

PARTIAL PRIVATE CIRCUITS (PPC)

**BT WHOLESALE'S PARTIAL PRIVATE CIRCUIT
PORTFOLIO**

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1 ABOUT THIS PRODUCT HANDBOOK

This product handbook is intended to give guidance on the Partial Private Circuit (PPC) portfolio from BT Wholesale, including:

- An overview of the service
- Network diagram
- Commercial aspects
- How to place an order
- How to report a fault
- Billing
- Pricing
- Key contacts
- Performance levels and reporting
- Technical specifications

Please note that this document is for guidance only and should differences be found between it and the contractual documents, the contractual documents take precedence.

2. ABOUT PARTIAL PRIVATE CIRCUITS

2.1 Product Overview

A Partial Private Circuit (PPC) is a set of network components that a Communication Provider is able to buy to provide a private circuit to a Third Party.

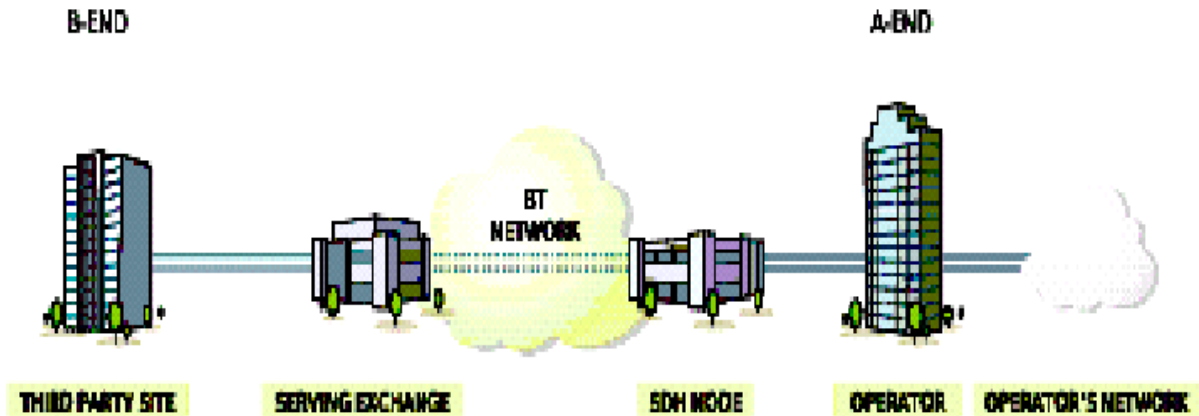
The PPC routes from a Point of Handover (PoH) between the Communication Provider's network and BT's network, across the BT network to the Third Party, to supply a transmission path at the appropriate bandwidth. "PPC" is therefore a name for the service that describes the network elements that are used to provide the connectivity between the PoH and the Third Party.

There are three main network elements in a PPC:

- The Point of Handover (A-end): This is a 'big pipe' connection between the Communication Provider's network and the serving SDH node in the BT network. The high-capacity PoH infrastructure is supplied as either In-Span Handover (ISH), In-Span Handover Extension (ISH Extn) or Customer Sited Handover (CSH). Multiple circuits can be handed over at a single PoH.
- The Third Party End (B-end): This is the connection between the Third Party's site and the nearest BT Serving Exchange.

- The Circuit: The connection across the BT network between the PoH and the Third Party. Circuits are available at the following bandwidths: 64Kbit/s; n x 64Kbit/s; 1Mbit/s; 2Mbit/s; 34Mbit/s; 45Mbit/s; 140Mbit/s and 155Mbit/s.

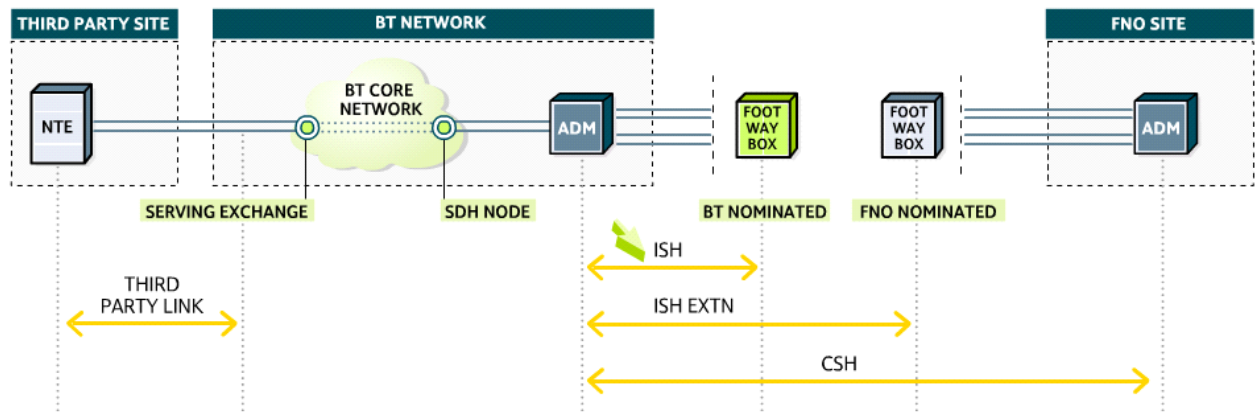
Figure 1. PPC Overview Schematic



Partial Private Circuits are only available to Communication Providers

2.2. Partial Private Circuit Generic Diagram

Figure 2. Generic PPC Schematic



2.3. PPC Customer Sited Handover

PPC CSH is the means by which the Circuit will be handed over at the Communication Provider's premises and will be terminated on an Add-Drop Multiplex (ADM) positioned at the Communication Providers' site. The PPC CSH product is ONLY available to Communication

Providers' sites where the BT Serving Exchange is a nominated BT SDH Node or MSH Node if that is the type of transport required.

2.3.1. Interface Requirements

PPC CSH will present circuits to the Communication Providers on STM-1 or STM-4 interfaces; Communication Providers will have the option to select the interface card and JKLM (timeslot) on which the circuit is presented.

PPC CSH product build will need to incorporate the following:

- Basic ADM builds
- Interface card for Multiplex Section Protection (MSP) protection
- Interface card for 1+1 protection
- Interface card with no protection

2.4. PPC ISH

PPC ISH will be the means by which circuits are handed over at a BT nominated Footway Box (within 100 metres of the Serving Exchange), with an ADM provided by the Communication Providers at its premises, and a BT provided ADM at the BT site. The PPC ISH product is ONLY available to Point of Handover sites where the BT Serving Exchange is a nominated BT SDH Node or MSH Node if that is the type of transport required.

2.4.1 Interface Requirements

The agreed PPC ISH solution is to use an STM-1, STM-4, STM-16 or MSH51 ADMs with a Line card facing the Communication Providers presenting a MSP interface. Communication Providers have the option to select the JKLM (timeslot) on which the circuit is presented, however BT will select the position if the Communication Providers has no preference.

2.5. PPC ISH Extension

PPC ISH Extn will be the means by which circuits are handed over at the Communication Providers nominated Footway Box, with an ADM provided by the Communication Providers at its premises, and a BT provided ADM at the BT site. BT access fibre and duct will be provided from the BT Serving Exchange to the nominated Footway Box within the same Serving Exchange area.

The PPC ISH Extn product is ONLY available to Communication Providers sites where the BT Serving Exchange is a nominated BT SDH Node or MSH Node if that is the type of transport required.

PPC ISH Extn will be delivered via Dual Feed, Single Parent architecture.

PPC ISH Extn can be provided at STM-1, STM-4 & STM-16 capacities, all PPC ISH Extn connections will use MSP.

The PoH will be within a contractually agreed distance from the BT Building housing the SDH/MSH Transmission Node with which the Communication Providers wishes to interconnect.

2.6. Third Party End

Third Party infrastructure will be the means by which circuits are delivered to Third Party sites and can be delivered either over fibre or copper.

Third Party infrastructure can be ordered either simultaneously with the circuit order or in advance of the circuit order. Where the Third Party Infrastructure and the circuit is ordered together the Infrastructure lead-time will take precedence and both orders will be managed to meet the Infrastructure timescale i.e. where the Infrastructure lead-time is 85 working days and the circuit lead-time is 30 working days, both orders will be managed to the 85 working days lead-time. Annex E Clause 3.12 of the PPC Handover Agreement refers.

Details of the infrastructure options can be found in the Carrier Price List (CPL) available at the following URL: [BT Carrier Price List Section B8](#)

2.6.1. Interface Requirements

The engineering design of the 'B' end of a Partial Private Circuit is the same as a Retail Private Circuit, selection of the delivery option and interface required will be the responsibility of the Communication Providers when ordering the circuit.

2.7. Migration, Managed Conversion, Re-designation and Grandfathering

2.7.1. Migration

Communication Providers can migrate qualifying BT Retail Private Circuits to PPCs and as a guide circuits being migrated must meet the following criteria:

- Circuits must be in the Communication providers ownership
- Circuits must be from a Third Party site to an Communication Providers PoH
- There must be an equivalent PPC product to migrate to
- The delivery system at the Communication Providers PoH must be 4x2, 16x2, STM-1, STM-4, STM-16 or MSH51 except for Sub 64kbit/s circuits which are delivered over copper infrastructure.

All migration orders will be subject to validation. There will be a reclassification charge for each migrated circuit and a charge will also be raised if the circuit fails the validation process.

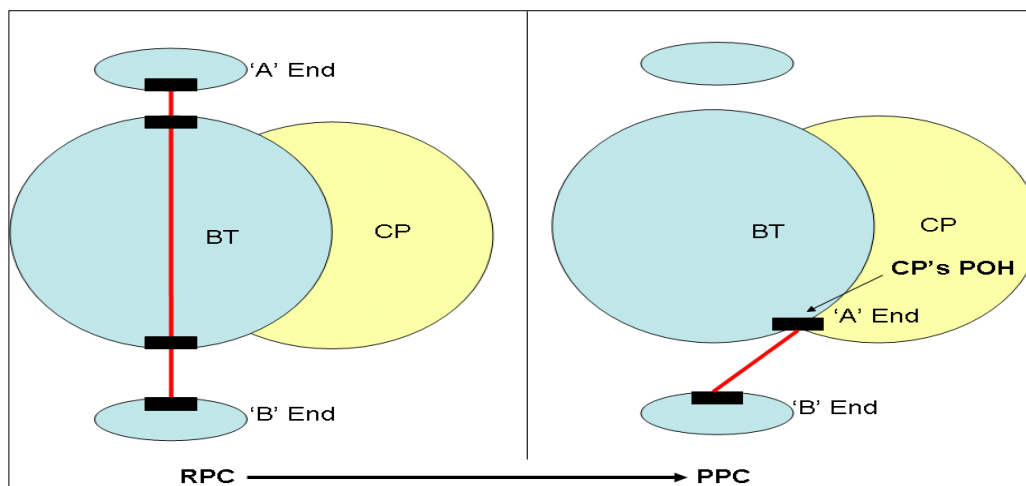
Retail contractual charges will apply if the migration is requested before the minimum term has expired. Communication Providers may lose entitlement to their pool discounts on remaining Retail circuits. There may also be a further infrastructure tariff conversion (ITC) charge for migrated circuits, dependant on the age and bandwidth of the circuit.

Please refer to the Carrier Price List Section 8.04 and the PPC [Migration Manual](#)

2.7.2. Managed Conversion

PPC Managed Conversion is the process used to convert an eligible BT Retail Private Circuit to Partial Private Circuits. The Managed Conversion process will use two phases to complete the conversion to PPC:

- Phase 1 – Migrate the circuit to PPCs
- Phase 2 – Move the A-End of the circuit onto the Communication Providers Point of Handover (POH).



The above diagram illustrates the eligible BT Retail Private Circuit pre and Post Managed Conversion.

2.7.2.1 PPC Managed Conversion Eligibility Criteria

- The circuit is in the ownership of the Communication Provider placing the managed conversion order.
- There is an equivalent PPC product to convert to.

Note: 2.4Kbit/s through to 48Kbit/s, 1024K and 2Mbit/s Aggregate Bearer circuits are not eligible for conversion to PPCs.

2.7.2.2. Ordering PPC Managed Conversion

Communication Providers will be able to order Managed Conversion using the PPC Managed Conversion order form set out in Annex 24c of the PPC Provisioning Manual.

It is the responsibility of the Communication Provider to identify all eligible BT Retail Private Circuits (RPCs) they wish to convert to PPCs.

All requests for Managed Conversion must be submitted to BT Wholesale in accordance with the provisions of Annex F and follow the agreed Managed Conversion processes.

Each Managed Conversion will involve an element of down-time. It is the Communication Provider's responsibility to agree such down-time with their customer.

All Managed Conversion orders will be subject to validation. A reclassification charge shall apply for each **converted** circuit. A charge will also be raised if the eligible BT retail private circuit fails the validation process.

BT Retail contractual charges will apply if Managed Conversion is requested on an eligible BT retail private circuit before the minimum term has expired. Communication Providers may lose entitlement to their pool discounts on remaining BT Retail private circuits. There may also be a further infrastructure tariff conversion (ITC) charge for migrated circuits, dependant on the age and bandwidth of the circuit.

Please refer to the Carrier Price List Section 8.04, PPC Handover Agreement Annex F and the PPC Migration Manual for further details

2.7.3. Re-designation

Communication Providers may Re-Designate equipment originally provided for Retail circuits to allow provision of only future Partial Private Circuits. Re-Designated infrastructure can be used to provide PPCs until capacity is exhausted on such infrastructure.

2.7.3.1. Rules for Re-Designation of an ADM or MUX

- The ADM / MUX to be Re-Designated must be at a Point of Handover (PoH)
- An ADM / MUX cannot be Re-Designated where there is a dependent 12 month interconnect forecast delivery or advanced CSI product.
- An ADM / MUX cannot be Re-Designated if it has existing interconnect circuits only
- An ADM / MUX cannot be Re-Designated if it is empty.
- An ADM / MUX cannot be Re-Designated if it has not been used to provide fully functioning BT Retail Private Circuits for at least 12 months.

2.7.3.2 Post Re-Designation of an ADM or MUX

- Once Re-Designated, ADMs or Muxes cannot be used for interconnect circuit orders
- All MSH51 ADMs will be capacity managed by the Communication Providers. All other circuit orders onto SMA1s, SMA4s and SMA16s must have the trib and ports shown on the PPC Requirement Form (PPCRF).

2.7.4. Grandfathering

The ability to nominate existing delivery systems for Grandfathering is no longer available.

2.8. PPC 4x2Mbit/s Package

The 4x2Mbit/s package is a commercial offering, which offers Communication Providers economies of scale where four PPC 2Mbit/s circuits are purchased between the same POH and the same Third Party Site.

Communication Providers can take advantage of this commercial package either at the order provisioning stage or by migrating four existing PPC 2Mbit/s circuits.

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2.8.1 Provisioning

Communication Providers may request the provision of four PPC 2Mbit/s circuit from the same Point of Handover (PoH) to the same Third Party site. This request can be placed using the eCO order application or the updated PPCRF (Appendix 24a and such request shall be subject to validation by BT.

2.8.1.1. 4x2Mbits pricing package eligibility criteria

Eligible 2Mbit/s PPC circuits meeting the 4x2Mbit/s pricing package criteria can be combined to enjoy a reduction in circuit rental:

- A package must contain 4 2Mbit/s PPC circuits at all times and must be fibre delivered.
- 2Mbit/s PPC circuits can be new provisions or existing 2Mbit/s circuits migrated into the pricing package
- A package can be made up of a mix of new and migrated circuits
- There is no movement in or out of the 4x2Mbit/s pricing package. Note: cessation of circuits within a package will result in the remaining circuits being regraded to standard 2Mbit/s PPC circuits. Regraded circuits will be charged as individual 2Mbit/s PPC circuits.

2.8.1.2 Requests via eCO

The preferred method of receiving orders would be via eCO.

A new mandatory question 'IF THIS IS A 2M ON FIBRE, IS IT TO BE INCLUDED IN A 4X2 PACK?' has been added: to eCO.

This question has a drop down menu with two options selectable: No and Yes. The answer to this question will be defaulted to 'No'. Where the Communication Provider wishes a 2Mbit/s circuit to be included as part of a 4x2Mbit/s package, they would need to change the pre-selected option from 'No' to 'Yes'.

Each brand new circuit being ordered within a package must have a corresponding order line within the eCO order.

There are also three fields to capture details of the other three components that will form part of the package:

'1.If new 4x2M Pack, enter existing CCT PSID or new order ref'

'2.If new 4x2M Pack, enter existing CCT PSID or new order ref'

'3.If new 4x2M Pack, enter existing CCT PSID or new order ref'

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In these three new fields the CP should enter either the circuit PSID of existing circuit/s to be re-classified, or the order reference/s of new 2Mbit/s circuit to be included in the package.

Orders raised to create a 4x2 pack can be either: 1xNew and 3xExisting; 2xNew and 2xExisting 3xNew and 1xExisting or 4xNew.

A new field has been added to capture the 4x2Mbit/s Package PSID. This field will be populated by BT on completion of the 2Mbit/s.

2.8.1.3. Requests via the PPCRF

For those Communication Providers who do not use eCO this commercial offer **can** be requested via the existing Partial Private Circuits Requirements Form (PPCRF (Appendix 24a)) available in the PPC Provisioning Manual.

2.8.2. Provisioning Lead-Times:

PPC 4x2Mbit/s will attract the same standard provisioning lead-time for each PPC 2Mbit/s in the package, as detailed in the PPC Handover Agreement for individual PPC 2Mbit/s circuits. This commercial offering does not affect the standard PPC 2Mbit/s Service Level Agreements.

All circuits provided for inclusion into a 4x2Mbit/s package cannot be requested to be delivered to different timescales.

Note: Expedite is not available with this package

2.8.3. Re-classification (Migration)

Communication Providers can re-classify existing PPC 2Mbit/s circuits to the 4x2Mbit/s package that meet re-classification criteria detailed below. All migration re-classification requests should be detailed on the PPC 4x2Mbit/s migration order form as set out in the PPC provisioning manual.

2.8.3.1. PPC 4x2Mbit/s Re-classification (Migration) Criteria

- There must be four PPC 2Mbit/s circuits for re-classification into each package.
- All PPC 2Mbit/s circuits for re-classification must be owned by the Communication Provider.
- All PPC 2Mbit/s circuits in a PPC 4x2Mbit/s re-classification request must be Fibre delivered.

- All PPC 2Mbit/s circuits in a PPC 4x2Mbit/s re-classification request must be between the same Point of Handover and the same Third Party Site.
- All PPC 2Mbit/s circuits must be current and have no associated open orders

2.8.3.2. PPC 4x2Mbit/s Re-classification (Migration) Lead-Time

The lead-time for the completion of the re-classification into the PPC 4x2Mbit/s package is 5 working days. Where the Customer Management Centre is unable to complete the re-classification within 5 working days, the billing of the PPC 4x2Mbit/s package will commence 5 working days after the order receipt date.

2.8.4. PPC 4x2Mbit/s Rental Term

When a new PPC 4x2Mbit/s package is created it will attract a new 12 month term and will be subject to early termination charges should the package be ceased within the first 12 months.

2.8.5. Quality of Service (QoS)

There is no change to the standard PPC 2Mbit/s QoS criteria as detailed in the PPC Handover Agreement at Annex E.

Cessation of 2Mbit/s circuits in a 4x2 Pricing Package

The PPC circuit cessation process is automated; therefore, all circuit cessation requests are progressed through to completion with no manual intervention.

When a Communication Provider requests the cessation of a circuit that is part of a 4x2Mbit/s pricing package, the following rules applies:

- It is the Communication Providers' responsibility to communicate to BT all changes to circuits within a 4x2Mbit/s pricing package.
- For clarity a 4x2Mbit/s pricing package must contain four (4) 2Mbit/s circuits at all times, there is no movement in or out a package.
- When ceasing a circuit from a pricing package, it is essential that Communication Providers advise BT the circuit forms part of a pricing package by using the free form notes field on eCO, to notify BT of this cessation and the associated pricing package number. On receipt of this notification BT will arrange for the pricing package to be ceased and the remaining circuits to be regraded to standard 2Mbit/s circuit pricing; as detailed in section B8.03 of the Carrier Price List.
- If no notification is given and BT subsequently identifies that a 4x2Mbit/s pricing package contains less than 4 2Mbit/s circuit, BT will cease the pricing package and regrade the remaining circuits to standard 2Mbit/s circuit pricing. In this situation the charge will be changed going forward and no retrospection will be applied.

- If no notification is given and the Communication Provider subsequently informs BT that a circuit has previously been ceased from the pricing package and the package contains less than the required 4 2Mbit/s circuits; BT will cease the package and regrade the remaining circuits to standard 2Mbit/s circuit pricing. In this situation the charge will be changed going forward and no retrospection will apply.
- If notification is given and the pricing package is not ceased at the time of notification, BT will cease the package, regrade the remaining circuits to standard 2Mbit/s circuit pricing and adjust the charges retrospectively to the date of the initial cessation notification.

2.9. PPC Products and Services Available

Detailed information regarding PPC Products and Services are available in the relevant PPC Service Descriptions. Service Descriptions are available from the PPC Reference Offer_website for the products listed below:

- PPC Customer Sited, In-Span & In-Span Extension Handovers – PPC CSH/ISH & ISH Extn
- PPC Sub 64Kbit/s – PPC Sub 64K
- PPC 64Kbit/s – PPC 64K
- PPC N x 64Kbit/s – PPC N x 64K
- PPC 320-640KBit/s Third Party Copper Delivery
- PPC 1 Mbit/s – PPC 1M
- PPC 2Mbit/s – PPC 2M
- PPC 34/45Mbits & 140/155Mbit/s – PPC High Bandwidth
- PPC Protected Path Variant 1 & Variant 2 – PPC V1 & PPC V2
- PPC Third Party Sited Equipment Re-Use (Lift & Shift and Managed Handover)
- PPC/PSTN ATM Mixing
- PPC Assured Resilience
- PPC Bandwidth Upgrades
- PPC Change of Interface
- PPC Radio Access

2.9.1. PPC 2Mbit/s Subsequent Circuits

A PPC Subsequent Circuit is a 2Mbit circuit (including DPCN bearers) which can be delivered on dedicated pre-existing PPC infrastructure where spare capacity exists at both the PoH and Third Party Site. This option is not available where the Third Party Infrastructure was installed under BT Retail terms and conditions after 23rd December 2002. The price for a Subsequent Partial Private Circuit is the same as a New Partial Private Circuit, but the lead-time for provision of service is significantly reduced.

Details are contained in Annexe E of the BT PPC Standard Handover Agreement; it is available at the following URL: PPC Service Level Agreement Annex E

2.10. Bandwidth and Interface Options

Partial Private Circuits are offered with a range of bandwidths and interfaces for delivery to the Third Party Site, full details can be found in the individual Service Descriptions, table 1 below contains commonly used options.

Table 1. Common Bandwidths and Interfaces

PPC Circuit Type	Interface Features		
	Bandwidth	Presentations	
PPC 64	64Kbit/s	X21	
PPC n x 64	128-960Kbit/s	X21	G703 (BNC)
PPC 1	1Mbit/s	X21	G703 (75 or 120ohms) BNC or RJ45
PPC 2	2Mbit/s	X21	G703 (75 or 120ohms) BNC or RJ45
PPC- High Bandwidth	34Mbit/s	G703	
PPC- High Bandwidth	45Mbit/s	G703	
PPC- High Bandwidth	140Mbit/s	G703	
PPC- High Bandwidth	155Mbit/s	G703	G957 (Optical)

2.10.1. Bandwidth Upgrades

The Bandwidth Upgrade product enables a Communication Providers to upgrade their bandwidth on an existing PPC circuit, or on a BT Retail circuit that has been migrated to PPC status.

Communication Providers are not held to term if they upgrade their circuits in less than the minimum term for the circuit.

The newly provided upgraded circuit has a new rental contract commencing on the date of provision.

The Bandwidth Upgrade charge is the same as the charge for a new provision at the higher bandwidth required, i.e. if a Communication Providers requests an upgrade of bandwidth from 2Mbit/s to 34Mbit/s, then the cost of the upgrade is charged at the new provide price of the 34Mbit/s circuit.

Request for the bandwidth of an existing circuit to be upgraded to another bandwidth, will be managed using the Cease and Provide process.

It is the responsibility of the Communication Providers to clearly state on the order that a bandwidth upgrade is required and identify the new service required. The Communication Providers will also identify the existing service PSI that they wish to upgrade.

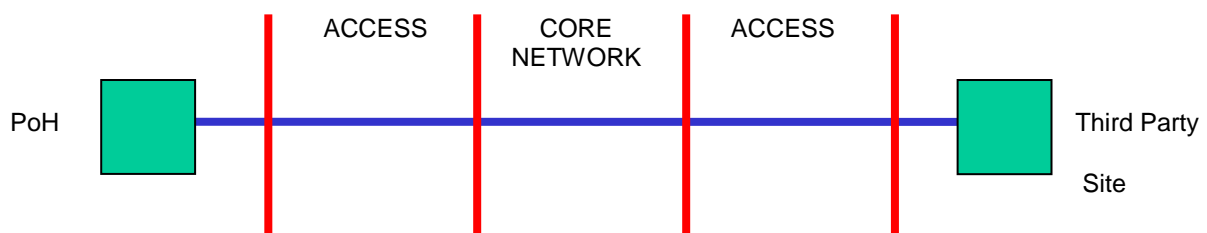
It is important to note that as this service is offered on a Cease and Provide basis any bandwidth can be upgraded to any other bandwidth service.

2.11. Circuit Protection Levels

BT employs a complex set of routing rules within its network to ensure Quality of Service levels are maintained and assets are utilised efficiently. Communication Providers have a choice of PPC circuit protection levels to help them meet their end user's requirements.

2.11.1. Standard Delivery

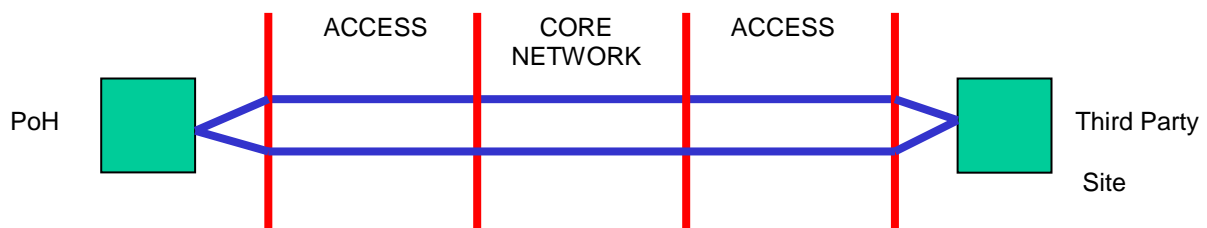
Circuits are delivered with the appropriate level of protection within the network to meet the standard availability targets for PPCs.



For In-Span connections, the Point of Handover will be at the boundary of the BT Core Network and there will be no BT Access component.

2.11.2. Protected Path Variant 1

Protected Path Variant 1 provides a resilient path from the Third Party customer site to a single Point of Handover. It features two access paths from the Third Party customer site to two BT serving nodes (i.e. dual path, dual parent). Resilience is then provided across the core SDH network to the single PoH at the Communication Provider's network.

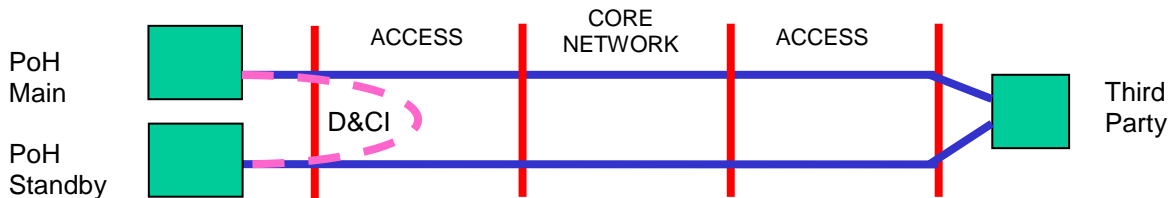


For In-Span connections, the Point of Handover will be at the boundary of the BT Core Network and there will be no BT Access component.

PPC PP Variant 1 Service Description

2.11.3. Protected Path Variant 2

Protected Path Variant 2 provides a resilient path from the Third Party customer site to a pair of handover points, with no single point of failure. It features a variant of Drop and Continue Interworking+ (D&CI) functionality which will be configured in the BT Network and should be configured in the Communication Provider's network to deliver the assured Quality of Service to the end user. It also features two access paths from the Third Party customer Site to two BT Serving Nodes (i.e. dual path, dual parent). Resilience is then provided across the core SDH network to the two PoHs at the Communication Provider's network.



For In Span Connections, the Point of Handover will be at the boundary of the BT Core Network and there will be no BT Access component.

PPC PP Variant 2 Service Description

2.11.4. Coordinated delivery of 2Mbit/s PPV1 or PPV2 Circuit & the Third Party Infrastructure

Where an order is received for the provision of a 2Mbit/s PPV1 or V2 circuit and a new Third Party Infrastructure is required, the orders for the delivery of the circuit and Infrastructure will be aligned to the Infrastructure delivery lead-time. Therefore, where the lead-time of the Infrastructure is 60; 75; 85; or 110 working days, the circuit lead-time will be adjusted to the delivery lead-time of the new Infrastructure.

PPC Handover Agreement Annex E clause 3.12 refers.

2.12. Assured Resilience

PPC Assured Resilience is a monitoring service that enables pairs or groups of circuits to be routed along different paths through the BT network. It ensures that no single event could cause failure to both circuits in a pair or all circuits in a group. The circuit paths are monitored to ensure no compromise occurs due to engineering work on the core BT network. This enables specific circuits to benefit from a level of resilience above BT's standard offering for these circuits.

Assured Resilience is not available for Protected Path Variants 1 and 2.

PPC Assured Resilience Service Description

2.13. 34/45Mbit/s ASDH NTE

The ASDH NTE for 34/45Mbit PPCs delivery at reduced cost when compared with SMA1 provision. The 34/45Mbit ASDH NTE will only be available at Third Party sites within exchange areas that are ASDH enabled.

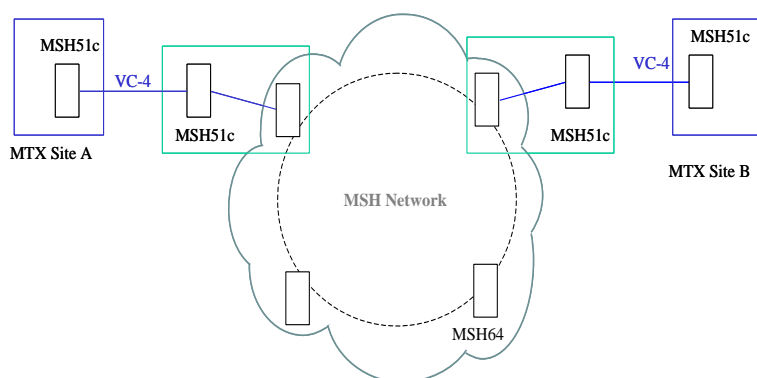
Communication Providers will be informed whether a 34/45Mbit PPC can be provided via an ASDH NTE at Firm Offer Confirmation (FOC).

It is important to note PPC Variant 1 and Variant 2 Protected Path products and PPC Radio Access cannot be provided over 34/45Mbit ASDH NTE, due to technical constraints.

Partial Private Circuits 34M/45M & 140M/155M Service Description refers

2.14 155 MSH – MSH

The 155Mbit MSH-MSH Partial Private Circuit operates at 155 Mbit/s and is a wholesale circuit from a Third Party customer MSH51C to Communication Provider's Point of Handover (PoH) MSH51C



This product requires that both the POH and the Third Party Infrastructures are MSH51C's, this can be either existing spare capacity on infrastructure delivered prior to 23/12/2002, existing PPC Infrastructure, Deferred Use, Managed handover or new MSH51C's.

There are both RP and RRP versions of this product and they are targeted to be delivered in 57 Days and 45 Days respectively.

The charging points on these products is the MSH Serving nodes which for this product is taken as the nearest MSH node to the Serving exchanges, and therefore does not use the Tier 1 charging methodology.

Note: For ISH POH the serving exchange will be that which is collocated to the SDH Node that the Communication Providers has extended their fibre to.

The order will follow the standard Highband delivery process with FOCR and FOCA in 8 and 2 Days.

2.15. CP-2-CP Managed Move

PPC CP2CP Managed Move is the term used for the process of moving a Partial Private Circuit from one Communication Provider (CP) Point of Handover (PoH) to another. The CP's PoH from which the eligible PPC circuit is being moved is the 'Losing' CP and the CP PoH to which the circuit is being moved to is the 'Gaining' CP

Full details can be found in Annex F of the PPC Handover Agreement and the PPC Migration, Manage ConversionCP2CP Managed Move Manual.

2.16. Efficient use of PoH Infrastructure

The Leased Line Charge Control (LLCC) consultation dated 8th December 2008 (Annex 7) and in the Statement dated 2 July 2009 (sections 4.145 and 4.165) directed BT show separately the PoH charges that historically have been embedded in the PPC Local End Charges.

The new Efficient Use of PoH Infrastructure charge was introduced as follows:

- 1 September 2009 price revision introduced the new Third Party PoH fixed rental charge, which was added to the price shown for the Local end charge.
- 1 October 2009 price revision the new Third party PoH fixed rental charge was shown separately in the circuit rental price list at section B8.03.
- 10 March 2009 price revision reduced the new Third party PoH fixed rental charge in line with the 09/10 charge control.
- 1 July 2010 introduces the new PoH Infrastructure fixed rental charge for SMA-1; SMA-4 & SMA-16 became effective. Price List B8.01 part 1.6 refers.

2.16.1. PoH Infrastructure Rental Charge

The PoH Infrastructure fixed rental charge applies to all PPC SMA-1; SMA-4; and SMA-16 whether their "sole use" was purchased as PPC Infrastructure or they were Grandfathered or Re-Designated from Retail. Although shown separately in the Price List these charges are added to the SMAs rental charges. Examples of how these charges are applied are shown below:

- CSH & ISH Extension Infrastructure ADMs will incur the new PoH Infrastructure ADM and Bearer fixed rental charge as detailed in B8.01 part 1.6.

**ADM
Charge**

Rental

SMA-16 ADM no trib interface (single fibre working) existing site	£1315.77
SMA-16 PoH Infrastructure	£7764.00
Bearer PoH Infrastructure	£ 322.00
Total SMA-16 per annum Fixed Rental Charge	£9401.77

- ISH ADMs will incur the new PoH Infrastructure ADM charge only

ADM Charge	Rental
SMA-16 ADM with single STM-16 handover (1300nm)	£ 983.22
SMA-16 PoH Infrastructure	£7764.00
Total SMA-16 per annum Fixed Rental Charge	£8747.22

Note: The charges quoted are for information purposes only. To ensure you have the correct charges please refer to the PPC Price List.

The following matrix provides guidance on which PoH Infrastructure charge as detailed in B8.06 part 1.6 should be added to the ADM rental as detailed in B8.01 sections 1.1 – 1.4.

POH Type	SMA-	Bearer
CSH / ISH Extn	SMA-1; SMA-4 & SMA-16	Y
ISH	SMA-1; SMA-4 & SMA-16	N

For the purpose of this handbook the definition of an Efficient and In-Efficient PoH Infrastructure is as follows:

- **Efficient PPC PoH** is a PoH Infrastructure provided as PPC SMA-1, SMA-4 & SMA-16; Grandfathered SMA-1 and Re-Designated SMA-1, SMA-4 & SMA16, which attracts the additional PoH Rental Charges as detailed in Section B8.01 part 1.6.
- **In-Efficient PoH** is a PDH (4x2; 16x2) PoH, ASDH and all Retail infrastructures (including Retail SMA-1; SMA-4 & SMA-16). These PoH infrastructure DO NOT attract the additional POH Rental Charges as detailed in Section B8.01 part 1.6 – PoH Rental Charges

Note: The PPC Pricing Tool will identify quoted circuits as efficient or in-efficient.

2.16.2. Circuits on Efficient & Inefficient PoH Infrastructure

Shown below is an example of the difference in the product description for efficient and in-efficient PPC circuits.

PRODUCT Description Efficient	PRODUCT NAME In-Efficient
Partial Private Circuit 2M CSH (T1)	PPC 2M CSH (T1) POH
Partial Private Circuit 2M ISH RRP (T1)	PPC 2M ISH RRP (T1) POH
Partial Private Circuit 2M CSH RRP (T1)	PPC 2M CSH RRP (T1) POH
Partial Private Circuit 2M CSH Subsequent (T1)	PPC 2M CSH Subsequent (T1) POH
Partial Private Circuit 2M ISH Subsequent (T1)	PPC 2M ISH Subsequent (T1) POH

Note: *All in-efficient circuit will contain POH at the end of the product description*

2.17 Provisioning – Use of Early Life Failure (ELF)

- To manage circuit delivery to incorrect location

Once a Provide (PD) order is completed and closed no further action can be taken on that order. Therefore, where BT has delivered a circuit to an incorrect location or with an incorrect interface there is no way to measure it as an RFT failure as the orders is already closed.

To correct this issue BT will raise a new order, which will not register as a RFT failure and will not attract SLG payment for a late delivery.

The fix is to measure the failure as an ELF (Early Life Failure) by raising a live fault on the repair system and close it as a provision failure using the correct clear code, which will ensure it as an RFT failure.

- To manage a circuit which is proved faulty within the first 28 days after provision

Where a circuit proves faulty within the first 28 days after provision Communication Providers are asked to report such failures using the online eCO Repair fault reporting system as business as usual.

2.18 Pre-Order Validation

Pre-Order validation is not a service offering in the PPC product portfolio, therefore, where a CP wishes to use the Migration, Managed Conversion and/or the migration of 2Mbit/s circuits into the 4x2Mbit/s pricing package, these are validate at the point of order only. Request for pre-order validation to be carried out will be declined.

3. COMMERCIAL

The PPC portfolio comprises a set of Standard Services, which are available to Communication Providers only. PPC products are subject to the conditions of the PPC Standard Handover Agreement, available at the following URL:

Partial Private Circuit Agreement

Communication Providers should address any queries with regards to the PPC Standard Handover Agreement, in the first case, to their nominated BT Commercial Manager.

3.1 General Conditions

In brief the following conditions generally apply to all PPC products:

- PPCs are not eligible for any BT Retail discount schemes
- PPCs are subject to a minimum 12-month contract term
- All ancillary and excess construction charges will apply where incurred with zero waivers
- Communication Providers must specify and agree the infrastructures required at the Third Party site and PoH
- Communication Providers must ensure that the site at the Third Party end has suitable accommodation for any BT equipment required for the provision of the service
- There is no aggregate interface option at the Third Party end of the circuit
- There will be a Circuit Connection charge for each new PPC supplied
- Annual Rental will consist of Local End and Main link charges
- Spare capacity on BT Retail provided Third Party equipment, installed before 23/12/02, may be used for PPCs, on a first come first served basis
- Existing Kilostream Plus, Bulk and Multistream bearers are not eligible for use as PPCs

3.2 PPC Notification Periods

As a regulated product PPCs are subject to the following notification periods:

- 90 days notice of changes to prices and terms and conditions;
- 28 days notice of the introduction of prices or terms and conditions for new provisions;
- Same day notification of changes to prices, terms and conditions for wholesale trunk segment products.

3.3 Partial Private Circuit Pricing

There are two main types of charge for PPCs. An installation (connection) charge, which is a one off charge, and an ongoing rental charge. Regular care maintenance is provided within tariff, Enhancecare is a chargeable option.

Each of the three elements of a PPC is priced separately, the total connection charge being the sum of the parts. Further details on PPC Tier 1 Pricing can be found in Appendix A to this document.

Section B8 of the BT Carrier Price List is the authoritative source of pricing information for PPCs.

BT Carrier Price List Section B8

There are 3 components to the PPC connection (one off) charge:

3.3.1 Third Party End Infrastructure Charge

The Third Party End (B-End) infrastructure charge is based on the costs incurred in the PPC Local End Infrastructure build – e.g. copper or fibre – and the Third Party sited equipment installed.

3.3.2 Circuit Provision Connection Charge

The Circuit Provision connection charge includes the costs incurred in providing and testing the PPC across the BT network from the Third Party site to the PoH.

3.3.3 Point Of Handover Infrastructure Charge

The Point of Handover infrastructure charge is based on the infrastructure build costs for either the ISH or CSH and includes a small annual rental charge.

3.4 Rental Charges

The annual rental charge covers the ongoing costs of maintaining the overall service across the BT network from the Third Party site to the PoH. Partial Private Circuit rental is calculated on a radial distance basis and where applicable employs the “Tier 1 Pricing” methodology. PPC rental is also bandwidth dependant as detailed below:

3.4.1 64Kbit/s-960Kbit/s

For 64Kbit/s-960Kbit/s circuits the radial distance is measured from the true BT Serving Exchange to the Third Party site and the DPCN Node nearest to the Communication Providers PoH BT SDH Serving Node.

3.4.2 1Mbit/s-155Mbit/s

For 2Mbit/s – 155Mbit/s circuits the radial distance is measured from the true BT Serving Exchange nearest to the Third Party site and the Communication Providers PoH BT SDH Serving Node.

3.5 Wholesale Assist

Wholesale Assist provides Communication Providers with additional services that are not included in the PPC portfolio. Some of the services available from Wholesale Assist are:

- Desk Top Survey

- Project Co-ordination
- Capacity Management

The above is only a sample of the Wholesale Assist service offering; Communication Providers should approach their Client Manager who will supply the full list.

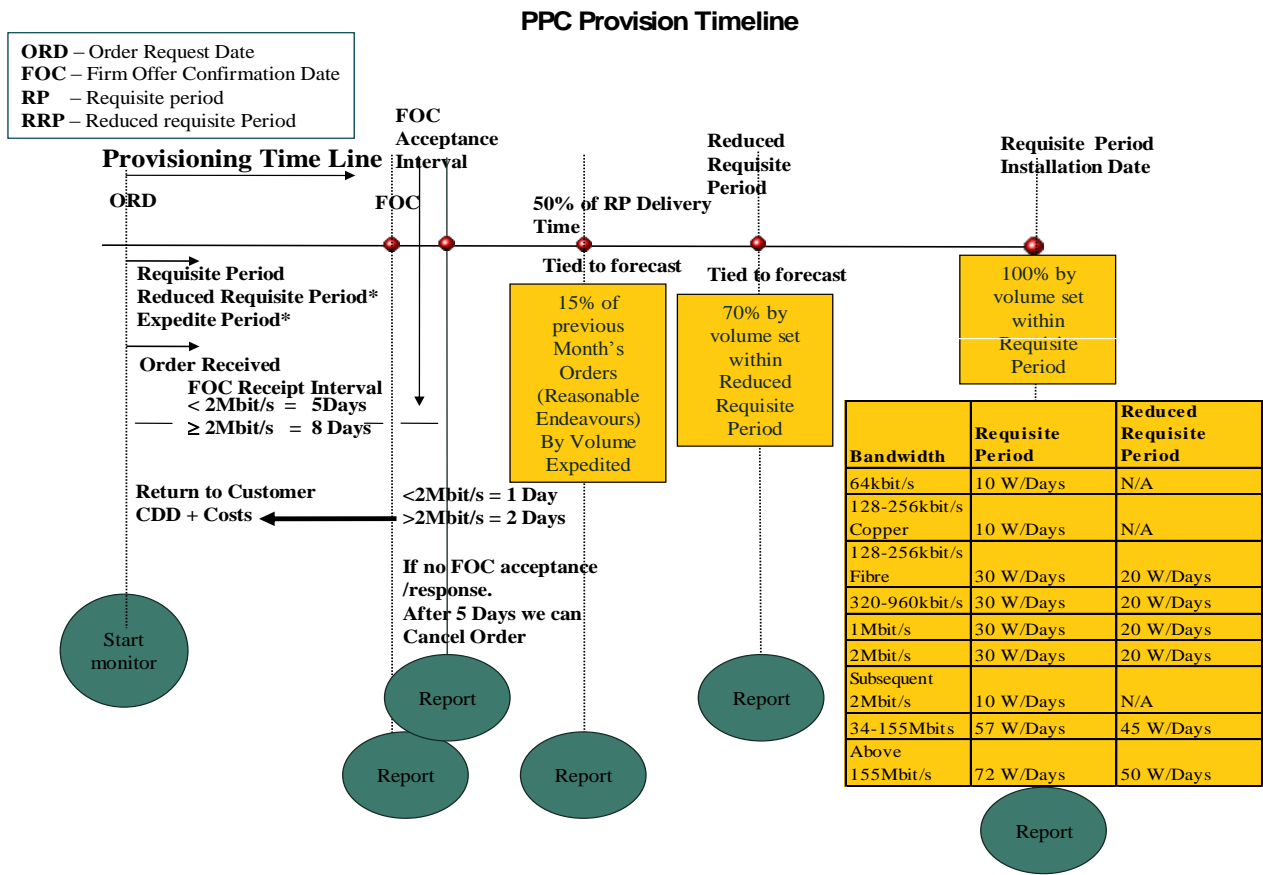
4. PROVISION

PPCs are ordered and delivered in a similar way to the current equivalent BT Retail products and services, using the same processes, systems and operational resource where ever available.

Communication Providers are able to submit PPC forecasts in accordance with the PPC Standard Handover Agreement.

BT Wholesale can only offer the Expedite and Reduced Requisite Period facilities to Communication Providers complying with the PPC forecast process.

Once an order is input to the BT order handling system, any change of address will require the order to be cancelled and a new one raised with a new requisite period and delivery date.



4.1. Provisioning Manual

The DSL ISH and PPC Provisioning Manual is the definitive document for all PPC provisioning matters.

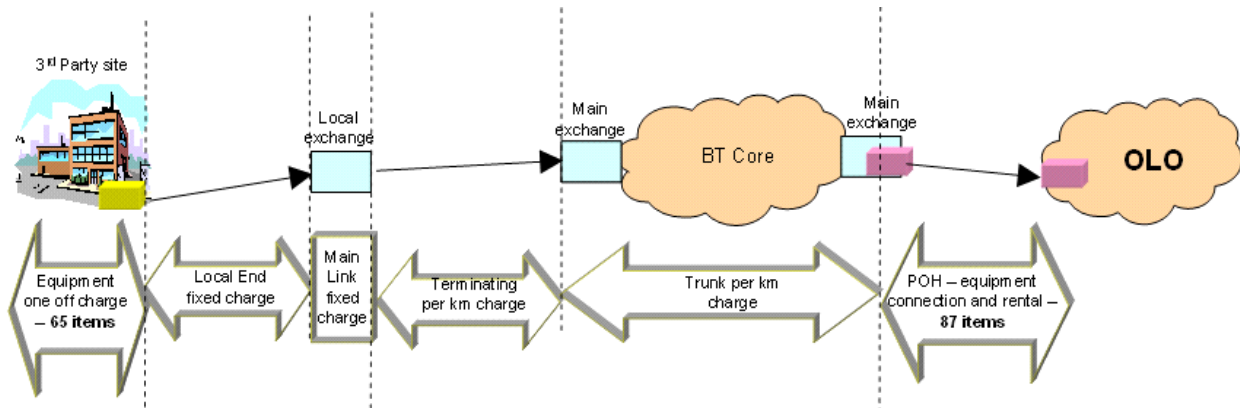
4.2. Provision Service Level Guarantee

Full details of the Provision Service Level Guarantee can be found in Annexe E of the BT PPC Standard Handover Agreement, which remains the authoritative document in all service level matters; it is available at the following URL:

PPC Service Level Agreement Annex E

4.3. PPC Circuit Pricing

The following diagram details the components which comprise the connection and rental prices of a PPC Circuit and Infrastructure:



The radial distance calculations methodology for Tier 1 pricing can be found at Annex B of this document.

4.3.1. Provisioning Charge

Provisioning charge for PPC circuits and Infrastructure are detailed in the Section B8.01 and 8.02 of the Wholesale Carrier Price List. These charges are in respect of:

- Section B8.01 – Point of Handover Infrastructure
- Section B8.02 – Third Party Link Infrastructure and New Circuit Connection Charge.

4.3.2. Rental and Maintenance Charge

Rental and Maintenance charges are detailed in Section B8.03 of the Wholesale Carrier Price List and are based on the Tier 1 pricing methodology which is documented at Annex B.

4.3.3. PPC Pricing Tool

BT Wholesale online Partial Private Circuit (PPCs) pricing tool enables Communication Providers to obtain Trunk and Terminating distances and indicative pricing quotations for Partial Private Circuit's 64Kbit/s to 155Mbit/s.

Partial Private Circuit's quotations involve detailed calculations between a Postcode and a BT Exchange node. Previously, this has led to variations between Communication Providers and BT calculations.

The tool offers a platform for both parties to share standard calculation formulas in an open format. It reduces the complication and presents pricing in a simple to use step by step process, improving the customer experience with the speed at which quotes can be provided.

4.3.3.1. FEATURES OF THE TOOL

The Pricing Tool enables Communication Providers to calculate indicative quotes online:

- Single PPCs Quotes
- Multiple PPCs Quotes
- Method of calculation is visible on the tool
- Pricing is available in a number of formats- including a Pricing Diagram, detailed breakdown with calculations and simple pricing.

Note: A User Guide providing detailed instruction on how to use of the tool can be found from the Partial Private Circuit Menu Options are of the tool:

4.3.3.2. HOW TO ACCESS THE PPC TOOL

To access the PPC Pricing Tool a user name and password is required. Only Communication Providers who have signed a PPC contract will be given access to the tool. For a user name and password send an email to: btw.pricing.tool.team@bt.com.

On receipt of a user name and password the tool can be accessed via <https://bt.pricingtool.net/>

Acceptance of BT's Terms and Conditions is a requirement to enable access to the Pricing Tool. Once access is gained the Tools user guide is located in 'Help'

4.3.4. Placing an Order

Communication Providers orders their Points of Handover, Third Party Link Infrastructure and Circuits via direct to their Customer Management Centre usually by using the eCO web portal or through their account team. Alternatively, where access to the eCO web portal is not available, orders may be placed using the Partial Private Circuit Customer Requirement Form (PPC CRF). The PPC CRF - The PPC (Bandwidth) Order Form is located in Appendix 24a - of the PPC Provisioning Manual. However, the preferred method of placing a PPC order is via eCO.

There is mandatory information which must be provided by Communication Providers when placing an order, where this mandatory information is missing the order will be rejected. The required mandatory information is detailed below in paragraphs 4.3.4.1 and 4.3.4.2.

4.3.4.1. General

General and contractual details including the following:

- Full Company Name
- Authorised contact name, telephone number and E-Mail address
- Correspondence address including post code
- Customer Order Reference
- Required by date
- Person to be contacted on completion, telephone number and email address
- Type of order, Provide, Shift, Rearrange or Cease

- BT Master Agreement Number
- PPC product or service required
- Existing PPC circuit number when a subsequent 2 Mbit is ordered
- Maintenance level required

4.3.4.2. Site Details

The following details for both A and B end sites including:

- Addresses including post code

Note: Po Box Addresses and invalid post codes are not suitable for use and will be rejected. The site address as detailed in the Post Office Postal Address File (PAF) is the only address acceptable for circuit provision.

- Exact location of equipment including room and floor
- Grid reference Northings and Eastings
- Contact names and phone numbers
- Infrastructure and interface required, e.g. G703 75 Ohms
- First, second and third choice delivery for Third Party infrastructure. If choices are not specified or not available, the order will be cancelled.
- A end delivery system – Bearer and Tribs., Line system or SNEID

4.3.4.3. New Site Charge Definition

A new site charge is required where an element of either new fibre is required to be provided in the Access Network to support the provision of service from a Communication Providers 3rd Party customer link, to the local serving exchange.

Note: This charge will be raised in addition to the standard Infrastructure charge quoted in Section B08 of the Carrier Price List.

4.4. Provision Requisite Periods

Provision Requisite Periods for PPC components are as follows: (All references are to Working Days). Only Communication Providers with agreed circuit or infrastructure forecasts can request delivery in the Reduced Requisite Period or request Expedite. For Communication Providers who do not have forecasts BT may extend the Requisite Period by 50%.

4.4.1. Point Of Handover

Table 2 A. Point Of Handover Requisite Periods

Note that these timescales apply to the PPC product only, separate requisite periods apply to PSTN and ATM products utilised in the PPC/PSTN/ATM mixing product.

PRODUCT	REDUCED REQUISITE PERIOD	REQUISITE PERIOD
New ISH or CSH PoH Without civil works (no duct work required)	60	85
New ISH or CSH PoH With civil works (duct work required)	75	110
Additional ADM on existing SDH ISH or CSH PoH	40	60
Provision of additional card on CSH mux	20	25

4.4.2. Third Party Infrastructure

Table 2 B. Third Party Infrastructure Requisite Periods

PRODUCT	REDUCED REQUISITE PERIOD	REQUISITE PERIOD
Third Party SDH ADM without civil works	60	85
Third Party SDH ADM with civil works	75	110

4.4.3. Circuits

Table 2 C. Circuit Requisite Periods

PRODUCT	REDUCED REQUISITE PERIOD	REQUISITE PERIOD
64Kbit/s	N/A	10
64Kbit/s – 256Kbit/s Delivered over Copper	N/A	10
128-256Kbit/s over copper	N/A	10
128-256Kbit/s over fibre	20	30
320-960Kbit/s	20	30
1Mbit/s	20	30
2Mbit/s	20	30
2Mbit/s Bearer	N/A	30
Subsequent 2Mbit/s Bearer	N/	10
Subsequent 2Mbit/s PPCs	N/A	10
34/45Mbit/s	45	57
140/155Mbit/s	45	57
Protected Path Variant 1	N/A	57
Subsequent 2Mbit/s Protected Path Variant 1 circuits	N/A	3
Protected Path Variant 2	N/A	57
Subsequent 2Mbit/s Protected Path	N/A	3

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Variant 2 circuits		
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BT shall be liable to pay compensation payments to a Communication Providers for failure to provide Partial Private Circuits or Network Infrastructure within either the Requisite Period shown above or the Committed Delivery Date whichever is soonest (unless otherwise agreed by the Communication Providers).

Details are contained in paragraphs 3.8 and 3.12 of the Standard Handover Agreement.

PPC Service Level Agreement Annex E

4.5. Expedite Orders

Where a Communication Providers has an agreed circuit forecast (Advanced Order Commitment), BT will endeavor to deliver 15% by volume of their previous months PPC orders within 50% of the Requisite Period as per the above table.

Expedite is only available on the following bandwidths, 64k- 2Mbit/s, and must be requested at the time of placing a new PPC order – no requests for delivery date improvements can be made during the course of the circuit provisioning. Expedite cannot be used in conjunction with Reduced Requisite Period.

Details are contained in paragraph 3.13 of the Standard Handover Agreement.

4.6. Reduced Requisite Period (RRP)

In order for a Communication Providers to be entitled RRP the following rules apply:

4.6.1 Circuit RRP

- An agreed forecast for circuits (Advanced Order Commitment)
- During the previous quarter has ordered at least 10, fibre delivered PPCs, 2Mbit/s or below, of the same bandwidth, or at least 2 PPCs of the same bandwidth above 2Mbit/s

BT will endeavour to deliver 70% of Communication Providers qualifying circuits during a quarterly period in the Reduced Requisite Period (as per table 2 above). The quarterly RRP period will coincide with BT's reporting periods (Jan-March, April-June, July-Sept, and Oct-Dec).

Note: In performing the RRP calculation, BT shall take into account circuits that is ordered but cancelled

4.6.2 Infrastructure RRP

- An agreed forecast for circuits (Advanced Order Commitment)
- An agreed forecast for Infrastructure (Advanced Capacity Order)
- During the previous quarter has ordered at least 2 VC4 equivalents of Network Infrastructure.

BT will endeavour to deliver 70% of Communication Providers qualifying Network Infrastructure during a quarterly period in the Reduced Requisite Period (as per table 2 above). The quarterly RRP period will coincide with BT's reporting periods (Jan-March, April-June, July-Sept, and Oct-Dec).

Note: In performing the RRP calculation, BT shall take into account infrastructure that is ordered but cancelled

Full details of the RRP and Expedite rules are contained in Annex E of the BT PPC Standard Handover Agreement, which remains the authoritative document; it is available at the following URL:

PPC Service Level Agreement Annex E

4.7 Multiple Orders

The rules applicable to Multiple Orders are detailed below for ease of understanding:

- Orders of up to 10 PPC circuits of the same bandwidth and between the same sites should be delivered in the Requisite Period (RP) or Reduced Requisite Period (RRP) for that product.
- Orders of over 10 circuits i.e. 11 or more of the same bandwidth, between the same site and for the same delivery date will be classed as a Multiple Order. The lead-time for multiple order delivery will increase by a maximum of 50% above the Requisite Period for that product.

It is important to note that RRP is not applicable with Multiple Order

The full Multiple Order rules are also detailed in the PPC Handover Agreement at Annex E and Paragraph 3.24

4.8 2Mbit/s Central London Zone (CLZ)

For 2Mbit PPCs that are wholly within the Central London Zone (CLZ), Communication Providers may request delivery in as little as 10 working days without invoking the Expedite process.

Following are the criteria for ordering 2Mbit CLZ PPCs

- Both the Third Party site and the Communication Providers Point of Handover must be within the Central London Zone (based on the BT Central London exchange areas). The Central London Zone exchanges can be identified via the PPC Serving Exchange to Tier 1 Node file published on the Our Networks website or the PPC Pricing Tool.
- Based on reasonable endeavours
- Only applies to 2Mbit Bandwidth Partial Private Circuits i.e. this does not extend to circuits delivered over 2Mbit infrastructure.
- Only available to Communication Providers with circuit forecasts agreed with BT
- The process only applies to orders for provision of new circuits.
- Circuits that qualify as 'Subsequent' PPCs should still be ordered as such.
- New Protected Path circuits are not included in this process.

- Where CLZ circuits requires the association of Assured Resilience these circuits cannot be included in the 10 working day process but will attract the standard 2Mbit/s Requisite Period of 30 working days.
- Expedite cannot be requested on top of these reduced target timescales
- Assumes capacity exists at Communication Providers Point of Handover
- It is very important to note:
 1. A reduction in the Local End fixed charge will apply
 2. Significantly lower delivery timescales are only likely to be achieved for orders delivered over HDSL copper or where spare capacity exists on third party infrastructure installed before 23/12/02.
 3. Where new fibre or radio delivery is required it is currently unlikely that BT would be able to provision service in a considerably foreshortened timescale.

The Online Pricing Tool will identify the circuits where both ends terminate within the Central London Zone (CLZ); therefore Communication Providers are no longer required to request CLZ when ordering new circuits.

4.9 London Metro

London Metro circuits are circuits where the Third Party site is located in the Central London Zone (CLZ) and the Point of Handover (PoH) is located outside the Central London Zone. Currently only 2Mbit/s, 34Mbit/s and 45Mbit/s Partial Private Circuits (PPCs) can be classified as London Metro circuits and are eligible for a reduction in the Local End fixed charge.

- 2Mbit/s PPC local end in London, providing Communication Providers with a 44% cost saving.
- 34Mbit/s & 45Mbit/s PPC local end in London, providing Communication Providers with a 42% cost saving.

The Online Pricing Tool will identify the circuits where the Third Party end of the circuit terminates within the Central London Zone (CLZ); therefore Communication Providers are no longer required to request London Metro when ordering new circuits.

4.10 2Mbit/s Central Birmingham Zone (CBZ)

For 2Mbit PPCs that are wholly within the Central Birmingham Zone (CBZ), Communication Providers may request the delivery of 2Mbit/s circuits in as little as 10 working days without invoking the Expedite process.

Following are the criteria for ordering 2Mbit CBZ PPCs:

- • Both the Third Party site and the Operator Point of Handover must be within the Central Birmingham Zone, defined as the list of BT exchanges within
- Central Birmingham as appended to this briefing. The PPC exchange data as published on the 'Our Networks' website is annotated to indicate
- Exchanges that fall into the Central Birmingham Zone.
- • No change to existing PPC prices
- • Only applies to 2Mbit/s Bandwidth Partial Private Circuits i.e. this does not extend to sub 2Mbit/s PPCs that are circuits delivered over 2Mbit/s
- Infrastructure.

- No change to existing contractual agreements i.e. BT will respond with confirmed delivery and costs at Firm Order Confirmation, the Requisite Period will remain at 30 working days and delayed delivery compensation will only apply if BT fail to meet either the Committed Delivery Date or Requisite Period (whichever is lower).
- The process only applies to orders for provision of new circuits.
- Circuits that qualify as 'Subsequent' PPCs should still be ordered as such.
- New Protected Path circuits and circuits with Separation or Diversity are not included in the new process.
- Expedite cannot be requested on top of these reduced target timescales
- Assumes capacity exists at Operator Point of Handover
- It is very important to note that significantly lower delivery timescales are only likely to be achieved for orders delivered over HDSL copper or where spare capacity exists on third party infrastructure installed before 23/12/02. If new fibre or radio delivery is required it is currently unlikely that BT would be able to provision service in a considerably foreshortened timescale.
- If customers have requested the reduced lead-time CRD, and it falls within the CBZ, the reduced lead-time will be provided, subject to the restrictions above.
- The BT Pricing Tool will identify a circuit that is wholly within the CBZ area by presenting the CNZ identifier against the returned circuit price information when an indicative quote is requested via the Tool.

4.11 PPC Radio Access

PPC Radio Access is not a stand-alone product within BT Wholesale's PPC portfolio. It will be considered for use only as an expedient by BT Planners to provide Third Party Site user access or Customer Sited Handover (CSH) access, under circumstances where the standard method of service provision of PPC is via copper or fibre infrastructure is not possible, e.g. engineering constraints.

The PPC Radio Access is not offered as a choice to Communication Providers. Communication Providers will have the option to indicate on the PPC Requirements Form (PPCRF) whether they are willing to accept a quote for provision of service via radio technology, should standard methods of provision not be possible.

Once BT has provided a quote for service provision by the use of radio, the Communication Providers must respond, indicating whether they wish to accept the quote and proceed, or cancel the order.

If available, Communication Providers can request information on the date of the earliest forecast fibre delivery to their site. This will enable Communication Providers to better decide whether to:

- accept the quote for provision via radio,
- wait for fibre delivery at a later date, or
- Cancel the order.

The PPC Radio Access connection charge does not include the cost of the PPC circuit ordered. Connection charges are detailed in the Carrier Price List (CPL).

Annual rental charges will be as per the rental detailed in the CPL for the bandwidth ordered (subject to the Maintenance Care option selected).

The following rules apply:

- PPC Radio Access will not be provided as a temporary service.
- The PPC Radio Access is delivered over an 18GHz or 38GHz digital microwave radio link.
- Provision is subject to distance and “Line Of Sight” between the Third Party customer site and network entry/handover points.
- The minimum offering will be 4x2Mbit/s radio access.
- There will be three types of radio access system used for PPC Radio Access:-
 1. 4x2Mbit/s
 2. 16x2Mbits
 3. STM-1 (155Mbit/s). Only the 155Mbit/s bandwidth will be provided at the CSH (Customer Sited Handover) Point of Handover (POH).

4.12 Provisioning KCI (Keeping Customer Informed)

Provisioning KCIs have been automated; the format of these KCI's and the speed in which they appear on the eCO-Order system is updated to make them clearer and concise. These updated KCIs will become the standard provision updates, which appears in the eCO-Order milestones. The order, in which the KCIs will appear on the eCO-Order milestone page, is shown below:

- KCI-1: Order Issue Details.
- KCI-2: PPC Firm Offer Confirmation Response (FOCR) or RPC CREP or CDAT:
 - Day 5 - Narrowband circuits
 - Day 8 - Wideband Circuits
 - Day 10 – RPC Megastream
 - Day 15 – PPC Highband Circuits only: Where cost, delivery medium & time) cannot be provided at Day 15 an additional KCI will be sent as soon as the planning stage is completed.
- KCI-3: Final Fit and Test
- KCI-4: Order Completion and Handover.

These KCIs are not set in stone as there may be times when we will need to inform you of situations which may have an impact on the progress of your order in instances we will provide you with additional ad-hoc KCI updates to supplement those listed above.

4.13 Excess Construction Charge (ECC)

Excess Construction Charges are raised when the work required to complete a circuit provision order exceeds that of the published price. The following is the general policy regarding ECC is charge, where:

- *No charges for cable will be raised for standard route where the cable length is 3.01km (3010mtrs) or less. Cable lengths of over 3.01km; the 3.01km will be deducted from the total cable length and the difference will be charged at the standard cable rates as published in the section 4 of the Openreach Price List.*

Example: Cable length required to provide service is 6.20km (6200mtrs). $6200 - 3010 = 3190$. The ECC cable chargeable = 3190mtrs.

- *Where Communication Providers request non standard access routing for business continuity purposes (e.g. Assured Resilience), full excess construction charges apply for the second route.*
- *A site requiring wideband access is defined as a single point within Third Party customer premises which can be used for the termination of wideband circuits*

The Excess construction/Excess costs are identified during the planning stage of all products/services provided over a Wideband infrastructure and will be notified at the FOC stage of the order process. Where Communication Providers does not accept the charge at FOCA the order will be cancelled.

Excess construction Charges are referred out from Section B8.06 Part 5 of the Carrier Price List to Openreach Price List at section 4 - Service Product Pricing, where required. See 4.1.3 - Excess Construction Charges.

4.13.1 Excess Construction Charge (ECC) – Mapping

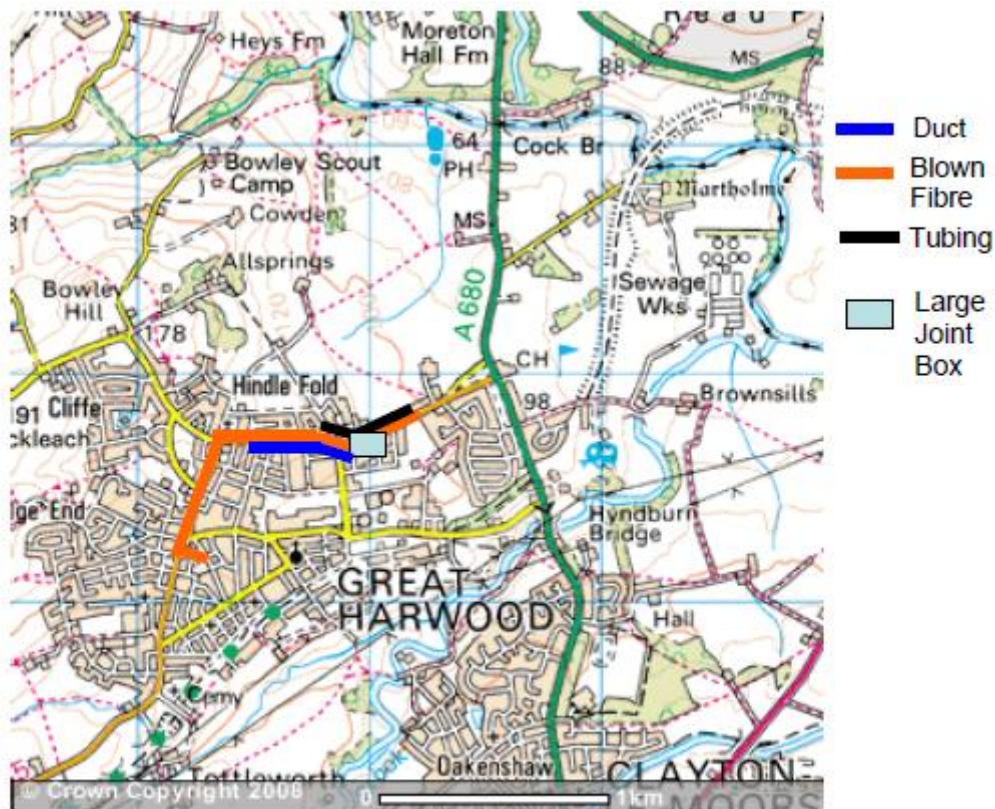
To assist Communication Providers understanding of how PPC Excess Construction Charges (ECC) is applied, an ECC Map can now be requested. This map details the provisioning route of a PPC circuit and is provided subject to the following criteria:

- For fibre provided circuits only; and
- Where ECC costs are £15k and over.

This service is not provided automatically with each notification of ECC charges over £15k; it is the responsibility of the Communication Provider to request the ECC Mapping via their BT Service Team.

The presentation of the ECC Map will be on an Ordinance Survey (OS) map showing the relevant OS Grid Reference, chargeable additional duct, cable, fibre, tubing and joint boxes required to meet the order.

4.13.1.1. Example of an ECC Map



Map not to scale.

Note: The ECC Map will be for information purposes only and will not be to scale.

4.14 34Mbit/s & 45Mbit/s – Improved Delivery Timescales

Improvement in the 34Mbit/s & 45Mbit/s are available where capacity already exists and will be available on a reasonable endeavours basis.

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It is important to note there is no change to the PPC contractual lead times, (where Requisite Period is 57 working days and Reduced Requisite Period is 45 working days) or the Communication Providers order process.

Communication Providers placing orders will still need to specify the PoH, Third Party Infrastructure and associated Trib; Port or JKLM positions in the usual way. Communication Providers will be advised of this improved delivery timescales at the Firm Offer Confirmation (FOC) stage and will have the option to accept or reject this improved timescale.

Delayed delivery compensation will be paid in accordance with the PPC Handover Agreement, which remains unchanged. Billing will be effective from Customer Required by Date (CDD), where circuits are provided to the shorter timescales.

4.15 Firm Offer Confirmation Response (FOCR)

BT provides a Firm Offer Confirmation Response (FOCR) for PPC orders, that includes Costs, Delivery mechanisms, Excess Construction Charges and Committed Delivery Date.

It is important to note: BT makes every endeavor to meet the FOC target set by Ofcom, but planning issues or other complications may prevent it from doing so.

4.15.1 Changes Before / After FOC

The only acceptable change to an order will be as listed below:

- Change of Interface – A charge for the change will be applicable as detailed in the Carrier Price List.
- Change of Name or Contact
- Change to Assured Resilience diversity levels - where the requested diversity level cannot be met, BT will offer the next diversity level that is feasible, and will be managed as an amendment to the existing order.

All other 'in-flight' changes to an order will result in the order being cancelled and re-issued. Where applicable cancellation charges will apply.

Table 3. Firm Offer Timescales

Bandwidth	BT FOC Target	COMMUNICATION PROVIDERS
64Kbit/s	5	1
128-960Kbit/s	5	1
1Mbit/s	5	1
2Mbit/s	8	1
34-155Mbit/s	8	2
Infrastructure	8	2

4.16 Firm Offer Confirmation Acceptance (FOCA)

The Communication Providers accepts or rejects the charges within the Firm Offer Acceptance (FOCA) period set by Ofcom. Once the FOC is accepted by a Communication Providers the

order is contractually binding on BT and the Communication Providers and variances to the order cannot be accepted.

4.16.1 Quotation Acceptance Timescales

BT shall aim to provide quotations for Infrastructure and Circuits within the quoted Firm Offer Confirmation (FOC) periods. The Communication Provider must respond with acceptance or cancellation within the allotted FOCA response timescale. The Communication Provider shall be entitled to require BT by written notice to BT, to suspend an Order Request in the event of a specified circumstance beyond the Communication Provider's reasonable control occurring during the FOC Acceptance Interval. Such suspension shall last until BT receives written notice from the Communication Provider requesting the resumption of the Order Request when the specified circumstance has ended. Where spare capacity currently exists, and such suspension lasts for no more than five Working Days, such Order Request shall be deemed to have been withdrawn by the Communication Provider. In all other cases, unless otherwise agreed in writing (see paragraph 3.4 of the PPC Handover Agreement), if such suspension lasts for more than thirty Working Days, such order Request shall be deemed to have been withdrawn by the Communication Provider.

Quotations provided at FOC will be valid for a period of 30 days from the date the BT provided the Communication Providers with an FOC response.

Note: This is not a change to the standard FOCA period (<2Mbit/s = 1 day & >2Mbit/s = 2 days), but for situations outside of the Communication Providers reasonable control.

4.17 PPC 2Mbit/s 2 Day Firm Offer Confirmation (FOC)

BTW has looked at ways to improve the PPC service offering and considers that for many 2Mbit/s PPC orders, the timescales for issuing a Firm Order Confirmation (FOC) may be reduced to 2 working days and have launched the following proposal.

4.17.1 Background

As part of the PPC order process customers receive a Firm Offer Confirmation (FOC) at working day 5 or 8, depending on the bandwidth of the circuit ordered. This FOC provides the customer with a price, delivery date and delivery medium. When accepted this offer is binding.

BTW has been looking at ways to improve the PPC service offering and considers that for many 2Mbit/s PPC orders, the timescales for issuing an FOC may be reduced to 2 working days. Subject to certain criteria being met, it may be possible to reduce the circuit provision lead time to 15 and 20 working days which is less than the current Requisite Period of 30 working days. However, if the reduced lead time criteria are not met then customers will be advised of this (within the 2 working days) and the delivery date will be set at the standard Requisite Period of 30 working days.

4.17.2 Proposal

To offer a chargeable service to PPC customers which will enable an FOC at working day 2 and, where operationally possible, a reduced lead time for? 2Mbit/s circuit orders. The charge applies to a 2 day FOC assessment, which enables BT to assess whether or not the order meets the criteria to enable delivery within a reduced lead time. On some occasions it will not be possible to send an FOC within 2 working days.

If, for example, an engineering visit is required to assess charges these visits cannot be scheduled in such short timescales.

In such circumstances an 'update' response will be sent at working day 2 which will provide a reason for the delay. If a reduced lead time cannot be achieved, the charge will still be levied and the lead time will be set at the standard 30 working days and ECC will be notified in the usual way. The charge for the service will be £120 per circuit. This price can be found in section 8.06 of the Carrier Price List.

4.17.3 Process for Placing Orders

PPC customers may place an order via eCO. There is a new feature on the product features screen 'Do you want a chargeable RLT assessment?' This question has a default answer of 'N'. The customer would need to change this default answer from 'N' to 'Y'. The order is validated as per normal procedures and the submit button is pressed. Two orders will be automatically raised on COSMOSS:

1. The service order.
2. The RLT chargeable assessment order.

4.17.4 Criteria for Reduced Lead Time

A Reduced Lead Time can only be offered under certain conditions:

- A 15 day lead time may be offered if the equipment exists with spare capacity;
- A 15 day lead time may be offered if the equipment exists and service can be provided by adding an expansion shelf; and
- A 20 day lead time may be offered if the service can be provided over copper and the calculated line loss is less than 21dB

Note: Stop the Clock process applies as normal.

4.18 Cancellation Charges

Details of Cancellation Charges and how they are calculated are detailed in the Carrier Price List B8 – Partial Private Circuits; Part 8.06 – Partial Private Circuits – Other Charges; Section 6 - **Cancellation Charges (applicable only after FOC Acceptance by the Communication Providers)** and Note 10. Where a circuit is cancelled with 24hrs of Firm Offer Confirmation Acceptance, Communication Providers will only incur nominal administration charge.

It is important to note: All cancellation charges are based on the Requisite Period (RP) for the product being cancelled, even when the circuit was ordered as RRP or expedite.

4.19 Cancellation Thresholds

Communication Providers have the option to cancel an order without penalty under certain conditions if BT fails to provide service, for infrastructure or circuits, by contracted dates. The threshold dates after which cancellation can take place are shown below but paragraphs 3.14 and 3.15 of the Standard Handover Agreement, URL below, should be consulted for fuller details.

PPC Service Level Agreement Annex E

Table 4A. Cancellation Thresholds for Partial Private Circuits

Requisite Period	Cancellation Threshold (beyond RP)
------------------	------------------------------------

10 Working Days or less	10 Working Days
11-20 Working Days	20 Working Days
21-40 Working Days	20 Working Days
41-60 Working Days	25 Working Days
Over 60 Working Days	30 Working Days

Table 4B. Cancellation Thresholds for Network Infrastructure

Requisite Period	Cancellation Threshold (beyond RP)
21-40 Working Days	20 Working Days
41-60 Working Days	25 Working Days
61-90 Working Days	30 Working Days
Over 90 Working Days	40 Working Days

4.20 Stop the Clock

Stop the Clock replaces the “subject to survey” clause in the PPC Contract; it is designed to cope with instances when circumstances beyond BT’s, or a Communication Providers, reasonable control occur during the provision process.

Further details of Stop the Clock can be found in Annex E of the PPC Agreement, paragraphs 2.6. and 3.6, and the Ofcom PPC Phase Two Direction, paragraph 6.308.

PPC Agreement Annex E

The following are the properties of Stop the Clock.

4.20.1 BT Stop the Clock

BT may, on notification to the Communication Providers, invoke the Stop the Clock process when a circumstance beyond BT’s reasonable control occurs during the provision process.

Some of the reasons for STC are listed below, however, it should be noted these reasons should not be taken as definitive or exhaustive, and are detailed here for guidance purposes only:

- Communication Providers building not ready
- Communication Providers contact not available to grant access to site
- Unable to gain access to site due to room in use
- Third Party wayleave delayed
- Duct collapsed requires street opening notice.
- Man hole or footway box contaminated with toxic material e.g. Petrol and requires specialist contractors
- Duct Blocked by foreign body e.g. cement and requires a street opening notice.
- Original Wayleave planned and requested at FOCR is rejected and new Planning and Wayleave required

Also, reasons where BT may not invoke Stop the Clock:-

- No resource to do the work.
- BT failed to turn up on appointment date
- BT turned away from site as no appointment was made in advance.
- Lack of transmission equipment in BT exchange.
- Duct Blocked by BT Cables.
- BT failed to identify a Wayleave requirement at FOCA.
- BT's supplier failed to deliver on agreed date.

The clock is re-started on expiration of the notified circumstances and Communication Providers informed

BT is not liable for compensation payments for delays due to circumstances beyond its reasonable control

Delays due to "Stop the Clock" will not be taken into account in calculating BT's timescale targets. The Contractual Delivery Date (CDD) will be amended by the amount of the Stop the Clock process delay.

4.20.2 Communication Providers Stop the Clock

Where periods of delay arise due to circumstances beyond the Communication Providers reasonable control, the Communication Provider may, on written notification to BT, request an Order Request be placed in "Stop the Clock" status. On expiration of the notified circumstances, the clock is re-started.

The Contractual Delivery Date (CDD) will be amended by the amount of the "Stop the Clock" delay.

4.20.3 Communication Providers Stop the Clock at FOCA

During the Firm Offer Confirmation Acceptance (FOCA) interval, Communication Providers may request by written notice the implementation of "Stop the Clock" for matters beyond their reasonable control. The following will apply to "Stop the Clock" implemented during FOCA:

- Where spare capacity exists and the "Stop the Clock" lasts for more than five working days, such Order Request shall be deemed to have been withdrawn by the Communication Provider and the order is cancelled.
- In all other cases, unless otherwise agreed in writing and the "Stop the Clock" lasts more than twenty working days, such Order Request shall be deemed to have been withdrawn by the Communication Provider and the order will be cancelled.
- Communication Providers are not eligible for compensation payments for delays due to circumstances beyond their reasonable control during the FOCA period.
- Delays due to "Stop the Clock" will not be taken into account in the calculation

- Delays due to “Stop the Clock” will not be taken into account in calculating FOCA interval targets. The Contractual Delivery Date (CDD) will be amended by the amount of the Stop the Clock process delay.

4.21 Standby Battery Options / Power Supply Units (PSUs)

4.2.1.1 Standby Batteries

The Standby Batteries available for order with PPCs products are those detailed in the PPC Price list at sections B8.01 part 1.5 and B8.02 part 1.6:

The restriction on Communication Providers being able to order this product is that Standby Batteries should be ordered at the time of circuit/infrastructure provision. Where a battery is ordered after circuit/infrastructure provision additional Time Related Charges (TRC) will apply.

It is important to note:

- To maintain performance standby batteries must be replaced four years from the date of installation. Should the battery fail within four years from date of installation, BT will repair or replace it free of charge.
- It is the Communication Provider’s responsibility to notify BT before the end of the 4th year after installation of battery to request the installation of a new battery.
- If the Communication Provider continues to use the battery after the end of 4th year of use, BT will not be liable for any possible damage or loss of service that may occur due to the failure of this battery.

Note: Communication Provider still has the option of providing their own standby power and a 50 volt supply for the NTEs. It is the responsibility of the supplier of the standby power to supply the 50V power lead to the NTE.

4.2.1.2 Power Supply Units (PSUs)

The power supply units in an ADM can be configured as Dual or Single power supply units. At the time of the ADM’s commission the planning engineer will discuss and agree the requirement with the Communication Provider. The standard PSU configuration for an ADM is dual and is included in the ADMs price.

Where the ADM is configured for use with single PSU and the Communication Provider wishes to convert to dual PSU, this can be done. It is worth noting that where dual PSU is required the Communication Provider must ensure there is a separate electrical outlet on a separate fuse box for use the additional PSU. This is to ensure that should one fuse box fail, service integrity is maintained as power is still available.

The Communication Provider should liaise with their Account Team, who will check to ensure there are no constraints to this conversion.

4.22 Forecasting

Where a Communication Provider wishes to take advantage of the Reduced Requisite Period and Expedite products an Advanced Capacity Order (ACO) or Advanced Order Commitment (AOC) must have been submitted to and agreed by BT (See Para 4.5 & 4.6). All ACOs & AOCs will be monitored and where the Communication Provider over or under achieve against agreed forecast, BT will apply the forecasting rules.

4.22.1 Forecasting Rules

Valid Forecast submission

- All forecasts must be submitted to BT not less than 25 days before the relevant 3 monthly forecast cycle is to be agreed.
- Communication Providers must only submit their forecast to BT Wholesale on a 3 monthly cycle, on a rolling one year basis.
- The forecast cycle will be maintained where the Communication Provider fails to submit a forecast in time for the commencement of the appropriate 3 monthly cycle. The agreed forecasts in that submission will show only those for the future months and must not include the month in which the forecast was submitted. Communication Providers will not be entitled to Expedite Period and Reduced Requisite Period orders for “non eligible” periods.
- All forecasts must be completed correctly and completely.
- The forecast for circuits and infrastructure commencement months must begin at the same time.
- Communication Providers must always use the current version of the 12 Month Partial Private Circuit System and Bandwidth Capacity spreadsheet (appendix 17) available in the PPC provision manual.
- Communication Provider forecasts will include new provides and bandwidth upgrades for circuits.
- Forecasts must be submitted to BT via the Technical Account Managers.

Complementary forecasting procedure for ACO/AOC submission and agreement

- Communication Providers can now agree the AOC (Advanced Order Commitment) – Bandwidth forecast before agreement of the combined ACO/AOC (Advanced Capacity Order/Advanced Order Commitment) – Infrastructure/Bandwidth forecast spreadsheet.
- BT cannot agree the ACO (Infrastructure) forecast independent of the AOC (bandwidth) forecast. Therefore, all ACO submissions for agreement with BT must also include the AOC submission for agreement at the same time. Where Communication Providers submit an ACO/AOC spreadsheet for agreement without any forecast for the AOC component, it will be deemed that the Communication Providers does not have any bandwidth forecast.
- BT will not accept changes to the AOC component on completion of the combined ACO/AOC (Infrastructure/Bandwidth) forecast spreadsheet once it has been agreed.
- Communication Providers must submit the AOC or combined infrastructure component of ACO/AOC in the timescales stated in paragraph 5. To be clear the AOC national aggregate will remain unchanged from the agreed AOC spreadsheet on submission and agreement of the combined ACO/AOC spreadsheet.
- The forecast must be submitted on the spreadsheet stated in paragraph 1. The following naming convention will be used for the 2 types of forecast submissions. Where the agreed forecast is for the AOC component alone, the spreadsheet must be labelled:-
“Communication Providers NAME”_“MMYYYY”_PPC_AOC_agreed.XLS for example

Joe Bloggs_032005_PPC_AOC_agreed.XLS

- Where the forecast is for the combined ACO/AOC, the spreadsheet must be labelled:-
“Communication Providers NAME”_“MMYYYY”_PPC_AOC_AOC.XLS for example
Joe Bloggs_032005_PPC_AOC_ACO.XLS
- This section is complementary to a valid forecast submission, where a Communication Providers submits the AOC before a combined AOC/ACO for agreement.

Interim Advanced Capacity Order (ACO) submission conditions

Interim Infrastructure forecasts (Advanced Capacity Orders – ACO) can be submitted within the 3 month forecast cycle period and must follow the following conditions:

- Interim ACOs are supplementary to the standard ACO. This means that a standard ACO must have been submitted and agreed by both parties prior to the submission of an Interim ACO.
- The Interim ACO is for Infrastructure augmentation only. Therefore decreases to the forecasted infrastructure on the standard ACO will not be agreed by BT.
- Changes from the standard PPC (Partial Private Circuits) ADM (Add Drop Multiplexer) to PPC Facility ADM provision or augmentation is allowed on the Interim ACO submission.
- Any change to the AOC within the 3 month forecast period in which the ACO is submitted will render the Interim ACO submission invalid.
- All Interim ACO must be completed correctly and completely.
- The forecast for Interim ACO must end at the same time as the standard ACO's 3 monthly cycle.
- Communication Providers must always use the current version of the 12 Month Partial Private Circuit System and Bandwidth Capacity spreadsheet (Appendix 17) available in the PPC Provisioning Manual.
- The Interim ACO must be agreed with the Communication Provider's BT Technical Account Manager before the infrastructure orders can be placed

4.22.2 Forecasting Measures

- At the end of every 3 monthly cycle the underachievement charges will be raised where Communication Providers do not order 80% of their agreed forecast in any bandwidth group.
- Where the orders are placed over 120% forecast limit in any 3 monthly forecast cycle, the Communication Providers must place all orders in Requisite Period timescales. BT will deliver orders in the Requisite Period timescales or greater (up to 50%), where the 120% limit is exceeded or no forecast is available for the Communication Providers.
- The 15% Expedite order allocation will be based on the previous months orders. This is only valid while the total orders placed are within the 120% forecast limit in the related 4 month cycle.
- The first 3 months of each Forecast Profile shall form a firm commitment to order.
- Communication Providers are able to order circuits and infrastructure in Reduced Requisite and Expedite timescales when a valid forecast is agreed with BT.
- Communication Providers must adhere to the forecast profile limits as detailed in BT PPC Standard Handover Agreement Annex C Schedule 03.
- It is the Communication Providers responsibility to monitor their orders against agreed forecast submitted to BT.

4.22.3 Forecasting Groups

The following details the PPC products where forecasting is required to qualify for RRP and Expedite:

- Infrastructure
- less than 1Mbit/s;
- 1Mbit/s through to 2Mbit/s;
- 34Mbit/s through to 45Mbit/s; and;
- 155 Mbit/s

It is important to note that 2Mbit/s Bearers are not included in forecast requirements

4.23 Partial Private Circuits Trunk and Terminating Segment Calculations Data

The Trunk and Terminating segment calculations data are published on the BT Wholesale – Our Networks website. <http://www.btwholesale.com>. This is a secure site and the Communication Providers must register to gain access to this information. Registration instructions are detail at Section 9 of the Handbook.

4.23.1 SDH Node Data

Updates to the SDH node spreadsheet are only made when there are changes to the network. Communication Providers will be notified of any updates. Changes to the SDH node spreadsheet enable Communication Providers to identify the DPCN node that is nearest to the SDH serving node. The corresponding T1 SDH node that is nearest to the DPCN node is also easily identifiable from the spreadsheet.

It is important to note that the T1 SDH node nearest to the SDH serving Node may be different from the T1 SDH node that is nearest the DPCN node.

The calculated radial distances between these nodes are also displayed to eliminate any possible misunderstanding.

4.23.2 PPC Serving Exchange to T1 Node Data

Updates to the PPC Serving Exchange to T1 Node data spreadsheet are made when there are changes to the network. Communication Providers will be notified.

The exchanges are marked with the Serving SDH node or “Not SDH Enabled” to remove any ambiguity. Communication Providers can easily correlate the CSH and ISH Extension with the appropriate SDH Serving Node.

In addition, the Central London Zone (CLZ) exchanges are now included on the spreadsheet. All exchanges are labelled “Y” for Central London Zone (CLZ) exchanges and “N” for non Central London Zone (CLZ) exchanges.

4.23.3 Exchange Name Postcode File

The data is updated quarterly in the months of January, April, July and October. Communication Providers will be notified of updates. The data contained within the Exchange name Postcode will not contain incomplete, redundant and spurious postcodes. A low percentage of multiple postcode to exchanges matches are due to genuine BT Exchange boundaries to postcode matches.

- **Using the Exchange Name Postcode File to Identify a Third Party Serving Exchange**

The identification of the Serving Exchange for a Third Party site is achieved by matching the Postcode for Third Party site against the Exchange Name Postcode file supplied by BT on the Our Networks site. This file contains all instances where BT has provided PSTN access to a site and therefore has already identified the true Serving Exchange for those sites.

However, there will be a few sites where BT has never provided PSTN access and therefore the Postcodes for these sites will not be contained in the Exchange Name Postcode file and a match cannot be achieved.

Where the Third Party Postcode is missing from the Exchange Name Postcode file the Grid Reference of the Third Party site should be used to identify the nearest Serving Exchange based on radial distance, by using the Serving Exchange data from the Serving Exchange file (also published on the Networks site). This will be the same Serving Exchange BT will use to calculate the Trunk and Terminating segments as the Communication Providers and, therefore there should be no discrepancy between the Communication Provider's and BT's calculations.

Note: Appendix B – Post Code to Serving Exchange Matching details the process for matching Post Codes to Serving Exchanges.

4.23.4 Tier 1 Node to Aggregation Nodes File

This static data file maps the 68 PPC Tier 1 Nodes to the 46 Aggregated Tier 1 Nodes as directed by Ofcom in the Business Connectivity Market Review (BCMR) published 8th December 2009.

4.24 Ceased In Error

Where the Customer Required by Date (CRD) has passed on a cessation request and the Communication Provider identifies the circuit has been ceased in error, a cancellation of the cessation request cannot be accepted. The only way to correct a "cease in error" where the CRD has passed is for the Communication Provider to re-submit a new provide order with the exact details of the circuit "ceased in error". The standard lead time and circuit bandwidth for the "ceased in error" circuit will apply to the new order, and BT will work with the Communication Provider to help re-instate the circuit as soon as reasonably practicable to minimise disruption for the Communication Provider's End User.

4.25 Time Related Charges

Time Related Charges are raised to cover time spent by BT engineers repairing faults where this work is not covered under the terms of a service contract with BT, and for providing or

rearranging services or equipment where standard BT charges are not available. Carrier Price List B8.06 part 4 refers

4.25.1 Time Related Charges in relation to Provision and Re-arrangement work

Time Related Charges as set out in the BT Price List apply where a Communication Providers requests work to be carried out on site involving the provision or re-arrangement of equipment, wiring, network or services, where:

- 1) No standard prices exist for this work.
- 2) The work is to be carried out outside the normal working day or earlier than within our standard timescales.
- 3) Work carried out on provision and rearrangement on Third Party customer sites where there is no fixed price, including work on Private Networks.

4.25.2 Time Related Charges in relation to Repair

Time Related Charges will apply where:

- 1) BT agrees to carry out work at specific times which are not covered within the terms of the service guarantee or maintenance or rental agreement.
- 2) The fault is found not to be with any BT service or equipment. In particular this covers the situation where no fault is found, or the fault is found to be on non-BT equipment, or is due to damage caused by someone at the Third Party customer's premises, or due to theft, loss or removal of equipment, or in the case of Third Party customer owned or rented equipment (but not BT's network) faults caused by damage by external or environmental factors (e.g. lightning, electrical surges or floods).
- 3) Call-outs to repair faults or damage associated with Private Circuit Network, including any Network, Cabling, Drop wire or underground feeds within a Third Party customer's curtilage up to and including the Network Terminating Point.

4.25.3 Time Related Supplementary Charges

In addition to provision and repair Time Related Charges a Supplementary charge will apply if planned work is required to be carried out outside normal working hours, where provision during normal hours is included within the standard price. These charges apply in conjunction with a provide or change request involving normal list prices and are in addition to these charges.

4.26 Internal / External Shifts

It is possible for the Communication Providers to request the Shift of circuits both within a site and between sites.

This service is available for circuits of bandwidth from 64K to 155M.

The table below shows what types of move are permitted and the appropriate Carrier Price list section that applies.

Bandwidth	Internal/External	POH	3rd	Party
-----------	-------------------	-----	-----	-------

64K - 256K	Internal	8.06.3.1	8.06.2.1
320K - 960K	Internal	8.06.3.1	8.06.2.2
1M - 2M	Internal	8.06.3.4	8.06.2.2
34M - 155M	Internal	8.06.3.4	Shift not available for Third Party sites. Shift requests will be managed using the Cease and Provide process.
64K - 960K	External Same Exch	8.06.3.2	8.06.2.3
1M - 155M	External Same Exch	8.06.3.4	8.06.2.3
64K - 960K	External Diff Exch	8.06.3.3	8.06.2.4
1M - 155M	External Diff Exch	8.06.3.4	8.06.2.4

4.27 Point of Handover Infrastructure Sharing – PPC RPC & RBS

Infrastructure provided for the use of RPCs where currently only RPCs terminate on it: as of 6th September 2006, the MNO (Mobile Network Operators) may request for the infrastructure to be re-designated for PPC (Partial Private Circuit) use. There will be no change to the existing RPCs (Retail Private Circuits). Eligible RPCs can be migrated to PPC. There will be no change to ineligible RPCs terminating on this re-designated infrastructure.

Infrastructure provided for the use of RPCs where currently both RPCs and RBS (Radio Base Station) Backhaul circuits terminate on it; as of 6th September 2006, MNOs may request the infrastructure to be re-designated for PPC use. If however, the infrastructure was previously grandfathered for RBS use, it cannot be re-designated and therefore cannot be used for new the provision of PPCs. All eligible RPCs terminating on this infrastructure can be migrated to PPCs.

The following rules apply:

- Re-designated PPC ADMs can only be used for the provision of new PPCs.
- Grandfathered PPC ADMs can only be used for the provision of RPCs and PPC circuits, where capacity exists.
- New PPC ADMs can only be used for the provision of new PPCs.
- Grandfathered RBS Backhaul ADMs can only be used for the provision of RBS Backhaul or RPCs, where capacity exists.
- Grandfathered RBS Backhaul ADMs: eligible RPCs terminating on this equipment can be migrated to PPCs.
- New RBS Backhaul ADMs can be used for the provision of PPC and RBS Backhaul circuits.
- Eligible RPCs terminating on Re-Designated or Grandfathered ADMs can be migrated to PPCs.
- Eligible RPCs terminating RPC ADMs can be migrated to PPCs.
- Existing RBS Infrastructure cannot be use to terminate new PPCs.

4.28 Support

Any unresolved technical queries and other reports of provisioning difficulties should be directed in the first instance to the Customer Management Centre Manager.

5 MAINTENANCE

The default level of service for PPCs is Regularcare; Communication Providers may choose the chargeable option of Enhancecare.

Enhancecare is included within tariff for Protected Path circuits.

The PPC Operations and Maintenance Manual (O&M) is the authoritative document for all maintenance matters, available at the following URL:

Operations and Maintenance Manual

5.1 For Circuits Subject To Regularcare

- BT will acknowledge receipt of a fault report within one hour during a Working Day
- BT will respond to a fault report received before 17:00 hours within one Working Day
- If the fault is not resolved within two Working Days of receipt of the fault report from the Communication Providers, the Communication Providers will be paid compensation by BT calculated in accordance with paragraph 5.3
- If the fault is not resolved within two Working Days of receipt of a fault report, BT shall contact the Communication Providers to report the progress being made to remedy the fault
- For the purposes of Regular Care, "Working Day" shall mean any day other than Saturdays, Sundays, public or bank holidays, between 08.00 and 17.00 hours

5.2 For Circuits Subject To Enhancecare & Enhancecare Plus (EC+)

- BT will acknowledge receipt of a fault report from the Communication Providers within one hour
- BT will respond within four hours of receipt of a fault report, unless agreed otherwise in writing by the Parties
- If the fault is not resolved within five hours of it being reported to BT the Communication Providers will be paid compensation by BT calculated in accordance with paragraph 5.3
- If the fault is not cleared within five hours of it being reported to BT, BT shall contact the Communication Providers to report the progress being made to remedy the fault
- For the purposes of Enhancecare, "Working Day" shall mean a period of 24 hours commencing at any time (including Saturdays, Sundays, public and bank holidays)

5.3 Compensation Table

Table 5. Compensation Payable

PPC Care Package	Compensation payable by BT
Regular Care	100% of the monthly rental payable for the type of Partial Private Circuit being repaired per Working Day or part of a Working Day, of delay in repair.
Enhanced Care and Enhanced Care Plus (EC+)	15% of the monthly rental payable for the type of Partial Private Circuit being repaired per hour or part of an hour, of delay in repair

5.4 Fault Reporting

Communication Providers should report any PPC related fault to their Customer Management Centre, either via the eCO web portal. When reporting a problem, Communication Providers will need to give details of the fault as per Appendix 2 of the O&M Manual, including the following information:

Operations and Maintenance Manual

- The circuit reference number
- The name and telephone number of a relevant person whom we can contact while the fault is being traced; when the fault is cleared we will inform the same person
- A description of the fault

CMC staff will keep Communication Providers informed of progress made towards restoring service, and will report back when service have been restored.

Faults can be reported at any time, including outside of normal office hours, for circuits subject to Regularcare reported outside of normal hours, faults will only be processed at the start of the next working day. Access arrangements to Communication Providers sites will need to be stated when reporting faults where access is required.

Communication Providers are required to provide the correct 24/7 access details at the time of the fault report. This will enable BT to fix the fault in as short a timescale as possible.

Un-manned Sites

5.5 Repair Service Level Guarantee

Full details of the Repair Service Level Guarantee can be found in Annexe E of the BT PPC Standard Handover Agreement, which remains the authoritative document in all service level matters; it is available at the following URL:

PPC Service Level Agreement Annex E

5.6 Availability Compensation Scheme (ACS)

PPC Service Level Agreement Annex E

Full details for ACS can be found in paragraph 4.6; 4.6.1 and 4.6.2 of the Service Level Agreement Annex E.

5.7 Fault Handling Timescales

Fault handling timescales and Planned Engineering Works (PEW) are detailed in the PPC Operations and Maintenance (O&M) Manual available at the following URL:

Operations and Maintenance Manual

5.8 Major Service Failures (MSF)

BT or the Communication Providers must be notified of a MSF within 30 minutes of it becoming known.

The party owning the MSF must give regular hourly updates of progress.

Notification that the MSF has been cleared must be given within 30 minutes of the MSF ending.

5.9 Repair – Proactive WM (Work Manager) KCI (Keeping Customer Informed) Numbering

Following the changes to the proactive Work Manager (WM) Updates we were asked to consider badging the KCIs as KCI1, KCI2 ETC as this would make it much clearer to Communication Providers the progress of their fault. It was felt:

- This change would reduce incoming calls and web requests to BT and wasted resource involved in managing and pushing back on unnecessary queries.
- There are a lot of status updates (some system generated, some proactive) which look a lot like the automated KCI, but which are not. Clear badging to distinguish the Work Manager generated KCI from the others would ensure clarity and reduce the amount of unwarranted chases.

On consideration it was agreed to include the requested numbers with the proactive Work Manager updates to enable Communication Providers to easily distinguish them from other updates.

5.9.1 Automated WM Updates – Milestone Page Numbering Examples

Below is an example of how the numbered KCIs will appear on the eCO-Repair Milestone page:

	Time Stamp	Event Type	Details
Date : Today			
Before 11:00 Today			
s	10:57	Proactive Update	WM Updates: KO.6 The engineer has completed all tasks for this fault. BT will contact you to confirm the fault has been resolved or if any further work is required to progress this fault
f	10:53	Reactive Update	Please see update at 10.50.
f	10:51	Web Req-Complete	<i>-Please send update via Web- Could you confirm engineer is dealing onsite please?</i>
e	10:51	Web Req-New Request	<i>-Please send update via Web- Could you confirm engineer is dealing onsite please?</i>
f	10:50	Proactive Update	eng has attended customer site –re-attending exchange now to carry out further checks
f	10:49	Work Manager	WM Task Created OK
Before 23:00 Today			
s	22:36	Proactive Update	WM Updates: KO.4 An engineer is now on site at B end exchange localising fault, we will endeavour to provide next update within 4hrs
Before 22:00 Today			
s	21:51	Proactive Update	WM Updates: KO.1 A fault has been diagnosed on the B end section. A task has been raised for an engineer to the exchange. We will endeavour to provide next update within 4hrs

The example above does not follow a set pattern but demonstrates how the numbered KCIs will appear on the milestone page.

Not all numbered proactive WM Updates will appear in the milestone journey. This is due to the rapid timescales involved in the repair process. For example a KCI will assume that a fault has been diagnosed at the B-End of the circuit, which would appear as KO.1 and the completion of the engineering task will appear as KO.6. These KCIs are not meant to be sequential or linear and where intermediate codes do not appear, please do not call our Repair Centres to query missing KCI codes. All updates should be taken in the context of the fault and would depend on what precedes and follows these events and what additional manual updates has been given. The expectation is for you to review progress in context with the overall information provided and not just on the numbering sequence.

In summary, the proactive WM Updates may not follow sequentially i.e. KO.1; KO.2; KO.3; KO.4 etc. This does not mean the fault repair is not progressing to meet the agreed Service Level Agreement (SLA) and therefore it should not be necessary for you to contact the Repair Centre reporting missing KCIs.

Please also be aware these number sequences may repeat, if alternative resource is required as the fault progresses, or additionally, the sequence may stop at any KCI point and then repeat. Again this does not mean the events of the fault are not fluid within the repair journey.

5.9.2 Automated WM Updates – Generic Numbering Glossary

- KO.1 – Fault in Diagnostic
- KO.2 – Fault in Allocation to engineer
- KO.3 – Fault allocated to engineer
- KO.4 – Engineer on Site (A or B End)
- KO.5 – Engineer requests further assistance
- KO.6 – Engineer has completed tasks
- KO.7 – Engineer has cancelled task
- KO.8 – Multiple tasks raised to resolve fault. Automated updates suspended

6 Billing

Billing information for PPC products and services can be found in the PPC Billing Manual, which is located on the PPC Reference Offer website.

The aim of the Billing Manual is to give guidance to the processes and procedures involved in billing for Partial Private Circuit (PPC) products and are based on the BT Standard PPC Handover Agreement (the 'Agreement').

The Billing Manual has no contractual status; it is a guide to the agreed working practices between BT and the Communication Providers, it has no authority to vary the terms and conditions of the Agreement. Where discrepancies arise between the Billing Manual and the Agreement, the Agreement takes precedence.

7 PPC Performance Reporting

As agreed with the OTA (Office of Telecommunications Adjudicators) performance reports are no longer provided to Communication Providers on a quarterly basis. Communication Providers are now able to access their own performance reports in “real time” via the Wholesale Customer Reporting (WCR) tool.

An overall PPC performance update is provided to CPs at the quarterly PPC Industry Forums

8 Contact Information

Enquires about PPCs should be addressed in the first case to the Communication Provider's BT Account Team or the nominated Customer Management Centre (CMC).

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Further information about PPCs and BT Wholesale products and services is available from the BT Wholesale website available at the following URL:

www.btwholesale.com

Details on how to access the PPC Third Party Equipment web pages, available via the “Our Networks” web site are contained in Appendix B to this document.

9 How to Access the Our Networks Website

The Our Networks site is a secure site that contains information on Partial Private Circuits and BT Exchange Node data, which can be used for circuit pricing.

Access to this site is via an Access Key. To obtain an Access Key to this site must be in writing following the guidelines detailed below:

9.1 Access Key request & registration to btwholesale.com

10.1.1 Access Key Request

Access Keys are obtained from your Commercial Manager once the following criteria are met:-

- A Confidentiality Agreement with BT is signed
- A UserID is provided; this should preferably be an email address from the Communication Provider’s domain, e.g. user@telco.com.
- A variable password of your choice is selected.

10.1.1.1 btwholesale.com Registration

On receipt of your Access Key, you will need to register on www.btwholesale.com if you have not previously done so.

10.1.1.2 New Registration:

- Go to www.btwholesale.com/register
- Complete the required information on the registration pages. During registration you will be required to choose your UserID and Password, (preferably your UserID will be an email address from the Communication Provider’s domain, e.g. user@telco.com)
- Login to www.btwholesale.com with your UserID and Password.
- Go to the ‘Enhanced Services’. This can be found at the bottom of the ‘Tools and Applications’ menu, down the right hand side of the page.
- Select ‘Our Networks’ tick box and enter the Access Key.

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- Click the 'ready' button at the bottom of this screen to submit your request.

Important Note:

- The Access Keys will be changed, in the first week of March, June, September and December.
- The Commercial team will email details of the Access Key for new registration requirements on request.
- Any questions or queries should be directed to btwholesale.direct@bt.com
- BT reserves the right to deny access where the prerequisites have not been met.

10.1.1.3 Validation

- The request will go to the Portal Support team (btwholesale.direct@bt.com) for further validation.
- The request will be actioned within 24hrs and you will receive an email confirming you have been granted access.

10.1.1.4 Existing Registered Users

Current registered users will not be required to enter an access key.

10 Glossary

Table 9. Glossary of Terms

Abbreviation or term	Explanation
ACO	Advanced Capacity Order
ACS	Availability Compensation Scheme
ADM	Add Drop Multiplexor (SDH equipment)
AOC	Advance Order Commitment
CSH	Customer Sited Handover
DPCN	Digital Private Circuit Network
eCO	Electronic Customer Ordering
FRP	Fault Reporting Point
ISH	In Span Handover
MIS	Management Information System
MSH	Marconi Synchronous Hierarchy
MSP	Multiplex Section Protection
PDH	Plesiochronous Digital Hierarchy
PoP	Point of Presence
PoH	Point of Handover
RCS	Reduced Charges Scheme
SDH	Synchronous Digital Hierarchy
SMA	Synchronous Multiplex Access
SNEiD	SDH Network Element Identifier
STM-n	Synchronous Transport Module (level n)

Further details of explicit meanings contained in this document and the main PPC Handover Agreement can be found at the following URL: **PPC Handover Agreement Annex D**

11 APPENDICES

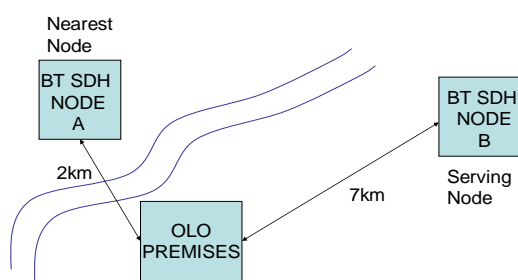
11.1 Appendix A: PPC Pricing - Radial Distance Calculation

Two terms are used in PPC pricing, 'Serving' and 'Nearest', they are not interchangeable and do not mean the same thing.

'Serving' – as in Serving Exchange or Serving SDH Node refers to the BT site that is normally used to deliver services to a premise.

'Nearest' – as in Nearest SDH Tier 1 Node refers to the geographically closest BT premises whether or not it would normally be used to serve that premises.

EXAMPLE



In the example shown above although the nearest SDH node A is 2km away from the Communication Provider's premises because there is a river between the buildings, the premises is in fact served by Node B that is 7km away.

CIRCUIT RADIAL DISTANCE

When the radial distance of a circuit is calculated it is based on the following rules

- The radial distance of 64kbit – 960kbit PPCs is calculated based on the Serving Exchange of the Third Party Premises and the Nearest_DPCN Node of the Communication Provider's PoH Serving SDH Node.
- The radial distance of 1Mbit – 155Mbit PPCs is calculated based on the Serving Exchange of the Third Party Premises and the Serving SDH Node of the Communication Provider's PoH

- The radial distance of 2Mbit DPCN Bearers is calculated based on the distance between Nearest DPCN Node to the Communication Provider's Point of Handover (PoH) Serving SDH Node and the Communication Provider's PoH Serving SDH Node

It is important to note the following:

- Point of Handover Serving Nodes can be any SDH node; it does not have to be a SDH Tier 1 node.
- For In Span Handover (ISH) the Communication Provider's will specify the SDH node that they interconnect with, this node will be the Serving Node.
- For Customer Sited Handover (CSH) and ISH Extension the Serving SDH Node or Nearest DPCN Node can be identified via the published BT data these will be the 'billing' nodes irrespective of any changes BT may operationally have to make to it's routing to support the service.
- To note that if the Serving Exchange of a Communication Provider's proposed CSH site is not an SDH node then they cannot have CSH at that location.

11.2 Appendix B: Post Code to Serving Exchange Matching

The Post Code to Exchange Matching Process will define how to match the following scenarios when determining the Post Code to Serving Exchange matching using the Exchange Name Postcode file published on BT Wholesale's Our Networks website:

1. Matching post codes against the true serving exchange using the Exchange Name Postcode file.
2. Matching the post codes against a Supplementary Post Code List
3. Matching post codes not contained on either the Exchange Name Postcode file or the Supplementary Post Code List.
4. Matching Point of Handover (PoH) on Re-designated and Grandfathered sites on Non SDH enabled Nodes.

12.2.1 The Process

Matching Post Codes against the true Serving Exchange

The identification of the true Serving Exchange for a Third Party and the Point of Handover (PoH) site is achieved by matching the Postcode for the Third Party or PoH site against the Exchange Name Postcode file supplied by BT on the Our Networks website. This file contains all instances where BT has provided PSTN access to a site and therefore has already identified the true Serving Exchange for that site.

Matching the Post Codes against a Supplementary Post Code List

Where post codes are identified as valid post codes but are not listed in the Exchange Name Postcode file, BT will supply a Supplementary Post Code List to enable Third Party and PoH post codes to be matched. This match will be to the nearest Serving Exchange and not to the true Serving Exchange.

Matching Post Codes not contained on either the Exchange Name Postcode file or the Supplementary Post Code List.

Where a post code to exchange matching using the published Exchange Name Postcode file or the Supplementary Post Code List is not achievable, the Grid Reference of the Third Party or POH site is to be used to identify the nearest Serving Exchange based on radial distance. This matching can be achieved by using the Serving Exchange data from the Serving Exchange file (also published on the Our Networks site) and will be based on nearest Serving Exchange. The nearest Serving Exchange identified will be the same exchange BT will use to calculate the Trunk and Terminating segment and therefore, there should be no discrepancy between the Communication Provider's and BT's calculations.

11.3 Appendix C - Trunk and Terminating Segment Pricing

Annual circuit rental for PPCs (64k-155Mbit/s) is calculated on a per km charge based on the Radial Distance of the circuit.

There are two parts to the per km charges for each bandwidth, a Terminating Segment charge and a Trunk Segment charge. The proportion of the Radial Distance that is charged at either of these rates is based upon the BT SDH Tier 1 Network.

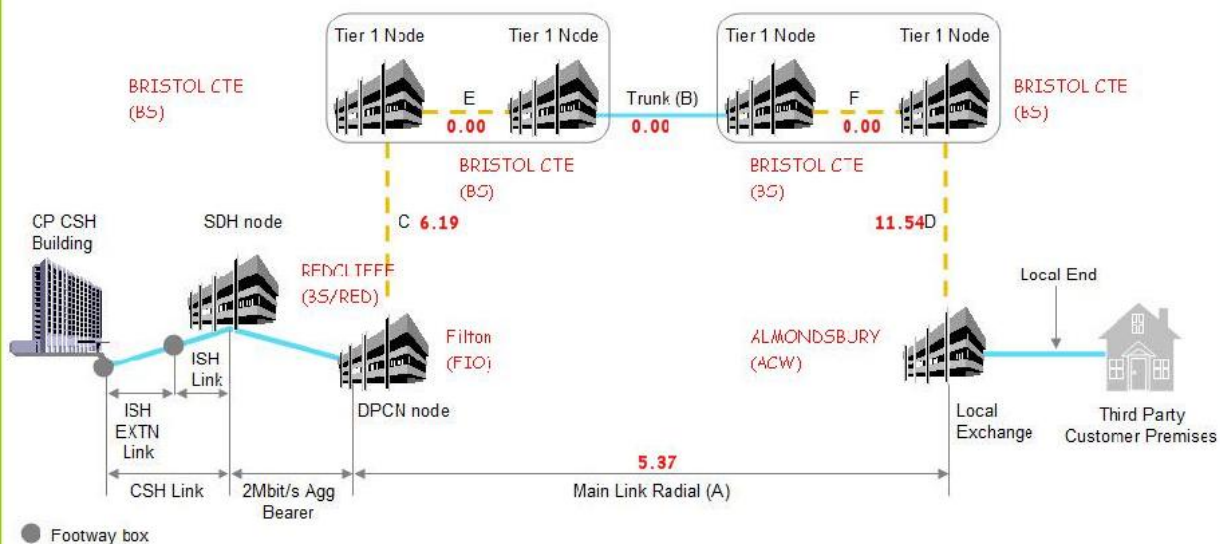
For calculating the Terminating/Trunk segment ratios of the radial distance to give the circuit rental, the Nearest Aggregated SDH Tier 1 node(s) to the Third Party Serving Exchange and the PoH Serving Aggregated SDH Tier 1 Node is used.

12.3.1 Sub 1 Mbit/s Pricing Via the Digital Private Circuit Network (DPCN) and Tier 1 Aggregated Nodes

The radial distance of 64Kbit/s – 960Kbit/s PPCs is calculated based on the Serving Exchange of the Third Party Premises and the Nearest DPCN Node of the Communication Provider’s PoH Serving SDH Node. Also, the radial distance of 2Mbit/s DPCN Bearers is calculated based on the distance between Nearest DPCN Node to the Communication Provider’s point of Handover (PoH) Serving SDH Node and the Communication Provider’s PoH Serving SDH Node. This following is a pictorial view of how circuits and bearers are priced using this principle.

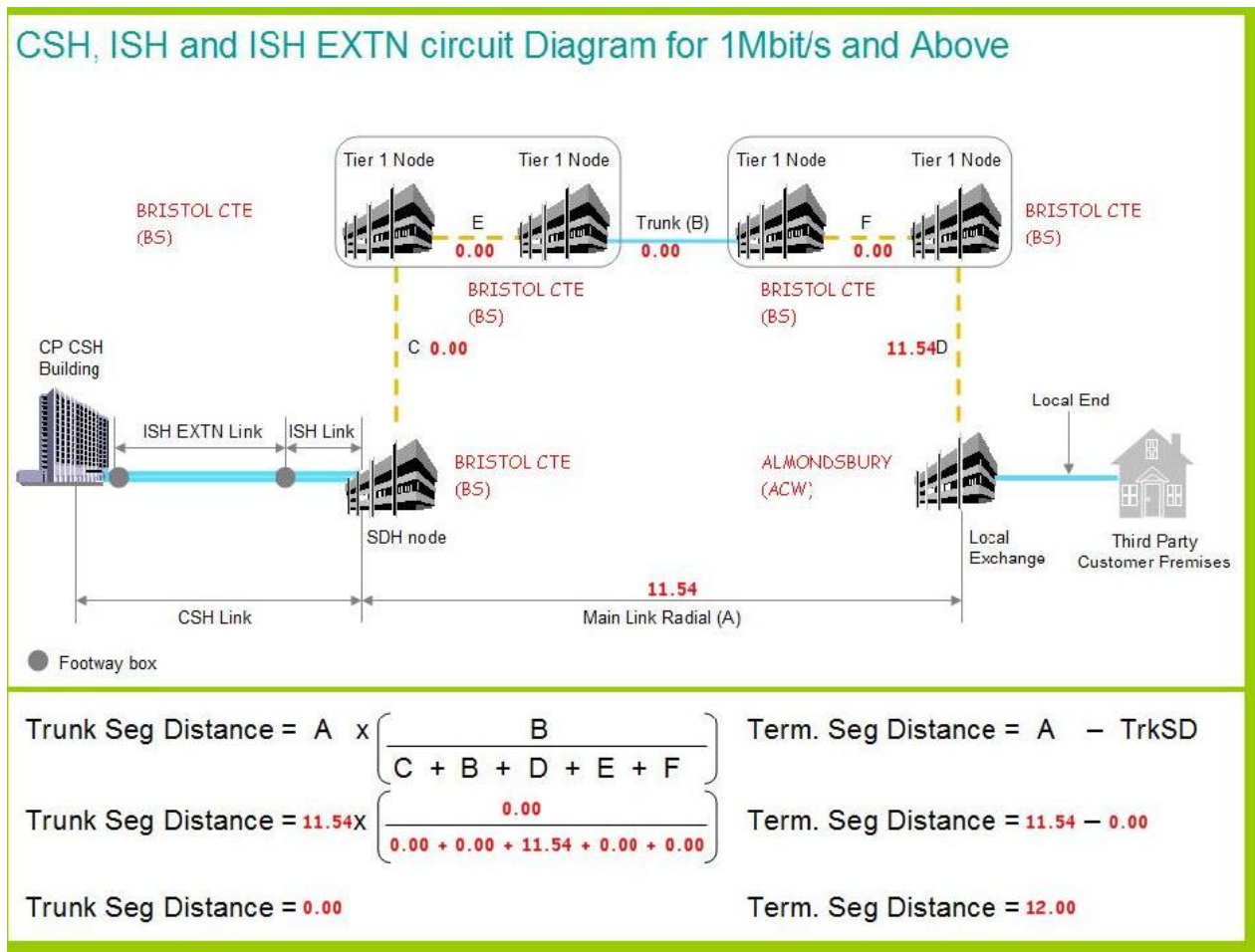
12.3.1.1 Sub 1Mbit/s Pricing – Same Aggregation Node

CSH, ISH and ISH EXTN circuit Diagram for sub 1Mbit/s

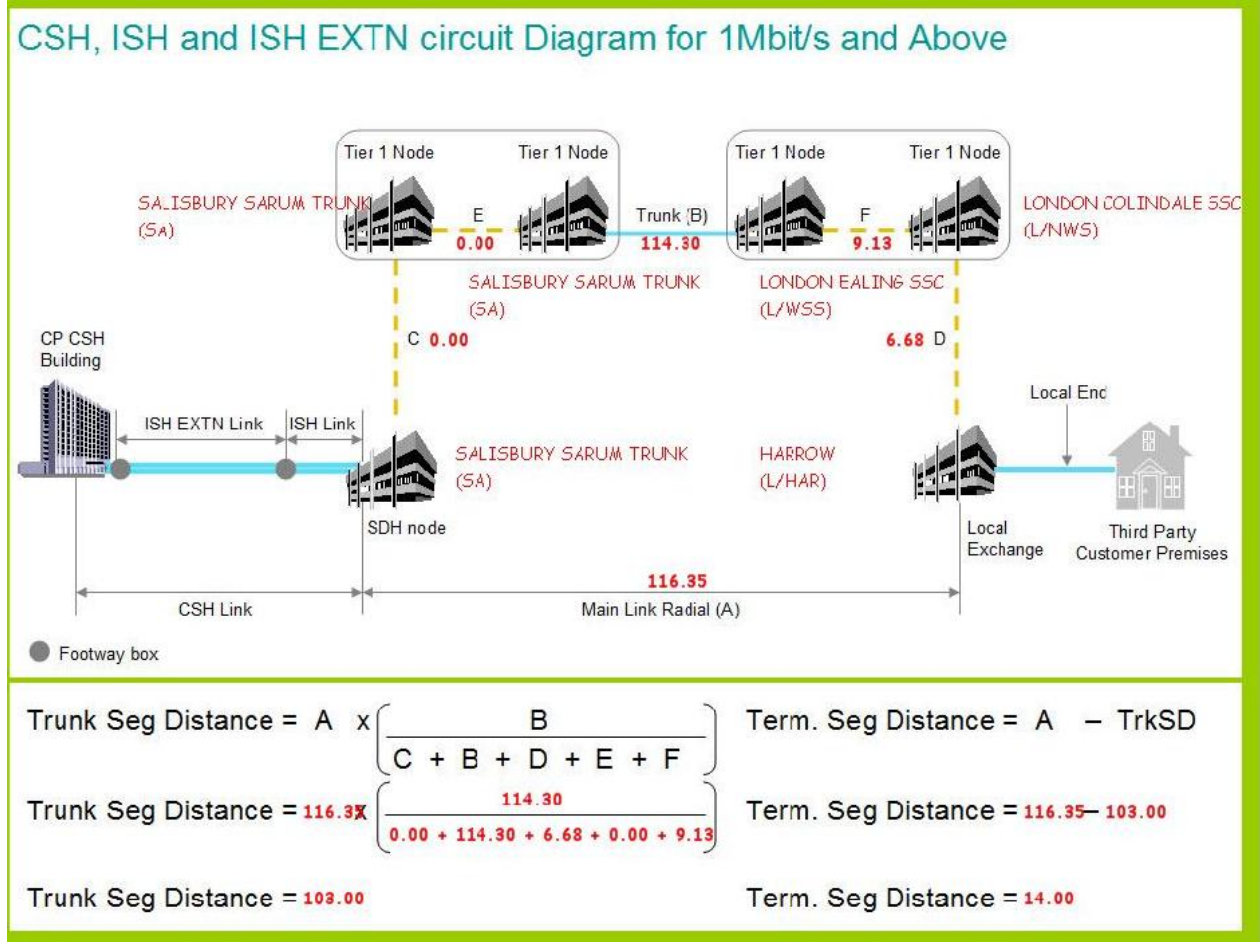


Trunk Seg Distance = A x $\left(\frac{B}{C + B + D + E + F} \right)$	Term. Seg Distance = A - TrkSD
Trunk Seg Distance = 5.37 x $\left(\frac{0.00}{6.19 + 0.00 + 11.54 + 0.00 + 0.00} \right)$	Term. Seg Distance = 5.37 - 0.00
Trunk Seg Distance = 0.00	Term. Seg Distance = 6.00

12.3.2 1 Mbit/s & Above Pricing – Same Aggregation Node



12.3.2.2 1Mbits & Above via Different Aggregation Nodes:

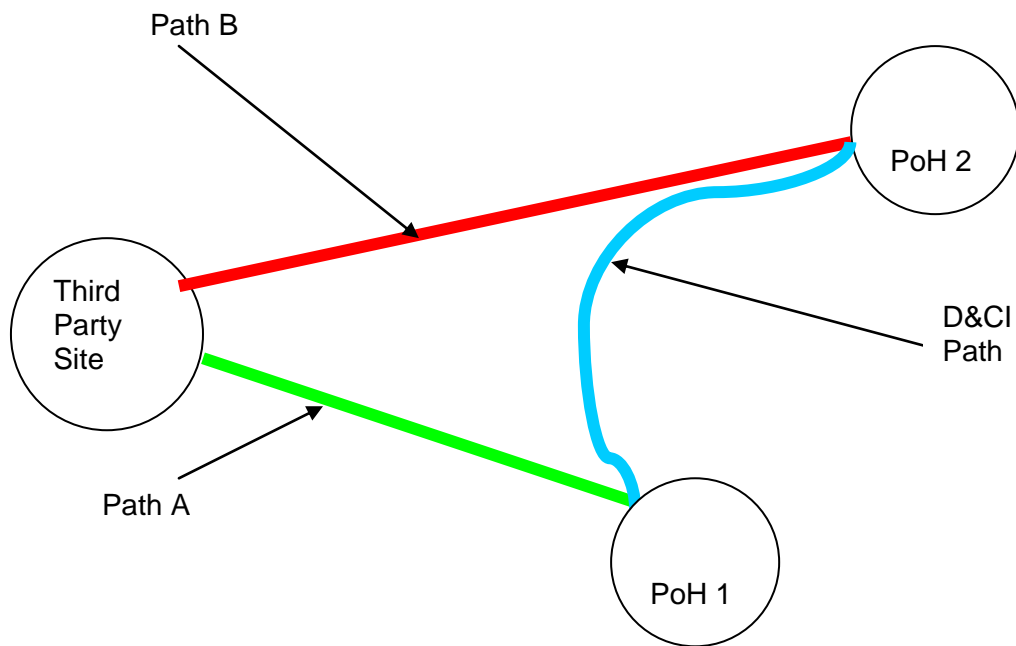


11.4 Appendix D - Protected Path Variant 2 Pricing

12.4.1 Introduction

PPC Protected Path Variant 2 pricing is based on the same pricing principles applied to all PPC circuits; i.e. there are one off infrastructure and connection charges and ongoing rental charges. The rental charges for the Protect Path Variant 2 circuit comprise the following; the local end fixed charge, the main link fixed charge and a distance related charge; consisting of a Trunk Segment charge and a Terminating Segment charge. Please note that Enhancecare maintenance is included within tariff for PP V2 circuits.

Figure1. Generic PP V2 Network Architecture

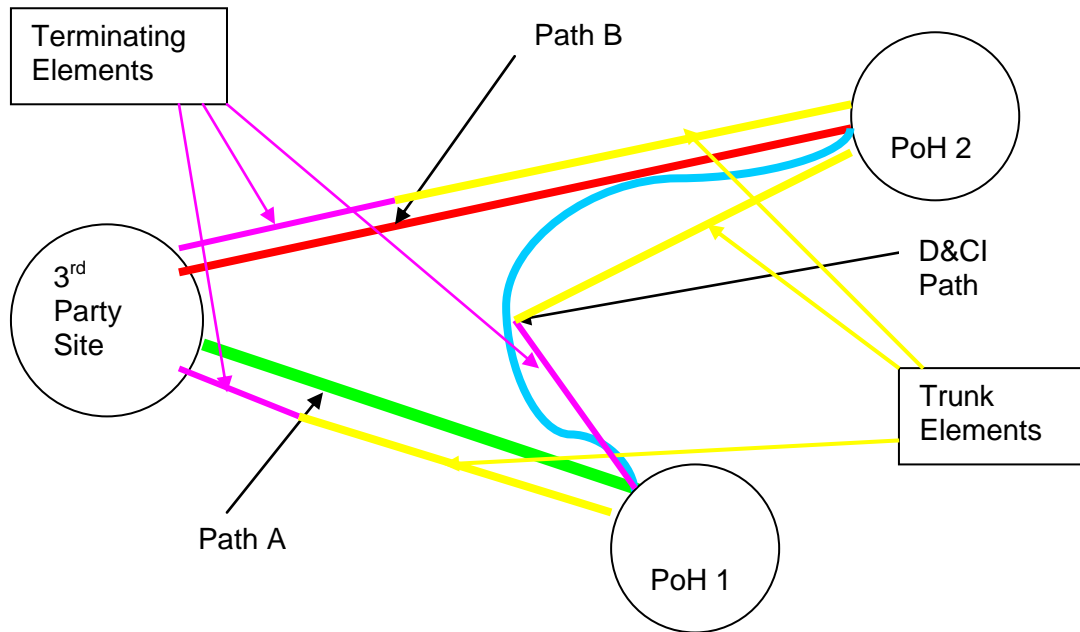


12.4.2 Distance Related Charges

Distance related charging for PPC PP V2 is based on radial distances and the “Tier 1” pricing methodology. Due to the unique nature of the PPC PP V2 network architecture, calculation of the distance related element of the rental charge is based on the following methodology: “the average of the two legs from the third party site to the points of handover, plus the distance between the two points of handover”.

Each path has a Terminating and Trunk element, the average is found by adding the Trunk elements of paths A and B together and dividing by two, then adding the Terminating elements of paths A and B together and dividing by two. This gives an average Trunk and Terminating element for paths A and B; this is added to the Trunk and Terminating elements of the Drop and Continue Interworking (D&CI) path, to give a total Trunk and Terminating distance charge for the PPC PP V2 Circuit.

Figure 2. PPC PP V2 Distance Related Charging



12.4.3 Example

Trunk Elements (Km)		Terminating Elements (Km)		
Path A	50	Path A	10	
Path B	70	Path B	8	
Path A & B Average $(50 + 70)/2$	60	Path A & B Average $(10+8)/2$	9	
D&CI Path	20	D&CI Path	5	
Total Trunk (Km)	60+20	80	Total Terminating (Km)	9+5
				14

12.4.4 Example PPC PP V2 Charges *

In the example above if we assume the Communication Provider's has already purchased the pre-requisite infrastructure to support PPC PP V2; then for a 2Mbit/s Circuit the costs would be:

. Connection: (one off)

£8397

Rental: (per annum)

Local end fixed charge	£1190
Main link fixed charge	£590
Terminating Segment Distance Charge (14 x 54)	£756
Trunk Segment Distance Charge (80x 110.32)	£8825.6
Total Rental Charges per annum	£10361.6

11.5 Appendix F: Accessing the PPC Equipment Re-Use Website

The PPC Equipment Re-Use web page is no longer available, therefore, all request for PPC equipment re-use should be forwarded to the Communication Provider's account team who will liaise with the PPC product team in the management of this requirement.

12 Document Control

Changes to this Handbook are shown in the PPC Product Handbook Change Control Sheet.