

DCRS-7600E Chassis Switch



Product Overview

DCRS-7600E Series is DCN's high performance chassis switch, which consists of two models.








- DCRS-7604E is 4 slots Chassis Switch. It supports Ethernet ports on management blades, which ensures the maximum high-density feature
- DCRS-7608E has 10 slots. It has 2 management slots and 8 business slots. User could configure business blades by specified requirements.

With redundant power supply, fans and management modules, DCN DCRS-7600E Series ensures continuous operation and fully redundant system. Moreover, all parts are hot swappable. They can be added or exchanged without interrupting the whole system.

The DCRS-7600E series is ideal for the core layer of campuses, enterprise networks and the aggregation layer of IP metropolitan networks.


Appearance	Description
 <p>DCRS-7604E</p>	<ul style="list-style-type: none"> ● 4-Slot Chassis ● AC+AC Power Supply ● Dimensions (W x D x H):445mm x 421mm x 266mm (6U) ● Backbone Switching Capacity: 120Gbps ● Forwarding Rate: 87Mpps
 <p>DCRS-7608E</p>	<ul style="list-style-type: none"> ● 10-Slot Chassis (2 slot management blades, 8 slot business blade) ● AC+AC Power Supply ● Dimensions (W x D x H):436mm x 478mm x 797mm (18U) ● Backbone Switching Capacity: 320Gbps ● Forwarding Rate: 238Mpps

The following table lists the management blades and business blades supported by DCRS-7600E series.

Card Models	Description	DCRS-7604E	DCRS-7608E
 <p>MRS-7604E-M16GX8GB</p>	DCRS-7604E Management blade, 16*GbE Combo (SFP/RJ45) + 8*100/1000Base-X(SFP)	Yes	NA
 <p>MRS-7604E-M2XS8GX16GB</p>	DCRS-7604E Management Module, 8*10/100/100Base-T ports + 12*1000M SFP ports + 12*10G SFP+ fiber ports + 2*40G QSFP ports , Wire-Speed, IPv6 supported	Yes	NA
 <p>MRS-7608E-M2</p>	DCRS-7608E Management blade, Version II, MPLS supported	NA	Yes
 <p>MRS-7600E-4XS16GX8GB</p>	DCRS-7600E Series Business blade, 4*10GbE (SFP+) + 16*GbE Combo (SFP/RJ45) + 8*100/1000Base-X(SFP)	Yes	Yes
 <p>MRS-7600E-48GT</p>	48*10/100/1000Base-T	Yes	Yes
 <p>MRS-7600E-28GB16GT4XS</p>	4*10GbE (SFP+) + 28*100/1000Base-X(SFP) + 16*10/100/1000Base-T	Yes	Yes
 <p>MRS-7600E-44GB4XS</p>	4*10GbE (SFP+) + 44*100/1000Base-X(SFP)	Yes	Yes
 <p>MRS-7600E-20XS2Q</p>	20*10GbE (SFP+) + 2*40GbE (QSFP+)	Yes	Yes
 <p>MRS-7600E-2Q20G16XS</p>	DCRS-7600E Series Interface Module, 8*10/100/1000Base-T ports + 12*1000M SFP ports + 16*10G SFP+ ports + 2*40G QSFP, Wire-Speed, IPv6 supported	Yes	Yes

Power Supply

The following table lists the power supplies applicable to the DCRS-7600E series.

Power module	Technical Specifications
 <p data-bbox="352 703 560 730">MRS-PWR-AC-B</p>	<ul style="list-style-type: none"> ● Dimensions (W x D x H):127mm x 312mm x 63mm ● Rated input voltage range: 100V AC to 240V AC 50/60 Hz ● Maximum input voltage range: 90V AC to 264V AC, 47Hz to 63Hz ● Maximum input current: 90V AC:7A ● Maximum output current: 40A ● Rated output voltage:12V ● Rated output power: 500W

Features and Highlights

Performance and Scalability

DCRS-7604E supports up to 72 (20x3+12)10G ports or 160 (48x3+16) Gigabit Copper ports or 156(44x3+24) Gigabit Fiber ports. DCRS-7608E supports up to 160 (20x8)10G ports or 384 (48x8) Gigabit Copper ports or 352 (44x8) Gigabit Fiber ports, providing flexibility and high port density.

10G modules support 20 ports for downlink to L3 Gigabit distribution layer switches or L2 Gigabit switches, aggregating them to the core layer, and preventing port bottlenecks in Gigabit switches. Furthermore, the optional 10Gigabit Ethernet SFP+ transceivers can be chosen for different distance fiber uplinks.

Backup Master ensures the availability of a master controller for network control at any time.

Firmware & configuration are automatically upgraded from master to slave units for management simplicity.

VSF (Virtual Switch Framework)

Virtual Switch Framework can virtualize multiple DCN switches into one logical device, achieving the sharing of information and data tables between different switches. The performance and ports density of virtualized devices is greatly increased under VSF. VSF also provides simplified management work for the network administrator and more reliability.

Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links.

IEEE 802.3ad Link Aggregation Control Protocol (LACP) increases bandwidth by automatically aggregating several physical links together as a logical trunk and providing load balance and fault tolerance for uplink connections.

IGMP snooping prevents flooding of IP multicast traffic and limits bandwidth-intensive video traffic only to the subscribers.

L3 Features

The DCRS-7600E series delivers high-performance hardware-based IP routing.

RIP, OSPF, and BGP provide dynamic routing by exchanging routing information with other Layer 3 switches or routers.

DVMRP, PIM-DM Multicast Routing Protocols send IP multicast traffic from one subnet to another.

VRRP prevents your system from failing by dynamically backing up multiple L3 switches for routing.

Support OSPF and BGP graceful restart to protect network stability.

Strong Multicast

The DCRS-7600E supports abundant multicast features. The product support rich L2 multicast features such as IGMPv1/v2/v3 and snooping and L3 multicast protocols such as DVMRP, PIM-DM, PIM-SM, and PIM-SSM. As the rich application experience, the product support Multicast VLAN Register and Multicast Receive Control and Illegal Multicast Source Detection function.

Easy high-reliability network

MRPP (Multi-layer Ring Protection Protocol), is a link-layer protocol applied on Ethernet loop protection which reduces network convergence time to 50ms.

Specifications

Items	DCRS-7604E	DCRS-7608E
Slot	1 or 2 management slots 3 or 2 business slots	2 management slots 8 business slots
Business Ports	10/100/1000base-T: MAX 160 1000base-X: MAX 156 10G: MAX 72	10/100/1000base-T: MAX 384 1000base-X: MAX 352 10G: MAX 160
Console	1	1
Performance		
Backbone Switching Capacity	120Gbps	320Gbps
Forwarding Rate	87Mpps	238Mpps
Routing Entries	MAX 16K	MAX 16K
VLAN Table	4K	4K
Features		
Forwarding	Storage and Forwarding	
L1, L2 Features	IEEE802.3(10Base-T) IEEE802.3u(100Base-TX) IEEE802.3z(1000BASE-X) IEEE802.3ab(1000Base-T) IEEE802.3ae(10GBase) Auto MDI/MDIX Loopback Interface 9k Jumbo Frame Port Loopback Detection LLDP and LLDP-MED UDLD	
	LACP 802.3ad, max 128 group trunk with max 8 ports for each trunk Load Balance	
	IEEE802.1d(STP) IEEE802.1w(RSTP) IEEE802.1s(MSTP) Max 48 instance Root Guard BPDU Guard BPDU Forwarding	
	One to one or any to one mirror Mirror cross-business cards RSPAN	
	IGMP v1/v2/v3, IGMP v1/v2/v3 Snooping, IGMP Proxy ICMPv6, ND, ND Snooping, MLDv1/v2, MLDv1/v2 Snooping	
	QinQ, GVRP, Broadcast / Multicast / Unicast Storm Control Port/ MAC/ IP Segment/ Portocol/ Voice/ Private/ VLAN support Multicast VLAN Register/MVR for IPv4 and IPv6	
	Port-Based 802.1Q, 4096 VLAN	

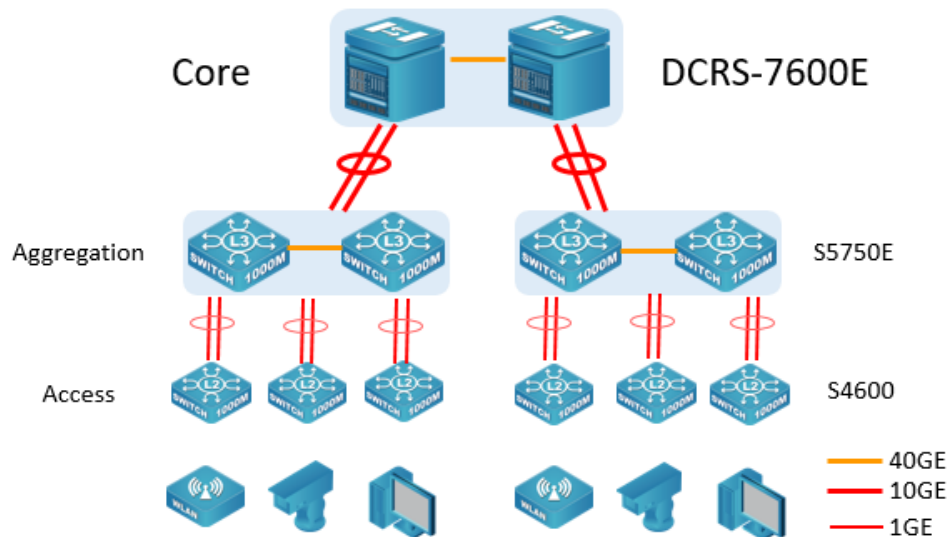
	MAC Binding (IPv4 /IPv6), MAC Filter, MAC Limit
	Support Smart Link (or named Flexible Link)
	Port Binding (IPv4 /IPv6) and IP source guard
L3 Features	IP Protocol (IP support both IPv4 and IPv6)
	Default Routing, Static Routing, Blackhole Route, VLSM and CIDR, RIPv1/V2, OSPFv2, BGP4, support MD5 authentication LPM Routing
	OSPFv3, BGP4+ support
	4-byte BGP AS number
	GR for OSPF and BGP
	Policy-Based Routing (PBR) for IPv4 and IPv6
	VRRP, VRRP v3
	DVMRP, PIM-DM, PIM-SM, PIM-SSM, MSDP
	Static Multicast Route
	Multicast Edge Configure
	Anycast RP for IPv4 and IPv6
	PIM-SM/DM/SSM for IPv6, 6 to 4 Tunnels, configured Tunnels, ISATAP
	Multicast Receive Control
	Illegal multicast Source Detection
URPF for IPv4 and IPv6	
BFD	
ECMP (Equal Cost Multi-Path) with maxim 8 groups	
ARP Guard, Local ARP Proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit	
Tunnel technical	Manual Configure IPv4/IPv6 Tunnel
	6to4 Tunnel
	ISATAP Tunnel
	GRE Tunnel
MPLS	255 VRF/VFI
	LDP
	L3 MPLS VPN
	L2 VLL/VPLS
	MPLS/VPLS proxy
	Cross-Domain MPLS VPN
MPLS QoS	
QoS	8 Hardware Queues per port
	Traffic Classification based on IEEE 802.1p, ToS, port, and DiffServ
	SP, WRR, SWRR
	Traffic Shaping
	PRI Mark/Remark
ACL	Standard and Expanded ACL
	IP ACL and ACL,
	ACL based on source/destination IP, MAC, L3 IP, TCP/UDP port number, IP PRI (DSCP, ToS, Precedence), Time
ACL-X	Time-based Security Auto-negotiation
	ACL rules can be configured to port, VLAN
	Can be used for QoS Classification
Anti-attack and Security	S-ARP: ARP Inspection, defense ARP-DOS Attack and Address Clone
	Anti-Sweep: prevent Ping Sweep
	S-ICMP: resist PING-DOS attack, ICMP unreachable attack

	S-Buffer: prevent DDOS attack	
	Switch engine CPU protection	
	Key message priority: secure processing of key legal messages	
	Port Credit: inspect illegal DHCP Server, Radius Server. Connection via credit port only	
	Support URPF, avoid IP address clone	
	All the above technologies efficiently prevent various DOS attack (e.g. ARP, Synflood, Smurf, ICMP attack), support ARP monitoring, defense Worm, Bluster, check sweep and raise an alarm	
Reliability and Redundancy Balance	Support MSTP (802.1s)	
	Support VRRP, LACP load balance	
	MRPP - Multi-layer Ring Protection Protocol	
	Support VLAN based traffic balance	
	Redundant power supply, power load balancing	
	Support Firmware & Configure dual fault tolerance backup	
	Support shift between main/backup, all hot-swappable	
DHCP	Support DHCP Client, Relay, Snooping, Option 82	
	DHCP Server for IPv4 and IPv6	
	DHCP v6 and DHCP Snooping v6	
DNS	DNS Client DNS Proxy	
Access security	802.1X MAC Based AAA (Client free access) PPPOE/PPPOE+ forwarding	
AAA	RADIUS for IPV4 and IPv6 TACACS+	
Configuration and Management	CLI, support Console (RS-232), support Telnet (Ipv4/Ipv6), SSH(Ipv4/Ipv6), SSL for IPv4	
	SNMPv1/v2c/v3 for IPv4, SNMPv1/v2c for IPv6	
	MIB	
	RMON 1, 2, 3, 9	
Power Saving Technology	Reduce power consumption, improve cooling and reliability	
Syslog	Save Syslog and Trap to local device or server Max. 8 servers for Syslog or Trap receive	
NMS	Strict access control by ACL Access Switch through AAA or Local Authentication Support SNTP and NTP Setup Time Zone and Summer Time	
Supervision and Trouble Shooting	Supervise abnormality of task, memory, CPU, stack, switch chip, temperature and raise an alarm	
	Sflow for IPv4 and IPv6	
	Ping and traceroute command	
Configuration Management	Configuration file storage Command operation log Support FTP/TFTP server or client upgrade Support X-modem protocol transfer the file	
Data Center	VSF (Virtual Switch Framework)	
Physical		
Dimension(W x D x H)	445mm*421mm*266mm(6.5U)	436mm*478mm*797mm(18U)
Relative Humidity	10%~90%, non-condensing	
Storage Temperature	40°C ~70°C	

Operating Temperature	0°C~40°C	
Power	AC: Input 100V~240V AC	AC: Input 100V~240V AC
MTBF	>250,000 hours	>250,000 hours
Power Consumption	≤400W	≤1000W
EMC safety	FCC, CE, RoHS,	FCC, CE, RoHS

Application

DCRS-7600E series switches work as the core in a campus or enterprise network



Order Information

Product	Description
DCRS-7608E	10-Slot Chassis Core Routing Switch (2+1 power supply redundancy, Standard with 1 MRS-PWR-AC-B, 3 hot-pluggable fan trays, no management blade)
DCRS-7604E	4-Slot Chassis Core Routing Switch(1 + 1 power supply redundancy, Standard with 1 MRS-PWR-AC-B,1 hot-pluggable fan tray, no management blade)
MRS-PWR-AC-B	AC Power Supply (500W) for DCRS-7608E and DCRS-7604E
MRS-7608E-M2	DCRS-7608E Management blade Type 2 (High-performance management blade)
MRS-7604E-M16GX8GB	DCRS-7604E Management blade, 16 GbE Combo (SFP/RJ45) and 8*100/1000Base-X port, Wire-Speed, IPv6 supported
MRS-7604E-M2Q20G12XS	DCRS-7604E Management Module, 8*10/100/100Base-T ports + 12*1000M SFP ports + 12*10G SFP+ fiber ports + 2*40G QSFP ports, Wire-Speed, IPv6 supported
MRS-7600E-4XS16GX8GB	DCRS-7600E Series Business blade, 4*10GbE (SFP+) + 16*GbE Combo (SFP/RJ45) + 8*100/1000Base-X(SFP), Wire-Speed, IPv6 supported
MRS-7600E-20XS2Q	DCRS-7600E Series Business blade, 20*10GbE (SFP+) + 2*40GbE (QSFP+), Wire-Speed, IPv6 supported
MRS-7600E-48GT	DCRS-7600E Series Business blade, 48*10/100/1000Base-T, Wire-Speed, IPv6 supported
MRS-7600E-28GB16GT4XS	DCRS-7600E Series Business blade, 28*GbE (SFP) + 16*10/100/1000Base-T + 4*10GbE (SFP+), Wire-Speed, IPv6 supported
MRS-7600E-44GB4XS	DCRS-7600E Series Business blade, 44*GbE (SFP) + 4*10GbE (SFP+), Wire-Speed, IPv6 supported
MRS-7600E-2Q20G16XS	DCRS-7600E Series Interface Module, 8*10/100/1000Base-T ports + 12*1000M SFP ports + 16*10G SFP+ ports + 2*40G QSFP, Wire-Speed, IPv6 supported