Release Notes

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Juniper Address Pool Manager 3.3.0

Juniper Networks | Engineering Simplicity

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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, monitors and links address pools in support of dynamic address allocation mechanisms for subscribers.

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 CUPS Controller.

These release notes accompany Juniper Address Pool Manager Release 3.3.0

Installation

IN THIS SECTION

APM 3.3.0 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 100 mebibytes (MiB) RWX PVC for configuration
Network load balancer addresses	One for APMi
Node port address	One for optional CLI/SSH access
Container/registry storage	Container/registry storage 2.5 gibibytes (GiB)
Worker node resource consumption (specification):	APM resource consumption on each worker node: • CPU: At least 8 cores • Memory: 2 gibibytes (GiB) • Storage: 2.5 gibibytes (GiB)

Jump host	• Ubuntu version 22.04 LTS or later
	• CPU: 1 core
	• Memory: 8 gibibytes (GiB)
	• Storage: 128 gibibytes (GiB)
	• Installed software
	  • Python3-venv
	  The Helm utility
	  The Docker utility
	  OpenShift CLI (if using an Red Hat OpenShift Container Platform cluster)

Table 1: Cluster Requirements *(Continued)*

Category	Details

Node specification	• Operating System:
	  • Ubuntu 22.04 LTS (for a BBE Cloudsetup cluster)
	  • Red Hat Enterprise Linux CoreOS (RHCOS) 4.15 or later (for an OpenShift Container Platform cluster)
	• CPU: At least 8 cores
	• Memory: At least 16 GB
	• 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.
	
	NOTE: To create the cluster, you can use either of the following applications:
	• BBE Cloudsetup release 2.1.1 or later
	• Red Hat OpenShift Container Platform release 4.15 or later. An OpenShift Container Platform cluster also, requires the following:
	  • A container registry
	  • A network load balancer with at least one IP Address Pool
	  • A storage class named jnpr-bbe-storage

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

Additional Requirements

The BNG is a Juniper Networks MX Series router, or a Juniper BNG CUPS Controller (BNG CUPS Controller). We recommend that the BNG is running Junos OS Release 24.2R2 or later.

For APM, confirm that 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 3.3.0.

- The elimination of the root user in containers other than the mgmt container. Otherwise, all containers used in APM microservices no longer require root privilege and run with a user ID greater than 999.
- You can install APM directly through the use of Helm commands. You are no longer required to use the APM Utility to install APM.
- The ability to use a certificate manager to obtain application specific secrets. APM now gives you the option to access keys and certificates necessary to secure interfaces from an external certificate authority. You are no longer required to load key files to the jump host's context repository storage.
- Deterministic external IP address for the APMi. You can specify a specific load balancer pool and IP address for the APMi such that the external address is fixed across the start and rollout of the APM application.
- Automatic archiving of configuration changes. You can automatically archive committed configurations to an external file server.
- During APM setup you can change the number of provman worker processes from the default value of 3.
- You can deploy APM on a Red Hat OpenShift Container Platform cluster. You can use either the APM utility script or direct Helm commands to install APM on a Red Hat OpenShift Container Platform cluster.

Open Issues

Learn about the open issues in Address Pool Manager 3.3.0

- Reverting network load balancer (MetalLB) annotations followed by performing a **rollout** does not reset the external IP address for the APMi.

  Workaround:

  When the external address of the APMi that is bound to a particular IPAddressPool through the network load balancer annotations needs to be reverted to use an autoAssign IPAddressPool by removing the annotations, a `stop` command and then a `rollout` command of APM must be performed.

  PR1836255

- Upgrade to APM 3.3.0 from APM 3.2.x is not supported. If you want to upgrade to APM 3.3.0, you must stop 3.2.x running deployment, unlink the release from the context, then unpack, load, link, setup, and rollout APM 3.3.0 (see, Address Pool Manager Installation Guide). PR1845024

Resolved Issues

The following issues are resolved in Address Pool Manager 3.3.0:

- 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. PR1763665

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.

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/.