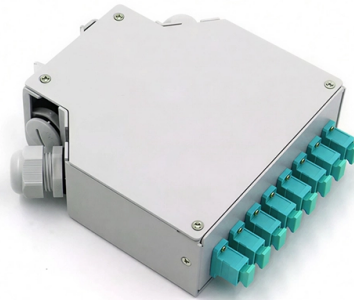


Selection Guide for Upgraded OTN Routers for Campus Networks



AI Overview

Choose OTN routers with high-density fiber ports, robust Layer 3 routing, redundancy, and future-proof interfaces to support multi-gigabit campus networks.

Core Considerations for Campus OTN Routers

- 1. Port Density and Speed** Select routers with sufficient fiber uplink ports, typically SFP (1G) or SFP+ (10G), to handle campus aggregation and distribution traffic. For future-proofing, consider 25G, 40G, or 100G uplinks if the campus network is expected to scale rapidly. Ensure the router supports enough IP interfaces and VLANs to accommodate all buildings and subnets.
- 2. Routing and Protocol Support** Routers should provide line-rate Layer 3 forwarding for both IPv4 and IPv6, with support for static routes, OSPF (v2/v3), and IS-IS. Features like DHCP relay and sufficient ARP/NDP entries are essential for campus-wide IP management. Optional but recommended features include HSRP/VRRP for gateway redundancy and route mirroring for monitoring.
- 3. Redundancy and Reliability** Consider dual power supplies, redundant route processors, and line cards. While a single super-redundant chassis is an option, deploying two less-redundant devices in a live-live configuration can improve resilience and simplify failover for critical buildings. Evaluate whether hardware redundancy or additional devices better fits your risk tolerance.
- 4. Integration with Optical Network Terminals (ONTs)** OTN routers must interface with ONTs at the campus fiber termination points. ONTs convert optical signals from the OLT into Ethernet for routers and switches. Choose enterprise-grade ONTs with multi-GE LAN ports, VLAN support, QoS, and secure management. Ensure compatibility with GPON, XGS-PON, or FTTR deployments and alignment with Wi-Fi 7 and multi-gigabit service roadmaps.
- 5. Power over Ethernet (PoE) and Edge Device Support** Campus routers often connect to access switches a...

Article Content

Meraki Campus LAN; Planning, Design Guidelines and Best Practices

This document provides best practices and guidelines when deploying a Campus LAN with Meraki which covers both Wireless and Wired LAN.

Selecting Campus Switches and Routers

- Focus on scalability, sufficient CPU to ensure current and immediate future needs - Router or "L3 Switch" is often appropriate, as routing needs in the Core are not onerous

Optical Network Terminal (ONT) Selection Guide | GPON, XGS-PON

Compare GPON, XGS-PON, enterprise and FTTR master ONTs with clear decision rules. ZION's ONT selection guide shows how to match ONT classes with bandwidth, SLA and building

Cisco Enterprise Campus Infrastructure

Cisco Catalyst System-Level Design Best Practices The enterprise campus network size broadly varies across different verticals and industries to enable communication infrastructure. The next-generation

Selecting Campus Switches and Routers

Fibre to building distribution, or is copper enough? But would you be better buying a whole second device? What would you do if that happened? Don't spend too much! Not big enough?! But do you

Campus Network Switches and Routers Guide

Campus Network Switches and Routers Guide The document provides guidance on selecting switches and routers for a campus network. It recommends that edge switches have at

Scaling Networks v6.0 Instructor Materials – Chapter 1:

Select the appropriate switch hardware features to support network requirements in small to medium-sized business networks. Describe the types of

Solutions

Prior to proceeding to plan for your deployment, please refer to the Campus LAN Design Best Practices Guide which can be used to guide you through the planning phase of designing your

High Availability Campus Network Design--Routed Access Layer

1 Introduction This document provides design guidance for implementing a routed (Layer 3 switched) access layer using EIGRP or OSPF as the campus routing protocol. It is an accompaniment to the

High Availability Campus Network Design

Preface Document Purpose This document presents recommendations and results for the System Assurance validation of the High Availability Campus Network Design - Routed Access Layer using

Choosing Switches and Routers for the Campus

Distribution Switch Campus Core Router Campus Border Router In all cases examples of mainstream vendor models are given to guide campus network administrators

CAMPUS NETWORK SWITCHES AND ROUTERS GUIDE

This comprehensive guide will walk you through the essential strategies, step-by-step configurations, and industry best practices to fortify your network's perimeter.

Design Zone

This document provides design guidance for implementing a routed (Layer 3 switched) access layer using EIGRP or OSPF as the campus routing protocol. It is an accompaniment to the

Wireless Campus design guide for Security Group Tags over VXLAN

This guide provides an overview of the requirements driving the evolution of campus network designs, followed by a discussion about the latest technologies and designs that are available for building a

Cisco Cloud Campus LAN Design Guide (Cisco Validated Design)

This knowledge article highlights a Cisco Validated design & deployment guide for a Cloud Campus LAN comprising both Cisco and Meraki platforms alongside the various design guidelines, topologies,

Campus Design

The Campus Design guide describes the technology and methodology recommended for the design of a campus network based on the HPE Aruba Networking solution consisting of wired,

Campus Network for High Availability Design Guide

Document Objectives This document presents recommended designs for the campus network, and includes descriptions of various topologies, routing protocols, configuration guidelines, and other

Campus LAN and Wireless LAN Design Guide

The campus WLAN is a controller-based wireless design, which simplifies network management by using Cisco WLAN controllers (WLCs) to centralize the configuration and control of wireless APs.

Campus Network Switches and Routers Guide

The document provides guidance on selecting switches and routers for a campus network. It recommends that edge switches have at least 24-48 copper ports with PoE, 2 fiber

Version_002

StackWise Virtual technology combines two Catalyst 9000 Series switches into a single logical network entity from the network control plane and management perspectives.

Routing & Switching Design | Validated Solution Guide

This chapter describes the Layer 2 and Layer 3 technologies used to design and build a HPE Aruba Networking campus topology. Topics covered include campus LAN topologies, OSPF

Campus Design

This guide presents design details and considerations for campus networks, including the required hardware and software components, with examples of reference architectures for small, medium, and

Typical Networking Architectures for Campus Networks and Case

Typical Networking Architectures for Campus Networks and Case Practice When readers study on campus, work in a company, or shop at the mall, they may notice that these places are all covered

Cisco Enterprise Router Selector

Cisco WAN Appliance Migration and Enterprise Router Selector Explore our router selector to swiftly identify and migrate to the Cisco enterprise router that best fits your needs.

Solutions

This document provides a pre-validated design and deployment guide for a campus LAN comprised of both Catalyst and Meraki platforms alongside the various design guidelines, topologies,

Campus Network Design: A Practical Guide for IT

Discover best practices for designing an effective campus network that meets current demands. Read the guide to enhance your network strategy

Typical Networking Architectures for Campus Networks and ...

This chapter will introduce the definition of campus network, explain the typical networking architecture of campus network, analyze the planning and design methods of small

Selecting Campus Switches and Routers

Distribution Switch Campus Core Router Campus Border Router In all cases examples of mainstream vendor models are given to guide campus network administrators

Campus LAN and Wireless LAN Solution Design Guide

The implementation of a well-designed Layer 3 access network ensures consistent, configuration, performance, scalability, and high availability of the network versus the traditional

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