Release Notes

Published
2023-11-20

Juniper Address Pool Manager 3.2.0

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Introduction

Juniper Address Pool Manager (APM), is a cloud-native, container-based application running on a Kubernetes 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.
- Enables APM to work with the BNG Controller.

These release notes accompany APM Release 3.2.0.

Installation

IN THIS SECTION

APM 3.2.0 installation requires the following minimum system requirements, see Table 1 on page 2 :

Table 1: Cluster Requirements

Category	Details
Storage	Storage Class or PVs capable of backing: • 5 gibibytes (GiB) RWX persistent volume claim (PVC) for database (DB) snapshots • 100 mebibytes (MiB) RWX PVC for configuration
Network load balancer addresses	Two (One for cMGD NETCONF/SSH, one for APMi)
Container/registry storage	Container/registry storage 2.5 gibibytes (GiB)
Worker node resource consumption (specification):	Ubuntu version 22.04 LTS or later Number of VMs or physical systems: 3 APM resource consumption on each worker node: • CPU: 4 cores • Memory: 2 gibibytes (GiB) • Storage: 2.5 gibibytes (GiB)
Jump host	• Ubuntu version 22.04 LTS or later • CPU: 1 cores • Memory: 8 gibibytes (GiB) • Storage: 128 gibibytes (GiB) • Python3-venv installed

Table 1: Cluster Requirements *(Continued)*

Category	Details
Node specification	• Ubuntu 22.04 LTS • CPU: at least 8 cores • Memory: 64 GB memory • Storage: 512 GB storage partitioned as 128 GB root(/), 128 GB /var/lib/docker, and 256 GB /mnt/longhorn (application data) This specification establishes a cluster that can run APM as well as its companion applications such as BBE Event Collection and Visualization and BNG Controller simultaneously.

For information about how to install APM, see the APM Installation Guide.

Additional Requirements

The BNG is a Juniper Networks MX Series router, a Juniper BNG CUPS Controller (BNG CUPS Controller). We recommend that the BNG is running Junos OS Release 22.4R3 or later.

For APM, confirm the following:

- The APM application has access to the Internet during installation.
- You have a juniper.net user account with permissions to download the APM software package. Download and install the APM software from a machine that will not be part of the Kubernetes cluster.

New and Changed Features

We have introduced the following new features in APM 3.2.0.

- APM is now optimized to interoperate with the Broadband Edge Event Collection and Visualization application to provide a more powerful interface for monitoring APM logs. See the Broadband Edge Event Collection and Visualization Installation Guide.

We have introduced the following changed features in APM 3.2.0.

- The APM utility script is re-factored to use a common Juniper software module that orchestrates and manages Kubernetes workloads through Helm. Helm enables APM to support rolling upgrades and also ensures that workloads update when changes are made to the environment or setup. Additionally, the utility script was adjusted to interact with the Kubernetes cluster from a separate host (jump host) allowing the utility script to manage APM releases across one or more clusters.
- The APM management micro-service was refactored to enable more safeguards during configuration operations and also to provide an interface that is more consistent with the Junos OS for both configuration and CLI operations.
- The cluster installation utility (bbecloudsetup), that was previously packaged with APM is now packaged and distributed separately.
- The `svc-logs` feature is replaced by the Broadband Edge Event Collection and Visualization application.
- The utility script aligns the defaults it uses during setup with the Kubernetes cluster dimensions established by the `bbecloudsetup` 2.0.0 script. If the Broadband Edge Event Collection and Visualization is installed before APM, the setup uses defaults to export logs to it.
- Support for rolling upgrades is added.

Open Issues

Learn about the open issues in APM 3.2.0

- When you secure the APMi for the first time, the APMi connections to the connected entities bounce twice: once when The TLS keys are added during setup/rollout phase, and a second time when the TLS keys are added to APM configuration (`entity-clients` configuration). Once secured, subsequent changes to the contents of the key files (no changes to the key or certificate file names), the APMi only bounces once on setup/rollout phase.

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- APM does not accurately rename a partition which has a prefix.

The workaround is to avoid renaming partitions with prefixes, or to restart apm-mgmt daemon and restart addr-man.

```
$ apm cli
root@jnpr-apm-mgmt#> restart apm-mgmt
APM management Daemon started, pid 201
$ sudo -E apm restart addrman
```

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- If the node hosting Redis primary pod shuts down, it can cause APM microservices such as addr-man, ent-man, or prov-man to become unresponsive. Workaround is to restart mgmt pod or restart apm-mgmt daemon from inside the mgmt pod/CLI by issuing:

  - ```
    $ sudo -E apm restart mgmt
    ```

  Or

  - ```
    $ apm cli
    root@jnpr-apm-mgmt#> restart apm-mgmt
    APM management Daemon started, pid 201
    ```

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- The `apm logs` command fails when multiple services are provided as arguments.

  The workaround is to enter the `apm logs` command without listing the specific services (default is all) or use the Broadband Edge Event Collection and Visualization application to view or sort logs.

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Requesting Technical Support

IN THIS SECTION

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.

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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/
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- 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/.