

Juniper Extension Toolkit Release Notes: JET 16.2

Release 16.2
November 2016
Revision R1

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: MX80, MX104, MX240, MX480, MX960, MX2010, MX2020, and vMX Series.

JET provides a common API framework that exposes API functionality made available by the internal Junos OS daemons. Each internal daemon 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
- 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

This section describes the new features and enhancements to existing features in Juniper Extension Toolkit 16.2.

- [Release Numbering](#)
- [API](#)
- [CLI](#)

Release Numbering

Starting with release JET 16.2R1, JET is no longer independent of any Junos OS release. JET release numbering follows Junos OS Release numbering starting with Junos OS Release 16.2R1.

API

- BGP Service APIs— Introduced in Junos OS Release 16.2 for working with BGP static routes. You can add, modify and delete routes, request and modify AS information, request and modify community information, request and modify label stack information, and initialize the BGP route service.
- Firewall services APIs— Introduced in Junos OS Release 16.2 to allow users to add, delete, and modify access control lists (ACLs), policers, and counters programmatically. An ACL is also known as a firewall filter.
- Infrastructure support APIs— Introduced in Junos OS Release 16.2 to provide general support for other APIs. The infrastructure APIs include address, registration, authentication, and openconfig support.
- Interface services APIs— Introduced in Junos OS Release 16.2 to allow users to add, delete, and modify certain aspects of physical interfaces, logical interfaces, interface addresses, interface services, and more.
- Management services APIs— Introduced in Junos OS Release 16.2, these APIs allow users to get or edit configuration data from the ephemeral database and execute operational and configuration commands.
- Programmable routing protocol process (prpd) APIs— Introduced in Junos OS Release 16.2 to leverage a common code base for implementing client/server API definitions (IDL-based), gRPC communication between API client and server, parameter encoding, session management, and so on.

CLI

- **purge-timeout**—Statement introduced in Junos OS Release 16.2 to set the time, in seconds, after which a disconnect client times-out connected to the programmable Routing Protocol Daemon (PRPD) server.
- **traceoptions**—Statement introduced in Junos OS Release 16.2 to start logging traces related to the programmable routing protocol process (prpd).

- **extension-service request-response**—The **[edit system services extension-service request-response]** hierarchy is changed to specify configuration of gRPC servers only.
- **show programmable-rpd clients**—Command introduced in Junos OS Release 16.2 to list clients connected to the prpd server.
- **show route display-client-data**—Option introduced in Junos OS Release 16.2.
- **show route detail**—State output field **programmed** introduced in Junos OS Release 16.2 to indicate when a route is installed progamatically in the routing protocol process (rpd).

Release History Table

Release	Description
16.2	Starting with release JET 16.2R1, JET is no longer independent of any Junos OS release. JET release numbering follows Junos OS Release numbering starting with Junos OS Release 16.2R1.

Known Issues

This section contains the known behavior, system maximums, and limitations in software in the Juniper Extension Toolkit.

- [Certificates for JET](#)

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, specifically TLSv1. PR 1120453

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 <http://www.juniper.net/techpubs/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 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/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: <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/>.

Revision History

June 2016—Release 1.0R1 of the JET Release Notes.

July 11, 2016—Fixed text on Requesting Technical Support and updated platform list.

November 2016—Release 16.2R1 of the Jet Release Notes. Release numbering changed from 1.0 to match Junos OS Release numbering.

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