

KCOM Virtual Private LAN Services (VPLS)

Wholesale VPLS is an ethernet based Virtual Private Network (VPN) that enables you to offer high speed bandwidth in a meshed architecture comprising 'any to any' ethernet based connectivity between end user sites. It is a 'wires only' service with KCOM supplied Network Terminating Equipment.

Multiple access circuits can be incorporated into a VPLS service creating a WAN network throughout the KCOM network in both the Hull Area and the Expansion Area. KCOM provides the delivery platform, provisioning, installation, billing and fault management to the customer. The service comprises:

- Layer 2 Access Circuits and / or Fibre To The Premise circuits between End User premises and KCOM Points of Presence;
- Layer 2 Aggregated Access Circuit(s) between your interconnection Point and KCOM Points of Presence;
- Ethernet Virtual Connections (EVC) that provide an uncontended permanent connection between Aggregated Access Circuits and the Access Circuits.

Layer 2 Access Circuits

The service terminates on a Network Termination Equipment (NTU) installed on your customer's premises / your interconnection point. The Network Termination Point (NTP) is your/your end user's side of the NTU, called the Access Port:

- Access Port at end user sites has interface speed options of 100Mbps and 1Gbps
- Access Port at the your Interconnection Point has interface speed options of 1Gbps and 10Gbps
- EVCs have bandwidth options ranging from 2Mbps to 10Gbps. The total ordered EVC bandwidth on each Aggregate Access cannot exceed the bandwidth of the Access Port.

The 'B' end of a circuit is the KCOM exchange both closest to the end user site and to KCOM's IP Core that delivers the VPLS.

Fibre To The Premise Circuits

The service terminates on an Optical Network Terminal (ONT) installed on your customer's premises / your interconnection point. The Network Termination Point (NTP) is your/your end user's side of the ONT, called the Access Port :

- Access Port at end user sites has interface speed options of up to 1Gbps
- Aggregated traffic to your Interconnection Point is via Layer 2 Access Circuits

The 'B' end of a circuit is the KCOM exchange both closest to the end user site and to KCOM's IP Core that delivers the VPLS.



Using VPLS all sites can connect to all sites directly via a Closed User Group (CUG) reducing the need to buy a circuit to and from every site.



Key Features

- Suitable for data applications requiring guaranteed speeds and assured uptime
- Provides secure, uncontended data transmission between end user sites
- Provides uncontended data transmission to a CP's point of interconnect
- Mesh diversity Dedicated, permanently open transmission circuits between multiple sites on your network with privacy ensured by the creation of a private Closed User Group (CUG)
- CUG capacity: up to 50 connections
- Maximum MAC addresses are permitted per VPN : 2000

Range of	10Mps	15Mps	20Mps	25Mps	30Mps	40Mps	50Mps
	70Mps	100Mps	200Mps	300Mps	400Mps	500Mps	700Mps
access	1Gbps	2Gbps	3Gbps	4Gbps	5Gbps	6Gbps	7Gbps
Barlawiatilo	8Gbps	9Gbps	10Gbps				

 Support - KCOM Field Engineering Teams for Installation and Repair – local dedicated teams to ensure on time delivery and performance

Managed Customer Premise Equipment for prompt diagnosis and repair

Equipment provided	Adva network termination equipment (robust carrier grade)		
KCOM Technical Support Team	Second line support on 0800 7022000		
Installation Lead Times	1Gb/s and below 42 Working Days 10Gb/s and above 75 Working Days		
Support	24 × 7 × 365 CP Technical Support Desk		
Repair Time	5 Clock Hour SLA 24 × 7 × 365		
Service Level Guarantees	Documented compensation scheme for breach		
Availability (Geographic)	Hull, East Yorkshire and North Lincolnshire		
Availability (Target Performance)	Ethernet • Standard 99.977% • Full diversity 99.998% Fibre To The Premise (FTTP) • Standard 99.977% Ethernet Packet Loss (<0.01%) Ethernet Latency (max) 1 Way <0.5ms (max) RTD <1 ms FTTP Latency (max) 1 Way <0.5ms		
Resilience	Available on request		
Minimum Contract Term	12 Months		
Contractual documentation	Reseller Agreement for Non Reference Offer Ethernet Based Services		



Interface Equipment

Layer 2 Access Circuits

The CP connection is presented as standard as a Physical RJ45 copper connection with an additional option of a SFP based fibre at single-mode or multi-mode at 1000Mb. The port speed ranges from 100Mb to 1Gb.

Interface Specifications

Access Port Speed	100Mbps	1Gbps	10Gbps
Interface option(s)	100 BaseTX	1000BaseLX (SMF) 1000BaseSX (MMF) 1000BaseTX (RJ45)	10GBASE(SMF)
Connector	RJ45	Dual LC (Fibre) RJ45 (Copper)	Dual LC (Fibre)

Transmission Details

Carrier grade solution	ADVA FSP 150 technology is designed for intelligent ser-vice demarcation at the edge of the network. Comprehensive assurance functions and precise timing capabilities ensure high levels of stability.
Universal use	Robust security - ADVA's ConnectGuard [™] Ethernet provides a secure solution to protect data over untrusted networks. ADVA provides regular security updates to network elements. It operates a system where security vulnerabilities are investigated promptly with an impact analysis, risk assessment and recommended procedure to address the vulnerability. Its equipment can provide network layer encryption as a service enhancement.
ADVA ConnectGuard™ security	Robust security - ADVA's ConnectGuard [™] Ethernet provides a secure solution to protect data over untrusted networks. ADVA provides regular security updates to network elements. It operates a system where security vulnerabilities are investigated promptly with an impact analysis, risk assessment and recommended procedure to address the vulnerability. Its equipment can provide network layer encryption as a service enhancement.
Service Level Monitoring	ADVA FSP 150 technology is designed for intelligent ser-vice demarcation at the edge of the network. Comprehensive assurance functions and precise timing capabilities ensure high levels of stability.
Timing excellence	Many business sectors are now demanding the support of network-based timing transport, and KCOM's network has been designed to meet this requirement with ADVA network elements that can deliver Synchronous Ethernet and Precision Time Protocol as a service.
Temperature environmentally hardened	The latest generation of ADVA FSP 150-XG400 Series equipment is designed to provide high-bandwidth capacity services with environmental hardening for streetside locations. FSP 150 devices offer fanless operations, ex-tended temperature range and low power consumption.
Ensemble management and control	KCOM service offerings leverage ADVA's FSP 3000 open optical networking technology portfolio. Deployed in KCOM's core network, this ensures service resilience over greater distances throughout East Yorkshire and surrounding areas. The core network is composed of multi-degree ROADM equipment, providing easy scale for up to 400Gbit/s coherent wavelengths, all managed by ADVA's Ensemble Controller network management solution with point-and-click provisioning of services

Area Definitions

Hull Area

The Hull Area is defined as the 'Licensed Area' in the licence granted in November 1987. Map 1 illustrates the exchanges within the licensed area.



Expansion Area

The Expansion Area constitutes those areas where KCOM has built its network outside the area defined as the 'Hull Area' above. This network is expanding and currently operates in the East Riding of Yorkshire and North East Lincolnshire as illustrated in Map 2. FTTP is not currently available as a delivery option in the Expansion Area.

Map 2 Expansion Area



	Area	20	Thorpe Willerby
1	Driffield	21	Dunnington
2	Barrow/Goxhill	22	Hambleton
3	Barton	23	Snaith & Cowick
4	Bridlington	24	Caistor
5	Brigg/Broughton	25	Stamford Bridge
Epworth / Haxey		26	Filey
6	/ Crowle	27	Wilberforss
7	Goole	28	Hunmanby
	Hibaldstow /	29	Camblesforth
8	Kirton in Linsey/	30	Market Rasen
	Scawby	31	East Ayton
9	Hornsea	32	Withern
10	Howden	77	Malton & Norton
11	Market Weighton	33	on Derwent
12	Messingham	34	Seamer & Irton
13	Nafferton	35	Louth
14	Pocklington	36	Crossgates
15	Selby	77	Mablethorpe &
16	Withernsea	37	Sutton
17	Brayton	38	Alford
18	Scotter	39	Eastfield
19	Flamborough	40	Cayton

For further information please contact our sales team at wholesalesales@kcom.com