



H3C S7500E V7 Series Enterprise Core Switch

Release Date: August, 2020



New H3C Technologies Co., Limited

Overview

S7500E switch series has been one of the best-selling products since it has been released worldwide nine years ago, with H3C's proprietary operating system upgrade from V5 to V7, S7500E switch series has revived and equipped the following benefits and features:

- Upgraded per slot bandwidth and whole switch series performance
- High port density 10G line cards
- MDC (Multitenant Devices Context), EVI (Ethernet Virtualization Interconnect), VXLAN and MACsec
- IRF2 (Intelligent Resilient Framework version 2)
- Convergence of MPLS, VPN, and multiple services
- MP-BGP based EVPN solution

These whole new switch series are perfectly for enterprise network upgrade and maximize your network ROI and reduce your TCO. The whole brand new S7500E V7 switch series include S7503E-M and S7506E-NonPoE.



S7503E-M



S7506E-NonPoE

H3C S7500E Switch Series

Features

High port density 10G line card

- Supports high-density 48 port 10G interfaces line card and can meet the existing and future application requirements of data centers.

Virtualization technologies - IRF2

- IRF2 can virtualize up to four S7500E V7 switches into one logical IRF fabric. IRF2 delivers the following benefits:
- High Availability (HA) - Patented hot standby technology to provide data backup and non-stop forwarding on the control plane and data plane. This improves availability, performance, eliminates single-point failures and ensures service continuity.
- Distribution - Multi-chassis link aggregation to enable load sharing and backup over multiple uplinks, improving redundancy and link utilization.
- Easy Management - A single IP address to manage the whole IRF fabric, which simplifies device and topology management, improving operating efficiency, and lowering network maintenance cost.

Virtualization technologies – MDC Capability

- MDC virtualizes one S7500E V7 switch (except S7503E-M) into multiple logical switches, enabling multiple services to share one core switch.
- The 1:N virtualization maximizes switch utilization, reduces network TCO, and ensures isolation of services.

DC-oriented features

- EVI is a MAC-in-IP technology that provides Layer 2 connectivity between distant Layer 2 network sites across an IP routed network. It is used for connecting geographically dispersed sites of a virtualized large-scale data center that requires Layer 2 adjacency.
- VXLAN (Virtual Extensible LAN) — VXLAN uses a MAC-in-UDP encapsulation method where the original Layer 2 package is added with a VXLAN header, and is then placed in a UDP-IP packet. With the help of MAC-in-UDP encapsulation, VXLAN tunnels Layer 2 network over Layer 3 network which provides two major benefits: higher scalability of Layer 2 segmentation and better utilization of available network paths.
- MP-BGP EVPN (Multiprotocol Border Gateway Protocol Ethernet Virtual Private Network) uses standard-based BGP protocol as the control plane for VXLAN overlay networks, providing BGP based VTEP auto peer discovery and end-host reachability information distribution. MP-BGP EVPN delivers many benefits, such as eliminating traffic flooding, reducing full mesh requirements between VTEPs via the introduction of BGP RR, achieving optimal flow based end to end load sharing and more.

Comprehensive MPLS/VPLS capability

- H3C S7500E V7 switch series supports Multi-VRF function, which can be used as MCE equipment supporting L3 MPLS VPN and L2 MPLS VPN (Martini and Kompella). It also supports MPLS OAM function, which brings easier management and maintenance. Working with H3C intelligent Management Centre (iMC) MPLS VPN Manager allows easy MPLS deployment and maintenance.
- H3C S7500E V7 switch series also supports VPLS, VLL, hierarchical VPLS and QINQ+VPLS access

methods, providing end-to-end layer 2 VPN access solution.

High-performance IPv4/IPv6 service capabilities

- H3C S7500E V7 switch series comes with IPv4/IPv6 dual-stack platform that provides sophisticated IPv4/IPv6 solutions by supporting multiple tunnels, IPv4/IPv6 Layer 3 routing protocols, multicasting, and policy-based routing. The S7500E V7 switch series is a mature

Hardware level encryption technology MACsec

- H3C S7500E V7 switch series supports hardware level encryption technology MACsec (802.1ae), which is an industry-standard security technology that provides secure communication for all traffic on Ethernet links. Compared with traditional application based software encryption technology, MACsec provides point-to-point security on Ethernet links between directly connected nodes and is capable of identifying and preventing most security threats.

Hardware Specifications

Features	7503E-M		7506E-NonPoE
Switching capacity*	960Gbps		1.28Tbps
Forwarding capacity*	720Mpps		960Mpps
Total slots	3		8
LPU slots	Max. 2		6
MPU Name	LSQM1CGP24TSSC0 LSQM1CGT24TSSC0	LSQM1CTGS24QSFD0	LSQM3MPUB0
MPU Processor	1GHz 2 cores		1GHz 2 cores
MPU Flash /SDRAM	Flash 2GB SDRAM 2GB		Flash 1GB SDRAM 2GB
MPU Console Ports	1x RJ-45 1x USB console		1x RJ-45 1x USB console
MPU MGMT Ports	1x 10/100/1000M RJ-45	1x 10/100/1000M RJ-45 1x 1000M SFP	1x 10/100/1000M RJ-45 1x 1000M SFP
MPU USB Port	1		1

Features	7503E-M	7506E-NonPoE
Switching fabric module slots	Included in CPU engine	
Redundancy	Redundant MPUs, power modules, and fan trays	
Operating environment	Temperature: 0°C to 45°C (32°F to 113°F) Humidity: 5% to 95% (non-condensing)	
Input voltage	100 ~ 240V AC; 50/60Hz; 16A	
Maximum power consumption	460W	1320W
Dimension (H x W x D)	175 x 436 x 420 mm (4U) 6.9 x 17.2 x 16.5 in	575 x 436 x 420 mm (13U) 22.6 x 17.2 x 16.5 in
Fully loaded weight	< 27 Kg < 59.5 lb	< 77Kg < 169.8 lb

*The Switching and Forwarding capacity parameters are applicable for regions outside Greater China.

Software Specifications

Features	7503E-M	7506E-NonPoE
Ethernet	IEEE 802.1P(CoS priority) IEEE 802.1Q VLAN (up to 4094 VLANs) IEEE 802.1ad (QinQ), selective QinQ and Vlan mapping DLDP LLDP Static MAC configuration Limited MAC learning Port mirroring and traffic mirroring Port aggregation, port isolation, and port mirroring IEEE 802.1D (STP)/802.1w (RSTP)/802.1s (MSTP) IEEE 802.3ad (dynamic link aggregation), static port aggregation, and multi-chassis link aggregation RRPP (Rapid Ring Protection Protocol)	

	<p>Jumbo frame</p> <p>SuperVLAN</p> <p>PVLAN</p> <p>Multicast VLAN+</p>
Routing	<p>Max. 256K IPV4 routing entries</p> <p>Static routing, RIP, OSPF, IS-IS, and BGP4</p> <p>IPv4/IPv6 ECMP</p> <p>VRRP</p> <p>IPv4/IPv6 Policy-based routing</p> <p>IPv4/IPv6 Routing policy</p> <p>IPv4/IPv6 dual stack</p> <p>IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+</p> <p>VRRPv3</p> <p>Pingv6, Tenetv6, FTPv6, TFTPv6, DNSv6, and ICMPv6</p> <p>IPv4-to-IPv6 transition technologies, such as IPv6 manual tunnel, 6to4 tunnel, ISATAP tunnel, GRE tunnel, and auto IPv4-compatible IPv6 tunnel</p>
Multicast	<p>PIM-DM, PIM-SM, PIM-SSM, MSDP, MBGP, and Any-RP</p> <p>IGMP V1/V2/V3 and IGMP V1/V2/V3 snooping</p> <p>PIM6-DM, PIM6-SM, and PIM6-SSM</p> <p>MLD V1/V2 and MLD V1/V2 snooping</p> <p>Multicast policies and Multicast QoS</p>
ACL/QoS	<p>Standard and extended ACLs</p> <p>Ingress and egress ACLs</p> <p>VLAN ACLs</p> <p>Global ACLs</p> <p>Diff-Serv QoS</p> <p>SP, WRR, SP+WRR, WFQ</p> <p>Traffic shaping</p> <p>Congestion avoidance</p> <p>Priority marking and remarking</p> <p>802.1p, TOS, DSCP, and EXP priority mapping</p>
SDN/ OpenFlow	<p>OpenFlow 1.3</p> <p>Multiple controllers (EQUAL, master/slave)</p> <p>Multiple tables flow</p> <p>Group table</p>



	Meter
VXLAN	<p>VXLAN L2 switching</p> <p>VXLAN L3 routing</p> <p>VXLAN VTEP</p> <p>IS-IS+ENDP distributed control plane</p> <p>MP-BGP+EVPN distributed control plane</p> <p>OpenFlow+Netconf centralized control plane</p>
MPLS/VPLS	<p>L3 MPLS VPN</p> <p>L2 VPN: VLL (Martini, Kompella)</p> <p>MCE</p> <p>MPLS OAM</p> <p>VPLS, VLL</p> <p>Hierarchy VPLS, QinQ+VPLS</p> <p>P/PE function</p> <p>LDP</p>
Security	<p>Hierarchical user management and password protection</p> <p>EAD</p> <p>Portal authentication</p> <p>MAC authentication</p> <p>IEEE 802.1x and IEEE 802.1x SERVER</p> <p>AAA/Radius</p> <p>HWTACACS</p> <p>SSHv1.5/SSHv2</p> <p>Basic and advanced ACLs for packet filtering</p> <p>OSPF, RIPv2, BGPv4 plain text and MD5 authentication</p> <p>IP address, VLAN ID, MAC address multiple binding combination</p> <p>uRPF</p> <p>Active/standby data backup</p>
System management	<p>IMC network management system</p> <p>Loading and upgrading through XModem/FTP/TFTP</p> <p>SNMP v1/v2/v3</p> <p>sFlow, NetStream</p> <p>RMON and groups 1, 2, 3 and 9</p> <p>NTP clocks</p>



	<p>Fault alarm and automatic fault recovery</p> <p>System logs</p> <p>Device status monitoring mechanism, including the CPU engine, backplane, chips and other key components</p>
HA	<p>1+1 redundancy for key components such as MPUs and M+N redundancy for power modules</p> <p>Passive backplane</p> <p>Hot swapping for all components</p> <p>Real-time data backup on active/standby MPUs</p> <p>Hot patching</p> <p>NSR/GR for OSFP/BGP/IS-IS/RSVP</p> <p>Port aggregation and multi-card link aggregation</p> <p>BFD for VRRP/BGP/IS-IS/OSPF/RSVP/static routing, with a failover detection time less than 50 milliseconds</p> <p>Ethernet OAM (802.1ag and 802.3ah)</p> <p>RRPP/ERPS</p> <p>DLDP</p> <p>VCT</p> <p>Smart-Link</p> <p>ISSU</p>
EMC	<p>FCC Part 15 Subpart B CLASS A</p> <p>ICES-003 CLASS A</p> <p>VCCI CLASS A</p> <p>CISPR 32 CLASS A</p> <p>EN 55032 CLASS A</p> <p>AS/NZS CISPR32 CLASS A</p> <p>CISPR 24</p> <p>EN 55024</p> <p>EN 61000-3-2</p> <p>EN 61000-3-3</p> <p>ETSI EN 300 386</p>
Environmental standards compliance	<p>RoHS</p> <p>REACH</p> <p>WEEE</p>
Safety	<p>UL 60950-1</p> <p>CAN/CSA C22.2 No 60950-1</p>

	IEC 60950-1 EN 60950-1 AS/NZS 60950-1 FDA 21 CFR Subchapter J GB 4943.1
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Ordering Information

Product ID	Product Information
LS-7503E-M-GL	H3C S7503E-M Ethernet Switch Chassis
LS-7506E-NonPoE-GL	H3C S7506E Ethernet Switch Chassis,NonPoE
LSQM3MPUB0	H3C S7506E-NP Switch and Route Processing Unit
LSQM1CGP24TSSC0	H3C S7503E-M Main Processing Unit with Switching and Routing,Providing 24*1000BASE Ethernet Optical Interfaces(SFP,LC)+ 4*10G Ethernet Optical Interfaces(SFP+,LC)(SC)
LSQM1CGT24TSSC0	H3C S7503E-M Main Processing Unit with Switching and Routing,Providing 24*10/100/1000BASE-T Ethernet Copper Interfaces(RJ45)+ 4*10G Ethernet Optical Interfaces(SFP+,LC)(SC)
LSQM1CTGS24QSFD0	H3C S7503E-M Main Processing Unit with Switching and Routing,Providing 24*10G Ethernet Optical Interfaces(SFP+,LC)+ 2*40G/1*100G Ethernet Optical Interface(QSFP28)(FD)
PSR650C-12A-GL	Ethernet Switch AC Power Supply Module,650W
PSR650C-12D-GL	Ethernet Switch DC Power Supply Module,650W
PSR2500-12D-GL	2500W DC Power Supply Module
PSR2500-12AHD-GL	2500W AC Power Supply Module,Supply HVDC
LSQM2AC300-GL	H3C PSR320A,AC Power Supply Module,300W
LSQM2AC650-GL	H3C PSR650A,AC Power Supply Module,650W
LSQM1DC650-GL	H3C PSR650D,DC Power Supply Module,650W
LSQM2AC1400-GL	H3C S7500E AC Power Supply Module,1400W
LSQM2GP48SA0	48-Port GE Optical Interface Module(SFP,LC)(SA)
LSQM2GP24TSSA0	24-Port GE Optical Interface(SFP,LC)+4-Port 10GE Optical Interface Module(SFP+,LC)(SA)
LSQM2GT48SA0	48-Port 10/100/1000BASE-T Interface Module(RJ45)(SA)
LSQM2GP44TSSC0	44-Port GE Optical Interface(SFP,LC)+4-Port 10GE Optical Interface Module(SFP+,LC)
LSQM2GP24TSSC0	24-Port GE Optical Interface(SFP,LC)+4-Port 10GE Optical Interface Module(SFP+,LC)
LSQM2GT24PTSSC0	24-Port 10/100/1000BASE-T Interface(RJ45)+20-Port GE Optical Interface(SFP,LC)+4-Port 10GE Optical Interface Module(SFP+,LC)
LSQM2GT24TSSC0	24-Port 10/100/1000BASE-T Interface(RJ45)+4-Port 10GE Optical Interface



	Module(SFP+,LC)
LSQM2GT48SC0	48-Port 10/100/1000BASE-T Interface Module(RJ45)
LSQM1TGS16FD0	H3C S7500E 16-Port 10G Ethernet Optical Interface Module(SFP+,LC)(FD)
LSQM1TGS24FD0	H3C S7500E 24-Port 10G Ethernet Optical Interface Module(SFP+,LC)(FD)
LSQM1GP48FD0	H3C S7500E 48-Port 1000BASE Ethernet Optical Interface Module(SFP,LC)(FD)
LSQM1GP40TS8FD0	H3C S7500E 40-Port 1000BASE Ethernet Optical Interface (SFP,LC)+8-Port 10G Ethernet Optical Interface Module(SFP+,LC)(FD)
LSQM1GT48FD0	H3C S7500E 48-Port 1000BASE-T Ethernet Copper Interface Module(RJ45)(FD)
LSQM1TGS24QSFD0	H3C S7500E,24-Port 10G Ethernet Optical Interfaces(SFP+,LC)+ 2-Port 40G/1-Port 100G Ethernet Optical Interface Module(QSFP28)(FD)
LSQM1TGT24FD0	H3C S7500E 24-Port 10GBASE-T Ethernet Copper Interface Module(RJ45)(FD)
LSQM1CQGS12SG0	H3C S7500E 12-Port 40G/4-Port 100G Ethernet Optical Interface Module(QSFP28)(SG)
LSQM2TGS48SG0	H3C S7500E 48-Port 10G Ethernet Optical Interface Module(SFP+,LC)(SG)
LSQM1QGS24RSG0	H3C S7500E 24-Port 40G Ethernet Optical Interface Module(QSFP+)(SG)
LSQM1TGS48RFE0	H3C S7500E 48-Port 10G Ethernet Optical Interface Module(SFP+,LC)(FE)
LSQM1CGS2FE0	H3C S7500E 2-Port 100G Ethernet Optical Interface Module(QSFP28)(FE)



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