Cisco nexus 9300 data sheet

Continue

Switch models

Table 1 summarizes the Cisco Nexus 9300-EX platform switch models.

Table 1. Cisco Nexus 9300-EX platform switches

Model	Description
Cisco Nexus 93180YC-EX Switch	48 x 1/10/25-Gbps fiber ports and 6 x 40/100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) ports
Cisco Nexus 93108TC-EX Switch	48 x 100M/1/10GBASE-T ports and 6 x 40/100-Gbps QSFP28 ports
Cisco Nexus 93180LC-EX Switch	Up to 32 x 40/50-Gbps QSFP+ ports OR 18 x 100-Gbps QSFP28 ports

The Cisco Nexus 93180YC-EX Switch (Figure 1) is a 1-Rack Unit (1RU) switch with latency of less than 1 microsecond that supports 3.6 Terabits per second (Tbps) of bandwidth and over 2.6 billion packets per second (bpps). The 48 downlink ports on the 93180YC-EX can be configured to work as 1-, 10-, or 25-Gbps ports, offering deployment flexibility and investment protection. The uplink can support up to six 40- and 100-Gbps ports, or a combination of 1-, 10-, 25-, 40-, 50-, and 100-Gbps connectivity, offering flexible migration options. The switch has FC-FEC enabled for 25Gbps, and supports upto 3m in DAC connectivity. Please check Cisco Optics Matrix for the most updated support.

Figure 1. Cisco Nexus 93180YC-EX Switch

The Cisco Nexus 93108TC-EX Switch (Figure 2) is a 1RU switch that supports 2.16 Tbps of bandwidth and over 1.5 bpps. The 48 10GBASE-T downlink ports on the 93108TC-EX can be configured to work as 100-Mbps, 1 Gbps, or 10-Gbps ports. The uplink can support up to six 40- and 100-Gbps ports, or a combination of 1-, 10-, 25-, 40, 50-, and 100-Gbps connectivity, offering flexible migration options.

Figure 2. Cisco Nexus 93108TC-EX Switch

The Cisco Nexus 93180LC-EX Switch is the industry's first 50-Gbps-capable 1RU switch that supports 3.6 Tbps of bandwidth and over 2.6 bpps across up to 32 fixed 40- and 50-Gbps QSFP+ ports or up to 18 fixed 100-Gbps ports (Figure 3). The switch can support up to 72 10-Gbps ports using breakout cables. A variety of flexible port configurations are supported using templates.

Figure 3. Cisco Nexus 93180LC-EX Switch

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Item	Cisco Nexus 9300-EX Platform Switches
Maximum number of longest prefix match (LPM) routes*	Shipping: 128,000 Maximum: 512,000
Maximum number of IP host entries*	Shipping: 206,800 (IPv4), 104,80 (IPv6) Maximum: 512,000
Maximum number of MAC address entries*	Shipping: 90,000 Maximum: 512,000
Number of multicast routes*	Maximum: 8,000
Number of Interior Gateway Management Protocol (IGMP) snooping groups	8,000
Maximum number of Cisco Nexus 2000 Series Fabric Extenders per switch**	16
Number of access control list (ACL) entries	4000 ingress 2000 egress
Maximum number of VLANs	4096
Maximum number of Virtual Routing and Forwarding (VRF) instances	1,000
Maximum number of ECMP paths	64
Maximum number of port channels	512
Maximum number of links in a port channel	32
Number of active SPAN sessions	4
Maximum number of Rapid per-VLAN Spanning Tree (RPVST) instances	Shipping: 500 Maximum: 4000
Maximum number of Hot-Standby Router Protocol (HSRP) groups	490
Maximum number of Multiple Spanning Tree (MST) instances	64

* More templates and greater scalability are on the roadmap. Refer to Cisco Nexus 9000 Series Verified Scalability Guide documentation for the latest exact scalability values validated for specific software.

** On roadmap.

CISCO

Data Sheet

Cisco Nexus 9300 ACI Fixed Spine Switches

Product Overview

Industry shifts are redefining IT at all levels. On-premise IT consumption models are shifting to cloud-based services. IT as a service (IaaS) is supplanted by applications as a service. Separate development and operations are moving toward integrated Development and Operations (DevOps). Device-centric management models are migrating to application-centric management.

Business agility requires application agility, so IT teams need to provision applications in hours instead of months. Resources need to scale up (or down) in minutes, not hours. Traditional approaches take a siloed operational view, with no common operational model for the application, network, security, and cloud teams. A common operational model delivers application agility, simplified operations, assured performance, and scale.

The Solution: An Application-Centric Approach to Managing Your Infrastructure

Cisco® Application Centric Infrastructure (ACI) is a holistic architecture with centralized automation and policy-based application profiles. The Cisco ACI fabric is designed from the foundation to support emerging industry demands while maintaining a migration path for architecture already in place. The fabric is designed to support the industry move to management automation, programmatic policy, and dynamic "workload-anywhere" models. The Cisco ACI fabric accomplishes this with a combination of hardware, policy-based control systems, and software closely coupled to provide advantages not possible in other models.

The fabric consists of three major components: the Cisco Application Policy Infrastructure Controller (APIC), spine switches, and leaf switches. These three components handle both the application of network policy and the delivery of packets. Organizations can use the ACI-ready Cisco Nexus® 9300 Series Switches as spine or leaf switches to take full advantage of an automated, policy-based, systems management approach. The Cisco Nexus 9300 Series Switches include both spine and leaf switches. For detailed information, please refer here.

Switch Models

The Cisco Nexus 9336PQ ACI Spine Switch is a 2-Rack-Unit (2RU) spine switch for Cisco ACI that supports 2.88 Tbps of bandwidth across 36 fixed 40 GSFP+ ports (Figure 1). Cisco Nexus 9300 platform leaf switches are Layer 2 and 3 nonblocking 10 and 40 Gigabit Ethernet switches with up to 2.56 Terabits per second (Tbps) of internal bandwidth.

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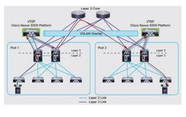

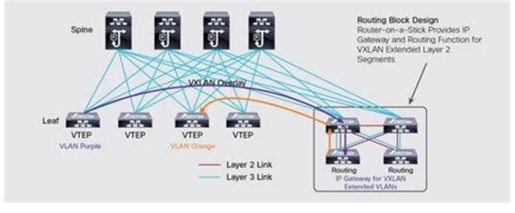

Cisco nexus 9300-fx series data sheet. Cisco nexus 9300-ex series switches data sheet. Cisco nexus 9300-fx series switches data sheet. Cisco nexus 9300 series switches data sheet.

Product overview The Cisco Nexus® 9300-FX2 Series switches belongs to the fixed Cisco Nexus 9000 platform based on Cisco Cloud Scale technology. The platform support cost-effective cloud-scale deployments, an increased number of endpoints, and cloud services with wire-rate security and telemetry. The platform is built on modern system architecture designed to provide high performance and meet the evolving needs of highly scalable data centers and growing enterprises. Cisco Nexus 9300-FX2 series is an extension of Nexus 9300-FX series switches with higher bandwidth capacity. The switches offer a variety of interface options to transparently migrate existing data centers from 1-Gbps, and 10-Gbps speeds to 25- Gbps at the server, and from 10- and 40-Gbps speeds to 50- and 100- Gbps at the aggregation layer. The platforms provide investment protection for customers, delivering large buffers, highly flexible Layer 2 and Layer 3 scalability, and performance to meet the changing needs of virtualized data centers and automated cloud environments. Cisco provides two modes of operation for Cisco Nexus 9000 Series Switches. Organizations can use Cisco NX-OS Software to deploy the switches in standard Cisco Nexus switch environments (NX-OS mode). Organizations can also deploy the infrastructure that is ready to support the Cisco Application Centric Infrastructure (Cisco ACI™) platform to take full advantage of an automated, policy-based, systems-management approach (ACI mode). Switch models Table 1. Cisco Nexus 9300-FX2 Series Switches Model Description Cisco Nexus 9336C-FX2 36 x 40/100-Gbps QSFP28 ports Cisco Nexus 9336C-FX2-E 36 x 40/100-Gbps QSFP28 ports Cisco Nexus 93240YC-FX2 48 x 1/10/25-Gbps fiber ports and 12 x 40/100-Gbps QSFP28 ports Cisco Nexus 93360YC-FX2 96 x 1/10/25-Gbps fiber ports and 12 x 40/100-Gbps QSFP28 ports Cisco Nexus 93216TC-FX2 96 x 100M/1/10GBASE-T ports and 12 x 40/100-Gigabit QSFP28 ports The Cisco Nexus 9336C-FX2 Switch (Figure 1) is a 1RU switch that supports 7.2 Tbps of bandwidth and over 2.4 bpps. The switch can be configured to work as 1/10/25/40/50/100-Gbps offering flexible options in a compact form factor. Breakout is supported on all ports. Please see feature table below for more information. Cisco Nexus 9336C-FX2 Switch The Cisco Nexus 9336C-FX2-E Switch (Figure 2) is a 1RU switch that supports 7.2 Tbps of bandwidth and over 2.4 bpps. The switch can be configured to work as 1/10/25/40/50/100-Gbps or as 16-, 32-Gbps Fibre Channel ports[2] offering flexible options in a compact form factor. Breakout is supported on all ports. Please see feature table below for more information. Cisco Nexus 9336C-FX2-E Switch The Cisco Nexus 93240YC-FX2 Switch (Figure 3) supports 4.8 Tbps of bandwidth and over 2.5bpps. The 48 ports of downlinks support 1/10/25-Gbps. The 12 uplinks ports can be configured as 40- and 100-Gbps ports, offering flexible migration options. The switch is ideal for a non-oversubscribed solution in a compact form factor. The switch has FC-FEC and RS-FEC enabled for 25Gbps support over longer distances. Cisco Nexus 93240YC-FX2 Switch The Cisco Nexus 93360YC-FX2 Leaf Switch is an 2-Rack-Unit (2RU) Leaf switch that supports 7.2 Tbps of bandwidth and 2.4 bpps across 96 fixed 10/25G SFP+ ports and 12 fixed 40/100G QSFP28 ports (Figure 3). The 96 ports of downlinks support 1/10/25-Gbps. The 12 uplinks ports can be configured as 40- and 100-Gbps ports, offering flexible migration options. The switch has FC-FEC and RS-FEC enabled for 25Gbps support over longer distances. Please see feature table below for more information. Cisco Nexus 93360YC-FX2 Switch The Cisco Nexus 93216TC-FX2 Switch (Figure 5) is a 2RU switch that supports 4.32 Tbps of bandwidth and over 2.5bpps. The 96 10GBASE-T downlink ports on the 93216TC-FX2 can be configured to work as 100-Mbps, 1-Gbps, or 10-Gbps ports. The 12 uplinks ports can be configured as 40- and 100-Gbps ports, offering flexible migration options. Cisco Nexus 93216TC-FX2 Switch Features and benefits The Cisco Nexus 9300-FX2 series provide the following features and benefits: ● Architectural Flexibility ◦ Industry leading Software Defined Networking Solution Cisco ACI™support. ◦ Support for standards based VXLAN EVPN fabrics, inclusive of hierarchical multi-site support (refer to VXLAN Network with MP-BGP EVPN Control Plane for more information). ◦ Three-tier BGP architectures, enabling horizontal, non-blocking IPv6 network fabrics at web-scale. ◦ Segment routing allows the network to forward Multiprotocol Label Switching (MPLS) packets and engineer traffic without Resource Reservation Protocol (RSVP) Traffic Engineering (TE). It provides a control-plane alternative for increased network scalability and virtualization. ◦ Comprehensive protocol support for Layer 3 (v4/v6) unicast and multicast routing protocol suites, including BGP, Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Routing Information Protocol Version 2 (RIPv2), Protocol Independent Multicast Sparse Mode (PIM-SM), Source-Specific Multicast (SSM), and Multicast Source Discovery Protocol (MSDP). ● Extensive Programmability ◦ Day zero automation through Power On Auto Provisioning, drastically reducing provisioning time. ◦ Industry leading integrations for leading develops configuration management applications – Ansible, Chef, Puppet, SALT. Extensive Native YANG and industry standard OpenConfig model support through RESTCONF/NETCONF. ◦ Pervasive API’s for all switch CLI functions (JSON based RPC over HTTP/HTTPs). ● High Scalability, flexibility, and security ◦ Flexible forwarding tables support up to 1 million shared entries on FX2 models. Flexible use of TCAM space allows for custom definition of Access Control List (ACL) templates. ◦ IEEE 802.1ae MAC Security (MACsec[1]) and Cloudsec (VTEP to VTEP encryption) support on all ports of 9300-FX2 models with speed greater than or equal to 1-Gbps, allows traffic encryption at the physical layer and provides secure server, border leaf, and leaf-to-spine connectivity. ● Intelligent Buffer Management ◦ The platform offers Cisco’s innovative intelligent buffer management, that offers capability to distinguish mice and elephant flows and apply different queue management schemes to them based on their network forwarding requirements in the event of link congestion. ◦ Intelligent buffer management functions are: ◦ Approximate Fair Dropping (AFD) with Elephant Trap (ETRAP). AFD distinguishes long-lived elephant flows from short-lived mice flows, by using ETRAP. AFD exempts mice flows from the dropping algorithm so that mice flows will get their fair share of bandwidth without being starved by bandwidth-hungry elephant flows. Also, AFD tracks elephant flows and subjects them to the AFD algorithm in the egress queue to grant them their fair share of bandwidth. ◦ ETRAP measures the byte counts of incoming flows and compares this against the user defined ETRAP threshold. After a flow crosses the threshold, it becomes an elephant flow. ◦ Dynamic Packet Prioritization (DPP) provides the capability of separating mice flows and elephant flows into two different queues so that buffer space can be allocated to them independently. Mice flows, sensitive to congestion and latency can take priority queue and avoid re-ordering that allows to elephant flows to take full link bandwidth. ● RDME over Converged Ethernet – RoCE support ◦ Platform offers lossless transport for RDMA over Converged Ethernet with support of DCB protocols: ◦ Priority-based Flow Control – (PFC) to prevent drops in the network and pause frame propagation per priority class. ◦ Enhanced Transmission Selection – (ETS) to reserve bandwidth per priority class in network contention situation. ◦ Data Center Bridging Exchange Protocol – (DCBX) to discover and exchange priority and bandwidth information with end points. ◦ Platform also supports Explicit Congestion Notification – (ECN) that provides end-to-end notification per IP flow by marking packets that experienced congestion, without dropping traffic. The platform is capable to track ECN statistics of number of marked packet that have experienced congestion. ● LAN and SAN Convergence ◦ Fibre Channel[2] and Fibre Channel over Ethernet (FCoE) N-Port Virtualization (NPV) support enables the network administrator to control domain IDs and points of management on a Fibre Channel network as it scales. This feature enables LAN and SAN converged networks on a lossless, reliable Ethernet network. ● Hardware and software high availability ◦ Virtual Port-Channel (vPC) technology provides Layer 2 multipathing through the elimination of Spanning Tree Protocol. It also enables fully utilized bisectional bandwidth and simplified Layer 2 logical topologies without the need to change the existing management and deployment models. ◦ The 64-way Equal-Cost MultiPath (ECMP) routing enables the use of Layer 3 fat-tree designs. This feature helps organizations prevent network bottlenecks, increase resiliency, and add capacity with little network disruption. ◦ Advanced reboot capabilities include hot and cold patching. ◦ The switches use hot-swappable Power-Supply Units (PSUs) and fans with N+1 redundancy. ● Purpose-built Cisco NX-OS Software operating system with comprehensive, proven innovations ◦ Single binary image that supports every switch in the Cisco Nexus 9000 series, simplifying image management. The operating system is modular, with a dedicated process for each routing protocol: a design that isolates faults while increasing availability. In the event of a process failure, the process can be restarted without loss of state. The operating system supports hot and cold patching and online diagnostics. ◦ Data Center Network Manager (DCNM) is the network management platform for all NX-OS-enabled deployments, spanning new fabric architectures, IP Fabric for Media, and storage networking deployments for the Cisco Nexus®-powered data center. Accelerate provisioning from days to minutes, and simplify deployments from day zero through day N. Reduce troubleshooting cycles with graphical operational visibility for topology, network fabric, and infrastructure. Eliminate configuration errors and automate ongoing change in a closed loop, with templated deployment models and configuration compliance alerting with automatic remediation. Real-time health summary for fabric, devices, and topology. Correlated visibility for fabric (underlay, overlay, virtual and physical endpoints), including compute visualization with VMware. ◦ Network traffic monitoring with Cisco Nexus Data Broker builds simple, scalable, and cost-effective network Test Access Points (TAPs) and Cisco Switched Port Analyzer (SPAN) aggregation for network traffic monitoring and analysis. ● Cisco Tetration Analytics platform support ◦ The telemetry information from the Nexus 9300 Series switches is exported every 100 milliseconds by default directly from the switch’s Application-Specific Integrated Circuit (ASIC). This information consists of three types of data: (a) Flow information, this information contains information about endpoints, protocols, ports, when the flow started, how long the flow was active, etc. (b) Inter-packet variation, this information captures any inter-packet variations within the flow. Examples include variation in Time To Live (TTL), IP and TCP flags, payload length, etc. (c) Context details, context information is derived outside the packet header, including variation in buffer utilization, packet drops within a flow, association with tunnel endpoints, etc. ◦ The Cisco Tetration Analytics platform consumes this telemetry data, and by using unsupervised machine learning and behavior analysis it can provide outstanding pervasive visibility across everything in your data center in real time. By using algorithmic approaches, the Cisco Tetration Analytics platform provides a deep application insights and interactions, enabling dramatically simplified operations, a zero-trust model, and migration of applications to any programmable infrastructure. To learn more, go to . ● Cisco Network Assurance Engine (NAE) ◦ Cisco NAE continuously verifies if the network infrastructure is operating as per policy intent and it leverages the power of mathematical models to reason on behalf of the operator in policy, configuration and dynamic state level. NAE can precisely indicate problems in the network, identify which application or part of network is impacted, root-cause the problem and suggest how to fix it. Its continuous verification approach transforms Day 2 Operations from reactive to proactive mode and it does so without using any packet data. NAE helps avoid outages by predicting the impact of changes, reducing network related IT incidents and shrinking the mean time to repair by up to 66%. NAE also helps assure network security and segmentation compliance. To learn more about NAE, visit . Product specifications The Cisco Nexus 9300-FX2 series offer industry-leading density and performance with flexible port configurations that can support existing copper and fiber cabling (Tables 2). Table 2. Cisco Nexus 9300-FX2 Series Switch specifications Feature Cisco Nexus 9336C-FX2 Cisco Nexus 9336C-FX2-E Cisco Nexus 93240YC-FX2 Cisco Nexus 93360YC-FX2 Cisco Nexus 93216TC-FX2 Ports 36 x 40/100-Gbps QSFP28 ports 36 x 40/100-Gbps QSFP28 ports 48 x 1/10/25-Gbps and 12 x 40/100-Gbps QSFP28 ports 96 x 1/10/25-Gbps and 12 x 40/100-Gbps QSFP28 ports 96 x 100M/1/10GBASE-T ports and 12 x 40/100-Gbps QSFP28 ports Supported speeds 1/10/25/40/100-Gbps Ethernet Breakout supported on all ports, 1-36: 100G, 2x50G NRZ, 40G native, 4x10/25G (10G w/QSA) 1G w/QSA except ports 1-6 and 33-36 1/10/25/40/100-Gbps Ethernet Breakout supported on all ports, 1-36: 100G, 2x50G NRZ, 40G native, 4x10/25G (10G w/QSA) 1G w/QSA except ports 1-6 and 33-36 16/32-Gbps Fibre Channel[2] 1/10/25-Gbps on downlinks 40/100-Gbps on uplinks 1/10/25-Gbps on downlinks 40/100-Gbps on uplinks Breakout supported ports, 97-108: 4x10/25G 100M/1/10 Gbps RJ45 downlinks 40/100-Gbps on uplinks Breakout supported ports, 97-108: 4x10/25G CPU 4 cores 4 cores 4 cores 4 cores 4 cores System memory 24 GB 24 GB Upto 24 GB Upto 24 GB Upto 24 GB SSD drive 128 GB 128 GB 128 GB 128 GB 128 GB System buffer 40 MB 40 MB 40 MB 40 MB 40 MB Management ports 2 ports: 1 RJ-45 and 1 SFP+ 2 ports: 1 RJ-45 and 1 SFP+ 2 ports: 1 RJ-45 and 1 SFP+ 2 ports: 1 RJ-45 and 1 SFP+ 2 ports: 1 RJ-45 and 1 SFP+ USB ports 1 1 1 1 1 RS-232 serial ports 1 1 1 1 1 Power supplies (up to 2) 750W AC*, 1100W AC, 1100W DC, 1100W HVAC/HVDC 750W AC, 1100W AC, 1100W DC, 1100W HVAC/HVDC** 750W AC*, 1100W AC, 1100W DC, 1100W HVAC/HVDC 1200W AC, 1200W HVAC/HVDC 1200W AC, 1200W HVAC/HVDC Typical power (AC) 337W 337W 298W 404W 580W Maximum power (AC) 719W 705W 708W 900W 965W Input voltage (AC) 100 to 240V 100 to 240V 100 to 240V 100 to 240V 100 to 240V Input voltage (High-Voltage AC [HVAC]) 100 to 277V 100 to 277V 100 to 277V 100 to 277V 100 to 277V Input voltage (DC) –40 to –72V –40 to –72V –40 to –72V –40V to –72V –40V to –72V Input voltage (High-Voltage DC [HVDC]) –240 to –380V –240 to –380V –240 to –380V –240V to –380V –240V to –380V Frequency (AC) 50 to 60 Hz 50 to 60 Hz 50 to 60 Hz 50 to 60 Hz 50 to 60 Hz Fans 3 dual fan trays 6 5 3 fan trays 3 fan trays Airflow Port-side intake and exhaust Port-side intake and exhaust Port-side intake and exhaust Port-side intake and exhaust Port-side intake and exhaust Physical dimensions (H x W x D) 1.72 x 17.3 x 24.5 in. (4.4 x 43.9 x 62.3 cm) 1.72 x 17.3 x 24.7 in. (4.4 x 43.9 x 62.7 cm) 2.1 x 17.3 x 23.3 in. (5.3 x 43.9 x 59.1 cm) 3.38 x 17.41 x 24.14in. (8.59 x 44.23 x 61.31 cm) 3.38 x 17.41 x 23.6 in (8.59 x 44.2 x 59.9 cm) Acoustics 76.2 dBA at 50% fan speed, 85.3 dBA at 70% fan speed, and 92.3 dBA at 100% fan speed 74.7 dBA at 50% fan speed, 80.4 dBA at 70% fan speed, and 88.1 dBA at 100% fan speed 76.4 dBA at 50% fan speed, 83.3 dBA at 70% fan speed, and 92.1 dBA at 100% fan speed 76.7 dBA at 40% fan speed, 88.7 dBA at 70% Fan speed and 97.4 dBA at 100% Fan speed 76.7 dBA at 40% fan speed, 88.7 dBA at 70% Fan speed and 97.4 dBA at 100% Fan speed RoHS compliance Yes Yes Yes Yes Yes MTBF 352,590 hours 292,740 hours 365,610 hours 320,040 hours 290,680 hours Minimum ACI image ACI-N9KDK9-13.1.2 ACI-N9KDK9-14.0 ACI-N9KDK9-14.1.2 ACI-N9KDK9-14.1.2 Minimum NX-OS image NXOS-703I7.3 NXOS-10.1(1) NXOS-703I7.3 NXOS-9.3(1) NXOS-9.3(1) * Typical and maximum power values are based on input drawn from the power circuit. The power supply value (for example, 1100W AC power supply: NXA-PAC-1100W-PI) is based on the output rating to the inside of the switch. Table 3 lists the performance and scalability specifications for the Cisco Nexus 9300-FX2/FX2-E series switches. (Check the software release notes for feature support information.) Table 3. Hardware performance and scalability specifications* Item Cisco Nexus 9300-FX2 Series Switches Maximum number of Longest Prefix Match (LPM) routes** 896,000 Maximum number of IP host entries** 896,000 Maximum number of MAC address entries** 256,000 Maximum number of multicast routes 128,000 Number of Internet Group Management Protocol (IGMP) snooping groups Shipping: 8,000 Maximum: 32,000 Maximum number of Cisco Nexus 2000 Series Fabric Extenders per switch 16 Maximum number of Access Control List (ACL) entries Per slice of the forwarding engine: 5000 ingress 2000 egress Maximum number of VLANs 4096*** Number of Virtual Routing and Forwarding (VRF) instances Shipping: 1,000 Maximum: 16,000 Maximum number of ECMP paths 64 Maximum number of port channels 512 Maximum number of links in a port channel 32 Number of active SPAN sessions 4 Maximum number of VLAN’s in Rapid per-VLAN Spanning Tree (RPVST) instances 3,967 Maximum number of Hot-Standby Router Protocol (HSRP) groups 490 Number of Network Address Translation (NAT) entries 1,023 Maximum number of Multiple Spanning Tree (MST) instances 64 Flow-table size used for Cisco Tetration Analytics platform 64,000 Number of Queues 8 ** Raw capacity of flow table. ***127 VLANs out of 4096 are reserved. Table 4 lists the environmental properties, and Table 5 lists the weight for the Cisco Nexus 9300-FX2 series switches. Table 4. Environmental properties Property Description Operating temperature 32 to 104°F (0 to 40°C) Nonoperating (storage) temperature –40 to 158°F (–40 to 70°C) Humidity 5 to 95% (noncondensing) Altitude 0 to 13,123 ft (0 to 4000m) Table 5. Weight Component Weight Cisco Nexus 9336C-FX2 without power supplies or fans 18.8 lb (8.5 kg) Cisco Nexus 9336C-FX2-E Chassis weight per unit 18.8 lb (8.5 kg) Cisco Nexus 93240YC-FX2 without power supplies or fans 2.2 lb (10 kg) 750W* AC power supply 2.42 lb (1.1 kg) 1100W AC power supply 2.42 lb (1.1 kg) 1100W DC power supply 2.45 lb (1.11 kg) 1100W HVAC/HVDC power supply 2.46 lb (1.12 kg) Cisco Nexus 93360YC-FX2 without power supplies or fans 27.4 lb (12.4kg) Cisco Nexus 93216TC-FX2 without power supplies or fans 27.4 lb (12.4 kg) 930W DC Power Supply 2.42 lb (1.1 kg) 1200W AC power supply 2.64 lb (1.2 kg) 1200W HVAC/HVDC power supply 2.52 lb (1.14kg) Fan tray: NXA-FAN-65CFM-F or NXA-FAN-65CFM-B 0.6 lb (0.3 kg) Fan tray: NXA-FAN-35CFM-PE or NXA-FAN-35CFM-PI 0.26 lb (0.1 kg) NXA-FAN-160CFM-PI or NXA-FAN-160CFM-PE 1.3 lb (0.59 kg) Table 6 summarizes regulatory standards compliance for the Cisco Nexus 9300-FX2 series switches. Table 6. Regulatory standards compliance: Safety and EMC Specification Description Regulatory compliance Products should comply with CE Markings according to directives 2004/108/EC and 2006/95/EC Safety NEBS ● UL 60950-1 Second Edition ● CAN/CSA-C22.2 No. 60950-1 Second Edition ● EN 60950-1 Second Edition ● IEC 60950-1 Second Edition EMC: Emissions ● 47CFR Part 15 (CFR 47) Class A EMC: Immunity RoHS The product is RoHS-6 compliant with exceptions for leaded-Ball Grid-Array (BGA) balls and lead press-fit connectors. Software licensing and optics supported The software packaging for the Cisco Nexus 9000 Series offers flexibility and a comprehensive feature set. The default system software has a comprehensive Layer 2 security and management feature set. To enable additional functions, including Layer 3 IP unicast and IP multicast routing and Cisco Nexus Data Broker, you must install additional licenses. To meet customer requirements, licensing is available as both subscription and perpetual. The licensing guide illustrates the software packaging and licensing available to enable advanced features. For the latest software release information and recommendations, refer to the product bulletin at . For details about the optics modules available and the minimum software release required for each supported module, visit . Ordering information Table 7 presents ordering information for the Cisco Nexus 9300-FX series switches. Table 7. Ordering information Part Number Product Description Base Part Numbers N9K-C9336C-FX2 Nexus 9K Fixed with 36p 40G/100G QSFP28 N9K-C9336C-FX2-E Nexus 9K Fixed with 36p 40G/100G QSFP28 N9K-C93240YC-FX2 Nexus 9K Fixed with 48p 1/10G/25G SFP and 12p 40G/100G QSFP28 N9K-C93360YC-FX2 Nexus 9K Fixed with 96p 1/10G/25G SFP and 12p 40G/100G QSFP28 N9K-C93216TC-FX2 96p 100M/1/10GBASE-T and 12p 40G/100G QSFP28 Power Supplies on Nexus 9300-FX2 series NXA-PAC-750W-PI* Nexus 9000 750W AC PS, Port-side Intake NXA-PAC-750W-PE* Nexus 9000 750W AC PS, Port-side Exhaust NXA-PAC-1100W-PI2 Nexus 9000 1100W AC PS, Port-side Intake NXA-PAC-1100W-PE2 Nexus 9000 1100W AC PS, Port-side Exhaust NXA-PDC-1100W-PI Nexus 9000 1100W DC PS, Port-side Intake NXA-PDC-1100W-PE Nexus 9000 1100W DC PS, Port-side Exhaust NXA-PHV-1100W-PI Nexus 1100W Platinum HV-AC-DC PS, Port-side Intake NXA-PHV-1100W-PE Nexus 1100W Platinum HV-AC-DC PS, Port-side Exhaust NXA-PAC-1200W-PE Cisco Nexus 1200W AC PS, Port-side Exhaust NXA-PAC-1200W-PI Cisco Nexus 1200W AC PS, Port-side Intake N9K-PUV-1200W Cisco Nexus 1200W, 200-277AC,240-380DC, dual airflow PSU NXA-PDC-930W-PI Cisco Nexus 930W DC PS, Port-side Intake NXA-PDC-930W-PE Cisco Nexus 930W DC PS, Port-side Exhaust Fans on Nexus 9300-FX2 Series NXA-FAN-35CFM-PE Nexus Single Fan, 35CFM, port side exhaust airflow; supported on Nexus 93240YC-FX2 NXA-FAN-35CFM-PI Nexus Single Fan, 35CFM, port side intake airflow; supported on Nexus 93240YC-FX2 NXA-FAN-65CFM-PE Nexus Dual Fan, 65CFM, port side exhaust airflow; supported on Nexus 9336C-FX2 NXA-FAN-65CFM-PI Nexus Dual Fan, 65CFM, port side intake airflow; supported on Nexus 9336C-FX2 NXA-FAN-160CFM-PI Cisco NEXUS FAN, 160CFM, PORT-SIDE INTAKE AIRFLOW NXA-FAN-160CFM-PE Cisco Nexus Fan, 160CFM, port-side exhaust airflow Licenses on Nexus 9300-FX2 Series C1E1TN9300XF-3Y ACI & NX-OS Subscription Essential package for 10/25/40G+ Nexus 9K Leaf, 3 Year Term C1E1TN9300XF-5Y ACI & NX-OS Subscription Essential package for 10/25/40G+ Nexus 9K Leaf, 5 Year Term C1A1TN9300XF-3Y ACI & NX-OS Subscription Advantage package for 10/25/40G+ Nexus 9K Leaf, 3 Year Term C1A1TN9300XF-5Y ACI & NX-OS Subscription Advantage package for 10/25/40G+ Nexus 9K Leaf, 5 Year Term ACI-ES-XF ACI Essential SW license for a 10/25/40G+ Nexus 9K Leaf ACI-AD-XF ACI Advantage SW license for a 10/25/40G+ Nexus 9K Leaf NX-OS-ES-XF NX-OS Essential SW license for a 10/25/40G+ Nexus 9K Leaf NX-OS-AD-XF NX-OS Advantage SW license for a 10/25/40G+ Nexus 9K Leaf Power Cords CAB-250V-10A-AR AC Power Cord - 250V, 10A - Argentina (2.5 meter) CAB-250V-10A-BR AC Power Cord - 250V, 10A - Brazil (2.1 meter) CAB-250V-10A-CN AC Power Cord - 250V, 10A - PRC (2.5 meter) CAB-250V-10A-ID AC Power Cord - 250V, 10A, South Africa (2.5 meter) CAB-250V-10A-IS AC Power Cord - 250V, 10A - Israel (2.5 meter) CAB-9K10A-AU Power Cord, 250VAC 10A 3112 Plug, Australia (2.5 meter) CAB-9K10A-EU Power Cord, 250VAC 10A CEE 7/7 Plug, EU (2.5 meter) CAB-9K10A-IT Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy (2.5 meter) CAB-9K10A-SW Power Cord, 250VAC 10A MP232 Plug, SWITZ (2.5 meter) CAB-9K10A-UK Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK (2.5 meter) CAB-9K12A-NA Power Cord, 125VAC 13A NEMA 5-15 Plug, North America (2.5 meter) CAB-AC-L620-C13 North America, NEMA L6-20-C13 (2.0 meter) CAB-C13-C14-2M Power Cord Jumper, C13-C14 Connectors, 2 Meter Length (2 meter) CAB-C13-CBN Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors (0.7 meter) CAB-IND-10A 10A Power cable for India (2.5 meter) CAB-N5K6A-NA Power Cord, 200/240V 6A North America (2.5 meter) CAB-HVAC-SD-0.6M HVAC Power cable for Anderson-LS-25 CAB-HVAC-RT-0.6M HVAC Power cable with right angle connector for RF-LS-25 Accessories on Nexus 9300-FX2 Series NXK-ACC-KIT-1RU Nexus Fixed Accessory Kit with 4-post rack mount kit Warranty, service and support The Cisco Nexus 9300-FX2 series has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA). Cisco offers a range of professional, solution, and product support services for each stage of your Cisco Nexus 9300-FX2 series deployment: ● Cisco Data Center Quick Start Service for Cisco Nexus 9000 Series Switches: This offering provides consulting services that include technical advice and assistance to help deploy Cisco Nexus 9000 Series Switches. ● Cisco Data Center Accelerated Deployment Service for Cisco Nexus 9000 Series Switches: This service delivers planning, design, and implementation expertise to bring your project into production. The service also provides recommended next steps, an architectural high-level design, and operation-readiness guidelines to scale the implementation to your environment. ● Cisco Migration Service for Cisco Nexus 9000 Series Switches: This service helps you migrate from Cisco Catalyst® 6000 Series Switches to Cisco Nexus 9000 Series Switches. ● Cisco Product Support: Support service is available globally 24 hours a day, 7 days a week, for Cisco software and hardware products and technologies associated with Cisco Nexus 9000 Series Switches. Enhanced support options delivered by Cisco also include solution support for Cisco ACI, Cisco SMARTnet™ Service, and Cisco Smart Net Total Care™* service. For more information, visit . * For Cisco products only. Cisco environmental sustainability Information about Cisco’s environmental sustainability policies and initiatives for our products, solutions, operations, and extended operations or supply chain is provided in the “Environment Sustainability” section of Cisco’s 2018 Corporate Social Responsibility (CSR) Report. Reference links to information about key environmental sustainability topics (mentioned in the “Environment Sustainability” section of the CSR Report) are provided in the following table: Sustainability Topic Reference Information on product-material-content laws and regulations Materials Information on electronic waste laws and regulations, including products, batteries and packaging WEEE Compliance Reference links to product-specific environmental sustainability information that is mentioned in relevant sections of this data sheet are provided in the following table: Cisco makes the packaging data available for informational purposes only. It may not reflect the most current legal developments, and Cisco does not represent, warrant or guarantee that it is complete, accurate or up-to-date. This information is subject to change without notice. Cisco Capital Flexible payment solutions to help you achieve your objectives Cisco Capital makes it easier to get the right technology to achieve your objectives, enable business transformation and help you stay competitive. We can help you reduce the total cost of ownership, conserve capital, and accelerate growth. In more than 100 countries, our flexible payment solutions can help you acquire hardware, software, services and complementary third-party equipment in easy, predictable payments. Learn more. For more information For more information about the Cisco Nexus 9000 Series and latest software release information and recommendations, visit . *750W AC PSU is compatible only with software versions ACI-N9KDK9-14.2 or NXOS-9.3.3 and onwards [1] Please check software release notes to get the latest support for each product to enable MACsec and Cloudsec. [2] Capabilities to enable both switch mode and NPV mode for FC and FCOE is on software roadmap

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