



Exceed with COLT

COLT Total

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Contents

- 2 Overview**
- 2 Benefits**
- 3 Description**
 - Internet access
 - Voice services
 - Additional options
 - Access options
 - Customer service
 - Order handling
- 12 Charges and billing**
- 13 Appendix A: IP Voice Line supported features**
- 14 Appendix B: IP Voice supported features**

Overview

COLT Total is an integrated package of high speed internet and voice services, providing business-grade IP services to midsize companies. It is backed by the service levels normally available only to large companies.

The portfolio consists of:

- > IP Access
- > Voice
- > IP Voice – a managed IP Handset service
- > IP Voice Line – traditional basic rate and primary rate ISDN (BRI and PRI)
- > Router based Firewall
- > IP Mail
- > IP Web

Benefits

- > **Flexible and modular:** COLT Total enables organisations to evolve their communications infrastructure at their own pace in order to take advantage of IP telephony. It offers a menu-based approach that allows organisations to choose only the features they need.
- > **Dedicated customer service and a single point of contact:** COLT's best-in-industry customer service team provides midsize businesses with dedicated service to a level they need. COLT Total enables you to replace multiple voice and data suppliers with a single, reliable business communications provider.
- > **Cost-effective:** COLT Total delivers immediate cost savings by providing both voice and data through a single broadband connection. This provides the cost-savings offered by modern IP communications but without the associated capital expenditure.
- > **Custom built:** COLT Total is designed specifically for midsize businesses, offering you a choice of communications services at a price you can afford.
- > **Minimal risk:** You can have confidence in us – we are one of Europe's leading business communications providers. The service itself is provided via a single device at the edge of the customer's network, which ensures a simple, easy to use service.
- > **Reliable and secure:** COLT Total is delivered over Europe's secure and reliable network and offers stringent service guarantees to ensure reliable service. You can flexibly upgrade your security environment and protect your business.

Description

Internet access

Internet access is provided using COLT's IP Access service, based on COLT's wholly owned 2.5Gbps optical fibre transmission network. The IP Access service includes the following:

- > Uncontended business-class internet connectivity
- > COLT managed router with IP Voice Line this is referred to as an integrated access device (IAD) and can be configured with an optional firewall
- > Eight public-facing IP addresses, plus support for provider-independent (PI) addresses
- > Domain name registration and hosting
- > Newsfeed application
- > Online Performance Reporting

The COLT IP Access service is available in 32 cities across 13 countries. To ensure unparalleled service and maximise service uptime COLT provides global connectivity to other service providers, using two diverse links to the TAT-14 and Yellow cable systems.

COLT's network comprises the following elements:

High-bandwidth local access networks within each city

These run at a minimum of STM-4. The links are easily upgradeable to support demand through the provision of additional COLT-owned fibre capacity. In countries where COLT has more than one city network, a national backbone network has been built, connecting all local networks – this network runs at STM-16 and above.

High-capacity pan-European network

Connecting all COLT cities, as well as connectivity to US. This runs at various speeds depending on local bandwidth requirements. As with the local access networks, the European Network is constantly managed and upgraded to ensure the capacity requirements from the access networks are constantly met.

High-bandwidth peering

COLT has peering with multiple operators in each major COLT city, including New York. This is largely through the local internet exchange point, but COLT also negotiates direct peering with a large number of operators.

Voice services

You can choose between two voice services offered with the COLT Total Service:

- > IP Voice Line – connecting your existing traditional PBX to the service
- > IP Voice – enabling you to connect to an IP Telephony system hosted by COLT

IP Voice Line

IP Voice Line is a telephony service that provides either basic rate ISDN (BRI) or primary rate ISDN (PRI) connectivity to your existing voice PBX or Keyswitch converting the voice traffic to IP and transporting it over the COLT network.

To support this, an integrated access device (IAD) is installed on the customer site to provide the conversion between BRI/PRI voice interfaces and VoIP. Each channel is converted into IP and then compressed by the IAD, reducing the amount of bandwidth required without any impact on the quality of the voice.

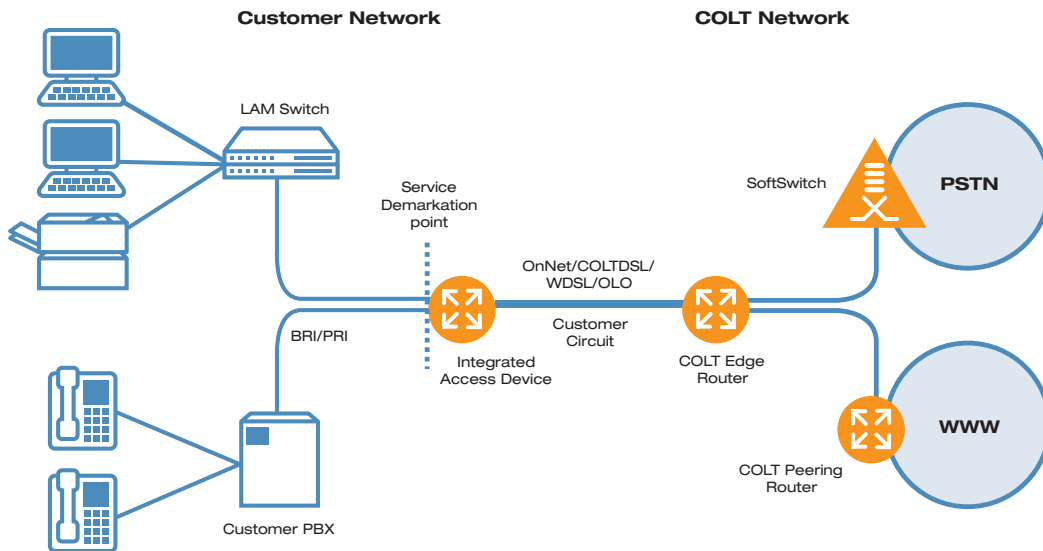
In order to maximise the use of the DSL or COLT connection circuit line the voice compression runs at approx 30-40kbps per active channel (without silence suppression) including all packet overheads on the connection from the service interface to the COLT PSTN gateway.

Class of Service (CoS) is used to ensure that the voice traffic has priority over data traffic but the overall bandwidth is dynamically allocated, so that if no calls are being made then data IP traffic can use all the access bandwidth.

CoS provides a mechanism for allocating packets into different categories to ensure that, when there is congestion on the access line (ie more traffic is being sent than there is bandwidth available), packets can be sent in order of priority.

The exact service features available depend upon country technical and regulatory availability and are generally described in the appendices of this document.

Figure 1. Example of COLT Total using IP Voice Line



IP Voice

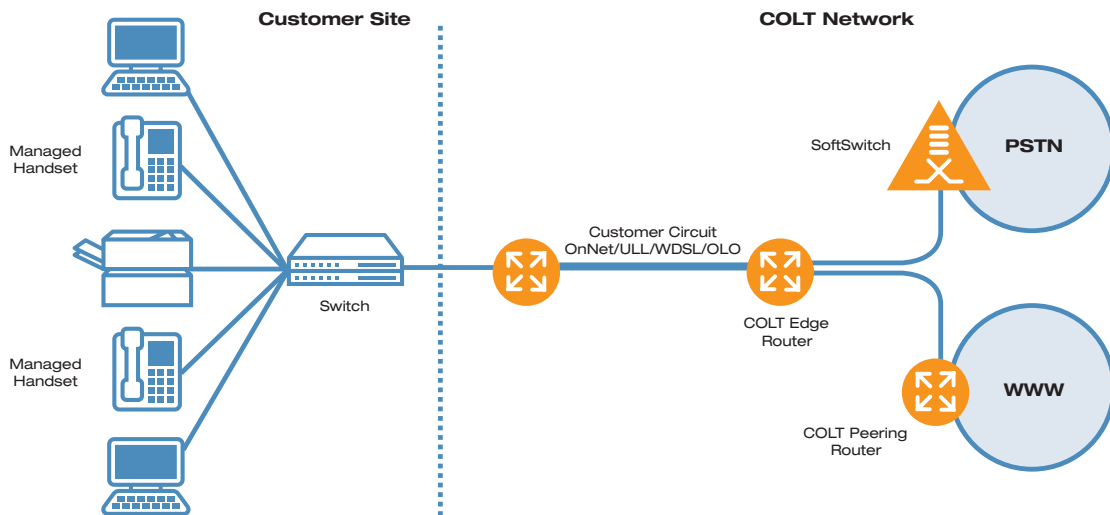
IP Voice is a fully managed, network-based service deployed in an IP Centrex model. This means that instead of having to manage and maintain your own PBX infrastructure, you simply connect IP phones to COLT's centrally-hosted IP PBX infrastructure. Because the service

is network-based a user can log on to any IP phone and their settings are automatically downloaded to it.

Your IP handsets or Softphone client (software installed on your PC) are connected to COLT's Softswitch through the COLT IP Access service. This connects your LAN and local

router directly to the COLT IP network, which routes both the calls and signalling. The call media stream and signalling are carried in secure tunnels across the COLT IP network.

Figure 2. Example of COLT Total using IP Voice



You should note the following:

- > Handsets are sold at a minimum nominal value price
- > Per-seat, per month pricing including handset usage and features
- > Per-minute billing is available if the customer requires it
- > COLT recommends that a LAN audit be conducted in order to ensure that your infrastructure is able to adequately convey VoIP to the required high quality

- > COLT recommends that you do not exceed 50% of your total bandwidth for voice calls, as this could lead to deterioration in the quality of voice traffic. COLT does not accept any responsibility for service where voice traffic exceeds 50% of access bandwidth. Certain DSL country variances may further restrict the maximum number of simultaneous calls

- > COLT is not responsible for connectivity between the customer handset and the COLT network termination point (CPE). Any faults or degradation of service attributable to this will not be repaired by COLT or liable to compensation under the SLA
- > Analogue POTS interfaces can be provided but if these are identified for fax usage then the bandwidth consumed for the fax call is about 120kbps. This should be factored into voice bandwidth usage

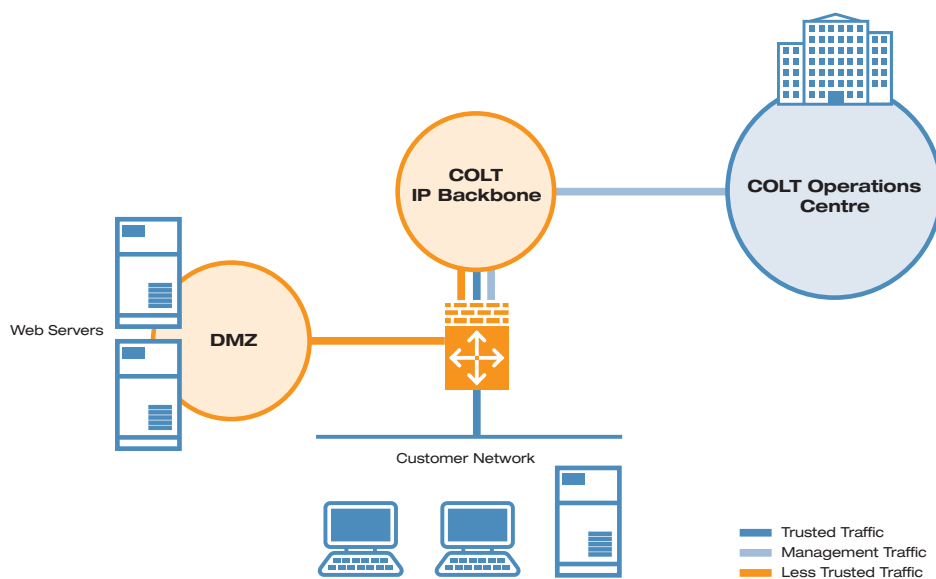
Additional options

Firewall

You can choose to enable firewall functionality on the integrated access device (IAD) referred to as a router-based firewall. This enables stateful packet filtering by IP address and port number, protection against IP address 'spoofing' and screening of the protected networks. Basic logging is supported as well as configuration of a demilitarised zone (DMZ),

where customer-facing servers traditionally reside.

The DMZ is an internal area between the LAN and internet and its access is controlled by router. This is where web servers are usually located. Traffic flows are programmed from different sides – traffic from the internal network travels freely, whereas internet traffic is either blocked or heavily controlled.



The following list shows the protocols that can be filtered on – by default traffic to any other service will be blocked:

- > HTTP (web access)
- > Secure HTTP (web access)
- > SMTP (email traffic across internet)
- > FTP (file transfer across internet)

- > POP3 (client server email transfer)
- > IMAP4 (client server email transfer)
- > Domain Name Server (DNS) resolution
- > NNTP (new server feed)
- > IP Sec (encrypted traffic transfer)
- > VoIP – H.323 (client call agent traffic)

Managed service

- > Proactive monitoring 24x7 by highly skilled staff and rapid change management
- > Fully managed service including; hardware break/fix, software updates, additions and changes, security event response and log file retention

The COLT Router-based Firewall service description contains full detail of this service option and forms part of this overall service description.

IP Mail

This provides you with an email platform without the need for infrastructure on your site. You access email via a web browser or a client such as Microsoft® Outlook Express®. Support for POP/IMPAP, anti-spam and anti-virus software are included.

The IP Mail user interface is simple to use and is available in English, French, German, Spanish and Italian. It enables users to:

- > Send, receive, forward and reply to email messages
- > Send and receive attachments
- > Create and manage folders
- > Customise preferences
- > Change passwords
- > Set up auto-forwarding to another address (if the user has multiple addresses)
- > Set up auto-responses for periods of absence
- > Create multiple personalities and signatures
- > Store and manage contact information in a personal address book
- > Create mail distribution lists
- > Create and manage folders, including system folders such as Drafts and Trash

- > Sort emails using folder column headings
- > Search through emails
- > Apply message filtering
- > Find help for features using the online help

The COLT IP Mail service description contains full details of this service option and forms part of this service description.

IP Web

This option provides you with all the tools necessary for you to create and run your own website. There are two levels:

- > Standard – for basic web site functionality
- > Advanced – supporting a more transaction orientated web site

The table lists which options are available.

The COLT IP Web service description contains full details of this service option and forms part of this service description.

Feature	Standard	Advanced
Appointment Scheduler	✓	✓
EasyBlogBuilder	✓	✓
Website Creation Wizard	✓	✓
Website Promotion Wizard	✓	✓
Website Checker	✓	✓
Advanced Template Manger	✓	✓
Frontpage 2002 Extensions	✓	✓
FormMail	✓	✓
Hit Counter	✓	✓
Ad Server	-	✓
Access to Log Files	✓	✓
Database manager	-	✓
Disk Usage Meter	✓	✓
DNS Manager	✓	✓
File Manager	✓	✓
File Restore	✓	✓
FTP Manager	✓	✓
Log Management	✓	✓
Secure Shell (SSH)	✓	✓
Web Stats	✓	✓
Website Security	✓	✓
EasyStoreMaker (Free Shopping Cart)	✓	✓
EasyStoreMaker PRO	-	✓
Support for Real-time Credit Card Processing	✓	✓
Secure Server (SSL)	-	✓
ASP (Active Server Pages)	-	✓
CGI-BIN	✓	✓
ColdFusion Support	-	✓
JSP Support	-	✓
MS Access	-	✓
MS SQL Support	-	✓
MySQL	-	✓
Perl	✓	✓
PHP	✓	✓

Access options

Direct connection (on-net)

If your building is directly connected to the COLT network, COLT will provide the transmission equipment and customer premises equipment (CPE).

Each access to a customer site uses ring architecture and diversely routed fibre where possible. SDH is the normal connection method and provides the capability to switch between circuits (where there are two separate circuits) if there is a fault. This is known as automatic protection switching; access connectivity can be restored within 50ms in case of failures.

DSL (via COLT or third-party provider)

Where COLT Total is delivered over a PSTN line provided by the customer, this line must be maintained during the term of the service. Any disruption to the service caused by changes or faults related to the PSTN service do not constitute the service as being unavailable and do not invoke any service compensation schemes.

COLT SDSL is only available in countries that have local loop unbundling (LLU). COLT DSL always provides uncontended access to the internet.

When using third-party wholesale DSL, the local loop, from the nearest DSLAM PoP to the customer premise, is provided by a 3rd Party (usually the incumbent PTT). This provides a low cost access method for small to medium sized offices where network connection is prohibitively expensive. Third-party or wholesale DSL provides both uncontended and contended access to the internet. Initially, contention ratios of 2:1 are possible with certain suppliers.

All though DSL has excellent coverage due to distance limitations the exact speed and availability can only be confirmed after line testing has taken place and not at time of ordering. This means orders are generally only confirmed when a COLT Promise Date (CPD) delivery date is issued, and any orders are provisional until DSL testing is confirmed. Delivery times are

specified as indicative, and until a CPD is issued, price and delivery mechanism may be subject to change. Where a service access uses an existing installed PSTN line, this must be maintained for the duration of the contract period. COLT is not normally responsible for the fixed charges related to this type of line.

The service will terminate onto the COLT network irrespective of whether the access is COLT or third-party DSL.

Circuits via third-party provider

This option is logically the same as an on-net connection, but the local loop from the nearest COLT transmission PoP to the customer premise is provided by a third party.

Table 1. Availability of access options by country

Feature	OnNet	COLT DSL	Wholesale DSL	OLO
UK	✓		✓	✓
France	✓	✓	✓	✓
Germany	✓	✓	✓	✓
Spain	✓	✓		✓
Italy	✓	✓	✓	✓
Belgium	✓	✓	✓	✓
Netherlands	✓	✓	✓	✓
Austria	✓	✓		✓
Switzerland	✓	✓		✓
Denmark	✓	✓	✓	✓
Sweden	✓	✓		✓
Ireland	✓			✓
Portugal	✓	✓		✓

Customer service

Dedicated web portal

In order to support customers of the COLT Total service a web portal is available, you will need a user name and password to access the site and this will be provided within the handover pack when you buy the COLT Total service.

The Portal contains information about your COLT Total service and is the administration interface for the IP Mail, IP Web and Managed Secure Router options.

The portal will also provide access to a range of documentation including the latest user guides for IP Mail, IP Web, and the managed handsets COLT provide as part of the IP Voice service.

The portal site is www.portal.colt.net.

Fault reporting

The customer care centres (or more specifically the Network Control Centres) provide support for customer fault reporting 24 hours per day, 365 days per year. Fault handling is usually available in local languages but for particularly technically challenging faults, or on certain occasions outside business hours, fault related dialogue may be conducted in English.

If you detect a fault with the service, you should report it to the COLT fault helpdesk – contact details will be sent to you when installation is complete. After a fault has been reported, we'll keep you informed of progress until the problem is resolved. You should quote the unique circuit reference when reporting a fault.

Planned maintenance

When service-affecting planned work is required we will normally notify you at least 10 working days in advance. If the work is not service affecting, then COLT does not commit to notifying you. In the event of emergency work being required, COLT reserves the right to carry out the work without informing you.

Order handling

Service provision needs to be viewed as two distinct activities:

- > Initial provision of the service to your premises combined with initial configuration of the network (see 'new service order')
- > Subsequent enabling of service features, functions and interfaces as well as service changes following initial installation (see 'modifying existing service')

New service order

You can place orders for the service via your sales contact. It is important that all orders and the configuration template are completed, as all the information requested on the form is critical to provision of the service. Non-completion of (or incomplete information on) this form will result in the order being delayed.

When ordering COLT Total with the IP Voice options a LAN audit is required. This is to ensure your internal LAN is of sufficient quality and robustness to handle both voice and data traffic. The audit can be conducted by either COLT or directly

by you. However, it should be noted that if you perform your own audit then COLT cannot be held responsible for any quality issues or service failures associated with the service within the customer environment.

Technical support is available to answer your enquiries. The first point of contact should be your account manager or customer contact centre. Back-up for these units can be provided by technical sales as well as product management.

During provision, you will be notified of the service delivery date and of service provision, or any change to delivery date, via the customer contact centre and/or account executive. Note: confirmation of availability and speeds for DSL sites and services is only possible after line testing has taken place so orders are generally provisional until a successful line test has been recorded.

It should be noted that the service is ready only when you are notified by the customer contact centre through issue of a hand-over document.

- > The minimum rental period for any site containing IP Voice Line is 1 year
- > The minimum rental period for any site containing IP Voice is 3 years

Modifying existing service

You are able to request the following changes to service. The implementation of most changes is chargeable and the change may mean that a new rental is applicable:

Category A modifications

Modifications which fall into this category require physical changes to the equipment delivering service. Examples include increasing the size of the access line to accommodate bandwidth increase outside of the existing access line. This is regarded as a new provision in terms of lead-times.

Category A changes can be scheduled out of hours, subject to local approval. Your local account executive will be able to provide you with more information on any out-of-hours change requests.

Category B modifications

Modifications which are configuration changes that can be done remotely are classed as category B. This category has been divided into 2 options. Option 1 (B1) refers to service requests which can be completed within 24 working hours and Option 2 (B2) refers to service requests which can be completed with 5 working days. The service request form identifies configurations which are typically able to be handled as type B1. If a request cannot be handled in 24 working hours then the delivery time will be 5 working days. Type B2 changes would usually require completion of the product order form. The chart below outlines the charges for these changes if completed within working hours:

Category B changes can also be requested out of hours. Out-of-hours changes have to be scheduled and approved in advance and there is a lead time of 10 working days. There is a charge of €200/hour per scheduled session with a minimum charge of €500 per session.

Category C modifications

Emergency configuration changes can be requested at any time and have a target implementation time of 1 hour from acceptance of order. These are simple B1-type configuration changes only (for example, CoS provisioning is not available under this option). There is a one-off charge per site of €1000, with a maximum total charge of €5,000 per service request.

	Price per Site	Ceiling
B1* (24 working hours)	€100	€1,250
B2** (5 working days)	€200	€2,500

* Typical B1 changes include changes to the following: IP address, routing entry, CPE interface configuration, routing protocol, SNMP read-only access, CoS parameters, Internet Access speeds, bandwidth (requiring no change in access), VPN, enabling InfoVista Performance Reporting, ISDN back-up, additional LAN interfaces, additional VLANs

** Typical B2 changes include all remote changes not captured in B1

Charges and billing

Charges for COLT Total include:

- > Installation charges are one-off charges billed in full in the first invoice issued after installation. This will usually be within 30 days of service delivery. Fast-track will also be billed at installation
- > Rental charges are payable in advance. Customers can opt to pay monthly, quarterly or annually in advance; where no option is indicated, monthly billing is the default
- > Miscellaneous charges – You may be charged for some moves and changes
- > Call charges – This includes charges for calls made on voice services which are not included in any flat rate or inclusive minute package

A minimum spend applies to call charges for IP Voice Line.

Billing

Unless otherwise agreed, customers have the option of being billed monthly or quarterly in Euros, except for the UK, Denmark, Switzerland, Sweden and the USA, where bills will be in local currencies.

Bills are available on paper or CD ROM and will contain the following information:

- > Details of services selected
- > Monthly recurring charge
- > Call detail record (CDR's)
- > Other charges and credits
- > Discounts where applicable

There is a single freephone point of contact for all service enquiries including billing.

A separate invoice for voice charges may be provided in addition to the basic COLT Total invoice.

Appendix A: IP Voice Line supported features

Feature	Feature Support
Voice Interfaces	
1 PRI	30 Voice Channels
1-4 BRI for PBX	1 BRI = 2 voice Channels
Data Interfaces	
10/100Mbps Ethernet	
Access Options	
Onnet E1 and 2xE1	E1 = 2Mbps, 2xE1 = 4Mbps
1 G.SHDSL	COLT DSL and wholesale DSL deliveries
1 ADSL -	Future release
1 G.SHDSL (4 wire)	Future release
Data Features	
Class of Service	Voice is prioritised above internet traffic – maximum bandwidth allocation for voice traffic is 50% of the access bandwidth. This must not be exceeded as service performance cannot be guaranteed
Router based Firewall	Available on IP Voice and IP Voice Line
Voice Features	
PRI, BRI	Compliant with ETSI 300 102 (Q.931) VN4 (France)
Supplementary Services	
CLIP Network Based	Supported
CLIR Network Based	Supported
Advice of Charge	Supported
Direct Dial In	Supported
Hunt Groups	Supported
Emergency services Calls	Supported
Presentation Number	Supported
Bearer capabilities	
Fax*	Supported
64kbps unrestricted data*	Supported
Modem*	Supported
DTMF	Supported

*Normal voice bandwidth usage assumptions of 30-40kbps do not apply for these call types and bandwidth. It should be noted that there may be quality issues if significant number of calls of these types are generated or received and special planning should be requested for sites which have expectations of significant number of such calls.

Appendix B: IP Voice supported features

Feature	Feature Support
Access Options	
Onnet E1and 2xE1	E1 = 2Mbps, 2xE1 = 4Mbps
Onnet E3/DS3	E3 = 34Mbps, DS3 = 45 Mbps (IP Voice only)
1 G.SHDSL	COLT DSL and wholesale DSL deliveries
1 ADSL	Future release
1 G.SHDSL (4 wire)	Future release
Features	
Basic Call	Call Hold, Call Park, Call Waiting
Call Barring	Inbound, International, Premium Rate, Mobile, All (emergency numbers cannot be barred)
Call Forward	All, On busy, On No Reply, to announcement, to voicemail, intra-group
Call Pick-up group	Blind, Supervised
Call Transfer	Directed, Universal
Calling Line ID Presentation (CLIP)	Supported
Calling Line ID Restrict (CLIR)	Supported
Calling Name ID Presentation (CNIP)	Supported
Calling Name ID Restrict (CNIR)	Supported
Connected Line Identification Presentation (COLP)	Supported
Connected Line Identification Restriction (COLR)	Supported
Connected Line Identification Presentation (CONP)	Supported
Connected Name Identification Restriction (CONR)	Supported
Direct Dial Inwards (DDI)	Supported
Do not disturb	Users who do not wish to answer the telephone may divert incoming calls to a common recorded announcement, which gives appropriate information
Distinctive Ringing	This feature enables the user to identify incoming calls from specific directory numbers by specific ringing patterns.
Emergency Call Service	The ability to call the Emergency Operator from all phones, even if outbound calls are normally barred
GNP	Geographic Number Portability – customers can move to COLT and keep their existing geographic numbers
Manager – Secretary Inter-working	For full details, please refer to the service description
Music-on-hold	For full details, please refer to the service description
Private Numbering plan	An individual numbering plan can be created for the customer
Ring Back When Free (RBWF)	Supported
Ring Back When Next Used (RBWNU)	Supported
Second Dial Tone	On pressing the button for an external call (e.g. 9), a different tone will be heard to signal PSTN dial tone
Selective Call Acceptance/Rejection	Enables users to accept or reject calls depending on the number of the calling or called party
Short-code dialling	Default is a 1-digit plan, but 2-digit plans can be configured on request
Three-way conference	Enables a user to establish, participate in, and control a 3-way conversation
Voicemail	Provision of a voice mail box per user. Standard features include: Password protection and modification (4 digits only) Greeting (default, name & subscriber) Transfer call to operator Message retrieve, delete, save, copy & forward easily Skip to next message Time and date stamps Message re-forwarding to another voicemail with comments appended to the start. Rewind to beginning (equal to repeat current message) Email notification Message Waiting Indication