Release Notes

Juniper Address Pool Manager 3.1.0

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Introduction

Juniper Address Pool Manager (APM), is a cloud-native, container-based application running on a Linux cluster that manages address pools in a network. APM monitors the IPv4 address pools on broadband network gateways (BNGs) in the network. When the free address utilization drops below a specified threshold on a BNG, APM adds unused prefixes from a centralized pool to BNG's address pool.

APM in cooperation with the BNG supports monitoring and linking address pools for subscribers that connect via PPPoE, or PPP over L2TP network server (LNS).

The benefits of APM are as follows:

- Improves the efficiency of address utilization

- Reduces the overhead and complexity of monitoring and provisioning by automating monitoring and provisioning.

- Allows reclamation of underutilized prefixes for redistribution to the pools that need them.

These release notes accompany APM Release 3.1.0.

Installation

APM 3.1.0 installation requires the following mininum system requirements:

- **Primary Node**

- RAM: 30 GB

- Disk space: 100 GB in root partition

- CPU cores: 4; hyperthreading preferred

Worker Nodes—APM requires a minimum of three worker nodes. Each worker node should meet the following requirements:

- RAM: 62 GB

- Disk space: 64 GB in root partition

- CPU cores: 7; hyperthreading preferred

Software

- Ubuntu version 18.04 LTS

For information on how to install APM, see APM Installation Guide .

New and Changed Features

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- New Features | **2**
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Learn about new features or enhancements to existing features in Address Pool Manager 3.1.0 (APM 3.1.0). For more information about a feature, click the link in the description. See the Address Pool Manager Installation Guide and Address Pool Manager User Guide for more details about new and changed features.

New Features

We've introduced the following features in APM 3.1.0:

- **APM version 1**—We introduced APMi protocol version 1.

  [See How APM Works]

- **Enhanced logging**—Enable persistent logging and log exports to a syslog server during the setup. Fluentd collects logs from the configuration manager, address manager, entity manager, and provisioning manager. Fluentd then archives them to persistent files and optionally exports them to remote syslog servers.

  You can display file-based logs collected and stored since the time you start APM by using the `apm svc-logs` utility script. You can enable file-based logging when you set up APM.

  [See APM Installation Package and Display APM SVC Logging]

- **Entity-match configuration**—Configure the entity-match list to map valid broadband network gateways (BNGs) running Junos OS Release 22.1 or later to a pool-domain-profile. The `entity-match` command defines which system IDs are allowed to connect.

  [See entity-match command]

- **Forced prefix release**—Trigger APM to

  - Clean up any pool domains established by an entity.

  - Release an entity's domains and their associated pool prefixes back to each domain's source partition.

  [See request apm release entity command].

Changed Features

Table 1 on page 3 and Table 2 on page 4 describe the differences in APM in Release 3.0.0 and 3.1.0.

Table 1: APM Compatibility with Junos OS Releases

APM Release	Junos OS Release
APM 3.0.0	Compatible with Junos OS Release 21.4 releases. **NOTE**: APM 3.0.0 supports APMi version 0.
APM 3.1.0	Compatible with Junos OS Release 21.4 releases and later. **NOTE**: APM 3.1.0 supports APMi version 0 and APMi version 1.
You can check the APMi version by running the `show apm entity` command.	

Table 2 on page 4 explains the differences in the the features.

Table 2: APMi Version 0 and APMi Version 1 for Release 3.1.0

Feature	Differences
Thresholds and alarms	The Apportion threshold and Reclaim threshold features differ for APMi version 0 and APMi version 1. Abatement alarms do not apply to APMi version 1. **NOTE**: We introduced APMi version 1 in APM 3.1.0 See Thresholds and Alarms for more details on the differences.
General operation of APM	The initial connection behavior for APMi Version 0 differs from that for APMi Version 1. See General Operation for more details on the differences.
Functional components of APM	The Provisioning Manager in APMi version 0 behaves differently from the Provisioning Manager in APMi version 1. See Provisioning Manager for more details on the differences.

Known Issues

Learn about the known issues in APM 3.1.0.

- APM 3.1.0 supports integrated broadband network gateways (BNGs) running Junos OS 21.4 releases.

Open Issues

Learn about the open issues in APM 3.1.0.

- The `reclamation-hold-down` attribute in the `pool-domain-profile` configuration statement is not supported in APM 3.1.0 PR1679496

- APMi v0 entity connections close unexpectedly with `too many pings` error. There might be unexpected impact to the system during times of high load while APM reconnects. Workaround: On Junos OS Releases prior to 22.1R1, we recommend setting the grpc keep-alive interval to 60 seconds when interworking with APM. Set the grpc keep-alive interval to 60 by issuing the `set system services extension-service request-response grpc grpc-keep-alive 60` statement. PR1681031

- The warning message "`W: Unable to read /etc/apt/sources.list.d/kubernetes.list - open (13: Permission denied)`" might display after APM installation. There is no functionality impact due to this error message and you can ignore it. PR1681963

- Pools synced in drained state never get reclaimed. On resync with a pool in the drain state, the BNG ignores the pool and operates normally as if it did not exist so it never reclaims the pool or cancels the drain, or even allow subscribers to use this lost pool. Workaround is to "restart authentication daemon" on the BNG. PR1680686

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 Juniper Care or Partner Support Services 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 https://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://supportportal.juniper.net/s/knowledge

- 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://supportportal.juniper.net/s/knowledge

- Join and participate in the Juniper Networks Community Forum: https://www.juniper.net/company/communities/

- Create a service request online: https://supportportal.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://support.juniper.net/support/requesting-support/

- 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/.