

Release Notes: Junos[®] OS Release 14.1X53-D20 for the OCX Series

Release 14.1X53-D20
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Revision 2

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Junos OS Release Notes for OCX Series Switches

These release notes accompany Junos OS Release 14.1X53 for the OCX Series. They describe new and changed features, limitations, and known problems in the hardware and software.

- [New and Changed Features on page 3](#)
- [Known Behavior on page 8](#)
- [Known Issues on page 9](#)
- [Product Compatibility on page 10](#)

New and Changed Features

This section lists the new features in Junos OS Release 14.1X53-D20 for the OCX Series. It includes a description of the switch under “Hardware” and then a list of the software features provided on the switch.

- [Hardware](#)
- [Authentication, Authorization, and Accounting \(AAA\) \(RADIUS\)](#)
- [Class of Service](#)
- [Dynamic Host Configuration Protocol \(DHCP\)](#)
- [High Availability and Resiliency](#)
- [Interfaces and Chassis](#)
- [IPv6](#)
- [Layer 3 Protocols](#)
- [Layer 3 Unicast Forwarding](#)
- [Management](#)
- [Multicast](#)
- [Network Management and Monitoring](#)
- [Operation, Administration, and Maintenance \(OAM\)](#)
- [Security](#)
- [System Management](#)

Hardware

- **Juniper Networks OCX1100 Open Networking Switches**—The OCX1100 line of switches is designed for large-scale cloud-based data centers and is backed by the industry-recognized Open Compute Project (OCP). OCX1100 switches, which combine the cloud-optimized OCP-based hardware design with the Juniper Networks Junos operating system, are high-density, top-of-rack, high-performance fixed-configuration switches for large-scale IP fabric deployments.

The OCX1100-48SX switch has 48 10-Gigabit Ethernet small form-factor pluggable plus transceiver (SFP+) ports that support 10GBASE-SR and 10GBASE-LR transceivers and 6 built-in 40-Gigabit Ethernet quad SFP+ (QSFP+) ports that support 40GBASE-SR4 transceivers. Each SFP+ port operates as a 10-Gigabit Ethernet port, and each QSFP+ port operates at native 40-gigabit speed. The OCX1100-48SX switch provides full duplex throughput of 1.44 Tbps.

See the [OCX1100 Hardware Documentation](#).

OCX1100 switches run Junos OS, which provides Layer 3 switching, routing, and security services. For information about installing software for your switch, see [Junos OS Basics on the OCX Series](#).

Authentication, Authorization, and Accounting (AAA) (RADIUS)

- RADIUS functionality over IPv4 and IPv6 for system AAA

Class of Service

- Class of service (CoS)—Class-based queuing with prioritization
- CoS—Multidestination (multicast, broadcast, destination lookup failure)
- CoS support on link aggregation groups (LAGs)
- CoS—Per-interface classification
- DSCP setting on ingress interface
- Enhanced transmission selection (ETS)
- Interface-specific CoS rewrite rules
- Layer 3 CoS (classification, rewrite, queuing)
- Layer 3 ingress packet classification and egress rewrite rule class-of-service features
- Port shaping and Queue shaping
- Re-marking of bridged packets
- Scheduled deficit weighted round-robin (SDWRR) egress scheduling
- Software buffer configurability
- Strict priority queuing or low-latency queue (LLQ)

- Trust 802.1p, DiffServ code point (DSCP), or DSCP-IPv6
- Weighted random early detection (WRED) tail-drop profiles

Dynamic Host Configuration Protocol (DHCP)

- DHCP server and relay

High Availability and Resiliency

- Graceful protocol restart for BGP
- Graceful protocol restart for OSPF
- Virtual Router Redundancy Protocol (VRRP)
- Zero touch provisioning (ZTP)

Interfaces and Chassis

- Interface ranges
- IPv4 over generic routing encapsulation (GRE) tunnels—Encapsulation support
- Layer 3 logical interfaces
- Link aggregation groups (LAGs)

IPv6



NOTE: IPv6 management using a virtual management Ethernet (VME) interface is not supported.

- BGP for IPv6
- IPv6 CoS (behavior aggregate, multifield classification and rewrite, scheduling based on traffic class)
- IPv6 Multicast Listener Discovery protocols (MLDv1 and MLDv2)
- IPv6 ping
- IPv6 static routing
- IPv6 traceroute
- IS-IS for IPv6
- Neighbor Discovery Protocol (NDP)
- Open Shortest Path First version 3 (OSPFv3) for IPv6
- Path MTU discovery
- SNMP, NTP, DNS, IPv6 attributes in RADIUS message
- SSH

- Stateless autoconfiguration
- System logging (syslog) over IPv6
- Telnet
- Virtual Router Redundancy Protocol (VRRP) for IPv6

Layer 3 Protocols

- BGP
- BGP for IPv6
- BGP Monitoring Protocol version 3 (BMPv3)
- BGP support for advertising multiple paths to IPv6 addresses
- BGP support for 4-byte autonomous system numbers
- Bidirectional Forwarding Detection for static routes and for BGP, IS-IS, OSPF, and RIP
- Intermediate System-to-Intermediate System (IS-IS)
- IS-ISv6
- Open Shortest Path First version 2 (OSPFv2)
- OSPFv3
- Per-packet load balancing equal-cost multipath (ECMP)
- 64 equal-cost multipath (ECMP) paths
- RIP versions 1 and 2 (RIPv1 and RIPv2)
- Static routes
- Virtual router routing instances for unicast protocols
- Virtual router routing instances for multicast protocols

Layer 3 Unicast Forwarding

- IP directed broadcast traffic forwarding
- Unicast reverse-path forwarding (RPF)

Management

- Auto download of configuration
- Automatic software download
- Chef support
- Puppet support
- Rescue configuration
- Role-based CLI management and CLI access

Multicast

- Anycast rendezvous point (RP)
- Auto rendezvous point (RP)
- Bidirectional Forwarding Detection (BFD) for PIM
- IGMPv1, IGMPv2, and IGMPv3
- IGMP filtering
- IGMP proxy (relay)
- IGMP querier
- Multicast Listener Discovery version 1 and 2 (MLDv1 and MLDv2) protocol
- Multicast Source Discovery Protocol (MSDP)
- Protocol Independent Multicast dense mode (PIM DM)
- Protocol Independent Multicast (PIM) filtering
- Protocol Independent Multicast sparse mode (PIM SM)
- Protocol Independent Multicast source-specific multicast (PIM SSM)
- Static rendezvous point (RP)

Network Management and Monitoring

- Automation enhancements
- Junos OS automation scripts support
- Local port mirroring for Layer 3 interfaces (using a firewall filter)
- Open Source Python modules supported in automation enhancement
- RMON events, alarms, and history
- Simple Network Management Protocol version 1, 2, and 3 (SNMPv1, SNMPv2, and SNMPv3)
- System logging (syslog) over IPv4

Operation, Administration, and Maintenance (OAM)

- Auto medium-independent interface (MDI) or medium-dependent interface crossover (MDIX)

Security

- Dynamic allocation of ternary content addressable memory (TCAM) to firewall filters
- Error message displayed when TCAM is full
- Filter-based generic routing encapsulation (GRE) decapsulation
- Firewall filters for Layer 3 interfaces

- Firewall filter classification of CPU generated packets
- Policing
- Policing or rate-limiting of traffic to CPU (nonconfigurable)
- TCP or UDP port ranges in classification

System Management

- Automatic repair of corrupted partition when booting from alternate partition
- Configuration rollback
- **host-processes** option included in **show system processes** command
- Online insertion and removal (OIR)
- System logging (syslog) over IPv4

Related Documentation

- [Known Behavior on page 8](#)
- [Known Issues on page 9](#)
- [Product Compatibility on page 10](#)

Known Behavior

This section lists the changes in known behavior in Junos OS Release 14.1X53-D20 for the OCX Series.

For the most complete and latest information about known Junos OS defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

- [Hardware](#)
- [Infrastructure](#)

Hardware

- Power supply FRUs in OCX1100-48X switches do not have ONIE-compliant IDs, which means those FRUs do not provide information such as serial number and part number. Hence, when you issue the **show chassis hardware** CLI command, the output does not show that information. If you require that information, you must physically inspect the FRU—the information is printed on it. [PR1071415](#)

Infrastructure

- On OCX1100-48SX switches, the USB drive is not detected by Junos OS. [PR1053417](#)
- On OCX1100-48SX switches, the recovery partition option does not work. If you use the workaround (which is to use the ONIE reinstall mechanism), the switch loses configuration data. [PR1053597](#)
- On OCX1100-48SX switches, Linux kernel core files are not created. Junos OS kernel core files are created. [PR1057408](#)

- Related Documentation**
- [New and Changed Features on page 3](#)
 - [Known Issues on page 9](#)
 - [Product Compatibility on page 10](#)

Known Issues

This section lists the known issues in software in Junos OS Release 14.1X53-D20 for the OCX Series.

For the most complete and latest information about known Junos OS defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

- [High Availability and Resiliency](#)
- [Infrastructure](#)

High Availability and Resiliency

- On OCX1100, zero-touch provisioning (ZTP) does not work with the management interface em0 MAC address, because DHCP discover packets are sent from the em1 management interface MAC address only and the IP address is assigned to the em1 interface. As a workaround, use the em1 MAC address for ZTP. [PR1062125](#)

Infrastructure

- On OCX1100-48SX switches, the System LED state is inconsistent with the actual system state when the system comes up. The System LED state is OFF for 3 to 5 minutes. [PR1058982](#)
- On OCX1100 switches with model numbers ending in “-AFO”, the output of **show chassis environment** CLI command shows the direction of temperature sensors incorrectly as **AFI**. “AFO” indicates that airflow is front-to-back—that is, air intake to cool the chassis is through the vents on the front panel of the chassis, and hot air exhausts through the vents on the rear panel of the chassis. [PR1061821](#)
- On OCX1100 switches, the **show chassis hardware extensive | no-more** CLI command output does not show the last two letters in the DC model numbers, so you cannot determine from the output whether the particular FRU is an AFI-type model or an AFO-type model. As a workaround, you can verify the model type by associating the CLEI code, which is displayed in the command output, with the model type that it represents. Model type OCX1100-48SX-D-AFI has a CLEI code of **CSM1A10DRA**, and model type OCX1100-48SX-D-AFO has a CLEI code of **CSM1B10DRA**. [PR1091798](#)
- On OCX1100 switches, the **show chassis hardware extensive** CLI command output does not display the manufacturing date correctly (in the **Date** field) if the value of month or day (MM or DD) is **08** or **09**. [PR1113442](#)

- Related Documentation**
- [New and Changed Features on page 3](#)
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Product Compatibility

- [Hardware Compatibility on page 10](#)

Hardware Compatibility

To determine the features supported on OCX Series switches in this release, use the Juniper Networks Feature Explorer, a Web-based application that helps you to explore and compare Junos OS feature information to find the right software release and hardware platform for your network. Find Feature Explorer at:

<http://pathfinder.juniper.net/feature-explorer/>.

Related Documentation

- [New and Changed Features on page 3](#)
- [Known Behavior on page 8](#)
- [Known Issues on page 9](#)

Third-Party Components

This product includes third-party components. To obtain a complete list of third-party components, see [Overview for Routing Devices](#).

For a list of open source attributes for this Junos OS release, see [Open Source: Source Files and Attributions](#).

Finding More Information

For the latest, most complete information about known and resolved issues with Junos OS, see the Juniper Networks Problem Report Search application at:

<http://prsearch.juniper.net>.

Juniper Networks Feature Explorer is a Web-based application that helps you to explore and compare Junos OS feature information to find the correct software release and hardware platform for your network. Find Feature Explorer at:

<http://pathfinder.juniper.net/feature-explorer/>.

Juniper Networks Content Explorer is a Web-based application that helps you explore Juniper Networks technical documentation by product, task, and software release, and download documentation in PDF format. Find Content Explorer at:

<http://www.juniper.net/techpubs/content-applications/content-explorer/>.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- **Online feedback rating system**—On any page at the Juniper Networks Technical Documentation site at <http://www.juniper.net/techpubs/index.html>, simply click the stars to rate the content, and use the pop-up form to provide us with information about

your experience. Alternately, you can use the online feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>.

- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support for OCX Series

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or JNASC support contract, or are covered under warranty, and need postsales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the JTAC User Guide located at <http://www.juniper.net/customers/support/downloads/710059.pdf>.
- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC Hours of Operation —The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool located at <https://tools.juniper.net/SerialNumberEntitlementSearch/>.

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <http://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, visit us at <http://www.juniper.net/support/requesting-support.html>.

If you are reporting a hardware or software problem, issue the following command from the CLI before contacting support:

```
user@host> request support information | save filename
```

To provide a core file to Juniper Networks for analysis, compress the file with the **gzip** utility, rename the file to include your company name, and copy it to **ftp.juniper.net/pub/incoming**. Then send the filename, along with software version information (the output of the **show version** command) and the configuration, to **support@juniper.net**. For documentation issues, fill out the bug report form located at <https://www.juniper.net/cgi-bin/docbugreport/>.

Support for OCX Series

Juniper Networks will not provide support on any non-Juniper software running on the OCX Series hardware. If any non-Juniper software is installed, JTAC is limited to hardware troubleshooting and Junos OS might need to be reinstalled on the OCX Series switch to demonstrate the issue.

Revision History

August 17, 2015—Revision 2, Junos OS for the OCX Series, Release 14.1X53-D20—Updates added.

February 6, 2015—Revision 1, Junos OS for the OCX Series, Release 14.1X53-D20—First OCX Series release

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