

Juniper Extension Toolkit Release Notes, Release 20.1R1

Release 20.1
March 2020
Revision 1

These release notes accompany the Juniper Extension Toolkit (JET). They describe the new and changed features, limitations, and known and resolved problems.

Applications developed using the Juniper Extension Toolkit (JET) are supported on the following platforms: ACX Series, EX4300, EX4600, EX9200, PTX Series, QFX Series, MX80, MX104, MX240, MX480, MX960, MX2010, MX2020, vMX, vSRX, and SRX Series.

JET provides a common API framework that exposes API functionality made available by the internal Junos OS processes (daemons). Each internal process exposes its own APIs. All of the APIs are accessible using the gRPC framework for remote procedure calls (RPCs).

JET supports the following:

- Multiple languages for applications that run off-box
- Python for applications that run on a device running Junos OS or Junos OS Evolved
- Applications written in C to run on devices that do not use the JET APIs
- An event notification method that enables the applications to respond to selected system events

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New and Changed Features

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This section lists the new features and enhancements to existing features in Junos OS Release 20.1R1 and Junos OS Evolved Release 20.1R1 for JET.

API

- **Support for ECMP path trace tool using APIs (PTX10003)**—Starting in Junos OS Evolved Release 20.1R1, you can use ECMP tracer JET APIs to monitor traffic flow, trace the ECMP path used by packets entering and exiting a CLOS network, and get flow counters without changing the configuration on your device. You provide match criteria to the ECMP path trace tool, `ecmptracerd`, through JET API requests. The `ecmptracerd` process then installs firewall filters for the inputs on all the interfaces on the device except the private interfaces. The counters associated with these filters increment as packets matching the firewall filter criteria arrive and leave. These APIs provide similar functionality to the `ecmp-tracer` on-box shell utility. Do not use the JET client and the `ecmp-tracer` on-box shell utility simultaneously.

[See [ecmp](#), [Juniper Extension Toolkit Developer Guide](#), and [Juniper Engineering Network website](#).]

- **Programmable Routing Protocol API support (PTX10008)**—Starting in Junos OS Evolved Release 20.1R1, the Programmable Routing Protocol (`prpd`) is supported on PTX10008. Through JET, the `prpd` provides public APIs to program routing systems, making it possible for users to directly access the APIs to customize, create, and modify the behavior of their network. The supported APIs include:
 - BGP route monitoring
 - BGP route APIs used to program the virtual Route Server (vRS)
 - BGP route APIs used to program `inet` and `inet6` routes
 - BGP route APIs used to program `l3vpn-inet` and `l3vpn-inet6` in Route Reflector
 - BGP Labeled Unicast (BGP-LU) route monitoring
 - RIB route monitoring
 - RIB MPLS routes

- RIB static routes
- RIB APIs that support the preference, tag, and color attributes
- Interface notifications

[See [Juniper Extension Toolkit Developer Guide](#) and [Juniper Engineering Network website](#).]

System Logging

- **Support for system log notifications over MQTT when configuring JET applications (PTX10003, PTX10008, and QFX5220)**—Starting in Junos OS Evolved Release 20.1R1, you can configure JET applications by using the CLI and then enable the applications to subscribe to system log events. The Junos OS Evolved eventd process sends system log notifications to the event broker. The broker then sends the notifications formatted as JSON messages to the JET application over the Message Queuing Telemetry Transport (MQTT) protocol.

To enable a JET application to subscribe to system log events, configure the **extension-service** statement at the **[edit system extensions]** hierarchy level. You can manage the JET application by using commands at the **[edit system extensions]** and **[edit system services extension-service]** hierarchy levels.

[See [JET Architecture](#), [request extension-service \(start | stop\)](#), [show extension-service status](#), [extensions](#), and [extension-service \(System Services gRPC\)](#).]

Changes in Behavior and Syntax

This section lists the changes in behavior of Junos Extension Toolkit features and changes in the syntax of statements and commands from Junos OS Release 20.1R1 and Junos OS Evolved Release 20.1R1.

Known Issues

IN THIS SECTION

- [Known Issues in 20.1R1 | 5](#)
- [Known Issues in 16.2R1 | 5](#)

This section contains the known behavior, system maximums, and limitations in software in JET.

Known Issues in 20.1R1

None.

Known Issues in 16.2R1

Certificates for JET

Junos OS does not support ECDSA or DSA SSL certificates for JET. For secure communications with the JET service process (jsd), use RSA certificates. PR1120453

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

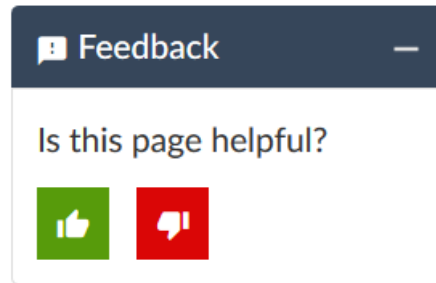
Juniper Networks Feature Explorer is a Web-based application that helps you to explore and compare Junos OS feature information to find the correct software release and hardware platform for your network. Find Feature Explorer at <https://pathfinder.juniper.net/feature-explorer/>.

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 <https://www.juniper.net/documentation/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 system—Click TechLibrary Feedback, on the lower right of any page on the [Juniper Networks TechLibrary](#) site, and do one of the following:



- Click the thumbs-up icon if the information on the page was helpful to you.
- Click the thumbs-down icon if the information on the page was not helpful to you or if you have suggestions for improvement, and use the pop-up form to provide feedback.
- 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

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need post-sales 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 <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.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: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>

- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>
- Download the latest versions of software and review release notes: <https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

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

Creating a Service Request with JTAC

You can create a service request with JTAC on the Web or by telephone.

- Visit <https://myjuniper.juniper.net>.
- 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, see <https://support.juniper.net/support/requesting-support/>.

Revision History

March 2020—Release 20.1R1 of the JET Release Notes.

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