The Z9264F-ON 40/100GbE fixed switch comprises Dell Technologies’ latest disaggregated hardware and software data center networking solutions, providing state-of-the-art, high-density 40/100GbE ports and a broad range of functionality to meet the growing demands of today’s data center environment. These innovative, next-generation open networking high-density aggregation switches offer optimum flexibility and cost-effectiveness for the web 2.0, enterprise, mid-market and cloud service provider with demanding compute and storage traffic environments.

The compact Z9264F-ON provides industry-leading density of either 64 ports of 40/100GbE in QSFP28 form factor or 128 ports of 10/25/50GbE (via breakout), in a 2RU design.

Using industry-leading hardware and a choice of Dell EMC’s OS10 or select 3rd party network operating systems and tools, the Z9264F-ON switch incorporates multiple architectural features that optimize data center network flexibility, efficiency and availability, including IO panel to PSU airflow or PSU to IO panel airflow for hot/ cold aisle environments, redundant, hot-swappable power supplies and fans and delivers non-blocking performance for workloads sensitive to packet loss. The compact Z9264F-ON model provides multi-rate speed, enabling denser footprints and simplifying migration to 100Gbps.

Priority-based flow control (PFC), data center bridge exchange (DCBX) and enhanced transmission selection (ETS) make the Z9264F-ON ideally suited for DCB environments.

Dell EMC PowerSwitch Z9264F-ON switches support the open source Open Network Install Environment (ONIE) for zero touch installation of Dell EMC SmartFabric OS10 networking operating system, as well as of alternative network operating systems.

Key applications
- Organizations looking to enter the software-defined data center era with a choice of networking technologies designed to maximize flexibility
- High-density multi-rate 40/100GbE ToR server aggregation in high-performance data center environments at the desired fabric speed
- Small-scale Fabric implementation via the Z9264F-ON switch in leaf and spine along with S-Series 1/10/25/40GbE ToR switches enabling cost-effective aggregation of 10/25/40/50/100 uplinks
- High-density 10/25/50GbE ToR server access in high-performance data center environments

Key features
- Multi-functional 10/25/40/50/100GbE switching in High Performance Computing Clusters or other business-sensitive deployments requiring the highest bandwidth
- iSCSI and FCoE deployment, including DCB converged lossless transactions
- L2 VXLAN support
- 2RU high-density 40/100GbE aggregation switch with up to 64 ports of 40/100GbE (QSFP28) or up to 128 ports of 10/25/50GbE ports (using breakout cable)
- Multi-rate 100GbE ports support 10/25/40/50/100GbE, 40GbE ports support 10/40GbE
- Scalable L2 and L3 Ethernet switching with QoS and a full complement of standards-based IPv4 and IPv6 features, including OSPF and BGP routing support
- 12.8Tbps non-blocking, switching fabric delivers line-rate performance under full load on Z9264F-ON
- L2 multipath support via Virtual Link Trunking (VLT) and Routed VLT support
- VXLAN gateway functionality support for bridging and routing the non-virtualized and the virtualized overlay networks with line rate performance (hardware only)
- Support for Dell EMC SmartFabric OS10
- Converged network support for DCB, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV support
- Z9264F-ON supports Routable RoCE to enable convergence of compute and storage on Active Fabric
- IO panel to PSU airflow or PSU to IO panel airflow Redundant, hot-swappable power supplies and fans
- Supports the open source Open Network Install Environment (ONIE) for zero touch installation of alternate network operating systems
- L2 VXLAN support
- Tool-less enterprise ReadyRails™ mounting kits reducing time and resources for switch rack installation
- Power-efficient operation up to 45°C helping reduce cooling costs in temperature-constrained deployments

DELL EMC POWERSWITCH
Z9264F-ON SERIES SWITCHES

High-performance, high-density open networking 100GbE multi rate aggregation switch
Key features with Dell EMC SmartFabric OS10

- Consistent DevOps framework across compute, storage and networking elements
- Standard networking features, interfaces and scripting functions for legacy network operations integration
- Standards-based switching hardware abstraction via Switch Abstraction Interface (SAI)
- Pervasive, unrestricted developer environment via Control Plane Services (CPS)
- Dell EMC SmartFabric OS10 software enables Dell Technologies Layer 2 and 3 switching and routing protocols with integrated IP services, quality of service, manageability and automation features
- OS10 supports Precision Time Protocol (PTP, IEEE 1588v2) to synchronize clocks on network devices
- Increase VM mobility region by stretching L2 VLAN within or across two DCs with unique VLT capabilities
- Scalable L2 and L3 Ethernet Switching with QoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR
- Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPm)
- Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z9264F-ON</td>
<td>Z9264F, 64x 100G QSFP28, 2x AC PSU, Fan module, I/O Panel to PSU Airflow, OS10 Enterprise Edition</td>
</tr>
<tr>
<td>Redundant power supplies</td>
<td>AC Power Supply, I/O Panel to PSU Airflow</td>
</tr>
<tr>
<td>Fans</td>
<td>Fan module, I/O Panel to PSU Airflow</td>
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<tr>
<td>Optics</td>
<td>Transceiver, 100GbE, SR4 QSFP28</td>
</tr>
<tr>
<td>Cables</td>
<td>100GbE, 4x25GbE, QSFP28 to 4xSFP28, passive DAC</td>
</tr>
<tr>
<td>Cable management</td>
<td>Z9100 Cable Breakout Kit, MTP to LC (1RU 64-port LC over MMF)</td>
</tr>
<tr>
<td></td>
<td>Z9100 Cable Breakout Kit, MTP to LC (1RU 64-port LC over SMF)</td>
</tr>
</tbody>
</table>
**Technical specifications**

**Physical**
- 1 RU 45 console/management port with RS232 signaling
- 64x10GE QSFP28 ports + 2xSFP+ 10GE

**Chassis**
- Size: 2 RU, 337” (h) x 170.4” (w) x 20.08” (d) (8.56h x 44.2w x 51.0 cm d)
- Weight: 44lbs (20kg)

**Environmental**
- Power supply: 100–240 VAC 50/60 Hz
- Max Power consumption: 1104 Watts
- Typ. Power consumption: 340 Watts
- Max Operating specifications:
  - AC Max. Operating specifications: Operating temperature: 32°F to 113°F (0°F to 45°C)
  - Operating humidity: 10 to 90% (RH), noncondensing
- Max. Non-operating specifications:
  - Storage temperature: −40°F to 158°F
  - Storage humidity: 5 to 95% (RH), non-condensing
- Fresh air Compliant to 45°C

**Redundancy**
- Hot swapable redundant power
- Hot swapable redundant fans

**Performance**
- Switch fabric capacity: 12.8Tbps (full-duplex)
- Forwarding capacity: 2900Mpps for 64<packet size>250 bytes, 4200Mpps when average packet size>250 bytes
- Latency: sub 500ns
- Packet buffer memory: 42MB
- CPU memory: 16GB
- MAC addresses: 160K
- ARP table: 128K
- IPv4 routes: 128K
- IPv6 routes: 64K
- Multicast hosts: 32K
- Link aggregation: 64 links per group, 128 groups
- Layer 2 VLANs: 4K
- MSTP: 64 instances
- LAG load balancing: Based on layer 2, IPv4 or IPv6 headers

**IEEE compliance**
- 802.1AB LLDP
- TIA-1057 LLDP-MED
- 802.3ad Link Aggregation
- 802.1Q VLAN Tagging
- 802.3af PFC
- 802.1Qbb FPC
- 802.1Qaz ETS
- 802.1X Network Access Control
- 802.3ac Frame Extensions for VLAN Tagging
- 802.3x Flow Control

**Layer2 Protocols**
- 802.1Qa Compatible
- 802.1p L2 Prioritization
- 802.1Q VLAN Tagging
- 802.1s MSTP
- 802.1w RSTP
- 802.1t RPVST+
- VLT (Virtual Link Trunking)
- VRRP Active/Active
- RSTP & RPVST+
- Port Mirroring on VLT ports
- DCB, iSCSI, FSB on VLT
- RPM/ERPM over VLT
- VLT Minloss upgrade

**RFC Compliance**
- 768 UDP
- 793 TCP
- 854 Telnet
- 959 FTP
- 1321 MD5
- 1350 TFTP
- 2474 Differentiated Services
- 2608 Two Rate Three Color Marker
- 3164 Syslog
- 4254 SSHv2

**General IPv4 Protocols**
- 791 IPv4
- 792 ICMP
- 826 ARP
- 1027 Proxy ARP
- 1035 DNS (client)
- 1042 Ethernet Transmission
- 1191 Path MTU Discovery
- 1305 IPv4
- 1519 CDP
- 1588/2 PTP support
- 1812 Routers, Static Routes
- 1858 IP Fragment Filtering
- 2131 DHCPv4 (server and relay)
- 2398 IPv6
- 3021 31-bit Prefixes
- 3021 31-bit Prefixes
- 1812 Requirements for IPv4 Routers
- 1918 Address Allocation for Private Internets
- 2474 Diffserv Field in IPv4 and IPv6 Headers
- 2597 Assured Forwarding PHB Group
- 3195 Reliable Delivery for Syslog
- 3246 Expedited Forwarding PHB Group
- VRF (BGPs/IPv6)

**General IPv6 Protocols**
- 1981 Path MTU for IPv6
- 2172 IPv6 Addressing
- 2460 IPv6 Protocol Specification
- 2481 Neighbor Discovery
- 2462 Stateless Address AutoConfig
- 2711 IPv6 Router alert
- 2463 ICMPv6
- 2464 Ethernet Transmission
- 2675 IPv6 Jumbograms
- 3484 Default Address Selection
- 3493 Basic Socket Interface
- 4291 Addressing Architecture
- 3542 Advanced Sockets API
- 3542 Advanced Sockets API
- 3587 Global Unicast Address Format
- 4291 IPv6 Addressing
- 2464 Transmission of IPv6 Packets over Ethernet Networks
- 2711 IPv6 Router Alert Option
- 4007 IPv6 Scoped Address Architecture
- 4213 Transition Mechanisms for IPv6 Hosts and Routers
- 3633 DHCPv6 Relay
- 4Pv-6 Static Routes
- 802.1X  Network Access Control
- 802.1Q VLAN Tagging
- 802.1p L2 Prioritization
- 802.1D Compatible
- 802.1Q VLAN Tagging
- 802.3ad Link Aggregation
- 802.1X Network Access Control
- 802.3ac Frame Extensions for VLAN Tagging
- 802.3x Flow Control

**Network Management and Monitoring**
- SNMIPv1v2x
- IPv4/IPv6 Management support (Telnet, FTP, TACACS, RADIUS, SSH, NTP)
- Syslog
- Port Mirroring
- RPM/ERPM
- SFlow
- Support Assist (Phone Home)
- RestConf APIs (Layer 2 features)
- XML Schema
- CLI Commit (Scratchpad)
- Uplink Failure Detection
- Object Tracking
- Bidirectional Forwarding Detection (BFD)

**Automation**
- Control Plane Services APIs
- Linux Utilities and Scripting Tools
- CLI Automation (Multiline Alias)
- Zero Touch Deployment (ZTD)
- Ansible, Puppet, Chef, SaltStack
Quality of Service
Prefix List
Route-Map
Rate Shaping (Egress)
Rate Policing (Ingress)
Scheduling Algorithms
Round Robin
Weighted Round Robin
Deficit Round Robin
Strict Priority
Weighted Random Early Detect

Data center bridging
802.1Qbb Priority-Based Flow Control
802.1Qaz Enhanced Transmission Selection (ETS)
Explicit Congestion Notification
Data Center Bridging eXchange (DCBx)
DCBx Application TLV (iSCSI, FCoE)
RoCEv2

Software Defined Networking
OpenFlow 1.3 (Native)

MIBS
IP MIB
IP Forward MIB
Host Resources MIB
IF MIB
LLDP EXT/3 MIB
Entity MIB
LAG MIB
Dell-Vendor MIB
TCP MIB
UDP MIB
SNMPv2 MIB
ETHERLIKE-MIB
SFLOW-MIB
PFC-MIB

Regulatory compliance
Safety
UL/CSA 60950-1, Second Edition
EN 60950-1, Second Edition
IEC 60950-1, Second Edition Including All National Deviations and Group Differences
EN 60825-1 Safety of Laser Products Part 1: Equipment Classification Requirements and User’s Guide
FDA Regulation 21 CFR 1040.10 and 1040.31

Emissions
Australia/New Zealand: AS/NZS CISPR 22: 2006, Class A
Canada: ICES-003, Issue-4, Class A
Japan: VCCI V3/2009 Class A
USA: FCC CFR 47 Part 15, Subpart B:2011, Class A

Immunity
EN 300 386 V1.4.1:2008 EMC for Network Equipment
EN 61000-3-2: Harmonic Current Emissions
EN 61000-3-3: Voltage Fluctuations and Flicker
EN 61000-4-2: ESD
EN 61000-4-3: Radiated Immunity
EN 61000-4-4: EFT
EN 61000-4-5: Surge
EN 61000-4-6: Low Frequency Conducted Immunity

RoHS
All S Series components are EU RoHS compliant.

Certifications
Available with US Trade Agreements Act (TAA) compliance
USGv6 Host and Router Certified on Dell Networking OS 9.5 and greater
IPv6 Ready for both Host and Router
UCR DoD APL (core and distribution ALSAN switch

Warranty
1 year return to depot

Learn more at DellTechnologies.com/Networking