CS7448-48T4X

DUAL STACK 10G DATACENTER SWITCH DATASHEET
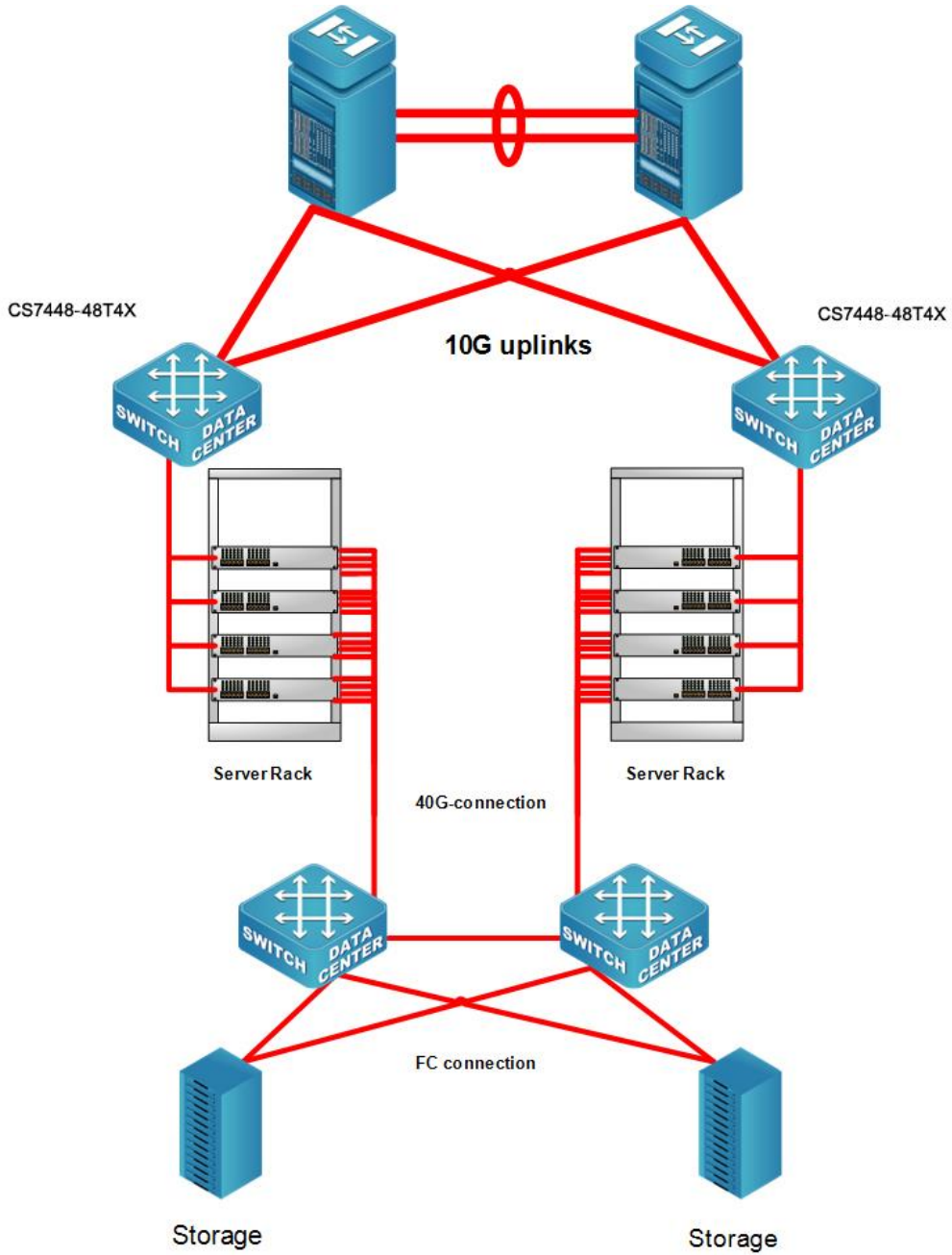
3ISYS
INNOVATIVE - INTEGRATED - INTELLIGENT

PRODUCT OVERVIEW

CS7448-48T4X next-generation data center 10G switch incorporates advanced hardware and software architecture design, built-in modular 1+1 redundant power supplies, 2+1 redundant fans, cross ventilation and wind direction adjustable. CS7448-48T4X supports data center features such as VEPA*,VSF and OpenFlow fully applicable to the data center TOR (Top of Rack) application requirements of the switch.

The CS7448-48T4X supports IPv6 with hardware and passed the IPv6 form certification Phase II. With the abundant ipv6 features, the product can also work for next generation network.

CS7448-48T4X is ideal for cloud computing data center server access, or small to medium datacenter. For small campus or medium enterprise network, CS7448-48T4X can also be deployed at aggregation or core layer because of its high performance and reliability.

CS7448-48T4X

CS7448-48T4X

10G uplinks

Server Rack

Server Rack

40G-connection

FC connection

Storage

Storage

- CS7448-48T4X series switches support wire-speed L2/L3 forwarding with high switching capacity, and high routing performance for IPv4 and IPv6 protocols.
- The 10 Gigabit Ethernet connectivity of CS7448-48T4X is accomplished via a hot-pluggable 10 Gigabit XFP/SFP+ transceiver which supports distance up to 300 meters over multimode fiber and 10km to 80km over single-mode fiber(The distance depends on the optical module chosen).
- CS7448-48T4X series support modular redundant AC and DC power supplies for different environment applications.
- VEPA（Virtual Ethernet Port Aggregator）, which not only improves the efficiency, guarantees the flexibility but also enhances the scalability of datacenter networks.
- CS7448-48T4X supports OpenFlow 1.0 standard protocol. OpenFlow network is increasingly becoming a trend as the core protocol of SDN network. It makes the network easier for programming; Openflow brings the high performance to datacenter users via self-defined network.With OpenFlow, this product is ideal to build SDN test-bed for research institutes and SDN Experimental Bureau for large ISP and operators.
- Virtual Switch Framework can virtualize multiple 3ISYS switches into one logical device thereby achieving the sharing of information and data tables between different switches. The performance and ports density of virtualized device are significantly enlarged by many times under VSF. VSF also provided simplified management work for network administrator and provides more reliability.
- MRPP is Multi-layer Ring Protection Protocol. It introduces Layer concept for loop at the basis of traditional loop protect protocol. Each loop layer has multiple same-level Ethernet loop networks. With multi-loop layers, it can attain quick convergence from core to aggregation.
- MRPP can get fast recovery for links at different layers. Compared with spanning tree protocol, it has advantages of rapid convergence, simple protocol calculation, little system resources cost, clear networking idea and so on, which can greatly improve the reliability of Ethernet network operations.

- CS7448-48T4Xseries deliver high-performance, hardware based IP routing.
- RIP, OSPF and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches and routers.
- With CS7448-48T4Xseries，customers can easily achieve Policy based Route (PBR), which is vital when they want multi exit applications.
- CS7448-48T4X series support abundant multicast features. In Layer 2, such as IGMP v1/v2/v3 snooping and fast leaves. L3 multicast protocols such as IGMP v1/v2/v3, PIM-DM, PIM-SM, PIM-SSM and even MSDP*. CS7448-48T4X provides great application experience for customer with multicast Vlan Register (MVR), multicast receiver/sender control and illegal multicast source detect functions.
- 8 queues per port enable differentiated management of up to 8 traffic types.
- Traffic is prioritized according to IEEE 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimum performance to real-time applications such as voice and video.
- Bi-directional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.
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- CS7448-48T4X series also support Bi-directional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.
- IEEE 802.1X port-based access control and MAC-based access control ensure all users are authorized before being granted access to the network.
- Ingress/Egress Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 headers information. And for some services it is based on time, the product can support time based ACL to match the requirement.
- Secure Shell (SSH) encrypts network management information via Telnet providing secure network management.
- RADIUS Authentication enables centralized control of the switch and restricts unauthorized users from altering the configuration of switch.

- CS7448-48T4X series support IPv6 switching and routing based on hardware for maximum performance. With the growth of increased network devices, the need for larger addressing and higher security becomes critical; CS7448-48T4X series will be a right product to meet the requirement. CS7448-48T4X passed IPv6 form Phase II certification, which is the best proof of the application.

SPECIFICATIONS

Item	CS7448-48T4X
Physical port	48 * 10/100/1000BaseT and 4 * 10G SFP+
Management port	10/100/1000 Mbps RJ45 Ethernet Management port RJ45 Console port Mini USG Console port* USB2.0 Management port*
Performance	
Switching Capacity	176 Gbps
Throughput	132 Mpps
MAC Address	32K
Routing Table	16K
L3 Table	16K
Physical	
Dimension	W*H*D: 438mm*44mm*408mm
Relative Humidity	10%～90% non-condensing
Temperature	Working 0°C～40°C, storage -40°C～75°C
Power Input	AC: 100V~240V
Power Supply	460W（1+1 Modular Redundant）
Power Consumption	190W
MTBF	>=200000 Hours
Main Features	
L1, L2 Features	IEEE 802.3(10Base-T),IEEE 802.3u(100Base-TX),IEEE 802.3z（1000BASE-X）， IEEE 802.3ab（1000Base-T），IEEE 802.3ae（10GBase），IEEE802.3x IEEE 802.3ak (10GBASE-CX4)
	12k Jumbo Frame Port loopback detect LLDP and LLDP-MED UDLD 802.3ad LACP, max 128 group trunk with max 8 ports for each trunk, LACP load balance
	N:1 Port Mirroring RSPAN ERSPAN
	IEEEE802.1d(STP) IEEEE802.1W(RSTP) IEEEE802.1S(MSTP) Root Guard BPDU Guard BPDU Tunnel
	802.1Q, 4096 VLAN MAC Vlan, VOICE VLAN, PVLAN, Protocol Vlan, Multicast VLAN, QinQ, Selective QinQ, Flexible QinQ

	GVRP N:1 VLAN translation Broadcast / Multicast / Unicast Storm Control
	IGMP v1/v2/v3 Snooping and L2 query ND snooping MLDv1/v2 snooping
	Port Security
	Flow control: HOL， IEEE802.3x
	Bandwidth control
L3 Features*	Static Routing, RIP v1/V2,OSPFv2,BGP4 OSPFv3, BGP4+ OSPF multiple process LPM Routing Policy-based Routing(PBR) for IPv4 and IPv6 VRRP URPF, ECMP BFD
	IGMP v1/2/3, IGMP Proxy, DVMRP,PIM-DM,PIM-SM,PIM-SSM, any cast, RP, MSDP Static Multicast route Multicast receive control Illegal multicast source detect
	ARP guard, Local ARP proxy, Proxy ARP, ARP binding, Gratuitous ARP, ARP limit Anti ARP/NDP cheat, anti ARP/NDP scan
	DNS client
	GRE Tunnel
IPv6*	6to4 Tunnel, configured Tunnel, ISATAP Tunnel, GRE Tunnel ICMPv6,ND,DNSv6 IPv6 LPM Routing,IPv6 Policy-based Routing(PBR) IPv6 VRRPv3,IPv6 URPF,IPv6 RA RIPng,OSPFv3,BGP4+ MLD Snooping,IPv6 Multicast VLAN MLDv1/v2,,PIM-SM/DM for IPv6,IPv6 any cast RP, IPv6 ACL,IPv6 QOS
MPLS*	MPLS, VRF, LDP
	MPLS L3 VPN, MPLS L2 VPN(VPLS), VPWS
QoS	8 queues SWRR、SP、WRR、DWRR、SDWRR、WRED Traffic classification based on 802.1p COS, ToS , DiffServ DSCP, ACL, port number Traffic Shaping PRI Mark/Remark
ACL	IP ACL ,MAC ACL,IP-MAC ACL Standard and expanded ACL Based on source/destination IP or MAC, IP protocol, TCP/UDP port, DSCP, ToS, IP Precedence), VLAN, Tag/Untag,CoS REDIRECT and accounting based ACL Rules can be configured to port, VLAN, VLAN routing interfaces Time ranged ACL
Security	802.1x AAA Port, MAC based authentication Accounting based on time length and traffic Guest vlan and auto vlan
	RADIUS for IPv4 and IPv6
	TACACS+ for IPv4 and IPv6
	MAB

DHCPv4/v6	DHCP Server/Client for IPv4/IPv6 DHCP Relay/option 82 DHCP Snooping/option 82
Traffic Monitor	IP FIX traffic monitor, 1:1 * sFlow traffic analysis
Security Network Management	CLI, WEB, Telnet, SNMPv1/v2c/v3 through IPv4 and IPv6 Syslog and external syslog server HTTP SSL SNMP MIB, SNMP TRAP FTP/TFTP SNTP/NTP RMOM 1，2，3，9 Authentication by radius SSH v1/v2 Dual firmware images/ configuration files 802.3ah OAM, 802.1ag OAM*
Data Center Features*	IEEE VEPA（Virtual Ethernet Port Aggregator） VSF（Virtual Switch Framework） Openflow1.0

The contents marked with "*" need future upgrade or are under development

Warrently

1 year

Product Information

Product	Description
CS7448-48T4X	10G Data Center Ethernet Switch, 48 * 10/100/1000BaseT and 4 * 10G SFP+ports (2 power modules at most, 1+1 redundancy. 3 fan modules at most, 2+1 redundancy. Standard with 1 power module, 3 fan modules)
3ISYS-6000-AC	AC Power Supply Module (460W) for CS7448-48T4X.
3ISYS-6000-FAN	Fan module for CS7448-48T4X. Could be purchased alone as accessory

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notice. All features with * mark will be available by
firmware upgrade.