

DATA CENTER NETWORKING

# DATA CENTER SWITCH

## SN-4332Z4

L3, 32x400G, dual hot pluggable PSU, hot pluggable FANS. 16GB DDR4, 64GB eMMC



## HIGHLIGHTS

- MAC/Port based security Syslog
- Proxy ARP for IP Routing Loopback IP interface (Source Address Selection)
- VRRP IPv6 static unicast routing
- Optional Stacking up to 8(16) units using uplinks Real cross-unit features, not just Management
- Stand-alone and Stack-mode operation Stack Master Election process
- Firmware Version Control Stack Backup capabilities
- High-density switching for leaf, spine, and aggregation roles
- High-speed fiber interfaces across supported configurations
- Advanced Layer 3 routing and data-center network services
- Redundant power and field-serviceable cooling options where specified

**4332Z4**

MODEL

**DATA CENTER NETWORKING**

PLATFORM

**CUSTOM CONFIGURATION**

AVAILABLE



# PRODUCT SPECIFICATIONS

SN-4332Z4 is a data center switch configured for L3, 32x400G, dual hot pluggable PSU, hot pluggable FANS. 16GB DDR4, 64GB eMMC.

|                      |                                                                               |
|----------------------|-------------------------------------------------------------------------------|
| Product              | SN-4332Z4                                                                     |
| Platform             | Data Center Switch                                                            |
| Application          | L3, 32x400G, dual hot pluggable PSU, hot pluggable FANS. 16GB DDR4, 64GB eMMC |
| Source specification | Corresponding technical product series datasheet                              |

## Technical Characteristics

| Characteristic        | Specification                                  |
|-----------------------|------------------------------------------------|
| Switching Capacity    | Switching Capacity up to 25.64 Tbps            |
| Packet Buffer         | Packet Buffer 24MB                             |
| Dimensions            | Dimensions 17.32" (W) x 22.5" (D) x 1.72" (H)  |
| Weight                | Weight 10kgs                                   |
| Operating Temperature | Operating Temperature 0°C to 40°C              |
| Operating Humidity    | Operating Humidity 10% to 95% (non-condensing) |

The product configuration and applicable interface, power, cooling, and software options are defined by the selected model and project requirements.

# NETWORK FEATURES

## Quality of Service

|                                                   |                                             |
|---------------------------------------------------|---------------------------------------------|
| Traffic classification and prioritization         | Strict priority and weighted scheduling     |
| Rate limiting, traffic shaping, and policing      | Policy maps and class-based traffic actions |
| QoS based on IP, MAC, VLAN, and protocol criteria |                                             |

## Security

|                                           |                                             |
|-------------------------------------------|---------------------------------------------|
| RADIUS and TACACS+ authentication         | Port security and role-based access control |
| DHCP snooping and IP source protection    | Access-control lists and management ACLs    |
| DoS protection, secure copy, SSH, and SSL |                                             |

## Layer 2

|                                               |                                                   |
|-----------------------------------------------|---------------------------------------------------|
| 802.1Q VLANs, QinQ, and private VLAN services | STP, RSTP, and MSTP loop prevention               |
| Link aggregation and LACP                     | Port mirroring, isolation, and loopback detection |
| LLDP and LLDP-MED neighbor discovery          |                                                   |

## Layer 3

|                                                       |                                         |
|-------------------------------------------------------|-----------------------------------------|
| IPv4 and IPv6 dual-stack operation                    | Static routing and inter-VLAN routing   |
| Policy-based routing and route maps                   | DHCP server, relay, and client services |
| OSPF and RIP capabilities on supported configurations |                                         |

## Multicast

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| IGMP and MLD snooping       | PIM multicast routing on supported configurations |
| Multicast VLAN registration | Traffic containment and multicast policy control  |

## High Availability

|                                                             |                                                         |
|-------------------------------------------------------------|---------------------------------------------------------|
| Redundant network protocols and equal-cost multipath        | Virtual router redundancy                               |
| Storm control for broadcast, multicast, and unicast traffic | Stacking or redundant chassis operation where supported |

# MANAGEMENT & COMPLIANCE

## Management

|                                                  |                                                          |
|--------------------------------------------------|----------------------------------------------------------|
| Web-based graphical interface                    | Industry-standard command-line interface                 |
| SSH, Telnet, SNMP, and syslog integration        | Controller-based or standalone operation where supported |
| USB, console, and out-of-band management options |                                                          |

## Monitoring and Diagnostics

|                                                                |                                         |
|----------------------------------------------------------------|-----------------------------------------|
| System event, alarm, and operating logs                        | Port and traffic statistics             |
| Temperature, power-supply, and fan monitoring where applicable | Ping, traceroute, and cable diagnostics |
| Digital diagnostic monitoring on supported optical interfaces  |                                         |

## Standards and Compliance

|                                                   |                                                       |
|---------------------------------------------------|-------------------------------------------------------|
| IEEE 802.1 and 802.3 Ethernet standards           | RoHS environmental compliance                         |
| CE and FCC regulatory conformity where applicable | Energy-efficient Ethernet on supported configurations |
| PoE and PoE+ standards on power-enabled models    |                                                       |

## Source-Specified Standards

|                                                                            |
|----------------------------------------------------------------------------|
| Switching Performance                                                      |
| LAG / LACP Flow Control 802.3x                                             |
| Quality of Service                                                         |
| Access Control and logging Radius Authentication/Accounting/802.1x         |
| Ace priority DHCP Snooping                                                 |
| 802.1x enhanced (all variants) ARP inspection                              |
| 802.1x MAC/Port/Web/Time based IP Source Guard                             |
| CLI/SNMP management (IPv4,IPv6) over Telnet or SSH LLDP 802.1ab + LLDP MED |

# DETAILED TECHNICAL SPECIFICATIONS

TECHNICAL DATA | 1 OF 6

## HARDWARE SPECIFICATIONS

### Switching Performance

|               |                                                |
|---------------|------------------------------------------------|
| Switch ASIC   | 98CX8580 (SN-4332-Z4), 98CX8522 (SN-4332-Z1)   |
| Ports         | 32 x 100G QSFP28 or 400G QSFP-DD, 2 x 10G SFP+ |
| Capacity      | 25.64 Tbps (SN-4332-Z4), 6.4 Tbps (SN-4332-Z1) |
| Packet Buffer | 24MB                                           |

### Hardware

|       |                          |
|-------|--------------------------|
| CPU   | Marvell OcteonTX2 CN9130 |
| RAM   | 16G                      |
| FLASH | 64G                      |

### Management Ports

|                 |                                          |
|-----------------|------------------------------------------|
| Management port | 1x RJ45 10/100/1000Base-T Ethernet ports |
| Console port    | 1x RJ45 RS-232 console serial port       |
| USB             | 1x USB 2.0 Type A female                 |

### Physical and Environmental

|                       |                                    |
|-----------------------|------------------------------------|
| Dimensions            | 17.32" (W) x 22.5" (D) x 1.72" (H) |
| Weight                | 10kgs                              |
| Fan                   | 5+1                                |
| PSU                   | 2x1600W hotswap AFI/AFO            |
| Operating Temperature | 0 ° C to 40 ° C                    |
| Operating Humidity    | 10% to 95% (non-condensing)        |

# DETAILED TECHNICAL SPECIFICATIONS

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## MARVELL ROS SOFTWARE FEATURES

### Basic Functions

|                               |                                                   |
|-------------------------------|---------------------------------------------------|
| Port Speed/duplex management  | VLANs (Protocol / MAC / IPv4 based)               |
| Port Auto management          | GVRP/GARP                                         |
| VCT Diagnostics Port features | Multicast/CPE(Triple Play) VLAN                   |
| Jumbo Frames (FE and GE)      | QinQ                                              |
| LAG / LACP                    | Flow Control 802.3x                               |
| Green Ethernet                | Back Pressure                                     |
| STP/RSTP/MSTP etc.            | Loopback and UDLD (Unidirectional link) detection |
| Optical Transceiver Analysis  |                                                   |

### Quality of Service

|                                      |                       |
|--------------------------------------|-----------------------|
| Basic / Advanced QOS (Port/Flow)     | CoS/QoS               |
| Ingress/egress Rate Limiting/Shaping | SP/WRR Queue settings |
| L2/L3 CoS->Queue mapping             | Per-Flow Actions      |

### Security

|                                         |                                         |
|-----------------------------------------|-----------------------------------------|
| Access Control and logging              | Radius Authentication/Accounting/802.1x |
| Time based ACL                          | TACACS+ Client and Accounting           |
| MAC/Port based security                 | Syslog                                  |
| Ace priority                            | DHCP Snooping                           |
| 802.1x enhanced (all variants)          | ARP inspection                          |
| 802.1x MAC/Port/Web/Time based          | IP Source Guard                         |
| Secure Control Technology (protect CPU) | DoS Attack prevention                   |

### Monitoring

|                       |                                        |
|-----------------------|----------------------------------------|
| Mirroring SPAN/RSPAN  | Environmental PS/RPS, FAN, Temperature |
| RMON/SMON             | SFLOW v5                               |
| SNMP v1/2/3 with MIBs | Counters with History                  |

### Multicast

|                      |                    |
|----------------------|--------------------|
| IGMP Snooping v1/2/3 | *PIM-SM (optional) |
| MLD Snooping v1/2    | IGMP/MLD Proxy     |
| MLD Querier          | Ports, Flows, CP   |
| Unregistered Mcast   |                    |

# DETAILED TECHNICAL SPECIFICATIONS

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## Management

|                                                                            |                                          |
|----------------------------------------------------------------------------|------------------------------------------|
| OOB & serial Console support                                               | DNS, DHCP, SNTP, LLDP-MED, UpnP          |
| CLI/SNMP management (IPv4,IPv6) over Telnet or SSH LLDP 802.1ab + LLDP MED |                                          |
| USB/SD flash storage support                                               | WEB-GUI interface for basic management   |
| DHCP based Self-Configuration/Update                                       | Time based scheduled features            |
| Multi-File Configs, Dual-Firmware                                          | *Detailed REST compatible API (Optional) |
| RMON, Syslog, Radius, TACACS+                                              |                                          |

## \*IP Routing (Optional)

|                                 |                                                  |
|---------------------------------|--------------------------------------------------|
| L3 DHCP Relay                   | IP SLA                                           |
| Proxy ARP for IP Routing        | Loopback IP interface (Source Address Selection) |
| OSPF / RIP                      | Directed Broadcast                               |
| Equal Cost Multiple Path (ECMP) | UDP Relay                                        |
| VRRP                            | IPv6 static unicast routing                      |

## \*Stacking (Optional)

|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| Optional Stacking up to 8(16) units using uplinks | Real cross-unit features, not just Management |
| Stand-alone and Stack-mode operation              | Stack Master Election process                 |
| Firmware Version Control                          | Stack Backup capabilities                     |
| Unit joining or leaving the stack                 | Stacking Fast Failover                        |
| Stacking LAG                                      |                                               |

## \*Optional Features for ROS

|                                             |            |
|---------------------------------------------|------------|
| Ring protection                             | VxLAN      |
| WEB-GUI with flexible configuration options | Radius COA |
| PTP                                         | BGP        |

# DETAILED TECHNICAL SPECIFICATIONS

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## SONIC OS SOFTWARE FEATURES

### Layer 2/3 Feature list

|                                                                     |                                  |
|---------------------------------------------------------------------|----------------------------------|
| BGP / BGP MP                                                        | BGP/Neighbor-down fib-accelerate |
| BGP-EVPN support (type 5), (related HLD Fpmsyncd,Vxlanmgr,template) | ECMP                             |
| LAG                                                                 | ACL permit/deny, IPv6 ACL        |
| LLDP                                                                | DHCP                             |
| VLAN                                                                | CoPP                             |
| IPv6                                                                | VLUN Trunk                       |
| FRR                                                                 | Priority Flow Control            |
| Asymmetric PFC                                                      | PFC Watermark                    |
| DHCP Relay Agent                                                    | Tunnel Decap                     |
| LACP Fallback                                                       | MTU Setting                      |
| Vlan Trunk                                                          | Static Port breakout             |
| Dynamic ACL Upgrade                                                 | MAC Aging                        |
| L3 RIF counter support                                              | Configurable drop counters       |

### Monitoring

|                     |                                  |
|---------------------|----------------------------------|
| SNMP                | Syslog                           |
| EverFlow            | OOM                              |
| TCPDump             | Critical Recourse Monitor        |
| Dtel                | Mirroring                        |
| Egress mirroring    | ACL action support check via SAI |
| Streaming Telemetry | Everflow enhancement             |
| sFlow               | HW resource monitor              |

### QoS

|        |           |
|--------|-----------|
| RDMA   | ECN       |
| PFC WD | WRED      |
| COS    | Watermark |

### Virtualization

|          |     |
|----------|-----|
| L3 VxLAN | VRF |
|----------|-----|



# DETAILED TECHNICAL SPECIFICATIONS

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## System

|                                |                                                                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| NTP                            | ONIE Install                                                                                                                   |
| CLI                            | TACACS+                                                                                                                        |
| ConfigDB                       | SONiC to SONiC upgrade                                                                                                         |
| Multiple Images support        | gRPC                                                                                                                           |
| Sensor transceiver monitoring  | LLDP extended MIB: Ildpremtable, Ildploporttable, Ildpremanaddrtable, Ildplomanaddrtable, Ildploporttable, IldpLocalSystemData |
| Warm Reboot                    | Incremental Config (IP, LAG, Port shut/unshut)                                                                                 |
| Routing Stack Graceful Restart | Mgmt VRF                                                                                                                       |
| Management Framework           | Multi-DB optimization-Part 1                                                                                                   |
| Sub-port support               |                                                                                                                                |



# DETAILED TECHNICAL SPECIFICATIONS

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## ORDERING INFORMATION

| SKU    | Model      | Description                                                                   |
|--------|------------|-------------------------------------------------------------------------------|
| 000087 | SN-4332-Z1 | 32x100, Dual Hot Pluggable PSU, Hot Pluggable FANS, 16GB RAM, 64GB eMMC       |
| 000088 | SN-4332-Z4 | 32x400, Dual Hot Pluggable PSU, Hot Pluggable FANS, 16GB DDR4, 64 eMMC, ROS   |
| 000089 | SN-4332-Z4 | 32x400, Dual Hot pluggable PSU, Hot Pluggable FANS, 16GB DDR4, 64 eMMC, SONiC |

Models include a 3-year HW Warranty.

## SUPPORT & CUSTOM ENGINEERING

| Service Area          | SIDERA Intelligent Systems Capability                                         |
|-----------------------|-------------------------------------------------------------------------------|
| Technical support     | Pre-sales, deployment, configuration, and operational assistance              |
| Product customization | Customer-specific hardware, software, interface, and mechanical modifications |
| Project engineering   | Application review, design adaptation, validation, and implementation support |
| Lifecycle support     | Documentation, troubleshooting, maintenance guidance, and upgrade planning    |

### TECHNICAL SUPPORT & CUSTOM ENGINEERING

SIDERA Intelligent Systems provides comprehensive technical support and customer-specific product customization, tailored to individual operational and project requirements.

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