



KCOM Wholesale Catalogue 2018

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Introduction

The Wholesale Catalogue identifies and describes the Wholesale services included in the markets for which KCOM has a regulatory financial reporting obligation. The Wholesale Catalogue contains descriptions of our service offering and identifies whether services are internally or externally supplied.

Market: Wholesale Fixed Analogue Exchange Lines

This market includes copper lines connected to a line in a KCOM telephony switch. Used by Communication Providers to provide end-users with voice services. It is a prerequisite for WBA and WLA services.

The following services comprise the Wholesale Fixed Analogue Exchange Lines (WFAEL) market in Hull:

Service Code	Service Name
SC-WP- Lines-Rent	KCOM Line Rental Analogue Rentals
SC-WP- Lines-Conn	KCOM Line Rental Analogue Connections
SC-WP- Lines-Other	KCOM Line Rental Analogue Other
SC-WP-Lines-CONNECT-Rent	Connect Business Voice Analogue Rentals
SC-WP-Lines-CONNECT-Conn	Connect Business Voice Analogue Connections
SC-WP-Lines-CONNECT-Other	Connect Business Voice Analogue Other
SC-WP-Lines-RESELLER-Rent	Business Voice Reseller Analogue Rentals
SC-WP-Lines-RESELLER-Conn	Business Voice Reseller Analogue Connections
SC-WP-Lines-RESELLER-Other	Business Voice Reseller Analogue Other

Service name and offering

KCOM Line Rental Analogue

This service consists of a copper line connecting the end user premises to a line card in the local concentrator within KCOM's exchange. The line is used for providing voice services.

Connect Business Voice and Business Voice Reseller are retail minus versions of KCOM products.

The published service in KCOM's RFS includes:

Line Rental

- Lines are provided with one of three defined service levels, Service Maintenance Levels 1, 2 and 3.

Connections

- the supply of a new line
- cancellation charges, where a Communication Provider (CP) cancels an order before the Customer Confirmed Date
- supply of a new line using a previously stopped analogue line.

Other services

Other services in the Wholesale Fixed Analogue Exchange Lines market but which are not included in the RFS for that market include:

Other - Migrations

- The migration of a line, including the transfer from one CP to another and the starting of a previously stopped line.
- Charges raised for the cancellation of a transfer order.

Other - Time Related Charges

- Time Related Charges (TRCs) are raised to recover the cost incurred when KCOM's engineers repair faults, provide or rearrange services, where this work is not covered under the terms of the KCOM Line Rental service. For example, where the work needs to be carried out outside of KCOM's normal working hours or where an engineer is called to repair a fault that is not with KCOM's service or equipment.

KCOM intends to review revenues and costs for these Other services in 2018/19, and if these are material to report them separately in the RFS.

All these services are provided both internally and externally.

Market: Wholesale ISDN2 Exchange Line Services

ISDN 2 services consist of two 64 Kbps channels provided over a single copper line, connected to a line card in a KCOM telephony switch. This is used by CPs to provide business customers with voice and data services.

The following services constitute the ISDN 2 market in Hull:

Service Code	Service name
SC-WP-ISDN2-Rent	KCOM Line Rental ISDN2 Rentals
SC-WP-ISDN2-Conn	KCOM Line Rental ISDN2 Connections
SC-WP-ISDN2-Other	KCOM Line Rental ISDN2 Other
SC-WP-ISDN2-CONNECT	Connect Business Voice ISDN2 Rentals
SC-WP-ISDN2-CONNECT-Conn	Connect Business Voice ISDN2-Conn
SC-WP-ISDN2-CONNECT-Other	Connect Business Voice ISDN2-Other
SC-WP-ISDN2-RESELLER-Rent	Business Voice Reseller ISDN2 Rentals
SC-WP-ISDN2-RESELLER-Conn	Business Voice Reseller ISDN2-Conn
SC-WP-ISDN2-RESELLER-Other	Business Voice Reseller ISDN2-Other

Service name and offering

ISDN2

ISDN2 is a digital service that transforms the existing phone line by splitting its capacity into two channels, allowing dual access.

Connect Business Voice and Business Voice Reseller are retail minus versions of KCOM products.

The published service in the KCOM RFS includes:

Service offering

Line Rental

- This relates to the rental, repair and maintenance of Integrated Services Digital Network (ISDN2) exchange line(s) within defined service parameters
- Lines are provided with one of three defined service levels, Service Maintenance Levels 1, 2 and 3.

Connections

- the supply of a new channel
- cancellation charges, where a Communication Provider (CP) cancels an order before the Customer Confirmed Date
- supply of a new line using a previously stopped analogue line.

Other services

Other services in the Wholesale ISDN2 Exchange Line Services market but which are not included in the RFS for that market include:

Other - Migrations

- Number change
- Starting of a previously stopped line
- Charges raised for the cancellation of a transfer order
- Transfer between Communications Providers of an ISDN2 exchange line(s), including:
 - a) Where an end customer transfers from an external to an internal Communications Provider.
 - b) Where an end customer transfers to an external Communications Provider either from another external Communications Provider or from an internal Communications Provider.

Other - Time Related Charges

- Time Related Charges (TRCs) are raised to recover the cost incurred when KCOM's engineers repair faults, provide or rearrange services, where this work is not covered under the terms of the KCOM Line Rental service. For example, where the work needs to be carried out outside of KCOM's normal working hours or where an engineer is called to repair a fault that is not with KCOM's service or equipment.

Other - Other Charges

- Other network features and amendments to an order.

KCOM intends to review revenues and costs for these Other services in 2018/19, and if these are material to report them separately in the RFS.

These services are all provided internally and externally.

Market: Wholesale Business ISDN30 Exchange Line Services

The services reported in this market have similar functionality to ISDN2 but provides up to thirty 64 Kbps channels over a single circuit that can be provided over copper, fibre or radio.

The following services constitute the ISDN30 market in Hull:

Service code	Service name
SC-WP-ISDN30-Rent	KCOM Line Rental ISDN30 Rental
SC-WP-ISDN30-Connection	KCOM Line Rental ISDN30 Connection
SC-WP-ISDN30-Other	KCOM Line Rental ISDN30 Other
SC-WP-ISDN30-CONNECT-Rent	Connect Business Voice ISDN30 Rental
SC-WP-ISDN30-CONNECT-Conn	Connect Business Voice ISDN30 Connection
SC-WP-ISDN30-CONNECT-Other	Connect Business Voice ISDN30 Other
SC-WP-ISDN30-RESELLER-Rent	Business Voice Reseller ISDN30 Rental
SC-WP-ISDN30-RESELLER-Conn	Business Voice Reseller ISDN30 Connection
SC-WP-ISDN30-RESELLER-Other	Business Voice Reseller ISDN30 Other

Service name and offering

ISDN30

ISDN30 is a digital service providing up to 30 x 64 Kbps channels. The service has a minimum threshold of six channels per end user per single site location.

Connect Business Voice and Business Voice Reseller are retail minus versions of KCOM products.

Connections

The published service in our RFS shows the total number of channels and includes:

- New installation charge, charged when a new 2 Mbps circuit is required at the site location
- Installation charge per channel, with a minimum of six channels
- Cancellation charges, where a Communications Provider cancels an order before the Customer Confirmed Date.

Rentals

- This relates to the rental, repair and maintenance of Integrated Services Digital Network (ISDN30) channels delivered over a 2Mb bearer within defined service parameters
- Lines are provided with one of three defined service levels, Service Maintenance Levels 1, 2 and 3.

Other services

Other services in the Wholesale ISDN30 Exchange Line Services market but which are not included in the RFS for that market include:

Other - Migrations

This service incorporates:

- Number change
- Starting of a previously stopped line
- Charges raised for the cancellation of a transfer order
- Transfer between Communications Providers of an ISDN30 exchange bearer(s), including:
 - Where an end customer transfers from an external to an internal Communications Provider.
 - Where an end customer transfers to an external Communications Provider either from another external Communications Provider or from an internal Communications Provider.

Other - Time Related Charges

- Time Related Charges (TRCs) are raised to recover the cost incurred when KCOM's engineers repair faults, provide or rearrange services, where this work is not covered under the terms of the KCOM Line Rental service. For example, where the work needs to be carried out outside of KCOM's normal working hours or where an engineer is called to repair a fault that is not with KCOM's service or equipment.

Other - Other Charges

Other network features and amendments to an order including:

Other - ISDN30 Direct Dialling In (DDI) Planning – DDI is an additional network feature that can be used with ISDN30 and allows callers to connect directly to extensions without going through a switchboard. Planning Charges are raised per site where a new DDI installation is required or where a change to numbers is required at the site.

Other - ISDN30 Direct Dialling In (DDI) Connections – a DDI installation fee is raised per DDI Number (new orders can only be ordered in blocks of 10 or as a single DDI number).

KCOM intends to review revenues and costs for these Other services in 2018/19, and if these are material to report them separately in the RFS.

These services are all provided internally and externally.

Market: Call Origination on Fixed Public Narrowband Networks

This market reports wholesale charges for calls originating on our network between the originating fixed line to the first point in the network at which other CPs can interconnect.

We are not required to publish service level information within the Call Origination market. We publish the following services within the Call Origination market:

Service code	Service name
SC-WP-CO	Internal and External Wholesale call originating local exchange segment PSTN and ISDN

Service name and offering

Internal and External Wholesale call originating local exchange segment PSTN and ISDN

Service offering

Wholesale charge for a call originating on a KCOM exchange line, covering the part of the network from the originating line to the Local Exchange switch. Includes call set-up (establishing a network end to end path) and call duration (holding the path open for the time the link is open). This service includes access to 999 calls.

These services are available internally and externally.

Market: Wholesale Broadband Access

This market includes fibre lines used by Communication Providers to connect end-users to broadband nodes located in KCOM exchanges.

The following services constitute Wholesale Broadband Access (WBA) in Hull:

Service Code	Service Name
SC-WP-BB-ADSL-Rent	Connect Broadband Plus Rental
SC-WP-BB-ADSL-Conn	Connect Broadband Plus Connection
SC-WP-BB-FIBRE-BUS-Rent	Connect Broadband Fibre Business Rental
SC-WP-BB-FIBRE-BUS-Conn	Connect Broadband Fibre Business Connection
SC-WP-BB-FIBRE-RES-Rent	Connect Broadband Residential Rental
SC-WP-BB-FIBRE-RES-Conn	Connect Broadband Residential Connection
SC-WP-BB-IPLINE	IP line
SC-WP-BB-FIBRELINE-Rent	FibreLine Access Rental
SC-WP-BB-FIBRELINE-Conn	FibreLine Access Connection
SC-WP-BB-PATH	Aggregation & Extension Paths
SC-WP-BB-BSIL	Broadband Service Interconnect Link (BSIL)

Service name and offering

Connect Broadband Plus

This is a retail minus ADSL broadband offering based on business services.

Connect Broadband Fibre Business

This is a retail minus FTTX broadband offering based on services with business SLAs and usage profiles.

Connect Broadband Fibre Residential

This is a retail minus FTTX broadband offering based on services with residential SLAs and usage profiles.

IP Line

This offers CPs an SMPF service in which ADSL services are aggregated to a handover point. Fibreline Access supercedes this product.

Fibreline Services

KCOM is currently consulting on Reference Offers for its proposed FibreLine Access and Broadband Interconnect Link services to be provided in this market. KCOM expects the Reference Offers to be finalised during the course of 2018/19 and the following details are therefore included here for reference purposes only.

FibreLine Access

A passive fibre circuit connecting the CP's CPE at the end-user premises via KCOM's IP core to the CP using Broadband Service Interconnect Links (BSILs). A copper circuit is required for simultaneous provision of voice services which may be provided by the CP through KCOM WFAEL.

Service offering

FibreLine Access Rental – the annual rental charge raised on the line varying with the selected transport rate.

FibreLine Access Connection:

New Provide services – the provision of new End User connections. This reported service includes provision of new connections, re-use of existing fibre circuits, working circuit takeovers and cancellations of orders.

Single Migrations – a transfer of a single circuit from one CP to another. The service also includes cancellation of orders

These services are provided internally and externally.

Aggregation

This service provides aggregation of a Communication Provider's end user traffic within the network.

Aggregation Rentals – the annual rental charge raised on the defined bandwidth capacity.

Extension Paths

Conduits to transmit aggregated data from a Communication Provider's clients to KCOM's terminating exchange.

These services are all provided internally and externally.

Service name and offering

Broadband Service Interconnect Link (BSIL)

Service offering

The Broadband Service Interconnect Link product provides a required functional section of the Wholesale FibreLine Access (WFLA) service to connect the WFLA functionality to the CP. This provides an Ethernet interface to the Communications Provider (CP) Head End located at CP premises or a designated Point of Interconnect (POI)

These services are provided only externally.

Market: Wholesale Local Access

This market includes fibre lines used by Communication Providers to connect end-users to broadband nodes located in KCOM exchanges.

KCOM is currently consulting on Reference Offers for its proposed services to be provided in the is market. KCOM expects the Reference Offers to be finalised during the course of 2018/19 and the following details are therefore included here for reference purposes only.

The following services are provided within Wholesale local access (WLA):

Service Code	Service Name
SC-WP-LA-FIBRE-Rent	Wholesale Fibreline Local Access Rental
SC-WP-FIBRE-LA-Conn	Wholesale Fibreline Local Access Connection
SC-WP-FIBRE-LA-Other	Wholesale Fibreline Local Access Other
SC-WP-FIBRE-LA-CABCONN	KCOM Wholesale Fibreline Local Access Cable Connect

Service name and offering

Fibreline Local Access (WFLLA)

A passive fibre circuit connecting the end-user premises to a Communication Provider's (CPs) handover access rack within KCOM's exchange. A copper circuit is required for simultaneous provision of voice services which may be provided by the CP through KCOM WFAEL.

Service offering

FibreLine Local Access Rental – the annual rental charge raised on the line varying with the selected transport rate.

FibreLine Local Access Connection:

New Provide services – the provision of new End User connections. This reported service includes provision of new connections, re-use of existing fibre circuits, working circuit takeovers and cancellations of orders.

Other - Single Migrations – a transfer of a single circuit from one CP to another. The service also includes cancellation of orders

These services are provided internally and externally.

Fibreline Local Access CableConnect

WFLLA CableConnect provides connectivity between the designated ethernet port on a KCOM OLT used to serve End Users in the Hull Area and an ethernet port on the CP's

transport switch that is located in the CP Equipment Room at the same WFLLA Site as KCOM's OLT.

Service offering

Cableconnect New Provide Services – the provision of a dedicated fibre connection between the respective ethernet port on a KCOM OLT used to serve End Users in the Hull Area and that on the CP's transport switch at a selected transport rate.

These services are provided internally and externally.

Other Services Required

Accommodation Services

Service offering

Building and maintenance of co-mingling bays to enable Communication Providers to install their equipment within KCOM exchanges. These services include:

- Erection of iron work
- Provision of power and cooling
- Lighting
- Rack space
- Cable runway
- Charges for service and maintenance co-mingling

These services are only provided externally.

External CableConnect

Service offering

External CableConnect provides a Communications Provider (CP) with a fibre connection between its Equipment in the CP Equipment Room at a WFLLA Site (KCOM Exchange) and a Point of Handover, which is located within the curtilage of the same WFLLA Site or a specified location within 100 metres of the curtilage of the same WFLLA Site.

These services are only provided externally.

Ethernet Connect Access Services

Service offering

These are defined in the Contemporary Interface Symmetric Broadband Origination (CISBO) market. Their utilisation here is as an alternative delivery to the CP's network

These services are provided internally and externally.

Market: CISBO

The Contemporary Interface Symmetric Broadband Origination (CISBO) market includes leased lines provided using modern technology suitable for the transmission of IP data. KCOM offer point to point services within the Hull area designated as Ethernet Direct Access Service (EDAS) and interconnect tails designated as Ethernet Connect Access Services (ECAS).

The following services constitute the CISBO market:

Service code	Service name
SC-WP-EDAS-10Mb-Rent	Ethernet Direct Access Service (EDAS) 10Mb Rental
SC-WP-EDAS-100Mb-Rent	Ethernet Direct Access Service (EDAS) 100Mb Rental
SC-EDAS-1Gb-Rent	Ethernet Direct Access Service (EDAS) 1Gb Rental
SC-WP-EDAS-10Gb-Rent	Ethernet Direct Access Service (EDAS) 10Gb Rental
SC-WP-EDAS-10Mb-Conn	Ethernet Direct Access Service (EDAS) 10Mb Connection
SC-WP-EDAS-100Mb-Conn	Ethernet Direct Access Service (EDAS) 100Mb Connection
SC-WP-EDAS-1Gb-Conn	Ethernet Direct Access Service (EDAS) 1Gb Connection
SC-WP-EDAS-10Gb-Conn	Ethernet Direct Access Service (EDAS) 10Gb Connection
SC-WP-ECAS-10Mb-Rent	Ethernet Connect Access Service (ECAS) 10Mb Rental
SC-WP-ECAS-100Mb-Rent	Ethernet Connect Access Service (ECAS) 100Mb Rental
SC-WP-ECAS-1Gb-Rent	Ethernet Connect Access Service (ECAS) 1Gb Rental
SC-WP-ECAS-10Gb-Rent	Ethernet Connect Access Service (ECAS) 10Gb Rental
SC-WP-ECAS-10Mb-Conn	Ethernet Connect Access Service (ECAS) 10Mb Connection
SC-WP-ECAS-100Mb-Conn	Ethernet Connect Access Service (ECAS) 100Mb Connection
SC-WP-ECAS-1Gb-Conn	Ethernet Connect Access Service (ECAS) 1Gb Connection
SC-WP-ECAS-10Gb-Conn	Ethernet Connect Access Service (ECAS) 10Gb Connection

Service name and offering

Ethernet Direct Access Service (EDAS)

Ethernet Direct Access Service (EDAS) provides point-to-point data connectivity between sites in the Hull area. It can be used to build and extend customer networks, develop new infrastructure, and meet low & high capacity bandwidth requirements (i.e. up to 10 Gbps).

Service offering

This service is available at 10Mb, 100Mb, 1Gb and 10Gb bandwidths. Our published services also include variants for resilience options on a bespoke basis:

Rentals – the ongoing rental charged for the use of the line.

Connections – the fee charged for provision of a new circuit.

These services are provided internally and externally.

Service name and offering

Ethernet Connect Access Service (ECAS)

Ethernet Connect Access Service (ECAS) provides point-to-point data connectivity between sites and an established point of interconnect in Hull for onward delivery. This service is available in bandwidth up to 10 Gbps.

Service offering

This service is available at 10Mb, 100Mb, 1Gb and 10Gb bandwidths. Our published services also include variants for resilience options on a bespoke basis:

Rentals – the ongoing rental charged for the use of the line.

Connections – the fee charged for provision of a new circuit.

These services are provided internally and externally.

Service name and offering

Other services in the CISBO market but which are not included in the RFS for that market include:

Other - Excess construction Charges

Connection Charges apply to all installations where routing is determined by KCOM and there are no access impediments. Excess Construction Charges, subject to survey, will only be levied in exceptional circumstances such as the requirement for resilient circuits or, for example, requests for termination requiring substantial interior cabling.

Service offering

There are different aspects of ECCs. They include the fibre itself, ducting, tray work and labour costs. Miscellaneous costs such as road closures, traffic control and recovery of plant are also applied where such works are required.

This service excludes the duct and fibre depreciation relating to ECCs.

KCOM intends to review revenues and costs for these Other services in 2018/19, and if these are material to report them separately in the RFS.

These services are provided internally and externally.

Market: Low Bandwidth TISBO

Low bandwidth leased lines (up to 8 Mbps) are provided using legacy time dimension multiplexing technology. End-users are gradually migrating to more modern technologies but currently still value certain characteristics of these traditional lines.

Traditional Interface Symmetric Broadband Origination (TISBO) circuits embrace bandwidth from 64kbps to 2Mbps. There are minimal TISBO circuits of higher bandwidth, these being effectively replaced by CISBO.

Service code	Service name
SC-WP-TISBO-DCAS-K-Rent	DCAS Kiloline Rental
SC-WP-TISBO-DCAS-K-Conn	DCAS Kiloline Connection
SC-WP-TISBO-DCAS-NK-Rent	DCAS Kiloline n Rental
SC-WP-TISBO-DCAS-NK-Conn	DCAS Kiloline n Connection
SC-WP-TISBO-DCAS-MEGA-Rent	DCAS Megaline 2 Rental
SC-WP-TISBO-DCAS -MEGA-Conn	DCAS Megaline 2 Connection
SC-WP-TISBO-DDAS-K-Rent	DDAS Kiloline Rental
SC-WP-TISBO-DDAS-K-Conn	DDAS Kiloline Connection
SC-WP-TISBO-DDAS-NK-Rent	DDAS Kiloline n Rental
SC-WP-TISBO-DDAS-NK-Conn	DDAS Kiloline n Connection
SC-WP-TISBO-DDAS-MEGA-Rent	DDAS Megaline 2 Rental
SC-WP-TISBO-DDAS-MEGA-Conn	DSAS Megaline 2 Connection
SC-WP-TISBO-Other	TISBO Other

Service name and offering

Data Connect Access Service (DCAS)

DCAS services are available to a Communications Provide (CP) to connect:

- (a) CP Site to CP Site
- (b) CP Site to End User Site

Data Direct Access Service (DDAS)

Data Direct Services are available to connect:

- (a) CP Site to End User Site
- (b) CP Site to CP Site
- (c) End User Site to End User Site

DCAS and DDAS services are available in a range of bandwidths:

Kiloline

This is a point to point service delivering 64kb/s bandwidth. It is withdrawn from new sales.

Kiloline n

This is a point to point service delivering 128kbps – 960kb/s bandwidth. It is withdrawn from new sales.

Megaline 2

Megaline 2 provides 2Mb/s point-to-point data connectivity both intra Hull and to an established point of interconnect in Hull for onward delivery.

Service offering

This service is only available at 2Mb bandwidth. Our published services also include variants for resilience options on a bespoke basis:

Rentals – the ongoing rental charged for the use of the line.

Connections – the fee charged for provision of a new circuit.

These services are provided internally and externally.

Other services in the Low Bandwidth TISBO market but which are not included in the RFS for that market include:

Other - Excess construction Charges

Connection Charges apply to all installations where routing is determined by KCOM and there are no access impediments. Excess Construction Charges, subject to survey, will only be levied in exceptional circumstances such as the requirement for resilient circuits or, for example, requests for termination requiring substantial interior cabling.

Service offering

There are different aspects of ECCs. They include the fibre itself, ducting, tray work and labour costs. Miscellaneous costs such as road closures, traffic control and recovery of plant are also applied where such works are required.

This service excludes the duct and fibre depreciation relating to ECCs.

KCOM intends to review revenues and costs for these Other services in 2018/19, and if these are material to report them separately in the RFS.

These services are provided internally and externally