Oracle® Communications

Cloud Native Core, Security Edge Protection Proxy Network Impact Report

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F89935-06
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Oracle Communications Cloud Native Core, Security Edge Protection Proxy Network Impact Report, Release 23.4.3

F89935-06

Contents

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Acronyms

The following table lists the acronyms and the terminologies used in the document:

Table Acronyms and Terminologies

Acronym	Description
Cat-0	Cat-0 SBI Message Schema Validation Feature
Cat-1	Cat-1 Service API Validation Feature
Cat-2	Cat-2 Network ID Validation Feature
Cat-3	Cat 3 - Previous Location Check
CNC Console	Oracle Communications Cloud Native Configuration Console
CRD	Custom Resource Definition
CNE	Oracle Communications Cloud Native Environment
cSEPP/C-SEPP	Consumer Security Edge Protection Proxy
DB	Database
DNS	Domain Name System
DRL	Drools Rule Language
EGW	Egress Gateway
FQDN	Fully Qualified Domain Name
GSMA	Groupe Speciale Mobile Association (GSMA). Represents the interests of mobile operators and the broader mobile industry worldwide.
Hosted SEPP	Hosted SEPP functionality provides selective routing in Roaming Hub Mode
IGW	Ingress Gateway
IPX	Internetwork Packet Exchange
K8s	Kubernetes
Local PLMN	PLMN managed by Local SEPP
Local SEPP	SEPP in Local PLMN
MNO	Mobile Network Operator
NDB	Network Database
NF	Network Function
Network Function	A functional building block within a network infrastructure, which has well defined external interfaces and well defined functional behavior. In practical terms, a network function is often a network node or physical appliance.
NF Consumer	A generic way to refer to an NF which consumes services provided by another NF. Example: An AMF acts as a Consumer NF that consumes AMPolicy services provided by the PCF.
NF Instance	A specific instance of a network function type.
NF Producer or NF Provider	A generic way to refer to an NF which provides services that can be consumed by another NF. Example: A PCF acts as a Producer NF that provides AMPolicy Services to the AMF.
NRF	Oracle Communications Cloud Native Core, Network Repository Function
OHC	Oracle Help Center
OSDC	Oracle Software Delivery Cloud
PDB	PodDisruptionBudget

Table (Cont.) Acronyms and Terminologies

Acronym	Description
PLMN	Public Land Mobile Network
pSEPP/P-SEPP	Producer Security Edge Protection Proxy
Remote PLMN	PLMN managed by Remote SEPP
Remote SEPP	SEPP in Remote PLMN
Remote SEPP Set	Set of Remote SEPPs to allow alternate routing across Remote SEPPs
REST API	Representational State Transfer Application Programming Interface
Roaming Hub	Roaming Hub is the deployment mode of SEPP. Roaming Hub is used as an intermediate proxy. Each SEPP connects to the Roaming Hub which further connect to another SEPP. All the Remote SEPPs can communicate with each other through roaming hub.
Scaling	Ability to dynamically extend or reduce resources granted to the Virtual Network Function (VNF) as needed. This includes scaling out and in or scaling up and down.
SCM	Security Coutermeasure
SEPP	Oracle Communications Cloud Native Core, Security Edge Protection Proxy
SUPI	Subscription Permanent Identifier
SVC	Service
TLS	Transport Layer Security
TH	Topology Hiding
TUH	Topology Unhiding
TPS	Transactions Per Second
UE	User Equipment
UDR	Oracle Communications Cloud Native Core, Unified Data Repository

What's New In This Guide

This section introduces the documentation updates for release 23.4.x.

Release 23.4.3- F89935-06, October 2024

- Updated the Common Services Load Lineup section to provide compatible versions of components.
- Updated Supported Upgrade and Rollback Paths section.

Release 23.4.2- F89935-05, July 2024

- Updated the Compatibility Matrix section.
- Updated the Common Services Load Lineup section to provide compatible versions of components.
- Updated Supported Upgrade and Rollback Paths section.
- Updated the Helm section to include details of updated Helm parameters.
- Updated the REST API section to include details of the updated REST API parameters.
- Updated the CNC Console section to include details of the updated CNC Console parameters.

Release 23.4.1- F89935-04, April 2024

- Updated the Compatibility Matrix section.
- Updated the Common Services Load Lineup section to provide compatible versions of components.
- Updated Supported Upgrade and Rollback Paths section.

Release 23.4.0- F89935-03, February 2024

- Added the "Separate Port Configurations for N32c and N32f on the Egress Routes" feature from Features section.
- Added the "Separate Port Configurations for N32c and N32f on the Egress Routes" REST API updates from REST API section.
- Added the "Separate Port Configurations for N32c and N32f on the Egress Routes" alert update from Alerts section.

Release 23.4.0- F89935-02, January 2024

- Removed the "Separate Port Configurations for N32c and N32f on the Egress Routes" feature from Features section.
- Removed the "Separate Port Configurations for N32c and N32f on the Egress Routes" REST API updates from REST API section.
- Removed the "Separate Port Configurations for N32c and N32f on the Egress Routes" alert update from Alerts section.

Release 23.4.0- F89935-01, December 2023

- Updated the Compatibility Matrix section.

- Updated the Common Services Load Lineup section to provide compatible versions of components.
- Updated the SEPP and Roaming Hub Resource Requirements section.
- Updated the Features section to include the details of newly introduced features.
- Updated the SEPP ATS Features to include the details of newly introduced SEPP ATS features.
- Updated orchestration details in the Orchestration section.
- Updated Supported Upgrade and Rollback Paths section.
- Updated the Helm section to include details of new parameters introduced in the custom-values.yaml for SEPP 23.4.0.
- Updated the REST API section to include details of the new REST API parameters to support new features.
- Updated the CNC Console section to include details of the new CNC Console parameters to support new features.
- Updated the Metrics section to include details of the new and updated metrics.
- Updated the Alerts section to include details of the new and updated alerts.
- Updated the KPIs section to include details of the new and updated KPIs.

1 Introduction

1.1 Purpose and Scope

The purpose of this document is to highlight the changes made in SEPP from release 23.3.x to release 23.4.x. These changes may have impact on the customer network operations and must be considered by the customer while planning the deployment.

1.2 Compatibility Matrix

The following table lists the versions of added or updated components in release 23.4.x:

Release 23.4.3

There is no change in the compatibility matrix in this release.

Release 23.4.2

There is no change in the compatibility matrix in this release.

Release 23.4.1

There is no change in the compatibility matrix in this release.

Release 23.4.0

Table 1-1 Compatibility Matrix

Components	Compatibility Version
CNE	23.4.x, 23.3.x, 23.2.x
cnDBTier	23.4.x, 23.3.x, 23.2.x
CNC Console	23.4.x
CDCS	23.4.x, 23.3.x, 23.2.x
ASM	1.14.6
OSO	23.4.x
ATS	23.4.x

To know the list of all the supported versions, see *Oracle Communications Cloud Native Core Release Notes*.

1.3 Common Services Load Lineup

The following table lists the versions of added or updated common services in release 23.4.x:

Release 23.4.3

Table 1-2 Common Services Load Lineup

Common Service	Version
Alternate Route Svc	23.4.10
App-Info	23.4.12
Config-Server	23.4.12
Debug-tool	23.4.3
Egress Gateway	23.4.10
Ingress Gateway	23.4.10
Helm Test	23.4.3
NRF-Client	23.4.7
Perf-Info	23.4.12
Mediation	23.4.3

Release 23.4.2

Table 1-3 Common Services Load Lineup

Common Service	Version
Alternate Route Svc	23.4.7
App-Info	23.4.9
Config-Server	23.4.9
Debug-tool	23.4.2
Egress Gateway	23.4.7
Ingress Gateway	23.4.7
Helm Test	23.4.2
NRF-Client	23.4.5
Perf-Info	23.4.9
Mediation	23.4.2

Release 23.4.1

Table 1-4 Common Services Load Lineup

Common Service	Version
Alternate Route Svc	23.4.5
App-Info	23.4.5
Config-Server	23.4.5
Debug-tool	23.4.1
Egress Gateway	23.4.5
Ingress Gateway	23.4.5
Helm Test	23.4.1
NRF-Client	23.4.3
Perf-Info	23.4.5
Mediation	23.4.1

Release 23.4.0

Table 1-5 Common Services Load Lineup

Common Service	Version
Alternate Route Svc	23.4.3
App-Info	23.4.1
Config-Server	23.4.1
Debug-tool	23.4.0
Egress Gateway	23.4.3
Ingress Gateway	23.4.3
Helm Test	23.4.0
NRF-Client	23.4.2
Perf-Info	23.4.1
Mediation	23.4.0

To know the list of all the supported versions, see *Oracle Communications Cloud Native Core Release Notes*.

1.4 Software Requirements

The following table lists the versions of added or updated software required to install release 23.4.x:

Release 23.4.3

There is no change in the software requirements in this release.

Release 23.4.2

There is no change in the software requirements in this release.

Release 23.4.1

There is no change in the software requirements in this release.

Release 23.4.0

Table 1-6 Preinstalled Software

Software	Versions
Kubernetes	1.27.x, 1.26.x, 1.25.x
Helm	3.12.x, 3.8.x, 3.6.3
Podman	4.4.1, 4.2.0, 4.0.2

The list of additional software items, along with the supported versions and usage, is provided in the following table:

Table 1-7 Additional Software

Software	Version	Required for
containerd	1.7.5	Logging
Calico	3.25.2	Logging

Table 1-7 (Cont.) Additional Software

Software	Version	Required for
MetalLB	0.13.11	Logging
Prometheus	2.44.0	Metrics
Grafana	9.5.3	Metrics
Jaeger	1.45.0	Logging
Istio	1.18.2	Logging
Kyverno	1.9.0	Logging
cert-manager	1.12.4	Logging
Oracle OpenSearch	2.3.0	Logging
Oracle OpenSearch Dashboard	2.3.0	Logging
Fluentd OpenSearch	1.16.2	Logging
Velero	1.12.0	Logging

For more information about software requirements, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide*.

1.5 Orchestration

The following table provides information about orchestration changes in release 23.4.x:

Release 23.4.3

There is no orchestration changes in this release.

Release 23.4.2

There is no orchestration changes in this release.

Release 23.4.1

There is no orchestration changes in this release.

Release 23.4.0

Table 1-8 Orchestration

Orchestration Changes	Status	Notes
Support for in-service upgrade and roll back	Yes	For information about upgrade and roll back, see Supported Upgrade and Rollback Paths section.
Changes in the `custom_values.yaml` file	Yes	For information about changes in the `custom_values.yaml` file, see Helm section.
Changes in the resource information for `custom_values.yaml` file	Yes	For information about changes in the resource requirements, see Resource Requirement section.

Table 1-8 (Cont.) Orchestration

Orchestration Changes	Status	Notes
Changes in the CSAR package	Yes	Following changes are made in CSAR package: Added generic CSAR for SEPP and SEPP-ATS as below: • ocsepp_csar_23_4_0_0_0.zip • cats_ocsepp_csar_23_4_0_0_0.zip **Note**: For more information on specific CSAR changes, contact My Oracle Support.
Changes in Role-Based Access Control (RBAC) policy	No	No new RBAC policies are added.
Changes in Life Cycle Management (LCM) Operations	No	No new LCM operations are added.
Helm Test Support	Yes	Helm Test is supported. For more information, see "Performing Helm Test" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide.*

1.6 Resource Requirements

This section lists the added or updated resource requirements in Release 23.4.x.

For more information about resource requirements, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide.*

Release 23.4.3

There is no change in the resource requirements in this release.

Release 23.4.2

There is no change in the resource requirements in this release.

Release 23.4.1

There is no change in the resource requirements in this release.

Release 23.4.0

1.6.1 SEPP Resource Requirements

This section lists the added or updated resource requirements in SEPP mode in Release 23.4.0. For more information about resource requirements, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide.*

1.6.1.1 SEPP Services

The following table lists resource requirement for SEPP Services:

Table 1-9 SEPP Services

Service Name	CPU		Memory (GB)	POD		Ephemeral Storage		
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
Helm Test	1	1	1	1	1	1	70Mi	1
Helm Hook	1	1	1	1	1	1	0	1
<helm-release-name>-n32-ingress-gateway	6	6	5	5	**8**	**8**	1	1
<helm-release-name>-n32-egress-gateway	5	5	5	5	**8**	**8**	1	1
<helm-release-name>-plmn-ingress-gateway	5	5	5	5	**8**	**8**	1	1
<helm-release-name>-plmn-egress-gateway	5	5	5	5	**8**	**8**	1	1
<helm-release-name>-pn32f-svc	5	5	8	8	**6**	**6**	2	2
<helm-release-name>-cn32f-svc	5	5	8	8	**6**	**6**	2	2
<helm-release-name>-cn32c-svc	2	2	2	2	2	2	1	1
<helm-release-name>-pn32c-svc	2	2	2	2	2	2	1	1
<helm-release-name>-config-mgr-svc	2	2	2	2	1	1	1	1

Table 1-9 (Cont.) SEPP Services

Service Name	CPU		Memory (GB)	POD		Ephemeral Storage		
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
<helm-release-name>-sepp-nrf-client-nfdiscovery	1	1	2	2	2	2	1	1
<helm-release-name>-sepp-nrf-client-nfmanagement	1	1	1	1	1	1	1	1
<helm-release-name>-ocpm-config	1	1	1	1	2	2	1	1
<helm-release-name>-appinfo	1	1	1	2	2	2	1	1
<helm-release-name>-perf-info	2	2	200Mi	4	2	2	1	1
<helm-release-name>-nf-mediation	8	8	8	8	2	2	NA	NA
<helm-release-name>-coherence-svc	1	1	2	2	1	1	NA	NA
<helm-release-name>-alternate-route	2	2	4	4	2	2	NA	NA
Total	56	56	63.200	68	**65**	**65**	16.7 Gi	18

> **Note**
>
> - #: <helm-release-name> will be prefixed in each micro service name. Example: if helm release name is "ocsepp", then cn32f-svc microservice name will be "ocsepp-cn32f-svc"
> - Init-service container's and Common Configuration Client Hook's resources are not counted because the container gets terminated after initialization completes.
> - **Helm Hooks Jobs:** These are pre and post jobs that are invoked during installation, upgrade, rollback, and uninstallation of the deployment. These are short span jobs that get terminated after the deployment completion.
> - **Helm Test Job:** This job is run on demand when the helm test command is initiated. This job runs the helm test and stops after completion. These are short-lived jobs that get terminated after the deployment is done. They are not part of active deployment resource, but are considered only during helm test procedures.

1.6.1.2 Upgrade

Following is the resource requirement for upgrading SEPP:

Table 1-10 Upgrade

Service Name	CPU		Memory (GB)	POD	Ephemeral Storage			
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
<helm-release-name>-n32-ingress-gateway	**6**	**6**	**5**	**5**	1	2	**1**	1
<helm-release-name>-n32-egress-gateway	**5**	**5**	**5**	**5**	1	2	**1**	1
<helm-release-name>-plmn-ingress-gateway	**5**	**5**	**5**	**5**	1	2	**1**	1
<helm-release-name>-plmn-egress-gateway	**5**	**5**	**5**	**5**	1	2	**1**	1

Table 1-10 (Cont.) Upgrade

Service Name	CPU		Memory (GB)	POD	Ephemeral Storage			
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
<helm-release-name>-pn32f-svc	**5**	**5**	8	8	**1**	2	**2**	1
<helm-release-name>-cn32f-svc	**5**	**5**	8	8	**1**	2	**2**	1
<helm-release-name>-cn32c-svc	2	2	2	2	1	1	**1**	1
<helm-release-name>-pn32c-svc	2	2	2	2	1	1	**1**	1
<helm-release-name>-config-mgr-svc	2	2	2	2	1	1	**1**	1
<helm-release-name>-sepp-nrf-client-nfdiscovery	1	1	2	2	1	1	**1**	1
<helm-release-name>-sepp-nrf-client-nfmanagement	1	1	1	1	1	1	**1**	1
<helm-release-name>-ocpm-config	1	1	1	1	1	1	**1**	1
<helm-release-name>-appinfo	1	1	1	2	1	1	**1**	1
<helm-release-name>-perf-info	2	2	200Mi	4	1	1	**1**	1

Table 1-10 (Cont.) Upgrade

Service Name	CPU		Memory (GB)	POD	Ephemeral Storage			
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
<helm-release-name>-nf-mediation	8	8	8	8	1	1	**1**	1
<helm-release-name>-alternate-route	**2**	**2**	**4**	**4**	**1**	**1**	NA	NA
Total	**54**	**54**	**61.2**	**66**	**17**	**23**	**17**	**15 Gi**

> **Note**
>
> <helm-release-name> is the Helm release name. Example: if helm release name is "ocsepp", then cn32f-svc microservice name will be "ocsepp-cn32f-svc".

1.6.1.3 Common Services Container

Following is the resource requirement for Common Services Container:

Table 1-11 Common Services Container

Container Name	CPU	Memory (GB)	Kubernetes Init Container
init-service	1	1	Y
common_config_hook	1	1	N

- **Update Container service:** Ingress or Egress Gateway services use this container service to periodically refresh NRF Private Key or Certificate and CA Root Certificate for TLS.
- **Init Container service:** Ingress or Egress Gateway services use this container to get NRF Private Key or Certificate and CA Root Certificate for TLS during start up.
- **Common Configuration Hook:** It is used for creating database for common service configuration.

1.6.1.4 ASM Sidecar

SEPP leverages the Platform Service Mesh (for example, Aspen Service Mesh) for all internal and external TLS communication. If ASM Sidecar injection is enabled during SEPP deployment or upgrade, this container is injected to each pod (or selected pod, depending on the option chosen during deployment or upgrade). These containers stay till pod or deployment exist.

Table 1-12 ASM Sidecar

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-alternate-route	**2**	**2**	**1**	**1**	NA	NA
Total	**34**	**34**	17	17	1050 Mi	15 Gi

> **Note**
>
> <helm-release-name> is the Helm release name. Example: if helm release name is "ocsepp", then cn32f-svc microservice name will be "ocsepp-cn32f-svc"

1.6.1.5 Debug Tool Container

The Debug Tool provides third-party troubleshooting tools for debugging the runtime issues in a lab environment. If Debug Tool Container injection is enabled during SEPP deployment or upgrade, this container is injected to each SEPP pod (or selected pod, depending on the option chosen during deployment or upgrade). These containers stay till pod or deployment exist. For more information about configuring Debug Tool, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

Table 1-13 Debug Tool Container

Service Name	CPU		Memory (GB)	Ephemeral Storage		
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<helm-release-name>-n32-ingress-gateway	0.5	1	4	4	512	512
<helm-release-name>-n32-egress-gateway	0.5	1	4	4	512	512
<helm-release-name>-plmn-ingress-gateway	0.5	1	4	4	512	512
<helm-release-name>-plmn-egress-gateway	0.5	1	4	4	512	512

Table 1-13 (Cont.) Debug Tool Container

Service Name	CPU		Memory (GB)	Ephemeral Storage		
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<helm-release-name>-pn32f-svc	0.5	1	4	4	512	512
<helm-release-name>-cn32f-svc	0.5	1	4	4	512	512
<helm-release-name>-cn32c-svc	0.5	1	4	4	512	512
<helm-release-name>-pn32c-svc	0.5	1	4	4	512	512
<helm-release-name>-config-mgr-svc	0.5	1	4	4	512	512
<helm-release-name>-sepp-nrf-client-nfdiscovery	0.5	1	4	4	512	512
<helm-release-name>-sepp-nrf-client-nfmanagement	0.5	1	4	4	512	512
<helm-release-name>-ocpm-config	0.5	1	4	4	512	512
<helm-release-name>-appinfo	0.5	1	4	4	512	512
<helm-release-name>-perf-info	0.5	1	4	4	512	512
<helm-release-name>-nf-mediation	0.5	1	4	4	512	512

Table 1-13 (Cont.) Debug Tool Container

Service Name	CPU		Memory (GB)	Ephemeral Storage		
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<helm-release-name>-coherence-svc	NA	NA	NA	NA	NA	NA
<helm-release-name>-alternate-route	0.5	1	4	4	NA	NA
Total	8	16	64	64	**7680 Mi**	**7680 Mi**

> **Note**
>
> <helm_release_name> is the Helm release name. For example, if Helm release name is "ocsepp", then plmn-egress-gateway microservice name will be "ocplmn-egress-gateway".

1.6.1.6 SEPP Hooks

Following is the resource requirement for SEPP Hooks.

Table 1-14 SEPP Hooks

Hook Name	CPU		Memory (GB)	
	Min	Max	Min	Max
<helm-release-name>-update-db-pre-install	1	1	1	1
<helm-release-name>-update-db-<post-install>	1	1	1	1
<helm-release-name>-update-db-<pre-upgrade>	1	1	1	1
<helm-release-name>-update-db-<post-upgrade>	1	1	1	1
<helm-release-name>-update-db-<pre-rollback>	1	1	1	1
<helm-release-name>-update-db-<post-rollback>	1	1	1	1

Table 1-14 (Cont.) SEPP Hooks

Hook Name	CPU		Memory (GB)	
<helm-release-name>-pn32f-svc-pre-install	1	1	1	1
<helm-release-name>-pn32f-svc-post-install	1	1	1	1
<helm-release-name>-pn32f-svc-<pre-upgrade>	1	1	1	1
<helm-release-name>-pn32f-svc-<post-upgrade>	1	1	1	1
<helm-release-name>-pn32f-svc-<pre-rollback>	1	1	1	1
<helm-release-name>-pn32f-svc-<post-rollback>	1	1	1	1
<helm-release-name>-cn32f-svc-pre-install	1	1	1	1
<helm-release-name>-cn32f-svc-<post-install>	1	1	1	1
<helm-release-name>-cn32f-svc-<pre-upgrade>	1	1	1	1
<helm-release-name>-cn32f-svc-<post-upgrade>	1	1	1	1
<helm-release-name>-cn32f-svc-<pre-rollback>	1	1	1	1
<helm-release-name>-cn32f-svc-<post-rollback>	1	1	1	1
<helm-release-name>-cn32c-svc-pre-install	1	1	1	1
<helm-release-name>-cn32c-svc-<post-install>	1	1	1	1
<helm-release-name>-cn32c-svc-<pre-upgrade>	1	1	1	1
<helm-release-name>-cn32c-svc-<post-upgrade>	1	1	1	1
<helm-release-name>-cn32c-svc-<pre-rollback>	1	1	1	1

Table 1-14 (Cont.) SEPP Hooks

Hook Name	CPU		Memory (GB)	
<helm-release-name>-cn32c-svc-<post-rollback>	1	1	1	1
<helm-release-name>-pn32c-svc-pre-install	1	1	1	1
<helm-release-name>-pn32c-svc-<post-install>	1	1	1	1
<helm-release-name>-pn32c-svc-<pre-upgrade>	1	1	1	1
<helm-release-name>-pn32c-svc-<post-upgrade>	1	1	1	1
<helm-release-name>-pn32c-svc-<pre-rollback>	1	1	1	1
<helm-release-name>-pn32c-svc-<post-rollback>	1	1	1	1
<helm-release-name>-config-mgr-svc-pre-install	1	1	1	1
<helm-release-name>-config-mgr-svc-<post-install>	1	1	1	1
<helm-release-name>-config-mgr-svc-<pre-upgrade>	1	1	1	1
<helm-release-name>-config-mgr-svc-<post-upgrade>	1	1	1	1
<helm-release-name>-config-mgr-svc-<pre-rollback>	1	1	1	1
<helm-release-name>-config-mgr-svc-<post-rollback>	1	1	1	1

Note

<helm-release-name> is the Helm release name.

1.6.2 Roaming Hub or Hosted SEPP Resource Requirements

This section lists the added or updated resource requirements in Roaming Hub or Hosted SEPP mode in Release 23.3.0. For more information about Roaming Hub or Hosted SEPP

resource requirements, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide.*

2 Features

Security Edge Protection Proxy (SEPP) 23.4.x has been updated with the following enhancements:

Release 23.4.3

No new features or feature enhancements have been introduced in this release.

Release 23.4.2

No new features or feature enhancements have been introduced in this release.

Release 23.4.1

No new features or feature enhancements have been introduced in this release.

Release 23.4.0

- **Load Sharing among Multiple Remote SEPP Nodes**: With load sharing among multiple Remote SEPP nodes feature, SEPP can now efficiently distribute incoming traffic among multiple remote SEPPs. To enable this, the operator needs to configure a single virtual FQDN for the remote SEPPs. SEPP retrieves multiple Remote SEPP records from the DNS server and distributes the traffic according to the priority and weight associated with each record. Hence, SEPP can simultaneously route the incoming requests to multiple Remote SEPPs.

For more information about the feature, see the "Load Sharing among Multiple Remote SEPP Nodes" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide* and the "Remote SEPP" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST API Specification Guide*.

- **Separate Port Configurations for N32c and N32f on the Egress Routes**: In some deployments, there is a need to have different service IPs and ports for n32c and n32f interfaces although the endpoint SEPP may have the same name. To improve traffic segregation, the Egress Gateway is enhanced by configuring different ports for the n32c and n32f connections on both the Remote SEPP Set and its local configurations. Separate ports for n32c and n32f interfaces provide the flexibility to configure different IP address or port for both interfaces.

For more information about the feature, see the "Separate Port Configurations for N32c and N32f on the Egress Routes" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide* and the "Remote SEPP" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST API Specification Guide*.

- **Support for cnDBTier APIs in CNC Console:** With the implementation of this feature, cnDBTier APIs are integrated into the CNC Console. SEPP users can view specific cnDBTier APIs such as checking the cnDBTier version, status of cnDBTier clusters, and georeplication status on the CNC Console. The cnDBTier APIs can be viewed (read only) from the CNC Console.

For more information about the feature, see the "Support for cnDBTier APIs in CNC Console" and "cnDBTier" sections in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide.*

- **Mediation Rules using CNC Console and REST APIs**: With this feature enhancement, mediation rules are being stored in the database. The existing rules can be retrieved, modified, deleted, and new rules can be configured and applied to mediation microservice using the CNC Console or REST APIs.

For more information about the feature, see the "5G SBI Message Mediation Support" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide* and the "Mediation Rules Configuration" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST API Specification Guide*.

2.1 SEPP Automated Testing Suite Features

This section provides a high-level overview of SEPP ATS 23.4.x features:

- **ATS Feature Activation and Deactivation:** This feature allows to deactivate specific features within the ATS using Helm charts. Once these features are removed, they cannot be reinstated in the deployed ATS. However, users have the option to reinstall the ATS to restore the disabled features.

For more information about the feature, see “ATS Feature Activation and Deactivation“ section in *Oracle Communications Cloud Native Core, Automated Testing Suite Guide*.

- **Support for Transport Layer Security in ATS:** With the support of the TLS feature, Jenkins servers have been upgraded to support HTTPS, ensuring a secure and encrypted connection when accessing the ATS dashboard. To provide encryption, HTTPS uses an encryption protocol known as Transport Layer Security (TLS), which is a widely accepted standard protocol that provides authentication, privacy, and data integrity between two communicating computer applications.

For more information about the feature, see “Support for Transport Layer Security “ and “Installing SEPP” sections in *Oracle Communications Cloud Native Core, Automated Testing Suite Guide*.

- **Individual Stage Group Selection:** This feature allows users to select and run single or multiple stages or groups by selecting a check box for the corresponding stage or group.

For more information, see "*Individual Stage Group Selection*" in *Oracle Communications Cloud Native Core, Automated Test Suite Guide*.

3
Supported Upgrade and Rollback Paths

The following table lists the supported upgrade paths in release 23.4.x:

Release 23.4.3

Table 3-1 Supported Upgrade Paths

Source SEPP release	Target SEPP release
23.2.x, 23.3.x, 23.4.x	23.4.3

Table 3-2 Supported Upgrade Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.2.x, 23.3.x, 23.4.x	23.4.3

The following table lists the supported rollback paths in release 23.4.3:

Table 3-3 Supported Rollback Paths

Source SEPP release	Target SEPP release
23.4.3	23.4.x, 23.3.x, 23.2.x

Table 3-4 Supported Rollback Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.4.3	23.4.x, 23.3.x, 23.2.x

Release 23.4.2

Table 3-5 Supported Upgrade Paths

Source SEPP release	Target SEPP release
23.2.x, 23.3.x, 23.4.x	23.4.2

Table 3-6 Supported Upgrade Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.2.x, 23.3.x, 23.4.x	23.4.2

The following table lists the supported rollback paths in release 23.4.2:

Table 3-7 Supported Rollback Paths

Source SEPP release	Target SEPP release
23.4.2	23.4.x, 23.3.x, 23.2.x

Table 3-8 Supported Rollback Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.4.2	23.4.x, 23.3.x, 23.2.x

Release 23.4.1

Table 3-9 Supported Upgrade Paths

Source SEPP release	Target SEPP release
23.2.x, 23.3.x, 23.4.0	23.4.1

Table 3-10 Supported Upgrade Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.2.x, 23.3.x, 23.4.0	23.4.1

The following table lists the supported rollback paths in release 23.4.1:

Table 3-11 Supported Rollback Paths

Source SEPP release	Target SEPP release
23.4.1	23.4.0, 23.3.x, 23.2.x

Table 3-12 Supported Rollback Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.4.1	23.4.0, 23.3.x, 23.2.x

Release 23.4.0

Table 3-13 Supported Upgrade Paths

Source SEPP release	Target SEPP release
23.2.x, 23.3.x	23.4.0

Table 3-14 Supported Upgrade Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.2.x, 23.3.x	23.4.0

The following table lists the supported rollback paths in release 23.4.0:

Table 3-15 Supported Rollback Paths

Source SEPP release	Target SEPP release
23.4.0	23.3.x, 23.2.x

Table 3-16 Supported Rollback Paths

Source SEPP in Roaming Hub Mode	Target SEPP in Roaming Hub Mode
23.4.0	23.3.x, 23.2.x

4 Configuration

This chapter lists the configuration changes in release 23.4.x.

4.1 Helm

The following are the changes in the Helm parameters in release 23.4.x:

Release 23.4.3

There are no Helm changes in this release.

Release 23.4.2

Updated the details of the following TLS parameters in the n32-ingress-gateway, plmn-ingress-gateway, n32-egress-gateway, and plmn-egress-gateway sections:

- `messageCopy.security.protocol`
- `messageCopy.security.tlsVersion`
- `kafka.bootstrapAddress`

Release 23.4.1

There are no Helm changes in this release.

Release 23.4.0

- Added the following mediation config parameters in the mediation section:
  - `mediationConfig.ruleApi.enabled`
  - `mediationConfig.idleTimeout`
- Updated the definition of `service.loadBalancer.addressPool` parameter in the mediation and config-mgr-svc sections.
- Added a note about the customizing the load balancer annotations in the Global Patameters section.

For more information on the Helm parameters, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide.*

4.2 REST API

The following are the REST API changes in release 23.4.x:

Release 23.4.3

There are no REST API changes in this release.

Release 23.4.2

Updated descriptions of the following parameters in the Remote SEPP REST API section:

- `n32fFQDN`
- `n32fPort`

Release 23.4.1

There are no REST API changes in this release.

Release 23.4.0

- Added the Mediation Rules Configuration REST API to support mediation rules configuration using REST API.
- Updated the Remote SEPP REST API section to support separate port configurations for n32c and n32f on the Egress Routes and Load Sharing among multiple Remote SEPP nodes features.

For more information on the REST API parameters, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST Specification Guide.*

4.3 CNC Console

The following are the CNC Console changes in release 23.4.x:

Release 23.4.3

There are no CNC Console changes in this release.

Release 23.4.2

Updated descriptions of the following CNC Console parameters in the Remote SEPP section:

- `32F FQDN`
- `N32F Port`

There are no CNC Console changes in this release.

Release 23.4.1

There are no CNC Console changes in this release.

Release 23.4.0

- Added the "cnDBTier" section in the Configuring SEPP using CNC Console section.
- Updated the "Remote SEPP" section to support Separate Port Configurations for n32c and n32f on the Egress Routes and Load Sharing among Multiple Remote SEPP Nodes features.
- Updated the "Mediation" section to support Mediation Rules Configuration using CNC Console.

For more detailed information about CNC Console parameters, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.

5 Observability

This chapter lists the observability changes in release 23.4.x.

5.1 Metrics

The following metrics are added in release 23.4.x:

Release 23.4.3

There are no updates to metrics in this release.

Release 23.4.2

There are no updates to metrics in this release.

Release 23.4.1

There are no updates to metrics in this release.

Release 23.4.0

There are no updates to metrics in this release.

For more information on the metrics, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide.*

5.2 KPIs

This section lists the added or updated KPIs in Release 23.4.x.

Release 23.4.3

There are no updates to KPIs in this release.

Release 23.4.2

There are no updates to KPIs in this release.

Release 23.4.1

There are no updates to KPIs in this release.

Release 23.4.0

There are no updates to KPIs in this release.

For more information on the KPIs, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide.*

5.3 Alerts

The following alerts are added in release 23.4.x:

Release 23.4.3

There are no updates to alerts in this release.

Release 23.4.2

There are no updates to alerts in this release.

Release 23.4.1

There are no updates to alerts in this release.

Release 23.4.0

- Restructured the SEPP Application Alerts section to categorize the alerts based on the microservices and features.
- Added the following alert to support in the SEPP Alerts section to support the separate port configurations for n32c and n32f on the Egress routes feature:
  - EgressInterfaceConnectionFailure

  Updated the expressions of the following alerts in the SEPP Alerts section:
  - SEPPPn32fSORFailureAlertPercent30to40
  - SEPPPn32fSORFailureAlertPercent40to50
  - SEPPPn32fSORFailureAlertPercentAbove50
  - SEPPPn32fSORTimeoutFailureAlert
  - SEPPN32fMessageValidationOnHeaderFailureMinorAlert
  - SEPPN32fMessageValidationOnHeaderFailureMajorAlert
  - SEPPN32fMessageValidationOnHeaderFailureCriticalAlert
  - SEPPN32fMessageValidationOnBodyFailureMinorAlert
  - SEPPN32fMessageValidationOnBodyFailureMajorAlert
  - SEPPN32fMessageValidationOnBodyFailureCriticalAlert
  - SEPPN32fTopologyOperationFailureAlert
  - SEPPN32fTopologyBodyOperationFailureAlert

For more information on the Alerts and Alert Configuration, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.