VIAVI TestCenter Advanced Broadband Access Bundle

For AION

Overview

Control plane user plane separated BNG (CUSP) architecture is introduced to provide centralized session management, flexible address allocation, high scalability for subscriber management capacity, and cost-efficient redundancy.

A control plane and user plane separated BNG is made up of a Control Plane (CP) and a set of User Planes (UPs). The Control Plane is a user control management component which manages UP's resources such as user database and user's Quality of Service (QoS) policy, for example, the access bandwidth and priority management.

Control Plane could be virtualized and centralized. The User Plane Management module in the BNG control plane centrally manages the distributed UPs (e.g., load balancing), as well as the setup, deletion, update, and maintenance of channels between control planes and user planes.

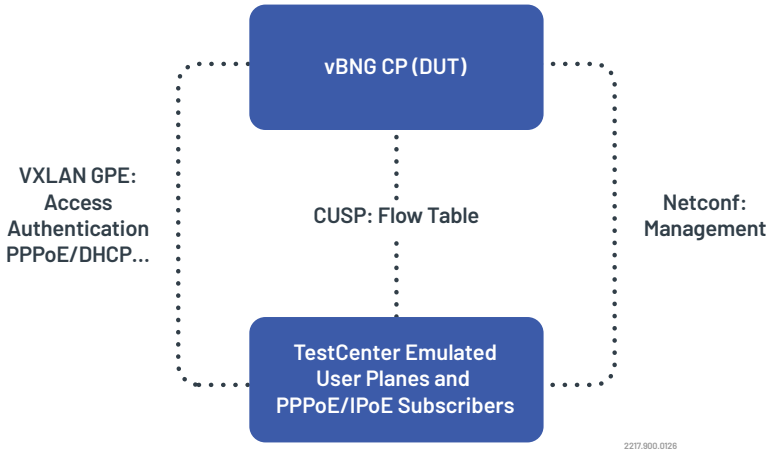
The User Plane (UP) is a network edge and user policy implementation component. It can support the forwarding plane functions on traditional BNG devices, such as traffic forwarding, QoS, and traffic statistics collection. Several interfaces are involved to support communication between the CP and UP.

The CP and UP use service interface to establish VXLAN tunnels with each other and transmit PPPoE and IPoE control plane packets over the VXLAN tunnels. The CP uses control interface to deliver service entries, and the UP uses the control interface to report service events to the CP.

Key Use Cases and Benefits

- **Enhanced Realism —** VIAVI TestCenter Access test solution emulates real world broadband subscriber behaviors, Triple Play services, and failure scenarios
- **Improved Testing Capacity —** Accomplish more in less lab space with the highest number of emulated subscribers and user planes per port and port density
- **Reduced Test Time —** Set up tests quickly and easily to validate system performance in realistic, unstable environments rather than an environment optimized for pure performance
- **Detailed Analysis —** Data plane analysis down to the subscriber, service and stream to quickly identify and resolve performance issues that occur in only a small number of subscribers when supporting tens of thousands of subscribers

VIAVI TestCenter Advanced Broadband Access Bundle emulates up to 200 CUSP user planes and 100K subscribers per test port, and enables the exchange of CUSP messages and PPPoE/IPoE control plane packets over VXLAN GPE tunnels with the DUT (device under test) control plane.



CUSP Testing Flow

Features and Benefits

- Emulate up to 200 CUSP user planes per port
- Emulate up to 100K PPPoE or IPoE subscribers per test port and 20M PPPoE or IPoE subscribers per system
- Support both IPv4 and IPv6 transport

Technical Specifications

Parameter	Description
CUSP	
RFC 8772	The China Mobile, Huawei, and ZTE Broadband Network Gateway (BNG) Simple Control and User Plane Separation Protocol (S-CUSP)
draft-ietf-nvo3-vxlan-gpe-11	Generic Protocol Extension for VXLAN (VXLAN-GPE)

Ordering Information

Product Number	Description
AON-PB-ACCESS-ADV*	AION Advanced Broadband Access Bundle

*Requires AION Routing and Switching (AON-PB-RTSW) and Broadband Access (AON-PB-ACCESS) licenses.

Bundles are available in different number of seats, contact your VIAVI Sales Representative to find the right combination for your testing needs.

About AION

VIAVI AION is a flexible delivery platform that enables users to achieve improved deployment and provisioning for all their cloud and network testing needs. Built with your needs in mind, offering maximum flexibility in acquiring and utilizing VIAVI TestCenter platforms.

The extended platform combines a wealth of industry-leading test solutions with a flexible licensing architecture to support a wide range of next-generation solution-based domain applications.

AION offers a centralized management hub to help leverage software and hardware functionalities across all lab users and locations for a simplified management and decision-making process:

- **Flexible purchasing options** available via subscription, consumption-based, and perpetual plans, with the ability to license different bandwidth, scale, and protocol bundles.
- **Flexible deployment options** offered include cloud-delivery, on-prem, and laptop-hosted licensing services.

Enhanced user serviceability delivers always-on platform services from auto-discovery and inventory management to user and workspace administration, notifications, and log aggregation.

Contact Us: +1 844 GO VIAVI | (+1 844 468 4284). To reach the VIAVI office nearest you, visit viavisolutions.com/contact

© 2026 VIAVI Solutions Inc. Product specifications and descriptions in this document are subject to change without notice. Patented as described at viavisolutions.com/patents

tc-adv-broad-access-bundle-aion-ds-hse-nse-ae
30194846 900 0126