Navijin

DATASHEET

NETWORK INFRASTRUCTURE / L3 CHASSIS SWITCH

DCS5506C

6 Slot Layer 3 IPv6/IPv4 Routing Chassis Switch

PRODUCT PAGE

DCS5506C



Overview

The Navijin DCS5506C is a modular Layer 3 chassis switch for core and aggregation networks – 6 Slot Layer 3 IPv6/IPv4 Routing Chassis Switch. Key specifications include: 6-slot chassis with hot-swappable modules and triple power bays; Supports up to 192 Gigabit, 192 SFP, 64 10G SFP+ and 16 40G QSFP+ ports; Switching capacity up to 2.56 Tbps with 810 Mpps throughput. With hot-swappable modules and redundant components, it forms the high-availability core of campus, data center, hospital, hotel and government networks.

Key Features

- 6-slot chassis with hot-swappable modules and triple power bays
- Supports up to 192 Gigabit, 192 SFP, 64 10G SFP+ and 16 40G QSFP+ ports
- Switching capacity up to 2.56 Tbps with 810 Mpps throughput
- IPv4/IPv6 routing with RIP, OSPF, BGP, PIM, VRRP, ISATAP, tunneling
- Security includes ACL, 802.1X, DHCP snooping, IP Source Guard, ARP
- inspection

Hardware Specifications

Total Number of Slots	6
Max. Management Module	2 (slots 5 and 6) Supports dual master control redundancy and automatic recovery
Max. Switch Module	4 (slots 1 to 4)
Number of Power Supply Bays	3
Number of Fan Trays	1, hot-pluggable

Dimensions (W x D x H)	482 x 370 x 397 mm (with rack-mount kit), 9U high
Weight	21.6kg (empty), 24.8kg (Chassis with 1 AC power module and 1 management module)
Power Requirement	AC: Input 100-240V, 7A max. 50~60 Hz DC: Input 36-72V, 20A max.
Power Consumption	320W

Management Module

Management Port	One 10/100/1000BASE-TX RJ45 port
Console	One RJ45-to-RS232 serial port (9600, 8, N, 1)
USB	1 x USB2.0 Type A for USB Storage device use
Button	Reset button: System reboot only Hot-swap button: Force swap master and slave management modules Host LED lit up to show the host swap procedure is completed

Available Switch Modules

DCS55-MS24GS8X	24-Port 1000BASE-X SFP + 8-Port 10GBASE-X SFP+ Backward compatible with 100BASE-FX SFP transceivers
DCS55-MS24GE8X	24-Port 10/100/1000BASE-T + 8-Port 10GBASE-X SFP+ SFP+ slot is backward compatible with 1000BASE-X SFP transceivers
DCS55-MS48GE	48-Port 10/100/1000BASE-T
DCS55-MS48GS	48-Port 1000BASE-X SFP Backward compatible with 100BASE-FX SFP transceivers
DCS55-MS24GE24X	24-Port 10/100/1000BASE-T + 24-Port 1000BASE-X SFP
DCS55-MS16TS	16-Port 10GBASE-X SFP+ Backward compatible with 1000BASE-X SFP transceivers
DCS55-MS4QS	4-Port 40GBASE-X QSFP+ Supports 40GBASE-SR4/LR4 QSFP+ transceivers and 40G QSFP+ to 4x10G SFP+ breakout cable

Total Port Capacity

Max. 10/100/1000BASE-T	192
Max. 1000BASE-X SFP Ports	192
Max. 10G SFP+ Ports	64
Max. 40G QSFP+ Ports	16

Switching Performance

Switch Processing Scheme	Store-and-Forward
Switch Back plan	3Tbps
Switch Capacity	2.56Tbps
Switch Throughput	810Mpps@64bytes

MAC Address Table	32K
ARP Table	16K
VLAN Table	4K VLAN entries
ACL Table	Ingress Filter: 2560, Egress Filter: 1024
Shared Data Buffer	32MB
Layer 3 Interface	Max. 256 VLAN interfaces for IPv4, Max. 256 VLAN interfaces for IPv6
Routing Table	IPv4 Protocol: 16K, IPv6 Protocol: 8K
Multicast Table	8K (IPv4/IPv6 shared)
Flow Control	IEEE 802.3x pause frame for full-duplex, Back pressure for half-duplex
Jumbo Frame	9216Bytes
FLASH	64Mbytes
RAM	1Gbytes

IPv6 Layer 3 Functions

IP Routing Protocol	RIP v1/v2, OSPFv2, BGP (Border Gateway Protocol), Static routing
Multicast Routing Protocol	PIM-DM and PIM-SM, PIM-SSM
Routing Interface	256
Routing Functions	VRRP, Policy routing, Load balance through equal-cost routing, GR (Graceful Restart) of OSPF and BGP, BFD (Bidirectional Forwarding Detection) for OSPF and BGP, IS-IS, Intermediate system to intermediate system

IPv4 Layer 3 Functions

IP Routing Protocol	RIPng, OSPFv3, BGP4+
Multicast Routing Protocol	PIM-DM and PIM-SM, PIM-SSM
Routing Features	Manual tunnel, ISATAP tunnel, 6-to-4 tunnel
IPv6 Functions	ICMPv6, DHCPv6, ACLv6, IPv6 Telnet, IPv6 Neighbor Discovery, Path MTU Discovery

Layer 2 Functions

Port Configuration	Port disable/enable,Auto-negotiation 10/100/1000Mbps full and half duplex mode selection, Flow control disable/enable, Bandwidth control on each port, Port loopback detect
Port Mirroring	TX/RX/Both, Many to 1
Link Aggregation	Supports link aggregation cross switch module
VLAN	IEEE 802.1Q tag-based VLAN,, IEEE 802.1ad Q-in-Q VLAN stacking/tunneling, GVRP for VLAN management, Private VLAN, Up to 4K VLAN groups
Spanning Tree Protocol	IEEE 802.1D Spanning Tree Protocol (STP), IEEE 802.1w Rapid Spanning Tree Protocol (RSTP), IEEE 802.1s Multiple Spanning Tree Protocol (MSTP), BPDU protection, root protection
IPv4 IGMP Snooping	IPv4 IGMP v1/v2/v3 snooping, IPv4 Querier mode support, IGMP Filtering and IGMP Throttling, IGMP Proxy reportin, IGMP mmulticast forwarding, Up to 8K multicast groups

IPv6 MLD Snooping	IPv6 MLD v1/v2 snooping, Multicast VLAN Register (MVR), Up to 8K multicast groups
QoS	8 priority queues on all switch ports, Scheduling for priority queues, Weighted Round Robin (WRR), Strict priority (SP), SP+WRR, Traffic classification: IEEE 802.1p CoS, DSCP, DiffServ, Precedence, TOS, VLAN ID, IP ACL, MAC ACL, Policy-based ingress and egress QoS, 802.1p and DSCP priority remark
Storm Control	Suppression of broadcast, multicast and unknown unicast packet
Bandwidth Control	Ingress and Egress, At least 64Kbps stream
Ring	MSTP, IEEE 802.1s Multiple Spanning Tree Protocol

Security Functions

Access Control List

- Supports Standard and Expanded ACL
- IP-based ACL
- MAC-based ACL
- Time-based ACL
- ACL based on:
- MAC Address
- IPv4/IPv6 IP Address
- Protocol-number
- sport/dport
- ToS/Precedence
- Ingress Filter: 2560 entries
- Egress Filter: 1024 entries

Security

- MAC address limitation and MAC address filtering
- MAC sticky (IP + MAC + Port binding)
- Port isolation
- DHCP snooping, DHCP option 82
- Dynamic ARP inspection
- IP source guard
- Defined against DoS or TCP attacks

AAA

- TACACS+ and IPv4/IPv6 over RADIUS

Network Access Control

- IEEE 802.1x port-based network access control

Management Functions

System Configuration	Console, Telnet and SSH Web browser SNMP v1/v2/v3
Secure Management Interfaces	SSHv2, SSLv3 Maximum 8 sessions for SSH and Telnet connection
Management Interface	CLI/MGMT/Telnet/SSH
System Management	IPv4 and IPv6 dual stack management, SNMP MIB and TRAP, SNMP RMON 1, 2, 3, 9 four groups, Firmware upgrade by TFTP protocol through Ethernet network, Configuration upload/download through TFTP protocol, Supports IEEE 802.1ab LLDP protocol, NTP and SNTP client, RADIUS authentication for IPv4/IPv6 login user name and password, Statistics analysis of sFlow and Netflow
Event Management	Remote syslog System log
SNMP MIBs	RFC 1213 MIB-II, RFC 1215 Internet Engineering Task Force, RFC 1271 RMON, RFC 1354 IP-Forwarding MIB, RFC 1493 Bridge MIB, RFC 1643 Ether-like MIB, RFC 1907 SNMPv2, RFC 2011 IP/ICMP MIB, RFC 2012 TCP MIB, RFC 2013 UDP MIB, RFC 2096 IP forward MIB, RFC 2233 if MIB, RFC 2452 TCP6 MIB, RFC 2454 UDP6 MIB, RFC 2465 IPv6 MIB, RFC 2466 ICMP6 MIB, RFC 2573 SNMPv3 notification, RFC 2574 SNMPv3 VACM, RFC 2674 Bridge MIB Extensions

Standards Conformance

Regulatory Compliance	FCC Part 15 Class A, CE

Standards Compliance	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX, IEEE 802.3z 1000BASE-SX/LX. IEEE 802.3ab Gigabit 1000T IEEE 802.3ae 10Gigabit Ethernet, IEEE 802.3ba 40Gigabit Ethernet, IEEE 802.3x Flow Control and Back Pressure, IEEE 802.3ad Port Trunk with LACP, IEEE 802.1d Spanning Tree protocol, IEEE 802.1w Rapid Spanning Tree Protocol, IEEE 802.1s Multiple Spanning Tree Protocol, IEEE 802.1p Class of Service, IEEE 802.1Q VLAN tagging, IEEE 802.1ad Double VLAN tagging (Q-in-Q), IEEE 802.1x Port Authentication Network Control, IEEE 802.1ab LLDP, IEEE 802.3az Energy Efficient Ethernet, RFC 768 UDP, RFC 783 TFTP, RFC 791 IP, RFC 792 ICMP, RFC 2068 HTTP, RFC 1112 IGMP v1, RFC 2236 IGMP v2, RFC 3376 IGMP v3, RFC 2710 MLD v1, RFC 3810 MLD v2, RFC 2328 OSPF v2, RFC 1058 RIP v1, RFC 2453 RIP v2, RFC 2080 RIPng for IPv6, RFC 2740 OSPFv3 for IPv6

Environment

Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 10 ~ 90% (non-condensing)
Storage	Temperature: -10 ~ 70 degrees C Relative Humidity: 5 ~ 90% (non-condensing)

Warranty & support Local RMA and technical support through our regional hub in Dubai and our authorized partners. Certificates and project pricing on request. **navijin.com** · **sales@navijin.com**

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