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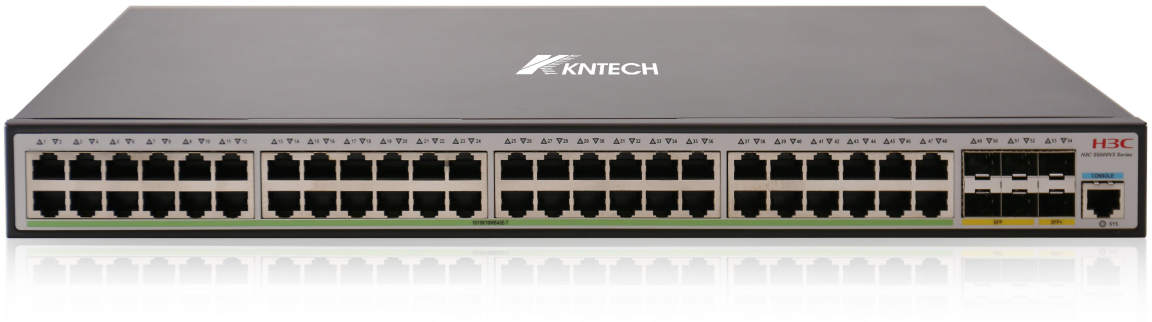
PoE Switch

KNPB-48



SmartMC (Smart Management Center)

As the network scale increases, a large number of access devices are required at the edge of the network, which makes the management of these devices very cumbersome. The main purpose of SmartMC is to solve the problem of centralized management of a large number of scattered network devices. It aims to solve the switch-based operation and maintenance tasks of small enterprises. SmartMC realizes the unified operation and maintenance and management of the network by means of built-in equipment and graphical operation

The four major business segments of SmartMC simplify O&M and management:

Intelligent management:

It mainly includes device role selection, FTP server configuration, global configuration and network management port configuration, etc.

Intelligent operation and maintenance:

It mainly includes group management, device or group upgrade backup, monitoring and device failure replacement, etc.

Visualization:

It mainly includes network topology visualization and management, device list display, etc.

Smart business:

It mainly includes user management, etc.: After creating network access users and successfully activating them, these users can access the inside of the SmartMC network through the port of one-key arming.

High performance IPv4/IPv6 service capability

KNPB-48 series switches implement a hardware-based IPv4/IPv6 dual-stack platform, support multiple tunneling technologies, rich IPv4 and IPv6 layer-3 routing protocols, multicast technology and policy routing mechanism, and provide users with a complete IPv4/IPv6 solution .

IRF2 (Second Generation Intelligent Resilient Architecture)

KNPB-48 series switches support IRF2 (Second Generation Intelligent Resilient Architecture) technology, which is to connect multiple physical devices to each other and make them virtual as a logical device. That is to say, users can regard these multiple devices as one A single device for management and use. IRF can bring the following benefits to users:

- Simplified management: After the IRF architecture is formed, it can be connected to any port of any device to log in to a unified logical device. Through the configuration of a single device, the effect of managing the entire intelligent elastic system and all member devices in the system can be achieved without using Physically connect to each member device to configure and manage them individually.
- Simplify business :The various control protocols running in the logical device formed by IRF also run as a single device. For example, the routing protocol will be calculated as a single device, and with the application of cross-device link aggregation technology, it can replace the original generated Tree protocol, which saves the exchange of a large number of protocol packets between devices, simplifies network operation, and shortens the convergence time when the network is turbulent.
- Elastic Expansion: Flexible expansion can be realized according to user needs to ensure user investment. And when the newly added device joins or leaves the IRF architecture, "hot swap" can be realized without affecting the normal operation of other devices.
- High reliability: The high reliability of IRF is reflected in three aspects: links, devices and protocols. The physical ports between member devices support the aggregation function, and the physical connection between the IRF system and the upper and lower devices also supports the aggregation function, which improves the reliability of the link through multi-link backup; the IRF system is composed of multiple member devices. Once the Master device fails, the system will quickly and automatically elect a new Master to ensure that the business through the system is not interrupted, thus realizing the device-level 1:N backup; the IRF system will have a real-time protocol hot backup function responsible for the configuration information of the protocol Backup to all other member devices to achieve 1:N protocol reliability.
- High performance: For high-end switches, the improvement of performance and port density will be limited by the hardware structure. The performance and port density of the IRF system are the sum of the performance and number of ports of all devices inside the IRF. Therefore, the IRF technology can easily expand the switching capability of the device and the density of user ports several times, thereby greatly improving the performance of the device.

Complete security control strategy

KNPB-48 series switches support the EAD (End Access Control) function, and cooperate with the background system to integrate terminal security measures such as terminal anti-virus and patch repair with network security measures such as network access control and access control into a linked security system , through the inspection, isolation, repair, management and monitoring of network access terminals, the entire network is changed from passive defense to active defense, from single-point defense to comprehensive defense, and from decentralized management to centralized policy management, which improves the network's resistance to viruses, Overall defense against emerging security threats such as worms.

KNPB-48 series switches support centralized MAC address authentication, 802.1x authentication, PORTAL authentication, support dynamic or static binding of user identification elements such as user account, IP, MAC, VLAN, port, etc., and realize user policies (VLAN, QoS, ACL) dynamic distribution; support the real-time management of online users with H3C's iMC system, timely diagnosis and disintegration of illegal network behaviors.

KNPB-48 series switches provide enhanced ACL control logic, support super-capacity ingress port and egress port ACL, and support VLAN-based ACL delivery, which simplifies the user configuration process and avoids the waste of ACL resources. In addition, the KNPB-48 series will also support unicast reverse path lookup technology (uRPF). The principle is that when a data packet is received on an interface of the device, it will look up the path in reverse to verify whether there is a path from the receiving interface to the packet. The route between the source addresses formulated in , that is, its authenticity is verified, and if it does not exist, the data packet will be deleted, so that we can effectively prevent the source address spoofing that is increasingly rampant in the network.

Multiple reliability protection

KNPB-48 series switches have multiple reliability protections at the device level and link level.

KNPB-48 series switches support the reliability design of plugable AC and DC dual power supply modules, and can flexibly configure AC or DC power supply modules according to the needs of the actual environment. In addition, the whole machine also supports fault detection and alarm for power supplies and fans. These designs Make the equipment have higher reliability.

In addition to device-level reliability, the product also supports rich link-level reliability technologies, including protection protocols such as LACP/STP/RSTP/MSTP/Smart Link/RRPP fast ring network protection mechanisms, supports IRF2 intelligent elastic architecture, and supports 1 : N redundant backup, supports ring stacking, supports cross-device link aggregation, greatly improves network reliability, does not affect network convergence time when the network carries multiple services and large traffic, and ensures normal business development.

Rich QoS policies

KNPB-48 series switches support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function, providing based on source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, VLAN stream classification. Provides a flexible queue scheduling algorithm, which can be set based on ports and queues at the same time, and supports SP (Strict Priority), WRR (Weighted Round Robin), and SP+WRR modes. Support CAR (Committed Access Rate) function, the minimum granularity is 16Kbps. Support outbound and inbound port mirroring, which is used to monitor the packets on the specified port, and copy the data packets on the port to the monitoring port for network detection and troubleshooting.

Excellent management

KNPB-48 series switches support rich management interfaces, such as Console port, out-of-band network management port, support SNMPv1/v2/v3 (Simple Network Management Protocol), and can support general network management platforms such as Open View and iMC intelligent management center. Supports CLI command line, Web network management, and TELNET to make device management more convenient, and supports SSH2.0 and other encryption methods to make management more secure.

KNPB-48 series switches support SPAN/RSPAN mirroring and multiple mirroring observation ports, which can analyze network traffic to take corresponding management and maintenance measures, so that the originally invisible network service application traffic becomes clear at a glance, and can provide users with a variety of network Flow analysis reports help users optimize network structure and adjust resource deployment in a timely manner.

Description for Service port	48 10/100/1000Base-T adaptive Ethernet ports, 4 Gigabit SFP ports, and 2 10 Gigabit SFP+ports
Size（Width×Height×Depth,mm）	440×260×43.6
N.W.	≤4.0kg
CONSOLE	1 Port
Input Voltage	AC • Rated voltage range：100V～240V AC，50/60Hz • Maximum voltage range：90V～264V AC，47～63Hz
Power consumption (static)	Single AC: 19W
Power consumption (at full load)	Single AC: 53W
Working temperature	-5℃～45℃
Working environment relative humidity(non-condensing)	5%～95%

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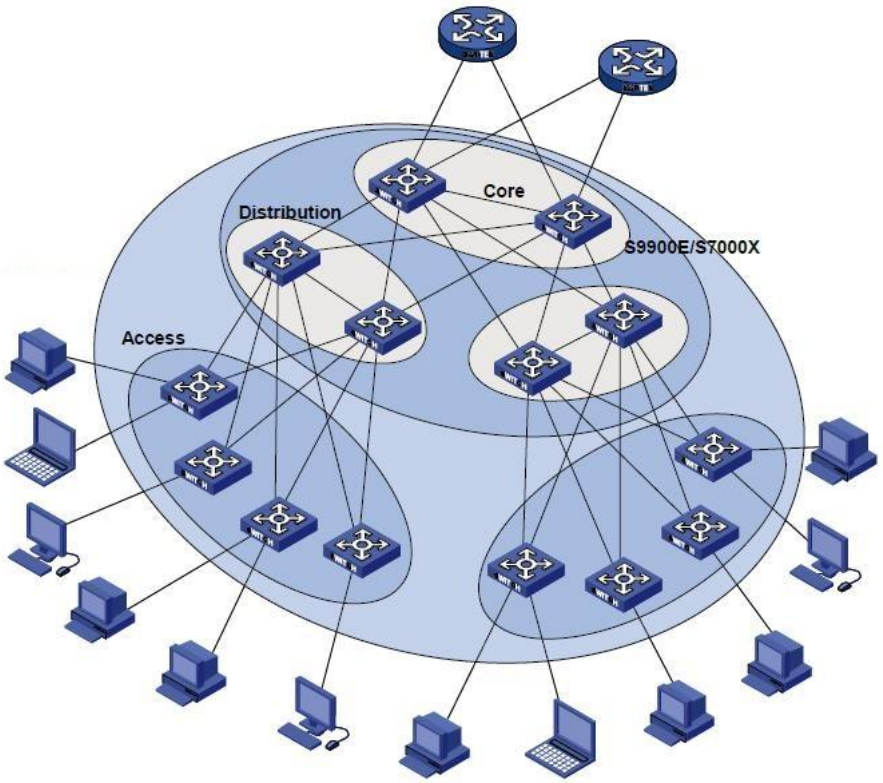
Features

Features	Description for features
Port Aggregation	Support GE port aggregation
	Support 10GEport aggregation
	Support static aggregation
	Support dynamic aggregation
	Support cross device aggregation
Port Features	Support IEEE802.3x flow control (full duplex)
	Support storm suppression based on port rate percentage
	Support storm suppression based on PPS
	Support storm suppression based on bps
Jumbo Frame	Support
MAC 地址表	Support 32k MAC address
	Support black hole MAC address
	Support setting the maximum number of port MAC address learning
VLAN	Supports port based VLAN
	Support MAC-based VLAN
	Protocol-based VLAN
	VLAN based on IP subnet
	Support QinQ，flexible QinQ
	Support VLAN Mapping
	Support Voice VLAN
	Support MVRP
Layer 2 Ring Network Protocol	Support STP/RSTP/MSTP、PVST
	Support SmartLink
	Support RRPP
	Support ERPS Ethernet ring protection protocol（G.8032）
DHCP	DHCP Client
	DHCP Snooping
	DHCP Relay
	DHCP Server
	DHCP Snooping option82/DHCP Relay option82
IRF2	Support IRF2 intelligent elastic architecture

Intelligent Resilient Framework	Support distributed device management, distributed Link aggregation, and distributed elastic routing
	Support stacking through standard Ethernet interfaces and other methods
	Support local and remote stacking
IP Routing	Support static routing
	Support RIPv1/v2，RIPng
	Support OSPFv1/v2，OSPFv3
	Support BGP4，BGP4+ for IPv6
	Support IS-IS
	Support VRRP/VRRPv3
IPv6	Support ND（Neighbor Discovery）
	Support PMTU
	Support IPv6-Ping，IPv6-Tracert，IPv6-Telnet，IPv6-TFTP
	Support manual configuration Tunnel
Multicast	Support IGMP Snooping v1/v2/v3，MLD Snooping v1/v2
	Support PIM Snooping
	Support MLD Proxy
	Support multicast VLAN
	Support IGMP v1/v2/v3，MLD v1/v2
	Support PIM-DM，PIM-SM，PIM-SSM
	Support MSDP，MSDP for IPv6
	Support MBGP，MBGP for Ipv6
Mirror image	Support stream mirroring
	Support local and remote port mirroring
OAM	Support 802.1ag
	Support 802.3ah
Support ACL\QoS	Support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function, provide based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, TCP/UDP port number, VLAN traffic classification
	Support time range ACL
	Support bi-directional ACL policies for inbound and outbound directions
	Supports issuing ACL based on VLAN
	Support to limit the rate of receiving packets and sending packets on the port, the minimum granularity is 16Kbps
	Support message redirection

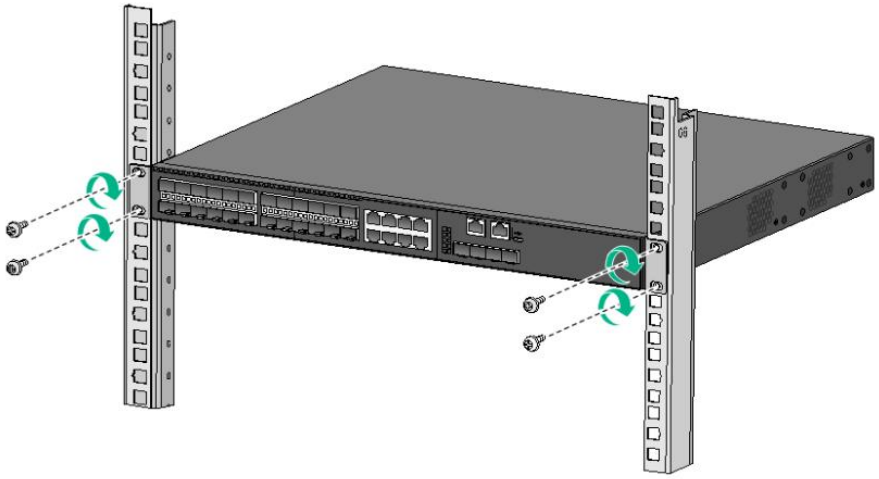
	Supports 802.1p and DSCP priority remarking of packets
	Support CAR（Committed Access Rate）function
	Each port supports 8 output queues, and the CPU port supports 48 queues
	Supports flexible queue scheduling algorithm, which can be set based on ports and queues at the same time, and supports four modes of SP, WRR, WFQ, and SP+WRR
	Support WRED
Safety characteristics	Support user hierarchical management and password protection
	Support 802.1X authentication/centralized MAC address authentication
	Support Guest VLAN
	Support RADIUS Certificate
	Support SSH 2.0
	Support port isolation
	Support port security
	Support PORTAL authentication
	Support EAD
	can support DHCP Snooping to prevent fraudulent DHCP server
	Support dynamic ARP detection to prevent man-in-the-middle attacks and ARP denial of service
	Support BPDU guard， Root guard
	Support uRPF (unicast reverse path detection), eliminate IP source address spoofing, prevent viruses and attacks
	Support IP/Port/MAC binding function
	Support plaintext and MD5 ciphertext authentication of OSPF and RIPv2 packets
	Support PKI（Public Key Infrastructure，public key infrastructure）
Management and Maintenance	Support XModem/FTP/TFTP loading and upgrading
	Support command line interface (CLI), Telnet, Console port for configuration
	Support SNMPv1/v2/v3, WEB network management
	Support RMON (Remote Monitoring) alarms, events, history records
	Support iMC Intelligent Management Center
	Support system log, hierarchical alarm, debugging information output
	Support NTP
	Support the alarm function of the power supply, such as fan and temperature alarms
	Support Ping、Tracert
	Support VCT（Virtual Cable Test）cable detection function
	Support DLDP（Device Link Detection Protocol）unidirectional link detection protocol

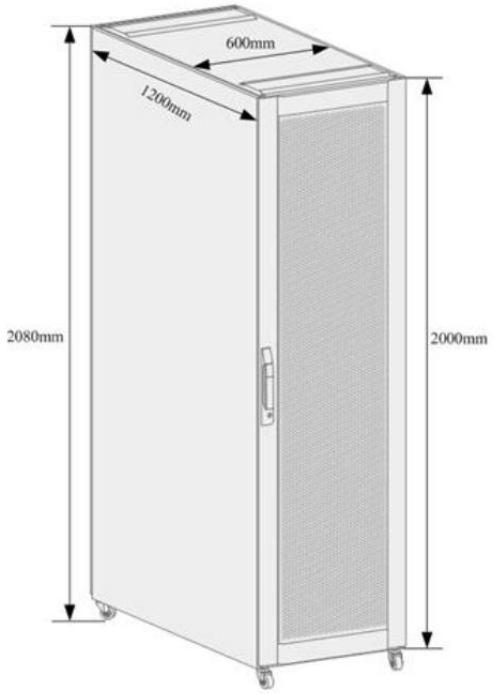
	Support LLDP
	Support Loopback-detection port loopback detection
Green Energy-Saving	Support EEE(802.3az)
	Port automatic power down function
	Port timing down function（Schedule job）



Front

Back




600mm
1200mm
2080mm
2000mm