

Aggregation Switch EML Technical Parameters



Overview

Support Each link aggregation is represented by a logical aggregate interface. Each aggregate interface has an automatically created Aggregation Switch Bul.

Key Takeaways

Aggregation switches combine multiple physical Ethernet links into high-bandwidth logical links with redundancy, LACP support, and advanced traffic management features. Core Technical Parameters

Bandwidth and Performance: Modern aggregation switches support high-density throughput, such as 1.8 Tbps for 100G/25G Layer 3 Etherlighting™ switches, enabling high-capacity data forwarding and low-latency performance for enterprise networks .

Link Aggregation (EML): Aggregation switches bundle multiple physical Ethernet links into a single logical aggregate link, increasing bandwidth and providing redundancy. Traffic is distributed across member ports, and if a port fails, traffic is automatically switched to remaining ports .

Aggregation Modes:

- **Static Aggregation:** Member ports are manually configured and remain stable regardless of peer device state.
 - **Dynamic Aggregation (LACP):** Uses IEEE 802.3ad Link Aggregation Control Protocol to negotiate port membership dynamically. LACP can operate in active or passive mode, exchanging LACPDUs to determine selected ports and maintain link reliability .
- Layer Support:**

- **Layer 2 Aggregation:** Member ports are limited to Layer 2 Ethernet interfaces, supporting VLAN tagging, QinQ, and protocol-based VLAN configurations.
 - **Layer 3 Aggregation:** Supports routing and forwarding at Layer 3, enabling high-performance inter-VLAN and inter-subnet traffic handling . **Traffic Management and QoS:** Aggregation switches can prioritize special traffic using ACLs, traffic classifiers, and 802.1p re-marking. Traffic policies can be applied to downlink interfaces to ensure VIP or latency-sensitive traffic receives preferential forwarding . **Redundancy and High Availability:** Aggregation switches often support MC-LAG (Multi-Chassis Link Aggregation) for device-level backup, ensuring continuous connectivity and load balancing across multiple switches . **Interface Density:** High-density aggregation switches provide multiple 25G/100G ports, allowing flexible stacking and expansion to meet campus or data center requirements . **Configuration Flexibility:** Each aggregate interface has an aggregation group containing member ports. Protocol configurations like MAC learning or spanning tree do not affect aggregation state, allowing independent traffic management . **Key Benefits:**
 - Increased bandwidth beyond single-link limits
 - Improved link reliability and failover
 - Dynamic load balancing across member ports
 - Support for advanced QoS and traffic prioritization
 - High-density port aggregation for scalable network design
- These parameters make aggregation switches ideal for enterprise campus networks, data centers, and high-availability deployments, providing both performance and resilience.

Article Content

Interfaces User Guide for Switches

Define the parameters associated with the logical aggregated Ethernet interface, such as a logical unit, interface properties, and Link

AGGREGATION & CORE ETHERNET SWITCH RECOMMENDED

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

