

Access Router with Embedded SD-WAN

Universal CPE solutions from Aethra Telecommunications are fully integrated devices offering fiber and VDSL2 fixed access together with embedded LTE, making them the perfect device for any scenarios, especially when combined with SD-WAN applications.

Designed for the needs of Small and Medium Enterprises

Aethra Telecommunications XV8800 Series Universal CPEs can now embed Mushroom Networks Truffle V SD-WAN, offering the perfect combination for service providers and system integrators worldwide.



APPLICATION BRIEF

XV8800 uCPE with SD-WAN by Mushroom Networks

Aethra Telecommunications XV8800 Series Universal CPE

Based on the latest Intel x86 4-core and 8-core architectures and leveraging cutting edge datapath acceleration and crypto technologies, the Aethra Telecommunications XV8800 Series Universal CPE is a fully integrated access platform with embedded fixed and mobile WAN interfaces.

Configuration options include VDSL2 35b (with bonding) and integrated ISDN PRI Voice Gateway for a smooth transition to virtualization.

The system includes two combo GE / SFP Ethernet interfaces for FTTH access, and a VDSL2 35b (with bonding support) interface for ultrabroadband over copper.

LTE connectivity is supported and embedded in the device, with the SIM holder accessible from the back panel. The multiple WAN interfaces can work

together in load balancing or in primary / backup configurations.

An 8-port GE switch offers plenty of interfaces for local access without the need for an external box; the dual radio 802.11b/g/n and 802.11ac WiFi interfaces are designed for perfect radio coverage.

One Box to Route Them All

Performances, scalability and feature richness are key to a successful implementation of Network Functions Virtualization.

The new ATOS 7.0 Operating System for the Aethra Telecommunications XV8800 Series Universal CPEs includes Advanced Business Router and Ethernet Demarcation features (BGP, OSPF, Advanced QoS, Y.1734...) together with an integrated virtualization layer to run 3rd party VNFs and applications.

DPDK based software packet acceleration offers best in class performances.





Fig. 1: Aethra Telecommunications XV8800 Series Universal CPE Platform.

QEMU / KVM based virtualization guarantees compatibility with all the VNFs, and OVS-with-DPDK virtual switching offers flexibility in service chaining and implementation for fast north-south and east-west traffic forwarding.

Ready for SD-WAN vFirewall and Virtualized Services

Aethra Telecommunications XV8800 Series uCPEs are designed in both software and hardware to simplify and facilitate the adoption of Network Functions Virtualization in an Operator environment: one box includes the access router / demarcation device and the virtualization infrastructure.

Instead of having to install at the customer site multiple boxes for broadband access and SD-WAN / Firewall and other appliances, XV8800 can host all the services inside the device optimizing costs, installations and maintenance.

Zero Touch Integration and Service Activation

The underlay network can be built and created using the integrated access router capabilities, and virtualized services can be built on top using the embedded Service Chaining and Virtualization Layer.

uCPE	FEATURES
ROUTER	NAT, BGP, OSPF, VRRP, VRF-Lite, VPN and advanced QoS for traffic shaping, prioritization and queuing.
ETHERNET DEMARCATION	Ethernet Link Layer and Service Layer OAM, Y.1731 and SAM According to Y.1564.
VIRTUALIZATION	KVM Embedded Virtualization layer.
ACCELERATION AND CRYPTO	DPDK, AES-NI and QAT.
SERVICE CHAINING	OVS-with-DPDK Virtual Switch for VNF Service Chaining.
MANAGEMENT	CLI, WEB, SNMP, TR-069 (under license) and NETCONF / YANG.

Table 1: ATOS Operating System features and capabilities.

Mushroom Networks SD-WAN Solutions

Mushroom Networks Truffle-V SD-WAN VNF enables intelligent management of the application traffic flows and the orchestration of the WAN connections to optimize end-user experience both for inter-office communications as well as Internet applications served by private, public or hybrid clouds.

network performances are enhanced together with increases network reliability by dynamically steering packets based on advanced algorithms that learn and adapt depending on network conditions.

This cognitive and adaptive approach to SD-WAN facilitates setting the networks on "autopilot" to work around and shield network problems without any human intervention.

Set the Network on Autopilot

Mushroom Networks Truffle-V SD-WAN applications come with advanced features that will set the WAN network on autopilot.

SD-WAN features include Broadband Bonding, Unified Threat Management, Advanced Layer-7 Routing, Monitoring Portal, Dynamic Quality of Service, Deep Packet Inspection, Application Performance Optimization for various flow types including live video, VoIP, cloud apps and others.

Mushroom can adapt and work around network problems automatically without human intervention, reducing network maintenance costs.

XV8800 and Truffle-V is the Complete Solution for SD-WAN and Network Functions Virtualization

Combining the XV8800 Series uCPEs with Mushroom Networks Truffle-V SD-WAN Technology gives operators and



System Integrators the possibility to offer to their customers a simple and effective way to leverage SD-WAN and Universal CPE to build complex and sophisticated network architectures with ease.

bonded together using Truffle-V cognitive algorithms, making the most out any connectivity even when problems arise without the need of human intervention.

The different fixed and mobile access technologies available on XV8800 can be

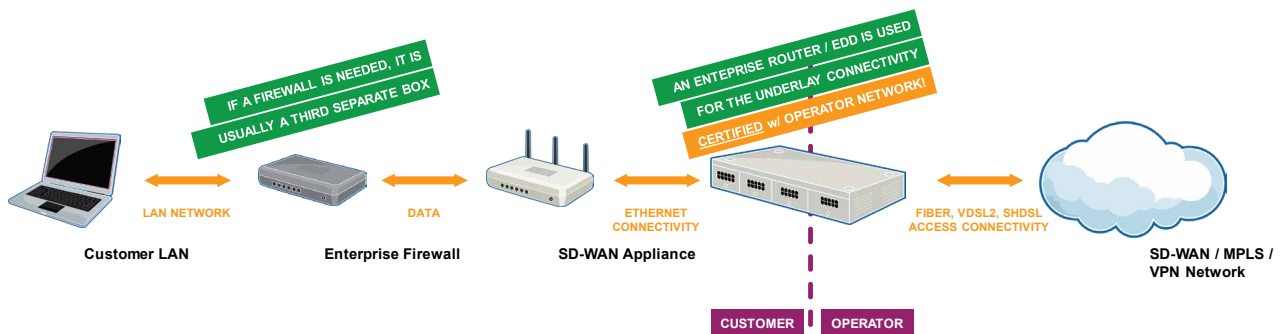


Fig. 2: Enterprise Scenario with Access Router, SD-WAN Appliance and Firewall.

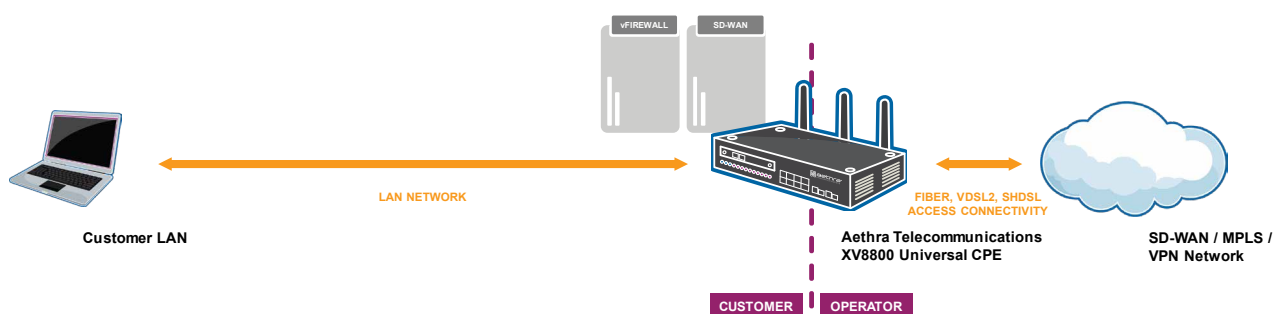


Fig. 3: Enterprise Scenario with SD-WAN and vFirewall running as VNFs on XV8800 Series Universal CPEs.

uCPE	WAN	VDSL2 35b BONDING	LTE	LAN	WiFi b/g/n	WiFi ac	ISDN PRI	CPU ¹	CORES ¹	MEMORY ²	STORAGE	USB
XV8800WAC	2x GE / SFP	-	-	8x GE	✓	✓	-	Intel Atom C3000 Series	4/8	8/16GB	128GB	2
XV8800LWAC	2x GE / SFP	-	✓	8x GE	✓	✓	-	Intel Atom C3000 Series	4/8	8/16GB	128GB	2
XV8800VE2WAC	VDSL2 35b A / VDSL2 2x GE / SFP	✓	-	8x GE	✓	✓	-	Intel Atom C3000 Series	4/8	8/16GB	128GB	2
XV8800VE2LWAC	VDSL2 35b A / VDSL2 2x GE / SFP	✓	✓	8x GE	✓	✓	-	Intel Atom C3000 Series	4/8	8/16GB	128GB	2
XV8800P1WAC	2x GE / SFP	-	-	8x GE	✓	✓	1	Intel Atom C3000 Series	4/8	8/16GB	128GB	2
XV8800P1LWAC	2x GE / SFP	-	✓	8x GE	✓	✓	1	Intel Atom C3000 Series	4/8	8/16GB	128GB	2

NOTES

¹Different CPU configurations are available upon request. Please contact your sales representative.

²ECC option available upon request. Please contact your sales representative.

Table 2: Aethra Telecommunications XV8800 Series Universal CPE.



Fig. 4: XV8800WAC / XV8800LWAC uCPE.



Fig. 5: XV8800VE2WAC / XV8800VE2LWAC uCPE with VDSL2 35b bonding.



Fig. 6: XV8800P1WAC / XV8800P1LWAC uCPE with ISDN PRI Voice Gateway.