DataLine

Introduction

KCOM provides a broadband ATM network infrastructure for customers, enabling delivery of their services between the service platform and the service specific equipment in their distributed premises over single PSTN lines. The network is capable of delivering high speed internet services.

This document sets out the scope and detail of the network access service. This service will only be delivered on a single KCOM provided PSTN line.

Service Outline

KCOM DataLine is an ATM - based data network which enables a customer to offer broadband service access for multiple end users using their own Layer 3 transport services.

KCOM only provides the delivery platform, provisioning, installation, billing and fault management.

The service is only available over KCOM provided direct exchange lines within the Kingston-upon-Hull licensed area. The final connection to the end user (EU) is via ADSL which operates in the frequency spectrum above the standard PSTN telephony service. The ADSL element of the service may be subject to bit-rate and distance limitations dependent on the location of the EU.

Service Description

Service Provider Interface

The customer interface is 155Mb/s (ATM UNI).

An access connection will be via an ATM access port provided either as an in-building interconnection or at an in-span handover point (subject to availability).

Connection to the interface is the responsibility of the customer.

See ATM Layer Aspects for more details.

Virtual Paths

The following ATM traffic classes will be available for each VP:

- VBR nrt
- UBR

End User Access Interface

The end user access interface conforms to ITU-T G.992.1 and can be provided as wires only or fitted with an integral splitter.

Connection to the end user access interface is the responsibility of the customer.

See Service provider interface description for more details.

Service Data Rates

The service provides the following maximum data rates:

DataLine options	End user upstream ATM cell rate (kbit/s)	End user downstream data rate (kbit/s)
500	288	576
1000	288	1152
2000	288	2272

VP overbooking may occur depending on the number of users on the VP. Lower data rates may result in practice due to deployment conditions, number of active users, protocols, round trip delays etc.

ATM Layer Aspects

The customer and end user interfaces conform to the ATM UNI interface version 3.1 as modified by the UK NICC Technical Recommendation Doc. No. 01/048 "UNI based Upon Permanent ATM Connections". The following should be noted:

ATM Layer Management

- End to end F5 OAM cells are carried transparently
- Segment F5 OAM cell flows may be modified or discarded within the network
- End to end and segment F4 OAM cells are not carried transparently (at least one VC cross connect element present).
- end to end VP-AIS will be inserted by the network under certain fault conditions
- the DSLAMs may not insert VP-RDI in the event of a failure detection
- the DSLAMs will not insert end to end AIS (VC-AIS) under DSL fault conditions

Cell Header Functions

- The ATM UNI is designed for the user sending cells with cell loss priority CLP=0. If the SP or end user chooses to send cells with CLP=1 then performance objectives will not be met and the cell will be discarded. See UK NICC Technical Recommendation Doc. No. 01/048 [] section 3.3.2.

- The Payload Type (PT) field will be coded in accordance with I.361.

- Explicit Forward Congestion Identifier (EFCI) setting may not be supported and the network may not be transparent to cells with the PTI values set to congestion

Service Provider Interface

The customer interface operates at a data rate of 155.520Mb/s (SDH) and complies with ITU-T G.707. It is a single-mode fibre connection complying with ITU-T G.957 (1310 nm short haul). The frame structure is in accordance with G.707. A 10dB attenuator is fitted on the NTE's transmitter to prevent CPE overloading. The optical presentation is a class 1 laser product as defined in the laser safety product standards BS EN 60825-1/2. The optical fibre complies with ITU-T G.652.

The ATM UNI complies with ITU-T I.432.2. The optical connector provided on the NTE is FC type optical connector conforming to BS EN 186110:1994 and is Physical Contact polished (PC).

Timing is normally traceable to the KCOM ITU-T G.811 timing source.

The Head Error Check (HEC) field is in accordance with ITU-T I.432.1.

The scrambling and de-scrambling of the cell payload is in accordance with ITU-T I.432.1.

The above is an in-building interconnect. In-span interconnects can be offered subject to the availability of suitable handover points within the KCOM network. See the NICC PNO-IG Recommendations for SDH interconnect between UK Licensed Operators.

ATM VPI VCI

VPI and VCI values will be allocated as appropriate at the time of service implementation.

Connectivity Checks

Connectivity checks will be performed prior to service handover to the customer.

In the case of an in-building interconnection ATM OAM loopbacks will be checked. This will require the customers' equipment to implement OAM to enable F5 end-to-end loopback cells to be correctly handled.

For in-span connection KCOM and the customer shall have the right to establish the correct interworking of the other party's ATM switch.

End User Interface

Integral Splitter Presentation

The ADSL interface is presented via an RJ 11 socket with the following pin connections:

Pin Number	Signal
1	Not used
2	Not used
3	ADSL
4	ADSL
5	Not used
6	Not used

The RJ 11 socket will be provided as part of a replacement telephone line box master socket which will include the standard telephone socket, ADSL RJ 11 socket and integral splitter circuit which separates the ADSL signals from the analogue PSTN telephony signals.

The KCOM ADSL interface characteristics are in accordance with ITU-T G.992.1 and ITU-T G.994.1. The following options / exclusions are implemented:

- Annex A implemented – "Specific requirements for an ADSL system operating in the frequency band above POTS "

- Non-overlapped spectrum
- ATM mode only

The integral splitter complies with ITU-T G.992.1 Annex G Type 1 with ZComplex (2) and the additional requirements specified in section 7 of BT SIN 346.

Connection to the end user access interface is the responsibility of the customer.

Wires Only

A "wires only" ADSL presentation can be provided where the G.992.1 based ADSL is presented over the pins 2 and 5 of the standard exchange line NTE. Microfilters will have to be utilised by the end user in order to access the ADSL and prevent unwanted interference between the telephony and ADSL services. The filter shall comply with ITU-T G.992.1 Annex G Type 1 with ZComplex (2) and the additional requirements specified in section 7 of BT SIN 346.

ATM Aspects

A single ATM VCC is provided between the customer and the end user using VPI = 1 and VCI =38.

Traffic Shaping

Traffic shaping is applied to downstream traffic and the end user modem must shape the upstream traffic to ensure effective service operation. Upstream shaping up to 288kbit/s is required.

Availability

This service is currently available to selected customers only on a trial basis, commencing March 3rd 2003. Trial duration will be advised at a later date.

The service will initially be available from the area covered by the KCOM PTO licence granted in 1987. The Network service area of KCOM Broadband Access Service will be extended by the development of the KCOM network into the East Riding of Yorkshire. KCOM will be pleased to advise additional deployment areas in response to request. All ADSL delivery is subject to the caveat over distance related restrictions of service as mentioned above.

Tariffs and Service charges

The tariff set is provided at Schedule 1 against specific illustrative customer requirements.

Interconnection Arrangements

Interconnect with other networks is not part of this service.

Glossary

This Glossary includes terms used in Schedules to this document.

ADSL	Asymmetric Digital Subscriber Line
AIS	Alarm Indication Signal
ATM	Asynchronous Transfer Mode
EU	End User
ITU-T	International Telecommunications Union – Telecom Standardisation Sector
NTE	Network Terminating Equipment
NTP	Network Termination Point
OAM	Operations and Maintenance
PSTN	Public Switched Telephone Network
PTO	Public Telecommunications Operator
PVC	Permanent Virtual Circuit
RDI	Remote Defect Indication
RJ11	Registered Jack Type 11
SP	Service Provider
STM	Synchronous Transmission Mode
UBR	Unspecified Bit Rate
UNI	ATM User Network interface
VBR	Variable Bit Rate
VBR rt	VBR real time
VBR nrt	VBR non-real time
VC	Virtual Channel
VCI	ATM Virtual Channel Identifier
VP	Virtual Path
VPI	ATM Virtual Path Identifier

Schedule 1 to KCOM Broadband internet access service description

Service Pricing Schedules

Service pricing schedules are provided for the Network service packages specified in detail in Schedule 1 and these notes apply to all.

KCOM will charge the customer on the following basis:

Service Provider Network Access Connection

Installation Charges:

Provision of in-building STM1 Interface - see the Megaline 155 area of the price manual

Provision of in-span handover connection - Price on application

Annual Charges:

Per STM1 - see the Megaline 155 area of the Price Manual

End User Access

01/01/10	Price	
	Exc. VAT	Inc. VAT
Installation per End User Access facility (replacement NTE5 front plate)	£134.00	£160.80

Monthly Charges per user

User Access

01/01/10 DataLine options	Price Per Month	
	Exc. VAT	Inc. VAT
500	£40.00	£48.00
1000	£80.00	£96.00
2000	£160.00	£192.00

End User Interface Equipment

KCOM network compatible equipment will be provided as part of the EU installation.

01/01/10	Price	
	Exc. VAT	Inc. VAT
3Com 3CP014637	£130.00	£156.00