

Why Should I Care About The Virtual Switching System (VSS) 1440?

Virtual Switching System technology on Catalyst 6500 switches sets a new standard for IT managers to build resilient, stateful, highly available networks while optimizing network resource usage. VSS will play a major role in Data Center service access as well as Campus and Data center distribution/core layer designs

What Problems Need to Be Solved?

Traditional Campus and Data Center networks are designed using a multi-layer network topology. These types of networks have the following drawbacks:

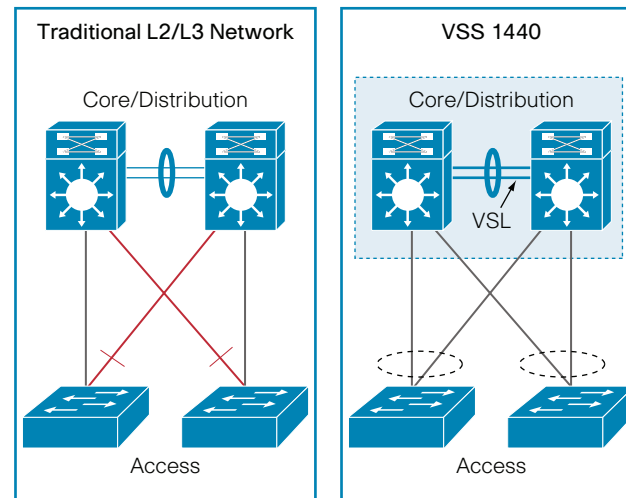
- Network and server complexity leading to lower operational efficiency and higher opex.
- Stateless, network-level failovers resulting in increased application recovery times and business disruptions
- Underutilized resources leading to lower return on investment (ROI) and higher capex.

Cisco Catalyst 6500 Series Switches Virtual Switching System (VSS) 1440

The Cisco Catalyst® 6500 Series Switches Virtual Switching System (VSS) 1440 is a network system virtualization technology that pools two Cisco Catalyst 6500 series switches with Virtual Switching Supervisor 720-10G VSS into a single virtual switch. In a VSS, the data plane and switch fabric of both supervisor engines are active at the same time in both chassis, thereby providing a combined system switching capacity of 1440Gbps.

VSS members are connected by virtual switch links (VSLs). VSLs use standard 10 Gigabit Ethernet connections (as many as eight for redundancy) between the virtual switch members. VSLs can be formed by using the 10 Gigabit Ethernet uplinks on the Virtual Switching Supervisor 720-10G or any port on the WS-X6708-10G module. VSLs can carry regular user traffic in addition to the control plane communication between the VSS members.

VSSs supports all Cisco Catalyst 6500 Series Switches 6700 Series modules in centralized or distributed (using DFC3C or DFC3CXL) forwarding mode.



What Are the Benefits of VSS 1440?

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

- 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)/ Gateway Load Balancing Protocol (GLBP))
 - Multi-chassis EtherChannel® (MEC) creates simplified loop-free topologies, eliminating the dependency on Spanning Tree Protocol (STP)
 - Flexible deployment options in terms of location of the underlying physical switches as they are connected via 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 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.

Why Cisco?

Cisco Systems® is leading the way in providing intelligent networking solutions that better enable real-time applications. Virtual Switching System 1440 enhances existing multi-layer switching architectures using simplification of architecture enabling ease of technology adoption. Cisco Catalyst 6500 Series switches provides the scalability and investment protection for today's evolving customers. VSS 1440 can be deployed by using the investments already made in the Cisco Catalyst 6500 Series Switches, providing superior investment protection.

For More Information

For more information, please go to the following link:
<http://www.cisco.com/go/6500>.