the identified volumes we apply the published price, where products are sold externally or internally, to arrive at the reported revenue for Openreach.

For services which are only sold internally and where there is no applicable published price, revenue is calculated on the prices that have been agreed internally between Openreach and the other BT divisions e.g. for the supply of ePPCs.

Northern Ireland

Volumes, revenues, costs and capital employed relating to Northern Ireland are included in the Openreach element of the service at this stage, and are shown in the production of the reconciliation statements (see below).

2.6 Reconciliation of Openreach income statement

The reconciling differences between the Openreach Information and the Openreach segmental financial information reported in BT's Annual Report fall into the following main categories:

i. Basis of preparation under Current Cost Accounting (CCA): BT's Annual Report has been prepared under the historical cost accounting (HCA) basis, modified for the revaluation of certain financial assets and liabilities at fair value. BT's RFS have been prepared on a CCA basis.

ii. Results relating to Northern Ireland operations: The RFS have been prepared in accordance with the Final Statements and Notifications imposed on us where Ofcom has defined certain markets in which we are deemed to have Significant Market Power (SMP) in the UK. This definition includes our Northern Ireland operations. The Openreach segmental financial information reported in BT's Annual Report has been prepared based on the definition from the Undertakings. This excludes our operations in Northern Ireland. Accordingly, the results of the access network element of BT's Northern Ireland operations form part of the reconciliation. The revenues relating to Northern Ireland have been identified from the product revenues ledgered separately for the Northern Ireland customer-facing unit, and the underlying volumes derived by dividing these ledgered revenues by their published prices. The

associated costs relating only to the access element of BT's Northern Ireland operations have been identified as the total costs from the BT organisational unit code (OUC) "HM" within the Openreach results within BT's regulatory accounting system.

iii. Cost of capital adjustment for internal trading: Within the Openreach segmental financial information reported in BT's Annual Report, there is a charge for an appropriate return on capital where assets are owned by the BT TSO division (e.g. for line cards, electronics and network features) but are used by Openreach. The Openreach regulatory statements do not include this charge, as the basis for allocation of costs and assets to products in the regulatory accounts is actual costs and assets.

iv. Other reconciling items and trading differences: This adjustment relates to other trading differences that may occur from period to period in attributing costs for the RFS. Internal transfers raised between businesses are ignored within the RFS for both the OUC raising the charge and the OUC receiving the charge so as to reflect the true regulatory end-to-end costs of each unit. The total regulatory cost of each category is compared to the equivalent traded costs within the management accounts to calculate individual reconciliation differences and the sum of the differences incorporated as the total reconciliation difference for trading differences.

v. Non-traded costs: Costs shown separately from the Openreach segmented results in BT's Annual Report are included as a separate line to enable reconciliation between the accounts.

We do not publish Openreach segmental balance sheet information in our Annual Report and consequently are unable to publish the Reconciliation of Openreach MCE Statement in the RFS.

Annex 3 Data sources

3.1 Introduction

As part of gathering data to both inform and use as part of our attribution methodologies we use a variety of data sources from across BT. Where these are systems they are recorded with unique IDs on a BT database called SALSA (Single Authorised List of Systems and Applications) – it is the approved repository of the list of every IT System across BT. These systems are often referred to in our methodology dictionaries under the data sources section of an entry.

In some instances we have considered whether it provides better information to readers if we set out where we use a mixture of different systems, types of data (e.g. billing information) and assumptions to derive and employ our attribution methodologies. We have consequently separately identified 21CN volumes and capital expenditure data sources and assumptions below.

3.2 High level summary of systems

Below is a summary list of data sources used within the RFS as obtained from SALSA.

Source System	SALSA ID	Full System Name
A&I CMS	APP02540	Accommodation & Infrastructure Content Management System
AIM	APP03186	The 5620 Analysis And Inventory Module
ASC	APP00045	Automated Supply Chain
ATLANTIS	APP10024	Geneva - Local Loop Unbundling, Wholesale Line Rental
BIP (WCR)	APP02121	Business Intelligence Platform
Bridge	APP00092	Bridge
Building Energy Management System	APP11793	Building Energy Management System
Candid	APP03687	Contractor Access Network Delivery Information Database
CCMIS	APP01433	Complementary Channel Marketing Management Information System
CID IPL	APP07600	CID - Internal Projects Ledger
CID	APP00224	Central Information Database
COSMOSS	APP00257	Customer Oriented System for the Management Of Special Services
CSS	APP00299	Customer Service Systems
CTCS	APP03614	Core Transmission Circuit costing System
eASPIRE	APP08297	Accounting Separation, Product Integration & Report
eCensus	APP02464	eCensus
EXPRES	APP00423	Exchange Planning and Review System
FBI	APP11235	FBI (Finance Business Intelligence)
Geneva Avalon	APP07770	AVALON Residential
Genius	APP00526	GENEVA -Local Loop Unbundling
HORIZON (Telereal)	APP09801	BT Property HORIZON (Telereal)
Hyperion	APP00580	Hyperion
INCA	APP00612	Inter-network Call Accounting System
INS	APP00616	Integrated Network Systems
ISIS documents	APP06903	ISIS
LLFN network	APP12518	London Local Fibre Network
LLUMS	APP08506	Local Loop Unbundling Management System

Source System	SALSA ID	Full System Name
LRIC	APP06047	Long Run Incremental Costing Model
Navision	APP09103	Navision Former BT Infonet France
NCL PACS	APP00997	Network Control Layer Planning Assignment and Configuration System
NIMS OR	APP00788	Network Instruction Management System Openreach
NISM NT	APP00791	Network Inventory And Spares Management System - New Technologies
NRMS AUDIT	APP02611	Network Routing Management System Audit
NRS	APP00816	Network Record System
NuNCAS	APP00741	Network Capacity Assignment System
OBOE	APP10269	One BT Oracle Enterprise
ORBIT	APP06635	Openreach Business Information Toolset
Peacemaker	APP00894	Peacemaker
PIPeR	APP02847	Physical Inventory Planning E-Records
PIRM	APP02481	Power Inventory And Routines Manager
POWERHOUSE	APP00922	Powerhouse
PCNBS	APP02046	Private Circuit New Billing System
Redcare BOPS	APP04159	Redcare Billing And Order Processing System
REFINE	APP12439	Regulatory Finance Information Environment
RIDE2	APP01862	Recorded Information Distribution Equipment
The BT People System	APP03839	The BT People System
TITAN	APP01114	The Inter-business Transfer Charging and Agreement Network

3.3 Detailed summary of systems

Below is a list of all of the above systems, including a description of the systems and their function within BT.

Detailed System Descriptions
A&I CMS - (Accommodation & Infrastructure Content Management System) A&I CMS is a Content Management System used to hold all building related CAD records for the Operational Estate in a central repository. Dimensional footprint of equipment placed onto the CAD diagrams is then synchronised with an Oracle database allowing queries on equipment and space utilisation to be run.
AIM - (Analysis and Inventory Module) AIM is an Alcatel-Lucent application that extracts and stores network inventory, network performance and usage, statistics and alarm data from the MSIP ATM platform element managers and statistics aggregators. AIM collects detailed engineering data from the 5620 Network Manager, the 5620 Stats Collector, and major Alcatel Core and Edge Switching Products.
ASC - (Automated Supply Chain) ASC is the name given by BT to the AmSOFT system and its interfaces. The ASC primary functions include: stores purchasing; order management; stock control; accounting systems; and foreign currency invoices. The ASC procurement matching module is used to authorise invoices.

Detailed System Descriptions

ATLANTIS - (Geneva - Local Loop Unbundling, Wholesale Line Rental)

Atlantis bills BT Openreach services. It is used for the calculation of revenue relating to Openreach related services, and ultimately is used in the Actuals Reporting Cube (ARC) and EST (Ethernet Service Transmissions) for a more specific analysis of Ethernet related revenues:

The Actuals Reporting Cube (ARC) is Openreach's revenue and volumes reporting system. It allows Openreach to analyse it External and Internal revenues and volumes by Communications Provider (CP) which for Internal means BT Customer-Facing Units (CFUs).

The majority of the ARC's External revenue data are obtained from IOTA which is the interface between the Atlantis billing system and BT's ledgers and uses revenue codes to post revenue to the correct general ledger codes and LoB. Three IOTA files, one each for billed, unbilled and provision are received each month and bespoke csv files are created from them and manually uploaded into the ARC.

EST provides main link revenues and average lengths for all Ethernet circuits.

Data used for regulatory financial reporting includes Openreach Ethernet circuit volume and revenue data for new provides, migrations, regrades and rentals. EST includes Openreach Ethernet circuit data that is not recorded on COSMOSS.

BIP - (Business Intelligence Platform)

BIP hosts multiple applications across many servers, primarily for key BT Wholesale programmes involving different products from Broadband, Data & Voice domains. By collecting data from various system including CRM, provisioning, faults, orchestration, it also has as a data warehousing capability to support high volume network data analysis and data mining, business process analysis for assurance and fulfilment and revenue assurance.

Bridge

The Bridge Clarify application was developed as a replacement for the legacy Info/Man system. It is an integrated service management system, providing Incident, Inventory and Desktop & User Access Order provision capability for BT's computing infrastructure, and other computing infrastructure managed by BT Exact for third parties. The Bridge Clarify Incident Management function is the primary problem reporting application used within BT Exact (also used by other LOB's to a lesser degree).

BEMS - (Building Energy Management System)

This system is a single estate management solution that enables control of temperatures and management of power and UXD alarms in Network and Datacentre operational areas. BEMS system uses wireless controller units and sensors connected to web based monitoring software to enable remote control of plant and effective monitoring and reporting of energy use and environmental conditions.

CANDID - (Contractor Access Network Delivery Information Database)

CANDID Is an Extranet System for Openreach Supplier Management Its purpose is to allow information sharing between external suppliers through the BT Firewall and the Openreach Supplier Management Team. It consists of both static information pages chiefly concerning contracts information and dynamic database driven web pages allowing user interaction with the system. The application also has a component called 'Synthetic Code

Detailed System Descriptions

Search' which is a Microsoft Access database used for reference and accessed via a webpage by Openreach planners.

CCMIS – (Complementary Channel Marketing Management Information System)

The CCMIS system consists of an Operational Database Server and two eCloud Servers are currently being configured for service. CCMIS provides an Agile reporting and BI platform to meet the needs of both the Consumer and Business Operation. Strategic solutions are often initially developed here prior to being formally requested of TSO. CCMIS also provides metrics on the VAS call queues, time to answer etc.

CID - (Central Information Database) & CID IPL (Internal Projects Ledger)

This system is both a comprehensive data warehouse of financial and non-financial data at General Ledger (GL) level, volumes and a suite of application software, which enables management information to be extracted. The applications run on the system and service the needs of Group and Divisional financial analysts, field operational managers and business planners.

There are many interfaces from where CID Receives data and the reporting is done via eReports application, one of these is IPL (Internal Projects Ledger).

COSMOSS - (Customer Oriented System for the Management Of Special Services)

COSMOSS is a database used for the provision of Private Services. This includes the provision of Partial Private Circuits sold to Other Communication Providers (OCPs). It is used for new orders, re-arrangements and ceases. It acts as a 'Front End' and generates activities for the various groups involved in providing a Private Circuit.

It includes Working System Size (WSS) and equipment volumes for and Revenue System Size (RSS) for revenue purposes.

COSMOSS is a key input into the Core Transmission Circuit costing System (CTCS) system as explained below.

The LLFN (London Local Fibre Network) platform via COSMOSS provides the revenue data for the products routed over LLFN and other BT equipment.

The LLFN is an analogue private circuit overlay platform providing services to major customers, with an enhanced service wrap within the 0207 and 0208 areas of London only.

The platform is now over 20 years old and primarily is based on PDH technology but is now making more use of SDH. There are various bespoke systems that support the platform along with a raft of BAU systems for order/faults management.

CSS - (Customer Service Systems)

CSS manages all aspects of Customer Service on the Public Switched Telephone Network (PSTN), from order capture and job management, fault handling to work management and billing. CSS deals with engineering time through the National Job Recording (NJR) system. CSS also supports network management, call itemisation, Issue Handling and line testing. The CSS headquarters system allows national changes (e.g. new Products) to be configured in a uniform, speedy and cost effective manner.

CTCS - (Core Transmission Circuit costing System)

CTCS is financial tool which calculates the cost of product for regulatory accounts (Regulatory accounts are a set of accounts of OFCOM).

Detailed System Descriptions
CTCS holds volume data which is used to provide allocations to REFINE. Takes data from INS/PACS network management systems to provide volumes for AS and Esprit. Although it has a very small user base, CTCS continues to provide key data used by the network cost analysts.
eASPIRE - (Accounting Separation, Product Integration & Report) Aspire was an Accounting Separation, Product Integration & Reporting Environment. ASPIRE supported the regulatory reporting requirements of the business, providing Accounting Separation (AS) results and analysis that previously formed the basis of the regulatory financial statements (RFS). ASPIRE reporting was available across all Customer-Facing Units (CFUs) and Corporate Units (CUs). BT has now replaced ASPIRE with the REFINE system for regulatory financial reporting, but still accesses data from the ASPIRE system for use in the preparation of the RFS and providing Ofcom with historical information.
eCENSUS eCensus is a suite of data collection software, used to report on over 120,000 devices connected to BT's worldwide network, providing core services to a wide range of teams within BT Including: Vulnerability Assessment; Protect BT; BT Security; Group Property; ACP; Core IT; Executive Services; Global Services and others. eCensus includes the CaVE reporting suite that provides vulnerability reports for a range of security scanning tools (e.g. CCM, IP360).
EXPRES - (Exchange Planning and Review System) EXPRES is a system used for capacity planning in BT's Local Exchange Network. It provides an inventory of 'capacity in service' available in the Voice Network also known as the Public Switched Telephone Network (PSTN). The system uses this information to forecast future capacity requirements. EXPRES is extensively used to provide regular switch network data for reports and briefings together with data for key reports to Ofcom and other Communication Providers (CPs). Additionally it is used throughout the business, particularly within planning offices, to provide management statistics and data on the works programme and asset utilisation. It is the definitive source for Network Nodal Identifier (NNI) codes. EXPRES contains details of the hierarchy of the Voice Network e.g. which local exchanges are linked to which tandem exchanges. System X and AXE10 volumes in the network are sourced from the EXPRES system.
FBI - (Finance Business Intelligence) Provides a financial planning, budgeting, reporting and consolidation suite for BT LOB's including Group, Global Services, Business, Consumer, Wholesale, Openreach and TSO.
Geneva – Avalon (Avalon Residential) Avalon is the name of the Geneva/IRB BT Retail instance being used to bill for a multitude of products. The Infinys Rating and Billing (IRB) Billing platform uses an "off the shelf" billing system supplied by Convergys based in Cambridge, UK. The system has been built on the core Geneva platform with a number of Pre & Post processors and interfacing systems. Products billed span a wide range of services, across both corporate and retail customers.

Detailed System Descriptions

Genius – Geneva (Local Loop Unbundling)

The GenIUS (Geneva Integrated Universal Solution) Programme has a number of applications that delivers a streamlined wholesale billing capability through a single, integrated billing platform. This enables BT Wholesale to reduce the time between provision of service and the issue of a bill, realising cost benefits and supporting the expansion of our product, solution and service portfolio

HORIZON - (BT Property HORIZON)

This database holds detailed records for BT's properties (e.g. tenure, ownership and floor areas).

This system contains data on the BT Estate (both office and operational). It holds data such as the Net Internal Area (this is the floor space that is billable) and Gross Internal Area (floor space that isn't billable). It records, at Organisation Unit Code (OUC) level, who actually occupies the floor space so that a particular OUC can be billed for usage.

The occupancy details on the database contain the footprints of the equipment. This helps to establish the occupancy split between the specialised, the general purpose or both for each property on the system.

Hyperion

Hyperion is a consolidation & Variance Reporting / Financial Analysis application

Hyperion can essentially be thought of as being four separate services. These are:

• An outbound E115 service to allow international DQ operators to access foreign databases directly via the Volt Delta proprietary workstation product (IDW) which is embedded in the

• An inbound E115 service to allow foreign DQ service providers direct access to BT A – Z directory data for search purposes.

• An inbound web service to allow internet service providers direct access to BT A – Z directory data for search purposes.

• A hub solution (known as Columbus) for LSSi to provide access to foreign databases (via our outbound E115 service) to their DQ operators in the USA.

INCA – (Inter-network Call Accounting System)

The purpose of the INCA Programme is to collect Inter Network Call Accounting data at the points of interconnection with Other Licensed Operators (e.g. Mercury, Vodafone etc.) and Other Administrators (e.g. Isle of Man, Jersey, Guernsey etc.) such that sufficient billing information is available to the BT billing negotiators to justify the payments requested from and owed to Other Operators.

INS - (Integrated Network Systems)

INS is the family name for the architecture encompassing a group of mainframe subsystems supporting Plesiochronous Digital Hierarchy (PDH) core network planning and utilisation processes. These processes manage the assignment of BT's core and wideband network and transmission equipment areas.

It is one of the major Operation Support Systems (OSS) within BT for (PDH) plus the analogue network and holds all data for Cables (Fibre and Copper - non Customer Service System (CSS)), Radio, Bearers, Switch, Equipment and Private Services and is one of the largest online data systems in Europe.

It underpins network technologies and topologies such as Ultra Broadband (UBB), Wavelength Division

Detailed System Descriptions
Multiplexing (WDM), Synchronous Digital Hierarchy (SDH), Internet Protocol (IP), PDH, Kilostream and high bit rate services. It also records the inter exchange network for Public Switched Telephone Network (PSTN) and Featurenet. It fully supports the three main business processes of Provision, Build and Repair. INS is essentially a data warehouse and is a representation of physical bearers and equipment for logical solutions. It provides end to end routing design and solutions across network platforms for public, private and network services, 20CN and 21CN. It also provides a level of resilience checking.
ISIS Documents ISIS is the BT Infonet Global Incident Management System for Infonet customers around the world. It is used to capture and progress customer orders and customer trouble tickets. The application is based on Remedy Action Request System Software.
Learning Home The Learning Home is used to assign and manage all the mandatory training requirements for the whole of BT. Learning Home also manages all of BT's learning and development activities, including the academies and accredited learning pathways.
LLFN - (London Local Fibre Network) LLFN is an amalgamation of the City Fibre Network (CFN), Docklands Fibre Network (DFN) and Canary Wharf Networks (CNW). It provides high resilience infrastructure for the routing of analogue private circuits with an enhanced service wrap. The service is only available for major corporate customers within the M25 area.
LLUMS - (Local Loop Unbundling Management System) The Local Loop Unbundling Management system provides delivery and in-life management of LLU Points of Presence, MDF Connections and TAM. It also includes customised reporting functionality and disaster management information.
LRIC - (Long Run Incremental Cost) The LRIC model generates the long run incremental cost and stand-alone costs as required by Ofcom. The LRIC approach is a method of cost analysis based on an economic concept which separates costs of a specific “increment” of business activity from the overall costs of the business with the advantage of enabling the business to identify the separable costs of providing certain services. The methodology applied within the LRIC model is explained in more detail within the LRIC Relationships and Parameters document (“the LRIC R&P”).
Navision The Navision/ERP system (G/L, Billing, AP, AR, FA) is for the former BT Infonet France company.
NCL PACS - (Network Control Layer Planning Assignment and Configuration System) The system supports the planning of the SDH network. It provides support for orders for circuits to be entered manually or via an interface to SSD. These orders for circuits can then be routed, either manually or automatically across the network.

Detailed System Descriptions
NCL PACS is a key component in E2E Services like 20C Broadband L2C and T2R, 20C Private Ccts L2C and T2R, Wholesale Broadband Connect Infrastructure network. NCL PACS is used to place, route, assign and configure 20C Private Circuits, 21C Infrastructure circuits like WDM, SVLANs, HE/MSIL PACS has two prime functions in terms of providing information on equipment and bearers in the networks: • 20C Transmission (SDH/WDM) - Network Control Layer • 21C Converged Core - Network Control Layer
NIMS OR (Network Instruction Management System Openreach) NIMS application has been developed to serve the Core and Access Planning communities of network BT. NIMS is used to Plan, schedule, execute, control and monitor the work related to network Infrastructure enhancement and installation. It enables aspects of works planning, logistics control and overall project management to co-ordinate and prioritizes at national and task level. It assists in optimizing capital resources, available time and work to meet business requirements.
NISM NT - (Network Inventory And Spares Management System - New Technologies) NISM NT is used to plan Broadband Equipment. It is used to manage Core Network Spares & Repair activities for specified technologies. Designed to track Network Equipment, for example slide in units, at 6,300 sites.
NMRS Audit - (Network Routing Management System Audit) NMRS is a single PSTN network model of exchanges & routes, based on data feeds from NRMS & NTMSP. Inbound data is processed & audited then stored in an Oracle database & presented to the TrafficHawk system as a single network model reference.
NRS - (Network Record System) NRS (Network Record System) is the national system for the allocation/de-allocation and display of PSTN 2Mb Switch Ports and related switch data. The information held by NRS is derived from PSTN switch data, which is refreshed regularly from System X, AXE10, NGS and CAll Server switches. NRS provides a view of BT Network at interface of switching (System X, AXE, NGS and NGS Hybrid) & transmission domains & view of network which shows PDH, SDH & ATM switch termination details. It includes functionality to enable Switch Decode/Routing structures to be viewed and searched. NRS also receives switch data from 21CN elements (Call server & CTM) and interfaces with PACS for new equipment deployment. During 2008 the functionality provided by CRAFT (Call Routeing & Analysis Functioning Toolkit) and NRMS (Network Routing and Modelling System) was subsumed into NRS. This functionality is referred to as NRS-CRAFT and NRS-NRMS respectively. The NRS-CRAFT System produces Route Factors for a range of Services and Operators for telecommunications across the United Kingdom. Route Factors give a view of network component utilisation across BT's PSTN and meet requirements of the Telecommunications Act 2003. They are also published in BT's annual accounts. NRS-NRMS provides users with a graphical representation of the current routeing structure of the network.
NuNCAS - (Network Capacity Assignment System) NuNCAS provides the capacity calculations to determine if access capacity exists in the network to support Asymmetric Digital Subscriber Line (ADSL) Broadband connectivity. NUNCAS supports the following functions: 1 - Service Profile Definition - including connections within the ADSL network, connections within the core

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network, association of core connection groupings with the relevant Multiplexer (MUX). 2 - View ADSL model - using object attributes. 3 - Audit ADSL Network. 4 - Capacity Thresholding. 5 - List incomplete Service Provisions. 6 - Report Planning Failure Exceptions. 7 - Support for automated core VP build. 8 - Configure Service on request from SSD.
OBOE - (One BT Oracle Enterprise) OBOE is used by all BT UK employees as well as all UK people procuring and selected international units. It is also used by the Shared Service Centre staff to enter invoice information and support the system on behalf of BT. OBOE consists of the following business functions:- •Fixed Assets - List of items owned by BT that are seen as being of value to the business or that need to be tracked for future reporting requirements •General Ledger - Collating of financial reporting information into one consolidated view for BT UK •iBuy - The online procurement entry and approval process that provides BT UK users with their core procurement tool for purchasing items and services external to BT •iExpenses - The online expenses entry and approval system for UK employees •Project Accounting - Providing the ability to the business to analyse revenue and costs for a defined piece of work or activity
ORBIT - (Openreach Business Information Toolset) To comply with the Telecoms Strategic Review (TSR), Openreach has developed a data warehouse to capture and store management information and this warehouse is called ORBIT. The ORBIT data warehouse is the Key stone in the Openreach Management Information System (MIS) strategy. It performs the task of the central data store and information repository, holding both granular and aggregated data together with measures and business metrics.
Peacemaker This Suite of programmes giving radio planners sophisticated tools to aid the design of radio links. Can produce terrain maps & radio path profiles. It will also identify if a path is workable & free from frequency interference.
PCNBS (Private Circuit New Billing System) PCNBS provides functionality to set up different types of contracts on private circuits through either PCNBS GUI or through the feed coming through COSMOSS. System is used to monitor and manage customer accounts, accept orders and process billing.

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PIPeR - (Physical Inventory Planning E-Records)

PIPeR supports the Planning & Recording communities within the Openreach organisation. It holds all Openreach external inventories, and supports planning of all new fibre and copper plant items.

It enables the Planning teams to plan and issue the work out to the build agents and enables the Recording teams to accurately and efficiently record changes to the network electronically.

PIRM - (Power Inventory of Routine Manager)

The Power Inventory and Routines Manager (PIRM) system is a web-based system developed by MBT to give a high level of control in the management of power equipment within the BT core network. Authorized users can input the details of different types of power equipment to be installed into PIRM. Using this information the installer installs the equipment and notifies the Local PIRM Officer (LPO) to activate the routines for the equipment once it has been commissioned. PIRM will then support the maintenance activity within the core network.

Each type of equipment will have routines defined for it, which PIRM will automatically schedule, based on its routine periodicity. Once activated, the scheduled tasks are then automatically created using the interface between PiRM and Virtual Work Manager for allocation of the appropriate time to the assigned maintenance technician and when status of the job is updated by the technicians, same status gets reflected in the PIRM.

PIRM functions are used in tracking items of equipment throughout their life cycle, e.g. when a rectifier 160 is removed for repair and replaced in a different location, it is shown at its new location in PIRM.

Powerhouse

Powerhouse is BT's product volumes Data Warehouse. It has been designed as a solution for provision, from a single source, of timely and accurate information regarding the installed base of BT products – primarily for BT Retail. It is a front-end query tool that interrogates raw data from other systems such as Call Statistics Centralisation System (CSCS), Private Circuits New Billing System (PCNBS) and Central Database System (CDS). Data stored in the warehouse enables web based reporting & analysis on Income, revenue and related product volumes (e.g. calls, lines, inbound services, data network services).

Redcare BOPS - (Billing and Order Processing System)

BOPS is BT's Redcare customer order management, billing and Order Processing System, a bespoke oracle database. Service Desk support is required due to the migration of this work from the BT Redcare.

REFINE - (Regulatory Finance Information Environment)

REFINE supports the regulatory reporting requirements of the business, providing Accounting Separation (AS) results and analysis that form the basis of the regulatory financial statements (RFS).

RIDE2 - (Recorded Information Distribution Equipment)

RIDE2 is a mass call termination platform playing pre-recorded announcements and capturing voice messages and data. The platform provides a wide range of services largely focused on the calls market and is a key

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component of BT's mass calling (televote) solution. Crucially it takes the call termination load off the voice network (PSTN and SDIN).
The BT People System The BT People System gives the BT People the ability to manage their personal and their team information through a multi-purpose web application. The system gives BT employees the opportunity to access people related information and processes any time they need to.
TITAN - (The Inter-business Transfer Charging and Agreement Network) TITAN is the BT business-wide system for processing inter-business charges. It is an Oracle Financials package that has been customised to meet the requirements of the business. It allows for a consistent and controlled approach throughout the business in order to eliminate discrepancies and misbalances and to enable a business-wide net settlement of debts and balance agreement. It is BT Group Finance policy that all inter-business bills are processed via TITAN and as such it is mandatory for all BT Core units, self-accounting units and subsidiaries.

3.4 Other data sources

Below is a list of additional data sources used in the production of the RFS that are not classified on the 'SALSA' system

1996 Absolute Duct Study (ADS) - The ADS was a point in time study of the duct within the network using a sample of 384 of the 5,586 exchange areas

BT Group insurance policies

Employee Broadband take-up volumes

Featurenet (part of Powerhouse) – provides volumes of customers with Featurenet call facilities

Fixed asset register – list of assets, including location/description/GBV/accumulated depreciation

Forecast future use of Comingling Space – based on an analysis of a 5 year forecast provided by communication providers, last updated in 2012-13.

Full year Platform level Contract Support costs (Provided by BT TSO)

Inland and International Directory Assistance

IX Vols / Prices from BTW Interconnect Revenue and related Pay Costs

LEMP (Local Exchange Modernisation Program) Contract – provides the cost of digital local exchanges and concentrator units

LOPLIST – contains information on the life of fixed assets

Oracle Business Intelligence (OBI) Reports - Oracle application used for transaction reporting

PACS - Volumes for transmission (SDH) equipment

Workmanager – volume of field engineer jobs and hours booked

3.5 21CN volumes and capital

Volumes for 21CN apportionments are based on average volumes across the year by service, sourced as follows:

GVF for Calls. The volume of calls crossing the 21CN network is very small, limited to the Pathfinder trial in Cardiff, Voice over FTTP and SIP Trunking. The Pathfinder trial volumes are assumed to be 65,000 end users as no detailed source data is available for the trial. Voice over FTTP and SIP Trunking are sourced from the GVF. It is assumed that all Pathfinder, Voice over FTTP and SIP Trunking use call origination/termination. Due to immateriality and a lack of available information on the small usage of 21CN by voice, the bandwidth per end user inputs are not updated annually.

GVF and WELF for copper and fibre WBA. The total copper and fibre WBC customers are sourced directly from the GVF, but the system does not hold an accurate split of customers by those using WBC, WBMC dedicated, WBMC shared or the Market B VPN services so overlays to the system are used to align the customers of each type of WBC service to management's knowledge by customer. The first overlay is to reclassify internal customers between WBC, WBMC shared and WBMC dedicated where GVF does not correctly classify the downstream LoB. The second overlay is to move customers from WBMC dedicated to the Market B VPN service, which is not recorded separately within GVF but uses different network architecture. A management assumption is therefore made as to how many customers use the VPN solution rather than WBMC dedicated. Both of these overlays relate to copper and fibre, and are taken from the Platform status report issued daily by the BT Platform team. The bandwidth per end user volumes are management assumptions sourced from WELF that are reconciled back to the GVF to ensure it is materially consistent.

TV Connect total channel bandwidth is sourced from product management billing data. This is then assumed to be multicast across every core to core, core to metro and backhaul route simultaneously. All core to core and metro to core routes are dual plane resilient links so it is assumed that the bandwidth is transmitted twice over these links. The total TVC multicast bandwidth is 647,385 Mbps.

For **HE/MEAs** the circuits are sourced from GVF, and the bandwidth per end user is calculated using network management data based on the number of bandwidth and circuit ends, location and status data of circuit orders to provide the etherways and the class of service for the Etherflows. For 10Mbps, 100Mbps and 1Gbit/s Harmonised Ethernet services, the bandwidth at each site is the lower of the Etherway speed per site multiplied by number of etherways or the recorded bandwidth per site. For 10Gbit/s services, the larger of these two values is used. The total bandwidth is divided by the Etherway count across all sites to provide the bandwidth per end user.

For MEAs, the Etherways bandwidth data is taken from circuit inventory data this looks at the currently deployed Etherway and associated Etherflows which then divides the total Etherflow bandwidth by the total number of connections to give an average bandwidth per connection for each speed (100Mbps, 1Gbit/s and 10Gbit/s).

For the Ethernet - MEAS (MNOs) 1Gbit/s fibre service, not all circuits use the 21CN backhaul and 21CN core networks so the GVF circuit count is reduced by 23% based on management data.

MSIL product management data is used to reflect the number 10Gbit/s MSILs in the 21CN. WCR then provides a count of 1Gbit/s and 10Gbit/s MSILs, as well as a number of unidentified MSILs. The product

management volume is used for 10Gbit/s, with the balance of unidentified MSILs from the WCR data assumed to be 1Gbit/s. This provides an assumption that there are 213 1Gbit/s MSILs and 580 10Gbit/s MSILs.

EBD volumes are sourced from GVF.

Core to Core and Metro to Core 10Gbit/s Dedicated Links are sourced from Next Generation Capacity Planning Team. Actual number of Core to Core and Metro to Core 10 Gbit/s in use as of March 2016.

Each individual Plant Group description states which of the above systems are used for the volume inputs to apportion the cost of that Plant Group.

Capital inputs for 21CN are sourced as follows:

Capital analysis from BT TSO and asset lives from the LOPLIST are used to model the expected depreciation of 21CN assets, which is reconciled in total to the LOPLIST's depreciation.

The capital analysis is prepared by sourcing the volumes of individual pieces of 21CN equipment, and the relevant prices that the equipment was purchased at each year.

The equipment is grouped into classes of work based on where the equipment is located in the network. The cost of the equipment purchased each year is then modelled into depreciation by using the asset lives, as per the LOPLIST, for each class of work

This depreciation is then reconciled in total to the LOPLIST depreciation for all 21CN classes of work before it is used as an input to the 21CN model. Variances in reconciliation at class of work level however will be expected for various reasons, including simplified depreciation modelling used for the 21CN apportionments (where all capital is assumed to be purchased at mid-year), lack of granularity of LOPLIST indirect capex or any mis-bookings by class of work. Variances exist for ETHER, MSAN and METRO class of work, but there net off at a total depreciation level.

Annex 4 Electricity price reporting

4.1 Direction

As part of Ofcom's Directions for Regulatory Financial Reporting (30 March 2015) we have been directed to set out and explain our methodology for setting the electricity charges, including a clear description on the individual elements within the charge, how they are calculated and how they are passed through into the per kWh charge end users.

We also provide the date on which the latest annual contractual price was struck and an aggregate split of the individual elements in a non-confidential format.

We provide to Ofcom separately additional information that facilitates Ofcom's monitoring of our compliance with the basis of charges obligation for electricity.

4.2 BT electricity charge calculation

The cost components of the energy price are:

- Raw power;
- Sub meter operation and maintenance; and
- PSTN lines to carry meter data.

Raw power – this is the fixed cost of BT's energy for a certain year described as per kWh units.

- Openreach buys its raw power for the entire forthcoming financial year in advance to fix the price and remove any volatility in the market thereby providing stability on price. The total power forecast for consumption in the forthcoming financial year is calculated from two quarters of actual consumption from the current financial year. No mark-up is added to the raw energy cost; it is passed through at cost.

Sub meter operation and maintenance and PSTN lines – this is the cost of the meter and PSTN line hardware used to read and record BT's electricity charge, transfer meter data across the network so that meters can be read remotely, and also includes the cost of maintaining this equipment.

- The majority of points of presence (POPs) have sub meters and a PSTN line to carry meter data. The PSTN lines are charged at the published price of a WLR line. The cost to Openreach for the sub meter operation and maintenance is marked up appropriately to cover related costs.

The total charges for the raw power, telephone lines, cost of sub meter operation and maintenance and mark up on sub meter operation and maintenance are aggregated and divided by the total units of power consumed to determine the unit price of power for the relevant year (i.e. cost per kWh).

4.3 Contract information and breakdown

The contractual supply[1] for our electricity was agreed for the period 1 October 2016 to 30 September 2021.

The 2016-17 aggregate split of the individual elements of the electricity charge is as follows. For commercial reasons this information is provided in percentage terms only:

%Cost	Cost component
90 - 100%	Cost of raw power
0 - 5%	Cost of line rental
0 - 5%	Cost of meter operation and maintenance (including mark-up)
100%	Total cost of power for 2016-17

1 This wording was revised on 7 Dec 2018, having previously read "the contractual price".

4.4 Cost attribution process for LLU related electricity costs

The electricity charge follows the following path of attribution. The methodologies employed to attribute the costs can be seen in the relevant dictionary for the level of attribution.

Base level (other and OUC driven)

ELECT1 attributes costs of raw power onwards to PG120B (LLU Electricity Usage – OR)

Plant Group level

Costs attributed to PG120B (LLU Electricity Usage – OR) are onwards allocated to a dedicated component CL120 (LLU Electricity Usage – OR).

Component level

Costs allocated to CL120 (LLU Electricity Usage – OR) are onwards allocated to a dedicated service SL120 (LLU Electricity Usage External). Note that for commercial sensitivity reasons we do not separately report this service in the RFS.

Annex 5 Detailed valuation methodology bibliography

Report to H M Treasury (1986) “Accounting for Economic Costs and Changing Prices”.

The handbook “Accounting for the effects of changing prices”, published in 1986 by the Accounting Standards Committee.

"Current Cost Accounting - An Introduction to SSAP 16", published in 1981 by the Certified Accountants Educational Trust.

Report of the Inflation Accounting Committee – presented to Parliament by the Chancellor of the Exchequer and the Secretary of State for Trade by Command of Her Majesty - September 1975.

“Inflation Accounting – An introduction to the debate”, 1983, Professor Geoffrey Whittington.

Annex 6 Studies and data sources in current cost accounting valuations

The following studies and data sources are utilised in the preparation of the CCA Valuations as described in Section 5.

EXPRES - Exchange Planning & Review System

Used for valuing Local Exchange Switches (LDX only).
This is a database holding information on Local Exchange & Main Exchange with details of units in service with current capacities and ordering information (both historical and future). It is used to provide connections data for models used in AS, CCA and LRIC.

INS - Integrated Network System

Inventory database for BT's PDH circuits and cabling for PDH and SDH

NRS - Network Recording System

Used for valuing Local Exchange Switches (LDX only).
This is a system that holds details of all BT PSTN network 2Mb port terminations. It allows any system between two switches to be queried and displayed, showing the switch termination details at each end. NRS allows switch port terminations to be allocated/de-allocated for the introduction/cessation of routes or systems on a route. NRS obtains a download of switch data for each switch. This switch data is downloaded on a regular basis (monthly) and any route/system changes entered on the system are validated against the switch data.

PACS - Planning Assignment and Configuration System

Used for valuing 21CN CoW.
The PACS system is used by the BT planners when planning any jobs relating to the 21st Century Network. It lists individually the equipment installed in 21CN exchanges.

Office for National Statistics (ONS)

In we use several of the ONS indices in our Indexation and Absolute Methodologies:

- ONS Producer Price Indices (PPI)

http://ons.gov.uk/ons/taxonomy/index.html?nscl=Producer+Price+Indices

- RPI

http://www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=CHAW&dataset=mm23&table-id=2.1

- Average Earnings

http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Earnings

- Consumer Price Index (CPI)

https://www.ons.gov.uk/economy/inflationandpriceindices/timeseries/d7bt/mm23

Annex 7 Indices and trends used in current cost accounting

The following tables show the indices and trends that are used to derive valuations for those assets using the indexed historic methodology.

TABLE 1: Indices used for Indexed Historic methodologies

Asset	CoW	Indices used with sources
Specialised Accommodation Assets	ACPN	(a) Heating and air conditioning units - ONS index: Non-domestic Cooling & Ventilation Equipment (ONS reference: Producer Price Index 2825000000) (b) Internal building work – valued at historical cost (c) Capitalised planning costs – ONS index: Average Earnings amended for productivity improvements of 2% per annum (d) All other assets – ONS index: Electrical Lighting Equipment (ONS reference: Producer Price Index 2740000000)
Backhaul and Core Fibre	CJF	Physical assets – CPI and capitalised planning costs- AVE2
Copper Cable	LDC	Physical assets & capitalised planning costs – RPI
Access Fibre Cables	LFDC LFSC	Physical assets – CPI and capitalised planning costs- AVE2
Dropwires	NWR NWB	Physical assets & capitalised planning costs – RPI
Duct	LDD	Physical assets & capitalised planning costs – RPI
SDH Equipment	SDH	We have created a bespoke BT index using the following component indices: (a) Equipment and contracted installation – A further bespoke BT index modelled from Average Earnings, RPI and observed changes in the SDH contract prices (b) BT labour – ONS Average Earnings Other – RPI
Back-up Power Equipment	TPC	(a) Standby generators – ONS index: Electric Motors, Generators & Transformers (reference Purchasing Price Index 2711000000) (b) Capitalised planning costs – ONS index: Average Earnings amended for productivity improvements of 2% per annum Other Assets – ONS index: Wiring Devices (reference: Purchasing Price Index 2733000000)

TABLE 2: Indices used within the absolute valuation methodologies

Asset	CoW	Indices used with sources
System X Local Exchanges	LDX	(a) In original absolute valuation we used a bespoke index to apply to the 2000 LEMP 2 contract and to non-capacity related expenditure. This was constructed from the following elements: i. Equipment and installation – based on changes to contract prices ii. BT Labour – ONS index: average earnings iii. Software – bespoke BT index consisting of changes in contract prices, average earnings and the ONS index:

Asset	CoW	Indices used with sources
		Electric Lighting Equipment (ONS reference: Producer Price Index 2740000000) (b) We extrapolated the 2008/09 valuation using this same index Capitalised planning costs – ONS index: Average Earnings amended for productivity improvements of 2% per annum
21st Century Network	COR21 and MSAN	(a) BT labour costs - ONS index: Average Earnings amended for productivity improvements of 2% per annum Capitalised planning costs – ONS index: Average Earnings amended for productivity improvements of 2% per annum

Annex 8 F8 Code Markers

8.1. Finance Types

F8 codes can be categorised by their characteristics into groupings referred to as Finance Types.
One Finance Type marking is applied to all F8 codes.

The Finance Types used are as follows:

Finance Type Code	Finance Type Description
B	Pay
C	Creditors
D	Stores
E	CCA Depreciation Other ADJs P&L
F	Depreciation Charge Balance Sheet
G	T & S
H	Other
I	Amortisation charge (intangible assets)
K	Debtors
L	Transfer Charges In
M	Transfer Charges Out
N	CCA Gross Other ADJs P&L
O	Registered GBV BS
P	Accumulated Depreciation BS
Q	AICC Opening Balance BS
R	AICC Registrations
S	CCA Gross THG BS
T	CCA Uplift HCAD to CCAD BS
U	Unclassified
W	CCA Uplift GBV to GRC BS
Y	CCA Gross Price Var P&L

8.2. Transaction Types

F8 codes can be categorised by their characteristics into groupings referred to as Transaction Types. One Transaction Type marking is applied to all F8 codes.

The Transaction Types used are as follows:

Transaction Type Code	Transaction Type Description
A	Income
C	Costs in Operating Profit
D	Other AS Costs
F	Costs Excluded from AS
G	Capital Spend
J	Balance Sheet Included in AS return
K	Balance Sheet Excluded in AS return

8.3. Summary Types

F8 codes can be categorised by their characteristics into groupings referred to as Summary Types. One Summary Type marking is applied to all F8 codes.

The Summary Types used are as follows:

Transaction Type Code	Transaction Type Description
CA	Current Assets
CL	Current Liabilities & Provisions
EO	Current Other
EP	Current Pay
FA	Fixed Assets
FU	Funding
IE	Income External
II	Income Internal
TO	Intragroup Expenditure In/Out
TP	Intragroup Pay
TX	Intragroup Exp (VCT OUT - Internal Rev)
UU	Unclassified

Annex 9 Detailed Attribution Tables

A separate Annex (Annex 9) published on our website shows:

- All material direct allocations;
- The linkages of all detailed valuation methodology asset categories to their associated activity groups and plant groups, and the sectors into which they have been categorised;
- The key destinations of each of the system generated other bases, activity group bases and plant group bases.