

# Juniper Extension Toolkit Release Notes: JET 17.1

Release 17.1  
February 2017  
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: ACX Series, 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

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This section describes the new features and enhancements to existing features in Juniper Extension Toolkit 17.1.

- **API**

### API

- **BGP Service APIs**— Introduced in Junos OS Release 16.2 for working with BGP static routes. You can add, modify, delete, and query routes advertised in the BGP protocol. Each API exposes BGP NLRI and route attributes, such as AS path, communities, local preference, MED, protocol next-hop, and others. Starting in Junos OS Release 17.1 the BGP service API includes BGP route monitoring.
- **Class of Service (CoS) APIs**— Starting in Junos OS Release 17.1 the CoS APIs allow you to manage congestion and set service levels programmatically. Many CoS features are available in the 17.1 release including management of forwarding classes, scheduler prioritization, scheduler loss prioritization, class of service rewriting, overhead accounting, buffer control, and more.
- **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. Additional features released with Junos OS Release 17.1 include: Ethernet Switching Family Support, Ether Type Support, Learn VLAN Matching, MAC Address Matching, Next Hop Action, and more.
- **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. Starting with Junos OS Release 17.1, network Address types are now specifically defined in Programmable Routing Protocol Process (prpd) Common API.
- **MPLS Service APIs**— Starting in Junos OS Release 17.1, the MPLS service APIs are available and allow you to gather information about label-switched paths (LSP). The API supports gathering information for RSVP, LDP, and VPN protocol LSPs. This is helpful in diagnosing the state of these LSPs.
- **RIB Service APIs**— Starting in Junos OS Release 17.1, the routing information base (RIB or route table) APIs are available and allow you to interact with the various RIBs on the Junos OS device. The following features are available:
  - Add, modify, update, or delete route entries and associated next-hops
  - Support for IPv4 and IPv6 address families including the VRF tables.
  - Support for direct next-hops
  - Support for indirect next-hops
  - Support for bulk request operations

## Known Issues

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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. PR 1120453

#### **Related Documentation**

- *Juniper Extension Toolkit API Guide*
- *Juniper Extension Toolkit Getting Started Guide*

## Third-Party Components

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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

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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

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We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to [techpubs-comments@juniper.net](mailto:techpubs-comments@juniper.net), or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release version (if applicable)

## Requesting Technical Support

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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 post sales technical support, you can access our tools and resources online or open a case with JTAC.

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- 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: <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, see <http://www.juniper.net/support/requesting-support.html>.

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## 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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