Release Notes

Published
2023-12-19

Cloud-Native Contrail Networking 23.4

Table of Contents

Introduction

Juniper Cloud-Native Contrail® Networking (CN2) is a cloud-native SDN solution that provides advanced networking capabilities to containerized cloud networking environments. CN2 is optimized for Kubernetes-orchestrated environments and can be used to connect, isolate, and secure cloud workloads and services seamlessly across private, public, and hybrid clouds.

These release notes accompany Release 23.4 of CN2. They describe new features, limitations, platform compatibility requirements, known behavior, and resolved issues in CN2.

See the Cloud-Native Contrail Networking (CN2) page for a complete list of all CN2 documentation.

What's New

IN THIS SECTION

Learn about new features introduced in CN2 Release 23.4.

CN2 on OpenShift

- **OpenShift 4.14 Support**— The CN2 Release 23.4 new installation is supported on Red Hat OpenShift 4.14. However, CN2 Release 23.4 does not support OpenShift upgrade from 4.12.13 to 4.14.

Advanced Virtual Networking

- **Quality of Service: Rewrite and Marking for QoS**— Starting in Cloud-Native Neworking Release 23.4, CN2 supports packet QoS. CN2 ensures consistent QoS as a packet travels from source to destination with propagation, and translates QoS values for downstream QoS realization with marking or rewrite.

  See Quality of Service: Rewrite and Marking for QoS.

- **SCTP Support for CN2**— Starting in CN2 Release 23.4, CN2 supports the Stream Control Transmission Protocol (SCTP) for both DPDK and kernel data path modes. SCTP is a reliable and connection-oriented network protocol that can transmit multiple streams of data simultaneously between two endpoints.

  See SCTP Support for CN2.

- **CN2 Intercluster Endpoint Discovery**— Starting in CN2 Release 23.4, CN2 Intercluster Endpoint Discovery feature allows multiple Kubernetes clusters to interconnect and exchange routing information using a BGP-based control plane. This enables cross-cluster pod-to-pod and pod-to-service communication, which was previously limited to IP address-based access.

  See CN2 Intercluster Endpoint Discovery.

Solution Test Case Definition

- **SDN Gateway Qualification**— Starting CN2 Release 23.4, MX304 can also be used as an SDN Gateway.

Tested Integrations

Starting in CN2 Release 23.1, Supported Platforms is now documented in CN2 Tested Integrations. This document includes integrations fully tested and validated by Juniper, including tested NICs and other software components.

Container Tags

Container tags are needed to identify the image files to download from the Contrail Container Registry during a Contrail Networking installation or upgrade.

The procedures to access the Contrail Container Registry are provided directly by Juniper Networks. The location of the files in the Contrail Container Registry changed for the CN2 software starting in Release 22.4. To obtain access credentials to the registry or if you have any questions about file locations within the registry, send an email to: contrail-registry@juniper.net.

The following table provides the container tag name for the image files for CN2 Release 23.4.

Table 1: Container Tag—Release 23.4

Orchestrator Platform	Container Tag
• Kubernetes 1.28.5, 1.27.5, 1.26.5, 1.26, 1.25.5, 1.24.3, 1.23.9 • Red Hat OpenShift 4.14.1, 4.12.13, 4.12.0, 4.10.31 • Amazon EKS v1.24.10-eks-48e63af • RKE 2 v1.27.1+rke2r1	cn2.23.4.0.59

Open Issues

IN THIS SECTION

Learn about open issues in this release for CN2.

General Routing

- CN2-3429: When fabric source NAT is enabled in an isolated namespace, traffic flows between pods in isolated namespaces and between pods in isolated and non-isolated namespaces.

  Workaround: Do not configure fabric source NAT on an isolated namespace.

- CN2-17659: The Forwarding class should have namespace associated to it instead of having default namespace.

General Features

- CN2-3256: cSRX workloads with sub-interfaces are not compatible with CN2.
- CN2-6327: When interface mirroring is enabled with the **juniperheader** option, only egress packets are mirrored.

  Workaround: Disable the **juniperheader** option to mirror both egress and ingress packets.

- CN2-5916: When 4 interfaces are configured in a bond interface on an X710 NIC, an mbuf leaf with traffic drop occurs.

  Workaround: Limit two interfaces in a bond configuration for an X710 NIC.

Red Hat OpenShift

- CN2-7787: The KubeVirt deployment in Openshift 4.10 fails intermittently.

  See Red Hat OCPBUGS-2535 for a workaround.

- CN2-13011: Red Hat OCP backup and restore fails.

  See Red Hat https://access.redhat.com/solutions/6964756 for a workaround.

- CN2-17681: When creating a CN2 cluster using cluster-managed networking in OCP 4.14, the OpenShift machine-api cluster operator fails to come up. This occurs regardless of whether you

create the cluster using the Assisted Installer or whether you create the cluster using Advanced Cluster Management (ACM). In the case of the Assisted Installer, the cluster comes up but may not be fully functional. In the case of ACM, the cluster does not come up at all.

Workaround: Create the CN2 cluster with user-managed networking instead of cluster-managed networking.

CN2 Apstra Integration

- CN2-13607: In a CN2 Apstra deployment, Apstra takes several minutes to create a virtual network under a scaled scenario.

CN2 and Kubernetes

- CN2-4508: Contrail virtualnetwork subnet created through NAD can not have user defined gateway.

  Workaround: None.

- CN2-4822: You can not configure BGPaaS objects on nodes that host the Contrail controller and worker nodes on same physical host.

  Workaround: None. Production deployments run the Kubernetes worker nodes and controller in different physical hosts.

- CN2-8728: When you deploy CN2 on AWS EC2 instances, running Kubernetes service traffic and Contrail datapath traffic on different interfaces is not supported.

  Workaround: Do not deploy Kubernetes and data traffic on the same interface in AWS.

- CN2-14895: Pods are being deployed more than the VMI capacity of the nodes.

  When a custom pod scheduler is configured with maximum VMI capacity as thresholds, if the pods are scheduled back-to-back in quick succession, it is possible that more pods are deployed than the configured threshold. This is due to the delay in data sync between the node and analytics.

  Workaround: Additional pod scheduling on the busy nodes will stop within a few seconds once the VMI data is synced between the nodes and analytics.

- CN2-15530: Packet loss is observed in CN2 flow stickiness when scaling up from one to many pods (non-ECMP to ECMP).

During scale up flow stickiness is applicable only within the ECMP group. Scale up from one to many pods does not maintain flow stickiness.

Workaround: Start with a minimum of 2 workloads and scale up.

- CN2-15461: BFD session is not coming up when healthcheck is associated with 2 BGPaaS objects.

  Workaround: In environments where BFD is used with BGPaaS, if firewall policy is configured, ensure that the policy rules allow port 4784 (BFD packets).

Security

- CN2-4642: In CN2, the network policy uses the reserved tags `application` and `namespace`. These tags conflict with Contrail's reserved resources.

  Workaround: Do not use the application and namespace labels to identify the pod and namespace resources.

- CN2-10012: If the network policy has a deny-all rule, removing it by updating the policy does not work.

  Workaround: Delete the policy and re-add it again.

Resolved Issues

You can research limitations that are resolved with this release at:

Resolved Issues in CN2 Release 23.4.

Use your Juniper Support login credentials to view the list. If you do not have a Juniper Support account, you can register for one here.

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/
- Find product documentation: https://www.juniper.net/documentation/
- Find solutions and answer questions using our Knowledge Base: https://kb.juniper.net/
- 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://kb.juniper.net/InfoCenter/

- 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/

Revision History

- 19 December 2023—Revision 7
- 30 June 2023—Revision 6
- 30 March 2023—Revision 5
- 19 December 2022—Revision 4
- 23 September 2022—Revision 3
- 22 June 2022—Revision 2
- 02 May 2022—Revision 1, initial release