

Velocity Lite

BONDED ULTRAFAST BROADBAND ACCESS

THE
KENTON
GROUP



The Kenton Velocity Lite offers Service Providers a cost effective and resilient alternative to fibre when delivering high speed data access to customers.

This is achieved by combining four VDSL2 FTTC circuits using industry standard Multi Link PPP bonding. MLPPP is a mature bonding protocol that allows dynamic addition and removal of individual links and has low overheads minimising bandwidth wastage. It is well supported in many existing core router platforms, which can help to make deployment of new bonded services easy and fast.



Providing customers with high speed data access enables users to harness the benefits of the cloud and to prioritise critical data and services with true Quality of Service.



The current limited footprint and high cost of Fibre to the Premise solutions can make them unsuitable or unavailable in many locations. Conversely, the rise in availability of new 'wires-only' VDSL2 based FTTC services has presented new opportunities for high speed access. Many businesses are now needing to enhance the speed and resilience of their data services because of their reliance on critical, cloud based services. This can be achieved by bonding four xDSL circuits into a single link using the Velocity Lite.

Quality and service level monitoring on the Velocity Lite is facilitated by keeping statistics of the last 15 minutes, 2 hours, 24 hours and 7 days. Selected statistics can be stored over a longer period on the device for later retrieval and processing on a management platform. Traffic quality monitoring provides all the information needed to offer Service Level Agreement reports to the customer.

FEATURES & BENEFITS

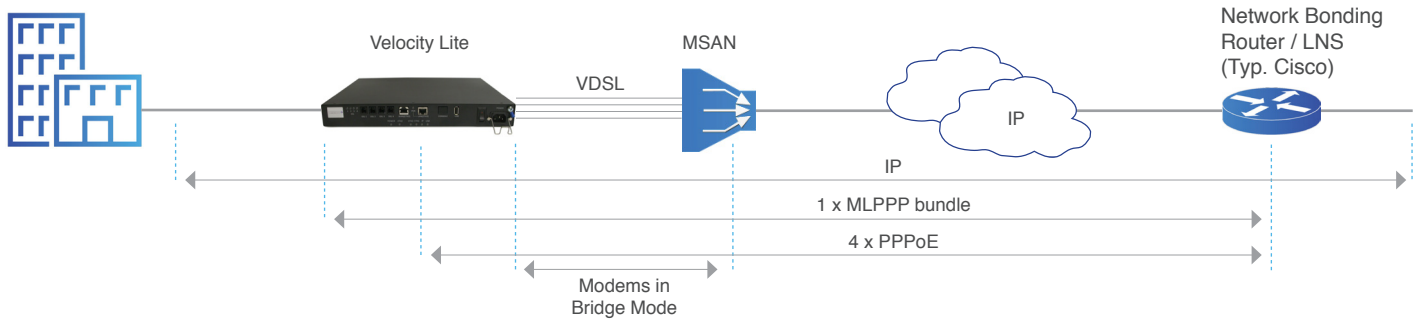
- High performance 4 port VDSL2 router
- Up to 400Mbps downstream using MLPPP bonding
- VDSL2 profile 17a support
- Low cost alternative to FTTP
- Comprehensive carrier grade L2 & L3 features
- Optional 3/4G Backup and POE 802.3at



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Network Architecture



Typical Applications



Multi-Service Access Router



Gaming



TV over Wi-Fi



Residential Wi-Fi Access Point



Fixed Line/Mobile Resilient Network Router



Small Cell Backhaul (with Distributed Grand Master Clock)



SPECIFICATION

Basic Hardware

DSL Modems:

- 4 auto-switching VDSL2 Profile 17a modems
- G.inp, G.vector and PhyR
- ITU-T G.992.5, ITU-T G.992.3, ITU-T G.992.1
- ANSI T1.413 Issue 2, AnnexM
- G.992.5 (ADSL2+) Downstream : 24 Mbps Upstream : 1.3 Mbps
- G.992.3 (ADSL2) Downstream : 12 Mbps Upstream : 1.3 Mbps
- G.DMT Downstream : 8Mbps Upstream : 832Kbps
- G.993.2 (supporting profile 8a, 8b, 8c, 8d, 12a, 12b, 17a)

LAN port:

- 1 x 10/100/1000Base-TX customer facing port
- POE 802.3at

Local Management Port (WAN Back-up option):

- 1 x 10/100/1000Base-TX

Other:

- USB 2.0 port with support for GPRS/Edge/3G dongle

Layer-2 Functionality

- IEEE 802.1D Transparent Bridging
- 10K MAC addresses per bridge group
- IEEE 802.1D Spanning Tree Bridging
- IEEE 802.1W Rapid Spanning Tree Bridging
- IEEE 802.1S Multiple Spanning Tree Bridging
- IEEE 802.1Q VLAN Tagging - IEEE 802.1p QOS on Ethernet Level
- Basic and extended MAC filtering
- Ethertype translation
- VLAN Switching
- Port-based VLANs
- IEEE 802.1ad Provider Bridges or QinQ
- Protection schemes: G.8031, Y1731 APS, LAG/LACP, failover triggered by OAM events

PPP

- PPP over ATM, PPP over Ethernet (PPPoE) on Ethernet, EFM and ATM interfaces
- MLPPP (Multi Link PPP)
- Automatic IP address assignment
- PAP/CHAP authentication

Operations and Maintenance (OAM)

- OAM IEEE 802.3 chapter 57 (for EFM operation)
- OAM IEEE 802.1 ag & ITU-T Y.1731
- Built-in traffic generator and analyser (RFC2544)
- Loopbacks on ports and virtual interfaces 2.0 compliant at USB 1.1 speed

IP Functionality

- NAT/PAT
- DHCP client/relay/server
- DNS server/relay
- IGMPv1, V2, V3
- Stateful Inspection Firewall
- Basic and Extended IP filtering
- DMZ
- ALG
- GRE & L2TP tunneling
- IPsec native, GRE & L2TP
- IKE and Manual Key Management

IP Routing

- Static routing
- Policy based routing
- RIP V1 and V2, OSPF, BGP-4
- VRF (VPN Routing & Forwarding)
- VRRP (Virtual Router Redundancy Protocol)

Virtual Private Networks

- GRE tunnelling
- L2TP tunnelling
- Tunnelling of Ethernet traffic over IP with GRE or L2TP tunnels
- IPSec (tunnel and transport mode)
- GRE or L2TP transport mode
- IKE and Manual Key Management
- AH and ESP Protocol
- DES, 3DES and AES encryption
- SHA-1 and MD5 Authentication

QoS

- Traffic Classification and Policing (inbound/outbound)
- Layer 2 classification based on MAC addresses/ranges, 802.1p, 802.1q, IP-TOS/DSCP, Ethertype (Protocol) and physical port
- Priority Queuing Layer 2 (8 levels, programmable)
- Layer 3 classification based on IP addresses/ranges, IP-TOS/DSCP, Protocol
- Priority Queuing Layer 2 (8 levels, programmable)
- RED, WRED
- Traffic Shaping CIR/EIR
- Hierarchical queuing and shaping
- Queuing mechanisms: SP, RR, WFQ, LDWFQ

Performance and Scalability

- Bridging performance: 1500 Kpps
- Routing performance: 1300 Kpps
- Number of IPSEC, L2TP or GRE tunnels: 25

Maintenance and Management Support

- HTTP, HTTPS, Web Interface
- SNMP V1, V2, V3, MIB II, proprietary MIB
- Console port, CLI, Telnet, SSH
- Multilevel password protection, Radius/TACACS+ AAA
- Statistics 5min, 15min, 2h, 24h, 7 days
- IP traffic monitoring: roundtrip delay, jitter, loss
- Syslog, SNMP
- DHCP/BOOTP for automated provisioning

Dimensions

- W x H x D: 340 x 44(1u) x 290 mm
- Optional 19" fixing brackets
- Optional wall brackets

Power

- 4x VDSL channels: Typical 60 watts
- Mains 90-264 VAC 47-63 Hz

Ordering

- KBR1645-4P-PE

Functional Schematic

