Carrier-grade Dedicated Aggregation Switch



Overview

XPONSHOP Unbranded Carrier-Grade Layer 2 Aggregation Switch The hardware is purpose-built for OEM integrators, service providers, and enterprises requiring.

Key Takeaways

Carrier-grade dedicated aggregation switches are high-performance network devices designed to consolidate traffic from multiple access switches, providing reliability, scalability, and advanced service delivery for service providers and large enterprises. OverviewCarrier-grade aggregation switches serve as the intermediate layer between access switches and core networks, aggregating traffic from multiple endpoints while ensuring high availability, low latency, and robust service delivery. They are essential in Carrier Ethernet, MPLS, and IP networks, supporting voice, video, and data services simultaneously with strict SLA requirements.

Key Features

High Port Density and Flexibility: These switches offer a mix of Gigabit, 10G, 25G, 100G, and even 400G ports, often with combo copper/fiber options to accommodate diverse network topologies. Redundancy and Reliability: Carrier-grade switches support dual power inputs, redundant fans, and hot-swappable components, ensuring continuous operation even during failures. Advanced Protocol Support: They implement Ethernet Ring Protection Switching (G.

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8032), ERPS, STP, RIP, OSPF, VLAN, ACL, and QoS, enabling fast failover, traffic prioritization, and network stability. Scalability: Many models support stacking, Virtual Port Channels (VPC/MC-LAG), and high-throughput uplinks, allowing networks to expand without service disruption.

Carrier-

Grade Management: Features include OAM, ITU-T Synchronous Ethernet (Sync-E), CLI, web interfaces, and cloud-based management platforms, facilitating monitoring, configuration, and maintenance. Environmental Resilience: Designed for extended temperature ranges and fan-less operation in some models, suitable for central office or outdoor deployments.

Example Models

Edgecore ECS4810-12M: A 12 Combo Gigabit Ethernet carrier-grade aggregation switch with dual AC/DC power, fan-less design, and support for Ethernet service demarcation, MPLS/VPLS, and advanced QoS.

ADTRAN SD

X 8000 Series: Offers high-capacity aggregation with 10G, 100G, and 400G interfaces, integrated switching and optional routing, and programmable SDN capabilities for flexible service delivery.

D-

Link Aggregation Switches: Provide 1G, 2. 5G, and 10G speeds, PoE support, stacking, and advanced security ACLs for optimized networking. Grandstream GWN7830 Series: Layer 3 aggregation switches with up to 24 SFP and 12 SFP+ ports, advanced VLAN, QoS, IGMP/MLD snooping, and cloud-based management.

LANCO

M Aggregation Switches: Focus on high-throughput fiber and multi-Gigabit ports, redundant power, and stacking for fail-safe hierarchical network infrastructures.

Use Cases

Service Provider Networks: Aggregating traffic from multiple access points, supporting Carrier Ethernet services, and ensuring SLA compliance. Enterprise Networks: Centralized aggregation of campus or data center access switches, enabling high-performance connectivity and simplified management. Data Centers: High-density aggregation for east-west traffic, supporting multi-rate interfaces and scalable L2/L3 switching.

Carrier-grade aggregation switches are critical for high-availability, scalable, and secure networks, providing the backbone for modern service delivery and enterprise connectivity.

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Article Content

XPONSHOP Unbranded Carrier-Grade Layer 2 Aggregation Switch

The hardware is purpose-built for OEM integrators, service providers, and enterprises requiring a white-box solution that combines carrier-grade reliability with unparalleled port density and forwarding

Aggregation Switch | D-Link

Enhance routing, security, and performance with RIP, OSPF, VLAN, ACL, and QoS to ensure greater network stability. Provides advanced Security ACLs for

H3C S7500X-G Series High-End Multiservice Routing Switch

Carrier-grade reliability 3ms Hardware BFD: to ensure the network continuity. M-LAG (Multichassis link aggregation, formerly DRNI): provides device-level redundancy and load-balance through the

Edgecore Networks

The Edgecore ECS4810-12M is a Carrier Ethernet access switch ideal for Ethernet service demarcation, extension and aggregation. ECS4810-12M allows service provider to deliver managed converged

CloudEngine S12700H Series Switches

CloudEngine S12700H offers customers a trusted system and secure data access based on the Clos architecture. All key components of CloudEngine S12700H, including the MPUs, power modules, and

24-port GbE/Multi-GbE L2 Switch with Four 10G SFP

The Zyxel MGS3760-28F 24-port GbE/Multi-GbE L2 Switch with four 1G/2.5G/10G SFP+ Ports is specially designed to allow service providers to deliver advanced

Switch Enterprise Campus Aggregation

1.8 Tbps high-density 100G/25G Layer 3 Etherlighting™ aggregation switch with MC-LAG support for high availability system design. Note. Requires a 4-post

SANCHIT-100

Designed as IP Edge demarcation and aggregation equipment, the SANCHIT-100 effectively delivers carrier-grade connectivity, making it ideal for service providers looking to manage

SDX 8000 Series

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Our SDX Aggregation Suite is a collection of optimized, flexible software that enables advanced carrier-grade features on bare-metal switches.

CloudEngine S6750-H Series 100GE Switches

With technologies such as free mobility, VXLAN, SRv6, and slicing, the switches guarantee ultimate user experience and carrier-class reliability. They are ideal

What Is an Aggregation Switch and How to Choose?

An aggregation switch is a network device that consolidates traffic from multiple access switches, wireless access points, or other edge devices and forwards it to core switches or routers.

The Ultimate Guide to Aggregation Switch Bulk Order: Architecture ...

Executive Overview: The Economic & Operational Logic of Bulk Aggregation Switching For network architects and procurement leads at ISPs, data centers, and large-scale enterprises, the decision to

IP Addressing: NAT Configuration Guide

Carrier Grade NAT Support for Broadband Access Aggregation You can configure Carrier Grade Network Address Translation (CGN) as an independent feature or use CGN along with

Aggregation Switches | Global | Zyxel Service Providers

Aggregation Switches Categories Access Switches Aggregation Switches Carrier and Access Switches Aggregation Switches Clear filters MGS3760-28F 24-port GbE/Multi-GbE L2 Switch with Four 10G

Edgecore Networks

Carrier-class design - ECS4810-12M is a carrier grade aggregation switch consists of 12 Combo Gigabit Ethernet ports. Continuous Availability - The ECS4810-12M supports G.8032 Ethernet Ring

Aggregation Switch | D-Link

Aggregation Managed Switches Streamlined Aggregation, Maximum Efficiency Versatile Speeds Provides 1G, 2.5G, and 10G speeds for flexible customization,

Ubiquiti Store

Pro XG Aggregation USW-Pro-XG-Aggregation Professional-grade 32-port, Layer 3 Etherlighting™ switch for high-capacity 25G SFP28 connections.

24-port GbE/Multi-GbE L2 Switch with Four 10G SFP

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Zyxel MGS3760-28F 24-port GbE/Multi-GbE L2 Switch with Four 10GbE SFP+ Uplink Ports enables service providers to deliver advanced carrier Ethernet

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EU project coordination: Parque das Nações, Lisbon, Portugal

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

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