

## Cisco IOS Software Release 12.2(33)SXH1 Delivers Cisco Catalyst 6500 Virtual Switching System 1440

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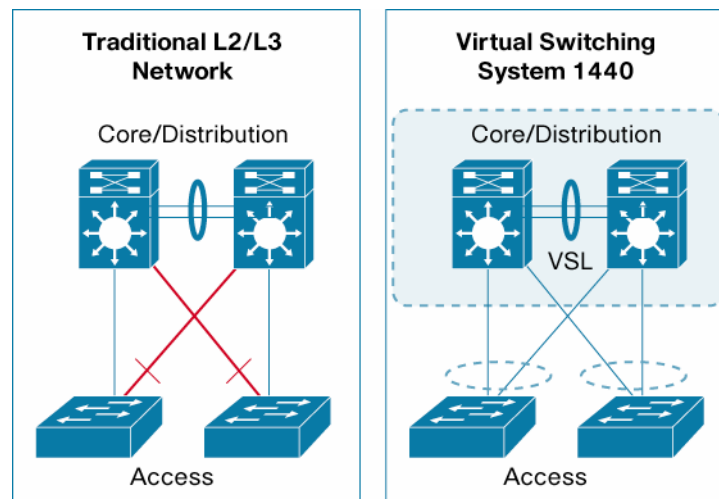
Cisco® announces availability of Cisco IOS® Software Release 12.2(33)SXH1 for the Cisco Catalyst® 6500 Series. Cisco IOS Software Release 12.2(33)SXH1 introduces the Cisco Catalyst 6500 Virtual Switching System 1440 (Cisco Catalyst 6500 VSS 1440), VRF-Lite Aware Policy Based Routing (PBR) and improves scalability for Cisco IOS Software with Modularity.

### New Features

#### Cisco Catalyst 6500 VSS 1440

The Cisco Catalyst 6500 VSS 1440 is supported in both Cisco IOS Software and Cisco IOS Software with Modularity starting with Release 12.2(33)SXH1 on Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 with 10 Gigabit Ethernet uplink. The Cisco Catalyst 6500 VSS 1440 network system virtualization technology pools multiple Cisco Catalyst 6500 Series Switches into one virtual switch, increasing operational efficiency, boosting nonstop communications, and scaling system bandwidth capacity to 1.4 Tbps. At the initial phase, a VSS will allow two physical Cisco Catalyst 6500 Series Switches to operate as a single logical virtual switch called a Cisco Catalyst 6500 VSS 1440. (See Figure 1.)

**Figure 1.** Cisco Catalyst 6500 VSS 1440 Compared to Traditional Network Design



The Cisco Catalyst 6500 VSS 1440 offers several superior benefits compared to a traditional Layer 2/Layer 3 network design. Benefits can be grouped into three main categories:

- VSS increases operational efficiency:
  - Single point of management, including configuration file and a single gateway IP address (eliminates Hot Standby Router Protocol [HSRP], Virtual Router Redundancy Protocol [VRRP], and Gateway Load Balancing Protocol [GLBP]).
  - Multichassis EtherChannel<sup>®</sup> creates simplified loop-free topologies, eliminating the dependency on Spanning Tree Protocol.
  - Flexible deployment options in terms of location of the underlying physical switches because they are connected by standard 10 Gigabit Ethernet interfaces.
- VSS boosts nonstop communications:
  - Interchassis stateful failover results in no disruption to applications that rely on network state information. VSS eliminates Layer 2/Layer 3 protocol reconvergence if a virtual switch member fails, resulting in deterministic, subsecond virtual switch recovery.
  - Utilizes EtherChannel (802.3ad or Port Aggregation Protocol [PAgP]) for deterministic, subsecond Layer 2 link recovery, unlike convergence based on Spanning Tree Protocol.
- VSS scales system bandwidth capacity to 1.4 Tbps:
  - Activates all available Layer 2 bandwidth across redundant Cisco Catalyst 6500 Series Switches with even and granular load balancing based on EtherChannel.
  - Enables standards-based link aggregation for server network interface card (NIC) teaming across redundant data center switches, maximizing server bandwidth throughput.
  - Conserves bandwidth by eliminating unicast flooding caused by asymmetrical routing and optimizing the number of hops for intracampus traffic.

#### **VRF-Lite Aware PBR**

Cisco IOS Software Release 12.2(33)SXH1 also introduces the VRF-Lite Aware Policy Based Routing (PBR) feature, which provides the ability to configure PBR on a VPN routing/forwarding instance. This feature allows users to configure VRF on an ingress interface (VRF-Lite) and apply PBR using the Cisco Express Forwarding table for that VRF. VRF-Lite Aware PBR is supported on all Cisco Catalyst 6500 Series Supervisor Engine 720, Cisco Catalyst 6500 Supervisor Engine 32, and ME-6524 products.

For further details about the VRF-Lite Aware PBR configuration, visit

<http://www.cisco.com/en/US/partner/docs/switches/lan/catalyst6500/ios/12.2SX/configuration/guide/book.html>.

#### **Improved Scalability for Cisco IOS Software with Modularity**

The Cisco IOS Software with Modularity images will continue to be offered as an optional feature set of Cisco IOS Software images. With Cisco IOS Software Release 12.2(33)SXH1, there has been significant scalability improvement for Cisco IOS Software with Modularity, as shown in Table 1.

**Table 1.** Improved Scalability with Cisco IOS Software with Modularity

Feature	Scalability Consideration
<b>Multicast</b>	30k mroutes (PIM Sparse-mode), 13K mroutes (Bi-Dir PIM), 10K mroutes across 100 mVPN tunnels and 15K IGMP Joins

### Upgrade Paths

Customers running Release 12.2(33) SXH in either Cisco IOS Software or Cisco IOS Software with Modularity can upgrade to Release 12.2(33)SXH1 of either Cisco IOS Software or Cisco IOS Software with Modularity.

The Cisco Catalyst 6500 VSS 1440 is supported only on the Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 with 10 Gigabit Ethernet uplinks and not supported on Cisco Catalyst 6500/Cisco 7600 Series Supervisor Engine 720, Cisco Catalyst 6500/Cisco 7600 Series Supervisor Engine 720-3B, or Cisco Catalyst 6500/Cisco 7600 Series Supervisor Engine 32.

Customers who are planning to upgrade or purchase a new software image license on a Supervisor Engine, order the 6500-SW-SPARECD part number and configure the image of choice onto it.

For further details about ordering 6500-SW-SPARECD, visit:

[http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps708/prod\\_bulletin0900aecd806780a3.html](http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps708/prod_bulletin0900aecd806780a3.html)

### Availability of Cisco Catalyst 6500 VSS 1440

The Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 with 10 Gigabit Ethernet uplinks and the minimum required software (Cisco IOS Software Release 12.2(33)SXH1) for the Cisco Catalyst 6500 VSS 1440 are available today.

### Ordering Information for Cisco Catalyst 6500 VSS 1440

To place an order, visit the [Cisco Ordering homepage](#). To download software, visit the [Cisco Software Center](#).

Table 2 shows ordering information for Virtual Switching System 1440.

**Table 2.** Ordering Information

Part Number	Product Name
<b>VS-S720-10G-3C</b>	Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 with two 10 Gigabit Ethernet ports and MSFC3 PFC3C
<b>VS-S720-10G-3CXL</b>	Cisco Catalyst 6500 Series Virtual Switching Supervisor Engine 720 with two 10 Gigabit Ethernet ports and MSFC3 PFC3C XL
<b>WS-F6700-DFC3C</b>	Cisco Catalyst 6500 Series Distributed Forwarding Card 3C for WS-X67xx modules
<b>WS-F6700-DFC3CXL</b>	Cisco Catalyst 6500 Series Distributed Forwarding Card 3CXL for WS-X67xx modules
<b>SV33ISK9-12233SXH</b>	Cisco CAT6000-VSS720 IOS IP Services SSH
<b>SV33AIK9-12233SXH</b>	Cisco CAT6000-VSS720 IOS Advanced IP Services SSH
<b>SV33AEK9L-12233SXH</b>	Cisco CAT6000-VSS720 IOS ADV ENT SERV SSH LAN Only
<b>SV33AEK9-12233SXH</b>	Cisco CAT6000-VSS720 IOS Advanced Enterprise Services SSH
<b>SV33ISK9M-12233SXH</b>	Cisco CAT6000-VSS720 IOS IP Services SSH (Modular)
<b>SV33AIK9M-12233SXH</b>	Cisco CAT6000-VSS720 IOS Advanced IP Services SSH (Modular)
<b>SV33AEK9N-12233SXH</b>	Cisco CAT6000-VSS720 IOS ADV ENT SERV SSH LAN Only (Modular)
<b>SV33AEK9M-12233SXH</b>	Cisco CAT6000-VSS720 IOS Advanced ENT Services SSH (Modular)

## For More Information

For more information about the Cisco Catalyst 6500 Virtual Switching System 1440, visit <http://www.cisco.com/go/vss>.

For information about the Cisco Catalyst 6500 Series, visit <http://www.cisco.com/en/US/products/hw/switches/ps708/index.html>.



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