VSP 7200 Series

Highlights

- High-performance 10/40 Gigabit Ethernet switch
- 48 ports of 10 Gigabit Ethernet connectivity
- 6 ports of 40 Gigabit Ethernet for flexible uplink or distributed top-of-rack connectivity
- Non-blocking, wire-speed switching architecture
- Integrated design that is optimized for low latency
- Efficient compact form-factor that reduces power and footprint consumption
- Supports both conventional Routed IP and/or fabric-based networking deployments

BUILT ON BROADCOM

The Extreme Virtual Services Platform 7200 Series are space-efficient, high-performance Ethernet switches, delivering wire-speed 10 and 40 Gigabit Ethernet connectivity.

They are ideally suited to deliver high-speed Ethernet connectivity in a top-of-rack (ToR) role. Additionally, they provide a cost-effective 10 Gigabit Ethernet fan-out capability for existing Core Switch deployments, saving valuable ports and slots. Featuring dual, hot-swappable AC or DC power supplies and fans, the VSP 7200 is an important addition to a network manager's toolkit for creating always-on high-performance solutions.

The VSP 7200 series comes in 2 variants:

- 7254XTQ with 48 x 10BASE-T copper ports, plus 6 x 40 Gigabit QSFP+ ports
- 7254XTQ port-licensed model with 24 x 10GBASE-T ports and 4 x 40GB QSFP+ ports initially enabled for operation

VSP 7200 port-licensed models have the same physical configuration as non-port licensed models and can later be upgraded to the full port capacity of the unit – offering a flexible pay as you grow option for your deployment.

The VSP 7200 also offers both front-to-back and back-to-front airflow options, providing flexibility to conform to a variety of hot-aisle/cold-aisle design requirements.

Extreme Distributed Top-of-Rack: Creating the Latency-Reduced Network

The VSP 7200 is an integral component of our Fabric Connect strategy for end-to-end Shortest Path Bridging-based virtualized networks. We are able to leverage the Fabric Connect technology to flexibly mesh multiple VSP 7200s to deliver multi-hop, low-latency for deployment scenarios that call for massive scale-out.

Extreme has architected the Distributed ToR solution to scale up to many hundreds of switches within a single domain, with the current implementation supporting up to 512 switches networked as a single logical fabric. This capability delivers scale of up to 24,576 wire-speed 10 Gigabit Ethernet ports, and up to 3,072 ports of 40 Gigabit, equating to a virtual backplane capacity of 122.88 Tbps. An agile building-block approach delivers extreme flexibility, with no hard-and-fast topology constraints; blocks can be small or large, and individual switches easily interconnected with extended-reach copper or fiber cabling.

Extreme Switch Cluster: Improving Resiliency, Enhancing Availability

Extreme Networks' Switch Cluster is a pioneering high-availability technology. Creating a single, unified, logical core from two physically independent switches—clustering them — ensures that no one single point of failure can disrupt dual/multi-homed connectivity.

The Switch Cluster technology is built using the Split Multi-LinkTrunking protocol that is unique to our products, yet is fully interoperable with third party switches, servers, appliances, and routers.

Extreme's Switch Cluster technology delivers a level of network resiliency that also facilitates in-service maintenance. The deterministic nature of Switch Cluster empowers network operators to compartmentalize the network, making essential services even more resilient, and allowing for individual failures to be repaired in real time, without service restoration work impacting on collateral components or applications.

Extreme Fabric Connect: Replacing Complexity with Capability

Traditionally, to provision new services or to change existing ones, engineers are required to touch every device in the service path, configuring every device to enable both the active and redundant links. The bigger the network, the more complex and risky this becomes.

The Extreme Fabric Connect technology is based on an extended implementation of the Shortest Path Bridging (SPB) standards of IEEE 802.1aq and IETF RFC 6329, augmented with custom enhancements that deliver enterprise-specific optimization. It offers the ability to create a simplified network that can dynamically virtualize elements to empower efficient provisioning and utilization of resources. This can reduce the strain on the network and IT personnel.

Fabric Connect has garnered a well-earned reputation for simplifying how networks are built and improving how they are run. Independent research* reports that Fabric Connect deployments feature up to 91% less implementation time, up to 66% less change wait time, and an 85% reduction in both configuration and troubleshooting times. Similarly, Fabric Connect delivers enhanced resiliency, with failover times more than 2,500x better, and outages caused by human error virtually eliminated.

* Dr. Cherry Taylor, Fabric Connect Customer Experience Research Report, Dynamic Markets, 2015. This report details quantitative and qualitative research with IT professionals in companies that have implemented this Extreme Networks technology.

Extreme Fabric Attach: The Missing Link for Service Automation

Extreme has developed Fabric Attach, a standards-based capability that facilitates the automatic attachment of endpoint devices. Businesses can leverage Fabric Attach to dynamically deploy endpoints.

Fabric Attach streamlines the deployment of networking devices, compute resources and Internet of Things (IoT) endpoint devices delivering substantial operational benefits. Endpoint devices can be deployed in real time, without the need for IT intervention and manual configuration.

Replacing static network device configuration with dynamic programming reduces overall complexity in the network and has a corresponding benefit in reducing the risk of outage.

Extreme Fabric Extend: Taking Benefits to a Broader Audience

With Extreme's Fabric Extend technology, businesses can fully integrate remote locations with the Fabric Connect cloud. Fabric Extend enables Fabric Connect connectivity across IP-based topologies such as MPLS and Optical Ethernet. Fabric Extend is a versatile technology that can deliver VLAN and VRF extension, Layer 2, and Layer 3 Hub-and-Spoke networking, and site interconnect for dispersed Campus and Data Center locations.

Fabric Extend is supported natively on VSP 7200, 8200 and 8400 Series products, as well as on the VSP 4000 Series when deployed in combination with the Extreme Open Networking Adapter. It provides flexible and scalable Fabric Connect extension over both private and provider IP infrastructures.

Management

The Extreme Networks VSP 7200 Series can be managed in a variety of ways. Simple on-box management functions are delivered by a web-based GUI. A generic CLI is also available for manual configuration. For centralized management of multiple devices, the ExtremeCloud IQ - Site Engine delivers a comprehensive unified management capability.

This powerful appliance-based solution offers the following functionality:

- Single Pane-of-Glass – A fully integrated suite of tools working together to provide a comprehensive, unified view of the network, streamlining workflows and reducing operational costs.
- Discovery and Visualization – Providing rich network and device discovery and visualization capabilities. Includes the ability to discover network-attached devices including servers, storage servers, switches, routers, phones, virtual machines, and their hosts.
- Fault and Diagnostics – Leverages information collected from the network to determine the most likely cause of network outages, and correlates events to determine affected devices and services.
- Configuration and Orchestration – Facilitates even the most complex of network configurations through simplified, intuitive wizards and easy-to-use templates. Configuration templates are created once, stored, and then conveniently applied in order to accelerate time-to-service and reduce the risk of human error.
- Virtualization Management – Provides insight into the complete lifecycle of virtual machines – activation, migration, and retirement – including the automatic provisioning of those companion networking services needed to parallel VM migrations.
- Performance Management – Delivers tools to monitor, analyze, and report application behaviors and their bandwidth utilization trends. Collected data gives valuable insight into traffic patterns, application behaviors, and top talkers. Performance management tools enable capacity planning and change monitoring.

System Compatibility

From a software perspective, the VSP 7200 Series was introduced with the VOSS 4.2 software release; this is, therefore, the minimum level of software available to operate the switch. The recent VOSS 7.1 release delivers the following enhancements:

- Application telemetry
- VXLAN hardware VTEP configuration and management using OVSDB

Application Telemetry is a unique feature of ExtremeAnalytics that enables the switching infrastructure to participate in the forwarding and analysis of network application flows. By combining packet flow information from the VSP switch along with deep packet inspection abilities of ExtremeAnalytics, it provides actionable insights into network and application performance. This all without the need for expensive sensors or collectors. With this release, an Application Telemetry agent on the VSP can now work in tandem with ExtremeAnalytics to deliver this granular visibility into application performance, users, locations, and devices.

Summary

The Extreme Virtual Services Platform 7200 Series is purpose-built to support the dynamic Data Center and high-density 10 Gigabit Ethernet top-of-rack deployments of today. It helps alleviates infrastructure complexity and can reduce power consumption with a truly scalable and strategic architecture; it is designed to be the high-performance top-of-rack platform for the future.

Supporting mission-critical applications requires 24/365, always-on infrastructure, and the VSP 7200 delivers against this challenge. It is a highly strategic product that is fit-for-purpose for today's connectivity requirements and future-ready for the evolving and emerging application-driven needs of tomorrow.

Extreme brings unique differentiation to the ToR role with a flexible, non-blocking architecture, including wire-speed Server access connections and high-speed distributed top-of-rack connections. The VSP 7200 is purpose-built to support today's dynamic Data Center operations and high-density, low-latency 10 Gigabit Ethernet top-of- rack deployments. It can alleviate infrastructure complexity and reduce power consumption with a truly scalable and strategic architecture; it is designed to deliver a high- performance distributed top-of-rack solution that fully optimizes next-generation application virtualization investments.

VSP 7254XTQ

The Extreme Virtual Services Platform 7254XTQ Ethernet Switch provides a total of 54 ports, configured as 48 ports of 10 Gigabit Ethernet, presented as RJ45 ports, and 6 ports of 40 Gigabit Ethernet, presented as QSFP+ sockets.

The innovative design leverages an advanced chipset, featuring 2.56Tbps of switching and 1,428Mpps of frame forwarding performance.

It should be noted that the 40 Gigabit Ethernet QSFP+ ports support channelization and can therefore be individual sub-divided into four 10 Gigabit Ethernet channels. Additionally, the 10 Gigabit RJ45 ports also support 100/1000Mbps connectivity.

Benefits

The VSP 7254XTQ adds significant flexibility to the Extreme Networking portfolio, and is compatible with, and complementary to, existing products and technologies. The VSP 7254XTQ, when deployed with other Extreme or third party Ethernet Switches devices, provides a very high- capacity, high-performance connectivity solution.

The VSP 7254XTQ can be deployed as a Leaf/Top-of-Rack Switchin Spine/Leaf networks. Alternatively, it can serve as a 10GB Campus aggregation switch or even as a 10GB campus core solution for smaller networks. VSP 7254XTQ port-license models also offer flexible deployment and growth options.

The VSP 7254XTQ natively supports the Extreme Fabric Connecttechnology; key benefits that this technology delivers include:

- Makes the need to configure network-wide VLANs obsolete
- Replaces multiple sequential legacy protocols with this one single unified technology
- Totally removes the risk of network loops
- Delivers the Edge-only provisioning model which seamlessly integrates with orchestration and automation
- Fully optimizes all links and all devices enabling businesses to get the most out of infrastructure investments

Features and Capabilities

- Non-blocking, wire-speed switching architecture.
- Integrated design that is optimized for low latency.
- Flexible table architecture delivers MAC, ARP, and IP Routing scalability.
- Feature-rich support for conventional VLAN, Multi-Link Trunking, Spanning Tree technologies.
- Support for IP Routing techniques including Static, RIP, OSPF, eBGP, BGP+, ECMP, DvR/VRRP, PIM-SM/SSM, and VRF. Additionally, supports Static, RIPng, OSPFv3, BGPv6 Peering, ECMP, VRRP, and VRF for IPv6 deployments.
- Extreme Distributed Top-of-Rack technology scales up to 512 nodes: supporting up to 24,576 ports of 10 Gigabit and up to 3,076 ports of 40 Gigabit, and a virtual backbone of up to 122.88Tbps capacity.
- Extreme Networks Fabric Connect technology supports L2 Virtual Service Networks (VSNs), Layer 3 Virtual Service Networks, Inter-VSN Routing, IP Shortcut Routing, IP Multicast-over-Fabric Connect, Fabric Attached Server, Fabric Extend, Switched UNI, and Zero-Touch Fabric Connect.
- Extreme Switch Cluster technology supports Triangle and Square configurations, with both Layer 2 and Layer 3 functionality.
- MACsec and Enhanced Security Mode options.

High-Availability Power and Cooling

- Up to 2 field-replaceable, hot-swappable AC or DC internal power supplies
- 3 field-replaceable fan modules, with both front-to-back and back-to-front airflow options supported

Warranty

- Lifetime Next Business Day shipment of replacement hardware
- Lifetime Basic Technical Support
- 90-Day Advanced Technical Support

Software Licensing

- Base Software License, included with hardware purchase, enables most features with the exception of those specifically noted an enabled by the Premier Software License.
- Premier Software License, an optional accessory, enables the following features: Layer 3 Virtual Service Networks, DvR, VXLAN Gateway, >24 VRFs, and - where local regulations permit - MACsec[1].
- Port License, an optional accessory, fully enables all 10 and 40 Gigabit Ethernet interfaces on those units originally purchased as Port-Licensed. This license is independent of, and can be used in conjunction with, the Premier Software License.

Country of Origin

- China (PRC)
- Taiwan (for GSA models)

[1] MACsec is supported on the VSP 7254XTQ 10GBase-T ports only, not on 40Gb/s QSFP+ ports.

Specifications

General

- Physical Connectivity:
  - 48 x 10GBASE-SFP+ Ports
  - 6 x 40GBASE-QSFP+ Ports
- Channelization of 40 Gigabit ports
- Switch Fabric Architecture: 2.56Tbps Full-Duplex
- Frame forwarding rate: 1,428Mpps per Switch
- Nominal Latency: <480nsec
- Jumbo Frame support: up to 9,600 Bytes (802.1Q Tagged)

Layer 2

- MAC Address: 224,000
- Port-based VLANs: 4,059
- Private VLANs/E-Tree: up to 200
- MSTP Instances: 12
- MLT/LACP Groups: up to 72
- MLT Links per Group: 8
- LACP Links per Group: 8 Active
- Extreme Networks VLACP Interfaces: 54, and up to 72 when all 40 Gigabit ports are Channelized
- Extreme Networks SLPP VLANs: 128

Layer 3 IPv4 Routing Services

- ARP Entries: 32,000
- Static ARP Entries: 2000 per VRF, 10,000 per switch
- IP Interfaces: up to 506
- CLIP Interfaces: 64
- IP Routes: up to 15,488
- IP Static Routes: 1,000 per VRF, 5000 per switch
- RIP Interfaces: 200
- RIP Routes: up to 15,488
- OSPF Interfaces: 500
- OSPF Routes: up to 15,488
- OSPF Areas: 12 per VRF, 80 per switch
- BGP Peers: 12
- BGP Routes: up to 15,488
- ECMP Groups: 1,000
- ECMP Paths per Group: 8
- NLB Clusters: 200
- VRRP Interfaces: 252
- RSMLT Interfaces: 252
- IPv4 UDP Forwarding Entries: 512
- IPv4 DHCP Relay Forwarding Entries: 1024
- IP Route Policies: 500 per VRF, 5,000 per switch
- DHCP Relay Forwarding: 512
- VRF Instances: up to 256

Layer 3 IPv6 Routing Services

- Neighbors: 8,000
- Static Neighbors: 128 per VRF, 256 per switch
- IP Interfaces: up to 506
- CLIP Interfaces: 64
- IP Configured Tunnels: 506
- IP Routes: up to 7,744
- IP Static Routes: 1,000
- RIPng Interfaces: 48
- RIPng Routes: up to 7,744
- OSPFv3 Interfaces: 500
- OSPFv3 Routes: up to 7,744
- OSPFv3 Areas: 80 per switch
- BGPv6 Peers: 24
- ECMP Groups: 1,000
- ECMP Paths per Group: 8
- VRRP Interfaces: up to 252
- RSMLT Interfaces: up to 252
- VRF Instances: up to 256

Multicast

- IGMP Interfaces: 4,059
- PIM Active Interfaces: 128
- MLD Interfaces: 4,059
- Static Multicast Routes: 4,000
- BCB IP Multicast S,G Streams: 16,000
- PIM-SSM Static Channels: 4,000
- IP Multicast Streams: 6,000
- IP Multicast Streams (Fabric Connect-PIM Gateway Nodes): 3,000
- Fabric Connect-PIM Gateway Controllers per Region: 5
- Fabric Connect-PIM Gateway Nodes per Region: 64
- Fabric Connect-PIM Gateway Interfaces per BEB Node: 64
- Fabric Connect-PIM Gateway Source Announcements: 6,000

Fabric Connect

- 802.1aq/RFC 6329 Shortest Path Bridging with Extreme Networks extensions
- MAC Address: 112,000
- NNI Interfaces/Adjacencies: up to 255
- BEB Nodes per VSN: 500
- Transparent UNI Ports/Switch: 54, and up to 72 when all 40 Gigabit ports are Channelized
- BCB/BEB Nodes per Region: 800
- L2 Virtual Service Networks: 4,059
- L3 Virtual Service Networks: up to 256
- IP Shortcut Routes: IPv4 15,488, and IPv6 7,488
- DvR Domains per Region: 16
- DvR-enabled L2 VSNs: up to 502
- DvR Controllers per Domain: 8
- DvR Leafs per Domain: 250

- DvR Interfaces: up to 502
- DvR Routes: up to 32,000
- L2 Multicast Virtual Service Networks: up to 2,000
- L3 Multicast Virtual Service Networks: 256
- VXLAN Gateway VTEP Destinations per Node: 500
- VXLAN Gateway VNI IDs per Node: 2,000
- Fabric Attach VLAN/VSN Assignments per Port: 94

QoS and Filtering

- IPv4 ACE: 766 Ingress and 252 Egress
- IPv6 ACE: 256 Ingress
- L2-L4 Ingress Port Rate Limiters: 54, and up to 72 when all 40 Gigabit ports are Channelized
- Egress Port Shaper Granularity: 1Mbps to 40Gbps per Port

Operations and Management

- Mirrored Ports: 53, and up to 71 when all 40 Gigabit ports are Channelized
- sFlow: up to 3,000 samples per second
- Fabric RSPAN: up to 1,000 VSN IDs per Region

Standards Compliance

IEEE 802.1 Bridging (Networking) and Network Management

802.1D MAC Bridges (a.k.a. Spanning Tree Protocol)

802.1p Traffic Class Expediting and Dynamic Multicast Filtering

802.1t 802.1D Maintenance

802.1w Rapid Reconfiguration of Spanning Tree (RSTP)

802.1Q Virtual Local Area Networking (VLAN)

802.1Qbp Equal-Cost Multi-Path (Shortest Path Bridging)

802.1Qcj Automatic Attachment to Provider Backbone Bridging (PBB) Services (Partial Support)

802.1s Multiple Spanning Trees (MSTP)

802.1v VLAN Classification by Protocol & Port

802.1ag Connectivity Fault Management

802.1ah Provider Backbone Bridges

802.1aq Shortest Path Bridging (SPB) MAC-in-MAC

802.1X Port-based Network Access Control

802.1AB-2005 Station & Media Access Control Connectivity Discovery; aka LLDP (partial support)

802.1AE Media Access Control Security

802.1AX Link Aggregation

IEEE 802.3 Ethernet

802.3-1983 CSMA/CD Ethernet(ISO/IEC 8802-3)

802.3i-1990 10Mb/s Operation, 10BASE-T Copper

802.3u-1995 100Mb/s Operation, 100BASE-T Copper, with Auto-Negotiation

802.3x-1997 Full Duplex Operation

802.3z-1998 1000Mb/s Operation, implemented as 1000BASE-X

802.3ab-1999 1000Mb/s Operation, 1000BASE-T Copper

802.3ae-2002 10Gb/s Operation, implemented as 10GBASE-SFP+

802.3an-2006 10Gb/s Operation, 10GBASE-T Copper

802.3ba-2010 40Gb/s and 100Gb/s Operation

802.3bm-2015 40Gb/s and 100Gb/s Operation, implemented as 40GBASE-QSFP+ & 100GBASE-QSFP28

IETF

768 UDP

783 TFTP

791 IP

792 ICMP

793 TCP

826 ARP

854 Telnet

894 Transmission of IP Datagrams over Ethernet Networks

896 Congestion Control in IP/TCP internetworks

906 Bootstrap Loading using TFTP

950 Internet Standard Subnetting Procedure

951 BOOTP: Relay Agent-only

959 FTP

1027 Using ARP to Implement Transparent Subnet Gateways

1058 RIP

1112 Host Extensions for IP Multicasting

1122 Requirements for Internet Hosts - Communication Layers

1155 Structure and Identification of Management Information for TCP/IP-based Internets

1156 MIB for Network Management of TCP/IP

1157 SNMP

1212 Concise MIB Definitions

1213 MIB for Network Management of TCP/IP-based Internets: MIB-II

1215 Convention for Defining Traps for use with the SNMP

1256 ICMP Router Discovery

1258 BSD Rlogin

1271 Remote Network Monitoring MIB

1305 NTPv3

1321 MD5 Message-Digest Algorithm

1340 Assigned Numbers

1350 TFTPv2

1398 Ethernet MIB

1442 SMIv2 of SNMPv2

1450 SNMPv2 MIB

1519 CIDR

1541 DHCP

1542 Clarifications and Extensions for BOOTP

1573 Evolution of the Interfaces Group of MIB-II

1587 OSPF NSSA Option

1591 DNS Client

1650 Definitions of Managed Objects for the Ethernet-like Interface Types

1657 Definitions of Managed Objects for BGP-4 using SMIv2

1723 RIPv2 Carrying Additional Information

1812 Router Requirements

1850 OSPFv2 MIB
1866 HTMLv2
1907 SNMPv2 MIB
1930 Guidelines for creation, selection, and registration of an AS
1981 Path MTU Discovery for IPv6
2021 Remote Network Monitoring MIBv2 using SMIv2
2068 HTTP
2080 RIPng for IPv6
2131 DHCP
2138 RADIUS Authentication
2139 RADIUS Accounting
2236 IGMPv2 Snooping
2284 PPP Extensible Authentication Protocol
2328 OSPFv2
2362 PIM-SM
2404 HMAC-SHA-1-96 within ESP and AH6
2407 Internet IP Security Domain of Interpretation for ISAKMP6
2408 Internet Security Association and Key Management Protocol
2428 FTP Extensions for IPv6 and NAT
2452 TCP IPv6 MIB
2453 RIPv2
2454 UDP IPv6 MIB
2460 IPv6 Basic Specification
2463 ICMPv6
2464 Transmission of IPv6 Packets over Ethernet Networks
2466 MIB for IPv6: ICMPv6 Group
2474 Differentiated Services Field Definitions in IPv4 and IPv6 Header
2475 Architecture for Differentiated Service
2541 DNS Security Operational Considerations
2545 BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing
2548 Microsoft Vendor-specific RADIUS Attributes
2572 Message Processing and Dispatching for SNMP
2573 SNMP Applications
2574 User-based Security Model for SNMPv3
2575 View-based Access Control Model (VACM) for SNMP
2576 Coexistence between v1/v2/v3 of the Internet-standard Network Management Framework
2578 SMIv2
2579 Textual Conventions for SMIv2
2580 Conformance Statements for SMIv2
2597 Assured Forwarding PHB Group
2598 Expedited Forwarding PHB
2616 HTTPv1.1
2710 MLD for IPv6
2716 PPP EAP TLS Authentication Protocol
2787 Definitions of Managed Objects for VRRP
2818 HTTP over TLS
2819 Remote Network Monitoring MIB
2863 Interfaces Group MIB
2865 RADIUS
2869 RADIUS Extensions (partial support)
2874 DNS Extensions for IPv6
2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations
2933 IGMP MIB
2934 PIM MIB for IPv4
2992 ECMP Algorithm
3046 DHCP Relay Agent Information Option 82
3162 RADIUS and IPv6
3246 Expedited Forwarding PHB
3315 DHCPv6
3339 Date and Time on The Internet: Timestamps
3376 IGMPv3
3411 Architecture for Describing SNMP Management Frameworks
3412 Message Processing and Dispatching for SNMP
3413 SNMP Applications
3414 USM for SNMPv3
3415 VACM for SNMP
3416 Protocol Operations v2 for SNMP
3417 Transport Mappings for SNMP
3418 MIB for SNMP
3484 Default Address Selection for IPv6
3513 IPv6 Addressing Architecture
3569 Overview of SSM
3579 RADIUS Support for EAP
3587 IPv6 Global Unicast Address Format
3596 DNS Extensions to support IPv6
3748 Extensible Authentication Protocol
3810 MLDv2 for IPv6, Host Mode-only
3879 Deprecating Site Local Addresses
4007 IPv6 Scoped Address Architecture
4022 TCP MIB
4087 IP Tunnel MIB
4113 UDP MIB
4133 Entity MIB Version 3 (partial support)
4193 Unique Local IPv6 Unicast Addresses
4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
4250 SSH Assigned Numbers
4251 SSH Protocol Architecture
4252 SSH Authentication Protocol
4253 SSH Transport Layer Protocol
4254 SSH Connection Protocol
4255 DNS to Securely Publish SSH Key Fingerprints
4256 Generic Message Exchange Authentication for SSH
4291 IPv6 Addressing Architecture
4292 IP Forwarding Table MIB
4293 IP MIB
4301 Security Architecture for IP[2]
4302 IP Authentication Header[2]
4303 IP Encapsulating Security Payload[2]
4308 Cryptographic Suites for IPsec

4363 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering and VLAN Extensions (partial support)
4429 Optimistic DAD for IPv6 (partial support)
4443 ICMP for IPv6
4541 Considerations for IGMP and MLD Snooping Switches
4552 Authentication/Confidentiality for OSPFv3
4601 PIM-SM: Revised Protocol Specification
4607 Source-Specific Multicast for IP
4675 RADIUS Attributes for Virtual LAN and Priority Support (partial support)
4835 Cryptographic Algorithm Implementation Requirements for ESP and AH
4861 Neighbor Discovery for IPv6
4862 IPv6 Stateless Address Auto-Configuration
5095 Deprecation of Type 0 Routing Headers in IPv6
5176 Dynamic Authorization Extensions to RADIUS
5187 OSPFv3 Graceful Restart (Helper-mode)
5308 Routing IPv6 with IS-IS
5340 OSPF for IPv6
5424 The Syslog Protocol
5798 VRRPv3 for IPv4 and IPv6
5905 NTPv4: Protocol and Algorithms Specification
5997 Use of Status-Server Packets in RADIUS
6105 IPv6 Router Advertisement Guard
6329 IS-IS Extensions supporting IEEE 802.1aq SPB
6933 Entity MIBv4 (partial support)
7358 VXLAN: A Framework for Overlaying Virtualized L2 Networks over L3 Networks (partial support)
7610 DHCPv6 Shield: Protecting against Rogue DHCPv6 Servers
Internet-Draft IP/IPVPN services with IEEE 802.1aq SPB networks (draft-unbehagen-spb-ip-ipvpn-00)
Internet-Draft SPB Deployment Considerations (draft-lapuh-spb-deployment-03)

[2] Implemented to deliver IPsec capability for Control Plane traffic only.

Ordering Information

Part Code	Description
EC7200A2F-E6	VSP7254XTQ 54-port Ethernet Switch, supporting 48 x 10GBASE-T & 6 x 40GBASE-QSFP+ ports. Includes single 800W AC Power Supply, Front-to-Back Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately.
EC7200A2B-E6	VSP7254XTQ 54-port Ethernet Switch, supporting 48 x 10GBASE-T & 6 x 40GBASE-QSFP+ ports. Includes single 800W AC Power Supply, Back-to-Front Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately.
EC720002F-E6	VSP7254XTQ 54-port Ethernet Switch, supporting 48 x 10GBASE-T & 6 x 40GBASE-QSFP+ ports. Includes single 800W DC Power Supply, Front-to-Back Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately.
EC7200A4F-E6	VSP 7254XTQ Port-Licensed 54-port Ethernet Switch, initially supporting 24 x 10GBASE-T & 4 x 40GBASE-QSFP+ ports. Includessingle 800W AC Power Supply, Front-to-Back Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately.
EC7200A4B-E6	VSP7254XTQ Port-Licensed 54-port Ethernet Switch, initially supporting 24 x 10GBASE-T & 4 x 40GBASE-QSFP+ ports. Includes single 800W AC Power Supply and, Back-to-Front Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately.

Power Supplies

Part Code	Description
EC7205A0F-E6	800W 100-240V AC Power Supply for VSP 7254XTQ, Front-to- Back Airflow.
EC7205A0B-E6	800W 100-240V AC Power Supply for VSP 7254XTQ, Back-to-Front Airflow.
EC8005001-E6	800W DC Power Supply for VSP 7200/8000, Front-to-Back Airflow.

Licenses

Part Code	Description
380176	VSP7200/8000 Premier License
380177	VSP7200/8000 Premier License with MACsec.
386914	Port License for VSP 7200. Optional license that enables all ports, for use on 1 Switch, and may be used independently or in combination with Premier Software License.

Accessories

Part Code	Description
EC8011002-E6	Slide Rack Mount Kit (300-900mm).
EC7200BTF-E6	Spare/Replacement Fan Module for VSP 7200, Back-to-Front Airflow, 3 required per Switch.
EC7200FTB-E6	Spare/Replacement Fan Module for VSP 7200, Front-to-Back Airflow, 3 required per Switch.
AL2011020-E6	DB-9 Female to RJ-45 Console Connector (RED)
AL2011021-E6	DB-9 Male to RJ-45 Console Connector (BLUE)
AL2011022-E6	RJ-45/DB-9 Integrate Console Cable

GSA Models

Part Code	Description
EC720002F-E6GS	VSP7254XTQ, GSA Version. Includes single 800W DAC Power Supply, Front-to-Back Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately
EC7200A2B-E6GS	VSP7254XTQ, GSA Version. Includes single 460W AC Power Supply, Back-to-Front Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately
EC7200A2F-E6GS	VSP7254XTQ, GSA Version. Includes single 460W AC Power Supply, Front-to-Back Airflow Fans, and Base Software License. Slide Rack Mount Kit sold separately

Ordering Notes

Product ordering and hardware installation considerations:

- A power cord is not included and must be ordered separately for switches and power supplies. For a list of available power cords, please refer to "Lifecycle Notification on VSP Power Cord Models" at: http://bit.ly/2q1YBgo
- Extreme Networks recommends that Customers order a Slide Rack Mount Kit with every unit; the 300-900mm kit is designed to fit within most 4-post rack mount systems. Rack mounting with just two post ears would likely cause warping of the rack due to the weight of the unit and is therefore not recommended. Customers are advised to use mounting ears only in conjunction with a supporting shelf.
- A Console Cable is not shipped with the unit and, if required, must be ordered separately.
- All GSA part codes have Taiwan as their Country of Origin.

Maintenance Services

Extreme's maintenance and support services are provided 100% by in-house engineering experts. We have a rate of over 90% first-person resolution, ensuring efficient operation of your business-essential network.

With 24x7x365 phone support, advanced parts replacement, and on-site support, we augment your staff with expert resources to help you mitigate critical network issues fast. Visit Extreme Maintenance Services for more information.

Optics/Transceivers

For a list of the optics and transceivers supported on the 7200 Series hardware, refer to our Extreme Optics Compatibility Tool.

Additional Information

For further information about the Extreme VSP 7200 Series, visit www.extremenetworks.com/products.