

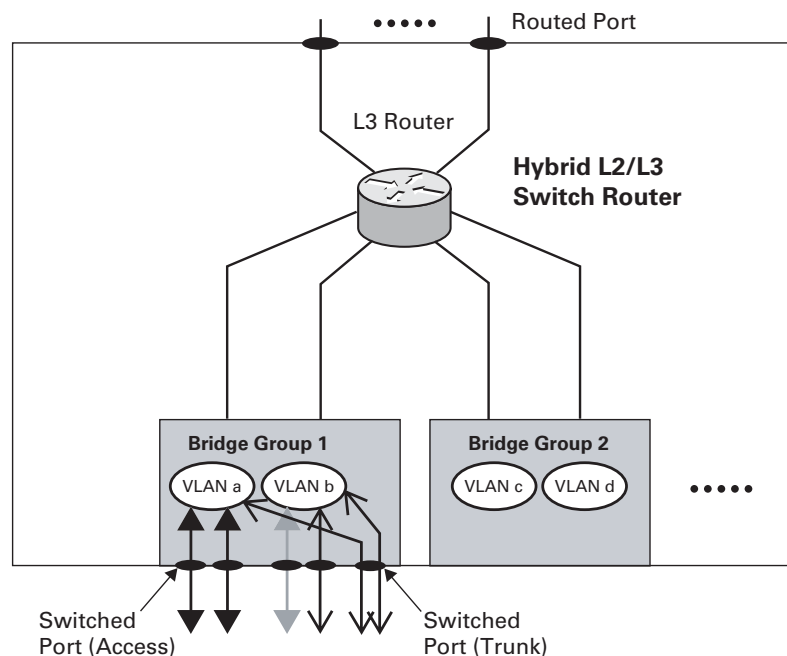
Hybrid Switch Router Module

Overview

The ZebOS® Advanced Routing Suite (ARS) Hybrid Switch Router Module (HSRM) facilitates the design of a hybrid Layer 2/Layer 3 switch router system. The ZebOS HSRM enables ZebOS L2 and L3 protocol modules to run simultaneously and inter-dependently in an integrated L2/3 switch router system. A hybrid L2/L3 switch router system, typically deployed for distribution and core layer aggregation, offers L3 forwarding with the high speed performance associated with traditional L2 switch. Higher capacity switch fabric and distributed switching and routing in hardware are used to mix L2 and L3 switching for large number of high speed ports and to avoid performance degradation and oversubscription of the backplane. Some advantages of having a hybrid L2/L3 switch router are as follows:

- Reduced system cost and infrastructure. Traditionally, a separate box for switching and a separate box for routing are required.
- Offloading IP traffic from backbone routers thus making them more efficient for firewalls and WAN connectivity.
- Simplified network design and maintenance.

The ZebOS HSRM allows a system to accommodate customer's changing demand of L2 and L3 switching requirements to meet the deployment needs of GE and 10 GE ports and applications like Voice-over-IP, wireless LAN and security.



Features and Benefits

- Allows a system to be configured as one of the following:
 - A L3 router
 - A L2 switch with one or more bridge groups
 - A hybrid L2/L3 switch router
- L2/L3 configurations are supported via the SNMP API.
- A newly enabled port in a hybrid L2/L3 switch router is by default a routed port. The port will require an IP address and optionally routing protocol (i.e. RIP, OSPF, or IS-IS) can be turned on for the port.
- A routed port can be changed to a L2 switching port via the switchport command and vice versa via the no switchport command.
- Multiple bridge groups per system are supported (a switched port can only belong to a single bridge group). Each bridge group maintains its own forwarding and configuration database and has a separate instance of Spanning Tree Protocol (STP) process. Each bridge also maintains its own set of assigned VLANs.
- Add/delete VLAN interfaces. Assignment of IP address to a VLAN interface. Enable/disable L3 protocols on a VLAN interface.
- VLAN Interface is always created for default VLAN (i.e. 1) whenever L2 code gets initialized or whenever L2 ports are added. For a pure L2 switch, the default VLAN interface can be used for IP connectivity from external work station to the switch for all management activities.
- A L2 switching port can be configured as an access port for a specific VLAN or a trunk port for one or more VLANs.
- Support the ability to add MAC entries per configured VLAN interface if a per-VLAN-MAC address table exists.
- Controlling administrative status (up/down) of VLAN interfaces and ports via CLI
 - If all access ports of a VLAN are administratively down, the VLAN will be administratively down.
- Configuration save file support and configuration restoration after system restart or re-boot.
- VLAN interfaces, L2 port configurations, VLAN port/trunk bindings and other related information.

Requirements

SKU	PRODUCT NAME
ZOS-NSM	ZebOS Network Services Module

Supported Operating Systems

- Linux
- MontaVista Professional Edition
- NetBSD
- VxWorks®

Standard Deliverables

- Source Code (written in ANSI compliant C)
- Installation and Configuration Guide
- Command References
- Developer Guides



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