FiberHome OLT AN5516 Command Line VLAN Translation Reference Matrix - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The FiberHome OLT AN5516 is a carrier-class, high-density optical line terminal (OLT) system engineered for next-generation fiber-to-the-home (FTTH) and fiber-to-the-building (FTTB) access networks. The platform is designed to deliver robust, scalable, and feature-rich Passive Optical Network (PON) aggregation, supporting GPON, XG-PON, and XGS-PON technologies. Central to its advanced service provisioning capabilities is the sophisticated command-line interface (CLI) for VLAN translation, which provides network administrators with granular control over traffic segmentation, service isolation, and Quality of Service (QoS) mapping across the multi-tenant access network. This document serves as the definitive technical overview and specification reference for the AN5516, with a particular focus on the architectural framework supporting its VLAN translation matrix.



HARDWARE ARCHITECTURE & SILICON

The AN5516 is built upon a modular, high-availability chassis architecture, designed to support a variety of interface cards for both PON and Ethernet uplink connectivity. The system is powered by a high-performance, non-blocking switching fabric that utilizes purpose-built ASICs to handle the line-rate forwarding of traffic across all interfaces. The control plane is managed by a redundant, hot-swappable main control board (MCU) configuration, ensuring continuous operation and seamless failover in mission-critical network environments. The advanced silicon engine is specifically optimized to perform VLAN translation operations at wire speed, allowing for extensive manipulation of VLAN IDs (including 1:1 and N:1 mapping) as traffic traverses between the PON domain and the service provider's metro Ethernet core. The intelligent hardware assists in creating a

flexible VLAN translation matrix, enabling operators to implement complex service profiles without performance degradation.

KEY FEATURES & ROUTING LOGIC

- Carrier-Grade PON Aggregation: Supports up to 16 PON ports per line card, with high-density configurations for massive subscriber scaling.
- Advanced VLAN Translation Matrix: Offers rich CLI-based VLAN translation capabilities to map customer VLANs to service VLANs, VLAN stacking (Q-in-Q), and selective VLAN translations per PON port or ONU, providing granular subscriber management.
- Comprehensive CLI Interface: Industry-standard command-line interface offering full configuration and monitoring capabilities for all system functions, including the VLAN translation reference matrix, allowing for efficient scripting and automation.
- Redundant Architecture: Features 1+1 or N+1 power supply redundancy and a hot-swappable control unit to maximize network uptime.
- Flexible Uplink Connectivity: Designed with modular uplink interface cards offering 10GE, 25GE, and 40GE optical ports for high-bandwidth interconnection with the core network.
- Robust Security & QoS: Integrated hardware-based traffic shaping, policing, and prioritization, alongside advanced ACLs, ensuring secure and predictable service delivery.

- Network Management: Supports full SNMP, CLI, and a web-based graphical user interface (GUI) for comprehensive system management.

COMPLIANCE & STANDARDS

ITU-T G.984.x (GPON), G.987.x (XG-PON), G.9807.x (XGS-PON), IEEE 802.1Q (VLAN Tagging), IEEE 802.1ad (Q-in-Q), ITU-T Y.1731 (OAM), MEF 9/14 (Ethernet Service Definitions), RoHS, CE, FCC, and Telcordia GR-1089/GR-63.

The FiberHome OLT AN5516 is a strategically critical asset for network operators building scalable, future-proof, and high-performance access networks. Its powerful hardware combined with advanced software features, such as the extensive CLI-driven VLAN translation matrix, positions it as a premier solution for demanding FTTH and FTTB deployments.

TECHNICAL SPECIFICATIONS

Parameter	**Specification**
Form Factor	Modular 10RU Chassis
Switching Capacity	3.2 Tbps
Power Supply	Dual Hot-Swappable Redundant AC/DC (-48V DC or 100-240V AC)

PON Ports per System	Up to 128 (GPON/XG-PON)
Uplink Ports	8 x 10GE SFP+, 4 x 25GE SFP28, 2 x 40GE QSFP+
Control Modules	1+1 Redundant MCU
VLAN Translation Modes	1:1 VLAN Translation, N:1 VLAN Translation, Q-in-Q (VLAN Stacking) per interface/ONU
Operating Temperature	0°C to 45°C
Management Interfaces	Console, 10/100/1000Base-T Out-of-Band Management, SNMP, CLI, Web

