H3C S6526XE-HI Series Advanced Aggregation 10GE Switches

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New H3C Technologies Co., Limited

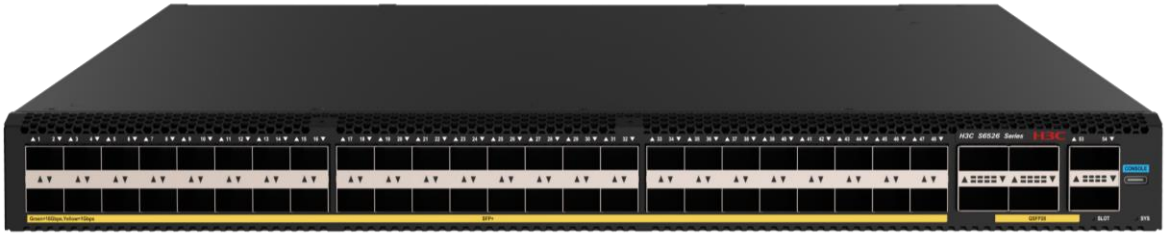
Product Overview

H3C S6526XE-HI series switches — Industry-leading high performance and scalable 10GE access switching solution with modular dual power, fixed or modular uplinks (10GE/40GE/100GE) and IRF for resiliency. The series offers OSPF/BGP and multicast, SDN enabled and flexible management.

H3C S6526XE-HI series switches contain the following models:

- H3C S6526XE-32X6CC-HI: 32 × 1G/10G SFP+ Ports, 6 × 40G/100G QSFP28 Ports, and 1 × Slot
- H3C S6526XE-48X6CC-HI: 48 × 1G/10G SFP+ Ports, 6 × 40G/100G QSFP28 Ports, and 1 × Slot

S6526XE-32X6CC-HI



S6526XE-48X6CC-HI

Features and Benefits

Open Application Architecture

In H3C open application architecture (OAA), the switch can accommodate high-performance OAP modules to offer dedicated services such as firewall, IPS, or load balancing in addition to conventional forwarding services. By installing OAP modules, the customers can use the switch as a multiservice device without having to buy separate service appliances, such as a firewall device.

High-Density 10GE Forwarding

The switch offers high-density 10GE forwarding and can expand 10GE ports flexibly. It provides 48/32*10/1GE autosensing SFP+ ports, 6*QSFP28 ports with one expansion slots that support up to modules range from GE to 10GE, 25GE, 40GE, 100GE and Multigiga ports. Using a QSFP+ to SFP+ splitter cable, you can split a QSFP+ port into four line-rate 10GE SFP+ ports. Max 72*10GE supported on one single switch.

Embedded Access Controller

H3C S6526XE-HI implements the WLAN function by installing an AC feature pack on the main control unit, thereby implementing both the wired function and the WLAN function on a single device. Embedded AC is a low-cost WLAN solution, save overall investment, improve forwarding capacity, realized a true unified wired and wireless solution in Campus. Max 2K APs supported on one single switches.

H3C Intelligent Resilient Framework 2 (IRF2)

H3C Intelligent Resilient Framework 2 (IRF 2) virtualizes multiple S6526XE-HI switches into one virtual switch and provides the following benefits:

- **Scalability:** IRF 2 allows you to add devices to the IRF 2 system easily. It provides a single point of management, enables switch plug-and-play, and supports software auto-update for software synchronization from the master to the new member devices. It brings business agility with lower total cost of ownership by allowing new switches to be added to the fabric without network topology change as business grows.

- **High availability:** The H3C proprietary routing hot backup technology ensures redundancy and backup of all information on the control and data planes and non-stop Layer 3 data forwarding in an IRF 2 fabric. It also eliminates single point of failure and ensures service continuity.

- **Redundancy and load balancing:** The distributed link aggregation technology supports load sharing and mutual backup among multiple uplinks, which enhances the network redundancy and improves link resources usage.

- **Flexibility and resiliency:** The switch use standard GE ports instead of specialized ports for IRF links between IRF member devices. This allows customers to assign bandwidth as needed between uplink,

downlink, and IRF system connections. In addition, an S6526XE-HI IRF fabric can span a rack, multiple racks, or multiple campuses.

Wide Range of Advanced Features

The switch offers a wide range of features, including:

- **Modular hardware and software design:** The switch uses modular, hot swapping, and redundancy design for hardware, including power modules and fan trays. The switch also uses modular design for software, which enables feature installation and removal on an as-needed basis. Refined physical architecture and optimized software workflows greatly reduce the end-to-end packet processing delay.
- **Software-defined networking (SDN):** An innovative network architecture that separates the control plane from the forwarding plane, typically by using OpenFlow. SDN significantly simplifies network management, reduces maintenance complexities and costs, enables flexible traffic management, and offers a good platform for network and application innovations.
- **Virtual eXtensible LAN (VXLAN):** A MAC-in-UDP technology that provides Layer 2 connectivity between distant network sites across an IP network. VXLAN enables long-distance virtual machine and data mobility and is typically used in data centers and the access layer of campus networks for multitenant services. The H3C implementation of VXLAN supports automatic VXLAN tunnel establishment with EVPN.
- **Ethernet Virtual Private Network (EVPN):** A Layer 2 VPN technology that provides both Layer 2 and Layer 3 connectivity between distant network sites across an IP network. EVPN uses MP-BGP in the control plane and VXLAN in the data plane. EVPN provides the following benefits: Configuration automation; Separation of the control plane and the data plane; Integrated routing and bridging (IRB).
- **In-Service Software Upgrade (ISSU) and Operation, Administration, and Maintenance (OAM):** Ensure business continuity and improve Ethernet management and maintainability.

Comprehensive Security Control Policies

The switch supports AAA authentications (including RADIUS authentication) and dynamic or static binding of user identifiers such as user account, IP address, MAC address, VLAN, and port number. Using the switch in conjunction with H3C IMC, you can manage and monitor online users in real time and take prompt action on illegitimate behaviors.

The switch offers a large number of inbound and outbound ACLs and VLAN-based ACL assignment. This simplifies configurations and saves ACL resources.

High Availability

In addition to node and link protection, the switch offers the following hardware high availability features:

- 1+1 power module redundancy and N+1 fan tray redundancy.
- Hot-swappable interface modules.
- Automatic power and fan tray status monitoring and alarming mechanisms.
- Automatic fan speed adjustment based on the change in temperature.
- Self-protection mechanisms that protect power modules against overcurrent, overvoltage, and overtemperature conditions.

Outstanding Management Capacity

The switch provides a variety of management features and is easy to manage. It offers the following device management features:

- Provides multiple management interfaces, including the console port, out-of-band management Ethernet port, and USB port.
- Supports configuration and management from CLI or H3C IMC Intelligent Management Center.
- Supports multiple access methods, including SNMPv1/v2c/v3, Telnet, and more secure SSH 2.0 and SSL.
- Uses OAM to enhance system management capability.
- Supports FTP for system upgrade.

Smart Management Center (SmartMC)

SmartMC is H3C's latest offering and innovation that helps small and middle size enterprise network to address management issue and is free of charge, easy to use web management tool. SmartMC is embedded network management tool into the switch, it includes commander switches and other access switches.

SmartMC delivers the following benefits:

- **Intelligent operation:** once the switch is powered on and SmartMC function is enabled, topology will be created automatically, and user can go enhanced web GUI to check the latest status.
- **Centralized management:** all management can be achieved via commander switch such as centralized configuration backup, and software version management, increasing working efficiency.
- **One key device replacement:** in case of one switch failure, the new added same type switch can

download the same configuration and work as old switch immediately.

Multichassis Link Aggregation Group (M-LAG)

H3C S6526XE-HI series switches support M-LAG, which enables links of multiple switches to aggregate into one to implement device-level link backup. M-LAG is applicable to servers dual-homed to a pair of access devices for node redundancy.

- Streamlined topology: M-LAG simplifies the network topology and spanning tree configuration by virtualizing two physical devices into one logical device.
- Independent upgrading: The DR member devices can be upgraded independently one by one to minimize the impact on traffic forwarding.
- High availability: The DR system uses a keepalive link to detect multi-active collision to ensure that only one member device forwards traffic after a DR system splits.

Visualization Ability

H3C S6526XE-HI series switches support Telemetry technology, which can send the switch's real-time resource information and alarm information to the O&M platform through the gRPC protocol.

The platform can realize network quality backtracking, troubleshooting, risk early warning, architecture optimization and other functions to accurately guarantee user experience by analyzing real-time data.

Hardware Specifications

Item	S6526XE-32X6CC-HI	S6526XE-48X6CC-HI
CPU	Quad core, 2GHz	
Flash/SDRAM	4GB/4GB	
Packet Buffer	32M	
Port Switching capacity	2240Gbps	2560Gbps
Packet forwarding rate	1002Mpps	1002Mpps
Latency	10GE:<3 (64byte/us) 100GE:<1 (64byte/us)	
Dimensions (H × W × D)	44 × 440 × 400 mm (1.73 × 17.32 × 15.75 in)	
Weight	≤ 7.9 kg	≤ 8.1 kg
Console ports	1 RJ45 and 1 Type-C	
Management Ethernet ports	1 RJ45 port (Out Of Band)	

Item	S6526XE-32X6CC-HI	S6526XE-48X6CC-HI
USB ports	1	
SFP+	32	48
QSFP28	6	6
Expansion slots	1	1
Input voltage range	AC: Rated: 100 VAC to 240 VAC @ 50 Hz/60 Hz Max: 90 VAC to 264 VAC @ 47 Hz to 63 Hz	
	HVDC: Rated voltage range: 240V DC Max voltage range: 180V ~ 320V DC	
	DC: Rated voltage range: –48 to –60 VDC Max voltage range: –36 to –72 VDC	
Power consumption (Minimum)	Single AC: 89W Dual AC： 90W Single DC: 86W Dual DC： 98W	Single AC: 85W Dual AC： 89W Single DC: 83W Dual DC： 96W
Power consumption (30% traffic load, based on Alliance for Telecommunications Industry Solutions (ATIS)	Single AC: 117W Dual AC： 125W Single DC: 123W Dual DC： 126W	Single AC: 118W Dual AC： 129W Single DC: 124W Dual DC： 131W
Power consumption (100% traffic load, based on Alliance for Telecommunications Industry Solutions (ATIS)	Single AC: 237W Dual AC： 242W Single DC: 249W Dual DC： 256W	Single AC: 251W Dual AC： 255W Single DC: 262W Dual DC： 265W
Operating temperature	-5ºC to 45ºC (23°F to 113°F) From -60m to 5000m altitude: From 0m, the maximum operating temperature reduce by 0.33℃ for every time 100 the altitude increases by 100m.	
Storage temperature	-40℃ to 70℃(-40°F to 158°F)	
Operating & storage humidity	5% RH to 95% RH, non-condensing	
MTBF(Year)	116.18	110.03

Item	S6526XE-32X6CC-HI	S6526XE-48X6CC-HI
MTTR(Hour)	1	1

Note: This content is applicable only to regions outside mainland China. H3C reserves the right to interpret the content.

Software Specifications

Feature	S6526XE-HI switch series
VLAN	VLAN ID range 0 to 4095(Total 4096, 0 and 4095 are reserved) Access/Trunk/Hybrid VLAN port-based VLAN MAC-based VLAN IP subnet-based VLAN protocol-based VLAN IEEE 802.1P(CoS priority) Super VLAN Private VLAN Voice VLAN QinQ (802.1Q-in-802.1Q) Vlan mapping Static/Dynamic/Blackhole/Multiport unicast MAC MAC automatic learning and aging port-based/VLAN-based MAC learning limit MAC filter port isolation Loop detection (VLAN and VXLAN network) MVRP (Multiple VLAN Registration Protocol) GVRP (Generic VLAN Registration Protocol) STP (Spanning tree protocol) RSTP (Rapid Spanning Tree Protocol) MSTP (Multiple Spanning Tree Protocol) PVST (Per-VLAN Spanning Tree) (compatible with PVST+/RPVST+) BPDU/root/loop/TC-BPDU/PVST BPDU/dispute loopback guard BPDU filter role/TC-BPDU transmission restriction LLDP (Link Layer Discovery Protocol) and LLDP-MED DCBX (Data Center Bridging Exchange Protocol) Broadcast/multicast/unknown unicast storm constrain Jumbo frame Store-and-forward (Default) Cut-through-forward
Ethernet link aggregation	static aggregation dynamic aggregation 10GE/25G/40GE/100GE port aggregation LACP (Link Aggregation Control Protocol)

Feature	S6526XE-HI switch series
	S-MLAG M-LAG (Multichassis Link Aggregation)
IP Services	Static/Dynamic/Gratuitous/proxy ARP ARP snooping/fast-reply/direct route advertisement/ping ARP attack detection ARP source suppression DHCP (Dynamic Host Configuration Protocol) DHCP Server/relay agent/client/snooping DNS (Domain Name System) DDNS (Dynamic Domain Name System) mDNS (Multicast Domain Name System) IRDP (ICMP Router Discovery Protocol) UDP helper ND (Neighbor Discovery) ND snooping/proxy/direct route advertisement/ping DHCPv6 Server/relay agent/client/snooping/guard GRE (Generic Routing Encapsulation) HTTP redirect GRE tunneling VXLAN tunneling and VXLAN-DCI tunneling IPv4/IPv6 over IPv4 tunneling, and IPv4/IPv6 over IPv6 tunneling IPv4/IPv6 Fast Forwarding
Routing	Static routing, RIP, OSPF, IS-IS, and BGP IPv4/IPv6 dual stack IPv4/IPv6 ECMP (Equal-cost multi-path routing) IPv4/IPv6 PBR (Policy-based routing) IPv4/IPv6 Routing policy IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+ Pingv6, Telnetv6, FTPv6, TFTPv6, DNSv6, ICMPv6 Dual-stack PBR
Multicast	PIM-DM, PIM-SM, PIM-SSM, and Any-RP PIM snooping MSDP (Multicast Source Discovery Protocol) IGMPv1/IGMPv2/IGMPv3 IGMP proxying IGMP Snooping IGMP snooping proxying IGMP Filter and IGMP Fast leave IPv6 PIM-DM, PIM-SM, PIM-SSM, and Any-RP IPv6 PIM snooping MLDv1/MLDV2 MLD proxying MLD Snooping

Feature	S6526XE-HI switch series
	MLD snooping proxying Multicast routing and forwarding Multicast VLAN MVPN (Multicast VPN) Multicast policy and Multicast QoS
ACL/QoS	ACL (Access Control List) advanced ACL User-defined ACL Ingress and Egress ACL Ingress/Egress CAR Diff-Serv QoS Eight queues on a port 802.1P/DSCP Priority marking and remarking 802.1p, TOS, DSCP, and EXP priority mapping Flexible queue scheduling algorithms including SP, WRR, SP+WRR, WFQ, SP+WRR Traffic shaping Time ranges Traffic classification based on source MAC, destination MAC, source IP, destination IP, port, protocol, and VLAN Congestion avoidance, Tail-Drop, RED (Random Early Detection) and WRED(Weighted Random Early Detection)
MPLS	Static LSP (label switched path) LDP (Label Distribution Protocol) IPv6 LDP Tunnel policies VRF MPLS L2VPN MPLS L3VPN MPLS Ping/Tracert MCE (Multi-VPN Instance Customer Edge) IPv6 MCE MPLS OAM
Security	RBAC (Role-based access control) AAA (Authentication, Authorization, and Accounting) RADIUS (Remote Authentication Dial-In User Service) TACACS (Terminal Access Controller Access Control System) HWTACACS (HW Terminal Access Controller Access Control System) (Same authentication processes and implementations with TACACS+) 802.1X authentication Portal authentication MAC authentication Web authentication Triple authentication

Feature	S6526XE-HI switch series
	Port security SSH1.x and SSH2.0 (Secure Shell) SSL (Secure Sockets Layer) HTTPs Public Key Infrastructure (PKI) Control Plane Protection (CoPP), Wireless Intrusion Prevention System (WIPS) Attack detection and prevention TCP attack prevention IPSG (IP source guard) IPv6 RA Guard ARP attack protection ND attack protection uRPF (Unicast Reverse Path Forwarding) MFF (MAC-forced forwarding) SAVI (Source Address Validation Improvement) FIPS (Federal Information Processing Standards) MACsec (Media Access Control Security) Microsegmentation Hierarchical user management and password protection EAD (Endpoint Admission Defense) Basic and advanced ACLs for packet filtering OSPF, RIPv2, BGPv4 plain text and MD5 authentication
High Availability	Ethernet OAM (IEEE 802.3ah) CFD (Connectivity Fault Detection) (IEEE 802.1ag and ITU-T Y.1731) DLDP (Device Link Detection Protocol) RRPP (Rapid Ring Protection Protocol) ERPS (G.8032 Ethernet Ring Protection Switching) Smart Link Monitor Link VRRPv2(Virtual Router Redundancy Protocol) VRRPv3 BFD (Bidirectional forwarding detection) Hardware BFD BFD for VRRP/BGP/IS-IS/OSPF/RSVP/static routing, with a failover detection time less than 50 milliseconds Track Process redundancy/placement CPU protection Hot patching Link aggregation VCT (virtual cable test) Smart-Link Secure boot

Feature	S6526XE-HI switch series
	ISSU (In-Service Software Upgrade)
Network Management	NQA (Network quality analyzer) iNQA (Intelligent Network Quality Analyzer) performance management through gRPC or NETCONF NTP (Network Time Protocol) PTP (Precision Time Protocol) IEEE 1588 version 2/IEEE 802.1AS/SMPTE ST 2059-2/AES67-2015 SNMPv1/SNMPv2c/SNMPv3 RMON (Remote Network Monitoring) and groups 1,2,3 and 9 NETCONF/YANG EAA (Embedded Automation Architecture) Port mirroring SPAN (Switch Port Analyzer)/RSPAN (Remote SPAN) Flow mirroring NetStream/IPv6 NetStream sFlow Information center VCF (Virtual Converged Framework) CWMP (CPE WAN Management Protocol/TR-069) Fault alarm and automatic fault recovery System logs Alarming based on severity Power, fan, and temperature alarming Debugging information output Device status monitoring mechanism, including the CPU engine, backplane, chips and other key components Configuration through CLI, Telnet, and console port Zero Touch Provisioning Loading and upgrading through XModem/FTP/TFTP/SFTP/USB Embedded AC, maximum support management 2K AP iMC network management system SmartMC(embedded Smart Graphical Management Center) Support LLDP-MIB Support Entity MIB
Stacking	Intelligent Resilient Framework 2 (IRF2) (fast convergence within 50ms) Distributed device management Distributed link aggregation Distributed resilient routing Stacking through standard Ethernet ports Local device stacking and remote device stacking LACP-, BFD-, and ARP-based multi-active detection (MAD)
Automatic Configuration	Server-based automatic configuration USB-based automatic configuration
Programmability and Automation	Ansible

Feature	S6526XE-HI switch series
	Auto DevOps by using Python, NETCONF, TCL, and Restful APIs for automated network programming
Visualization	gRPC (Google remote procedure call) INT (Inband Telemetry) Flow group
OpenFlow	OpenFlow 1.3 Multiple controllers (EQUAL, master/slave) Multiple tables flow Group table
VXLAN	VXLAN L2 switching VXLAN L3 routing Centralized VXLAN gateway Distributed VXLAN gateway VXLAN M-LAG VXLAN-DCI OVSDB (Open vSwitch Database) VXLAN VTEP MP-BGP EVPN control plane EVPN VXLAN EVPN M-LAG
Intelligent Lossless Network	PFC (Priority-based Flow Control) ECN (Explicit Congestion Notification) IPCC (Intelligent Proactive Congestion Control) iNOF (Intelligent Lossless NVMe Over Fabric)
EMC	FCC Part 15 Subpart B CLASS A ICES-003 CLASS A VCCI CLASS A CISPR 32 CLASS A EN 55032 CLASS A CISPR 35 AS/NZS CISPR 32 EN 55035 EN 61000-3-2 EN 61000-3-3 ETSI EN 300 386
Safety	UL 62368-1 CSA C22.2 No. 62368-1-14 IEC 62368-1 EN 62368-1 EN 60825-1 AS/NZS 62368-1 GB 4943.1
RoHS	EU RoHS2.0 Directive

Feature	S6526XE-HI switch series
	China RoHS 2.0

Performance Specification

Model	S6526XE-HI
MAC address entries(max)	281K
VLAN table	4K
VLAN interface	4K
IPv4 routing entries(max)	351K
IPv4 ARP entries(max)	170K
IPv4 multicast L2 entries	8000
IPv4 multicast L3 entries	16000
IPv6 unicast routing entries(max)	130K
IPv6 ND entries(max)	48K
IPv6 multicast L2 entries	8000
IPv6 multicast L3 entries	8000
QOS forward queue	8
Jumbo frame length	9216
MAX num in one link group	32
Link group num	128
Max Stacking Member	9
Max Stacking Bandwidth	600Gbps

Ordering Information

Product ID	Product Description
LS-6526XE-32X6CC-HI	H3C S6526XE-32X6CC-HI L3 Ethernet Switch with 32*1G/10G SFP+ Ports, 6*40G/100G QSFP28 Ports, and 1*Slot, Without Power Supplies
LS-6526XE-48X6CC-HI	H3C S6526XE-48X6CC-HI L3 Ethernet Switch with 48*1G/10G SFP+ Ports, 6*40G/100G QSFP28 Ports, and 1*Slot, Without Power Supplies
Fan	
LSPM1FANSA-SN	H3C Fan Module (Fan Panel Side Intake Airflow)

LSPM1FANSB-SN	H3C Fan Module (Fan Panel Side Exhaust Airflow)
Power supply	
PSR450-12A-GL	450W AC Power Supply Module
PSR450-12A1-GL	450W AC Power Supply Module
PSR450-12D	450W DC Power Supply Module
Modules	
LSWM4SP8PM	8-Port 10G SFP Plus with MACSec Interface Module
LSWM2SP8P	8-Port 10G SFP Plus Interface Module
LSWM2QP2P	2-Port 40G QSFP Plus Interface Module
LSWM2ZSP8P	8-Port 25G SFP28 Interface Module
LSWM2ZQP2P	2-Port 100G QSFP28 Interface Module

Datasheet History

Description	Location	Date

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