DONEWIN
Global ICT Solutions Provider

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 commercial IPv6 product that has passed the IPv6 network access certification of the Chinese Ministry of Industry and Information Technology and the IPv6 Ready Phase II certification.

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)	

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

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

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

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

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)