

Oracle® Communications

Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide



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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 Countermeasure
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 - F89635-06, October 2024

- Updated the SEPP Images in the [Pushing the SEPP Images to Customer Docker Registry](#) and [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#) sections to describe the compatible docker image versions for various microservices.
- Updated the supported upgrade paths in [Upgrading SEPP](#) section.
- Updated the supported rollback paths in [Rolling Back SEPP](#) section.

Release 23.4.2 - F89635-05, July 2024

- Updated the SEPP Images in the [Pushing the SEPP Images to Customer Docker Registry](#) and [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#) sections to describe the compatible docker image versions for various microservices.
- Updated the supported upgrade paths in [Upgrading SEPP](#) section.
- Updated the supported rollback paths in [Rolling Back SEPP](#) section.
- Updated the details of the following TLS parameters in the [n32-ingress-gateway](#), [plmn-ingress-gateway](#), [n32-egress-gateway](#), and [plmn-egress-gateway](#) sections under the [Configuration Parameters](#):
 - `messageCopy.security.protocol`
 - `messageCopy.security.tlsVersion`
 - `kafka.bootstrapAddress`

Release 23.4.1 - F89635-04, April 2024

- Updated the SEPP Images in the [Pushing the SEPP Images to Customer Docker Registry](#) and [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#) sections to describe the compatible docker image versions for various microservices.
- Updated the supported upgrade paths in [Upgrading SEPP](#) section.
- Updated the supported rollback paths in [Rolling Back SEPP](#) section.

Release 23.4.0 - F89635-03, February 2024

No updates are made in this document for this release.

Release 23.4.0 - F89635-02, January 2024

No updates are made in this document for this release.

Release 23.4.0- F89635-01, December 2023

- Updated the SEPP Images in the [Pushing the SEPP Images to Customer Docker Registry](#) and [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#) sections to describe the compatible docker image versions for various microservices.
- Deprecated `.tgz` packaging. Updated the following sections to install SEPP using Cloud Service Archive (CSAR) package:
 - [Downloading the SEPP Package](#)

- [Pushing the SEPP Images to Customer Docker Registry](#)
- [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#)
- [Installing SEPP Package](#)
- [Installing Roaming Hub or Hosted SEPP](#)
- Updated the supported upgrade paths in [Upgrading SEPP](#) section.
- Updated the supported rollback paths in [Rolling Back SEPP](#) section.
- Updated the [Cleaning up Database](#) section.
- Updated the [Resource Requirements](#) to update the resource requirements for SEPP and Roaming Hub mode.
- 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.
- Updated the definition of `alternateRoute.sbiReRoute.sbiRoutingErrorActionSets[].Attempts` parameter in the [config-mgr-svc](#) section.
- Added a note about the customizing the load balancer annotations in the [Global Patameters](#) section.
- Added the step to configure the resources assigned to the Aspen Mesh sidecars in the [ASM Predeployment Configurations](#) section.
- Added Helm test step to perform sanity check in the following sections:
 - [Preupgrade Tasks](#)
 - [Upgrade Tasks](#)
- Updated the ndb cluster pod name in the [Configuring Database, Creating Users, and Granting Permissions](#) section.
- Updated the procedure of [Configuring DNS for Inter PLMN FQDN Resolution](#) section.
- Added the note about the required changes in Network Policies for ASM deployment in the [Installing Network Policies](#) section.

1

Introduction

This guide describes how to install or upgrade Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) in a cloud native environment. It also includes information on performing fault recovery for SEPP.

Note

- This guide covers the installation instructions when Podman is the container platform with Helm as the Packaging Manager. For any other container platform, the operator must use the commands based on their deployed container runtime environment.
- `kubectl` commands can vary based on the platform deployment. Replace `kubectl` with Kubernetes environment-specific command line tool to configure Kubernetes resources through kube-api server. The instructions provided in this document are as per the CNE version of kube-api server.

Caution

User, computer and applications, and character encoding settings may cause an issue when copy-pasting commands or any content from PDF. PDF reader version also affects the copy-pasting functionality. It is recommended to verify the pasted content especially when the hyphens or any special characters are part of the copied content.

1.1 Overview

SEPP is a key component of the 5G Service Based Architecture. It is a proxy Network Function (NF) which is used for secured communication between Public Land Mobile Network (PLMN) messages.

Note

The performance and capacity of the SEPP system may vary based on the call model, Feature/Interface configuration, and underlying platform and hardware environment.

For more information about the SEPP architecture, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.

SEPP can be deployed, upgraded, and rolled back using Continuous Delivery Control Server (CDCS) or Command Line Interface (CLI) procedures as described in Security Edge Protection Proxy Installation. CDCS provides continuous delivery functionality for multisite Cloud Native Core (CNC) installations. For more information about CDCS, see *Oracle Communications CD Control Server User Guide*.

1.2 References

Refer to the following documents while deploying :

- *Oracle Communications Cloud Native Core, Cloud Native Environment Installation, Upgrade, and Fault Recovery Guide*
- *Oracle Communications Cloud Native Core, cnDBTier User Guide*
- *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*
- *Oracle Communications Cloud Native Core, Data Collector User Guide*
- *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*
- *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST Specification Guide*
- *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*
- *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Network Impact Report*
- *Oracle Communications Cloud Native Configuration Console User Guide*
- *Oracle Communications Cloud Native Core, Automated Test Suite User Guide*
- *Oracle Communications CD Control Server User Guide*

2

Installing SEPP

This chapter provides information about installing SEPP in a cloud native environment using Continuous Delivery Control Server (CDCS) or Command Line Interface (CLI) procedures.

CDCS is a centralized server that automates SEPP, Remote Hub, or Hosted SEPP deployment processes. CLI provides an interface to run various commands required for SEPP deployment processes.

Note

SEPP supports fresh installation, and it can also be upgraded from 23.1.x and 23.2.x. For more information on how to upgrade SEPP, see [Upgrading SEPP](#) section.

The user can install either SEPP or Roaming Hub/Hosted SEPP. The installation procedure comprises of prerequisites, predeployment configuration, installation, and postinstallation tasks. You must perform the installation tasks in the same sequence as outlined in the following table:

Note

The postinstallation configurations such as ASM configuration, inter NF communication, OSO installation, and Helm test remain the same for CDCS and CLI installation methods.

Table 2-1 SEPP or Roaming Hub/Hosted SEPP Installation Sequence

Task	Sub tasks	ReferenceLinks	Applicable for SEPP Installation	Applicable for Roaming Hub and Hosted SEPP Installation
Prerequisites: This section describes how to set up the installation environment.		Prerequisites	Yes	Yes
	Software Requirements	Software Requirements	Yes	Yes
	Environment Setup Requirements	Environment Setup Requirements	Yes	Yes
	Resource Requirements	Resource Requirements	SEPP Resource Requirements	Roaming Hub or Hosted SEPP Resource Requirements

Table 2-1 (Cont.) SEPP or Roaming Hub/Hosted SEPP Installation Sequence

Task	Sub tasks	ReferenceLinks	Applicable for SEPP Installation	Applicable for Roaming Hub and Hosted SEPP Installation
Predeployment Configuration: This section describes how to create namespace and database and configure Kubernetes secrets.		Preinstallation Tasks	Yes	Yes
	Verifying and Creating SEPP Namespace	Verifying and Creating SEPP Namespace	Yes	Yes
	Configuring Database, Creating Users, and Granting Permissions	Configuring Database, Creating Users, and Granting Permissions	Yes	Yes
	Configuring Kubernetes Secrets for Accessing SEPP Database	Configuring Kubernetes Secrets for Accessing SEPP Database	Yes	Yes
	Configuring Kubernetes Secret for Enabling HTTPS/HTTP over TLS	Configuring Kubernetes Secret for Enabling HTTPS/ HTTP over TLS	Yes	Yes
Installation Tasks: This section describes how to download the SEPP package, install SEPP, and verify the installation.		Installation Tasks		
Downloading SEPP package		Downloading SEPP package	Yes	Yes
Installing SEPP / Roaming Hub		Installing SEPP/ Roaming Hub/ Hosted SEPP	Installing SEPP	Installing Roaming Hub or Hosted SEPP
Verifying SEPP Installation		Verifying SEPP Installation	Yes	Yes
PodDisruptionBudget Kubernetes Resource		PodDisruptionBudget Kubernetes Resource	Yes	Yes
Customizing SEPP		Customizing SEPP	Yes	Yes
Upgrading SEPP		Upgrading SEPP	Yes	Yes
Rollback SEPP deployment		Rollback SEPP deployment	Yes	Yes

Table 2-1 (Cont.) SEPP or Roaming Hub/Hosted SEPP Installation Sequence

Task	Sub tasks	ReferenceLinks	Applicable for SEPP Installation	Applicable for Roaming Hub and Hosted SEPP Installation
Uninstalling SEPP		Uninstalling SEPP	Yes	Yes

2.1 Prerequisites

Before installing and configuring SEPP, ensure that the following prerequisites are met.

2.1.1 Software Requirements

This section lists the software that must be installed before installing SEPP:

The following software must be installed before installing SEPP:

Table 2-2 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

To check the versions for the preinstalled software in the cloud native environment, run the following commands:

```
kubectl version
```

```
helm version
```

```
podman version
```

```
docker version
```

The following software are available if SEPP is deployed in CNE. If you are deploying SEPP in any other cloud native environment, these additional software must be installed before installing SEPP. To check the installed software, run the following command:

```
helm ls -A
```

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

Table 2-3 Additional Software

Software	Version	Required for
containerd	1.7.5	Logging
Calico	3.25.2	Logging
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

2.1.2 Environment Setup Requirements

This section describes the environment setup requirements for installing SEPP.

2.1.2.1 Client Machine Requirements

This section describes the requirements for client machine, that is, the machine used by the user to run deployment commands.

The client machine should have:

- Helm repository configured.
- network access to the Helm repository and Docker image repository.
- network access to the Kubernetes cluster.
- required environment settings to run the `kubectl`, `podman`, and `docker` commands. The environment should have privileges to create namespace in the Kubernetes cluster.
- Helm client installed with the push plugin. Configure the environment in such a manner that the `helm install` command deploys the software in the Kubernetes cluster.

Note

The recommended helm release name is `ocsepp-release`. If some other release name is to be configured while installing, see the [Deployment Configuration for Config-mgr-svc](#) section.

2.1.2.2 Network Access Requirement

The Kubernetes cluster hosts must have network access to the following repositories:

- Local Helm repository: It contains the SEPP helm charts.

To check if the Kubernetes cluster hosts have network access to the local helm repository, run the following command:

```
helm repo update
```

- Local Docker image repository: It contains the SEPP Docker images. To check if the Kubernetes cluster hosts can access the local docker image repository, pull any image with an image-tag using either of the following commands:

```
docker pull docker-repo/image-name:image-tag
```

```
podman pull docker-repo/image-name:image-tag
```

Where:

- <docker-repo> is the IP address or host name of the Docker repository.
- <Podman-repo> is the IP address or host name of the Podman repository.
- <image-name> is the Docker image name.
- <image-tag> is the tag assigned to the Docker image used for the SEPP pod.

Example:

```
docker pull CUSTOMER_REPO/oc-app-info:23.4.0
```

```
podman pull occne-repo-host:5000/ocnp/oc-app-info:23.4.0
```

Note

Run the `kubectl` and `helm` commands on a system based on the deployment infrastructure. For instance, they can be run on a client machine such as VM, server, local desktop, and so on.

2.1.2.3 Server or Space Requirement

For information about server or space requirements, see *Oracle Communications Cloud Native Core, Cloud Native Environment Installation Upgrade, and Fault Recovery Guide*.

2.1.2.4 CNE Requirement

This section is applicable only if you are installing SEPP on Cloud Native Environment (CNE).

SEPP supports CNE 23.4.x, 23.3.x, and 23.2.x.

To check the CNE version, run the following command:

```
echo $OCCNE_VERSION
```

For more information about CNE, see *Oracle Communications Cloud Native Core, Cloud Native Environment Installation, Upgrade, and Fault Recovery Guide*.

2.1.2.5 cnDBTier Requirement

SEPP supports cnDBTier 23.4.0 cnDBTier must be configured and running before installing SEPP. For more information about cnDBTier installation, see *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.

Note

If cnDBTier version starting from 23.2.x is used during installation, set the `ndb_allow_copying_alter_table` parameter to 'ON' in the `occndbtier_custom_values_23.x.y.yaml` file before installing SEPP.

2.1.2.6 OSO Requirement

SEPP supports Operations Services Overlay (OSO) 23.4.x for common operation services (Prometheus and components such as alertmanager, pushgateway) on a Kubernetes cluster, which does not have these common services. For more information about OSO installation, see *Oracle Communications Cloud Native Core, Operations Services Overlay Installation and Upgrade Guide*.

2.1.2.7 CNC Console Requirements

SEPP supports CNC Console 23.4.x to configure and manage Network Functions. For more information, see *Cloud Native Configuration Console Installation, Upgrade, and Fault Recovery Guide*.

2.1.2.8 OCCM Requirements

SEPP supports OCCM 24.2.x. To support automated certificate lifecycle management, SEPP integrates with Oracle Communications Cloud Native Core, Certificate Management (OCCM) in compliance with 3GPP security recommendations. For more information about OCCM in SEPP, see the "Support for Automated Certificate Lifecycle Management" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.

For more information about OCCM, see the following guides:

- *Oracle Communications Cloud Native Core, Certificate Manager Installation, Upgrade, and Fault Recovery Guide*
- *Oracle Communications Cloud Native Core, Certificate Manager User Guide*

2.1.2.9 OCI Requirements

SEPP can be deployed in OCI.

While deploying SEPP in OCI, the user must use the Operator instance/VM instead of Bastion Host.

For more information about OCI deployment, see *Oracle Communications Cloud Native Core, OCI Adaptor Deployment Guide*.

2.1.3 SEPP Resource Requirements

This section lists the resource requirements to install and run SEPP.

① Note

The performance and capacity of the SEPP system may vary based on the call model, Feature/Interface configuration, and underlying CNE and hardware environment.

2.1.3.1 SEPP Services

The following table lists resource requirement for SEPP Services:

Table 2-4 SEPP Services

Service Name	CPU		Memory (GB)	POD		Ephemeral Storage		
	Min	Max		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

Table 2-4 (Cont.) SEPP Services

Service Name	CPU		Memory (GB)	POD		Ephemeral Storage		
	Min	Max		Max	Min	Max	Min(Gi)	Max(Gi)
<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
<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

Table 2-4 (Cont.) SEPP Services

Service Name	CPU		Memory (GB)	POD		Ephemeral Storage		
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
<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 microservice 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.

2.1.3.2 Upgrade

Following is the resource requirement for upgrading SEPP:

Table 2-5 Upgrade

Service Name	CPU		Memory (GB)		POD		Ephemeral Storage	
	Min	Max	Min	Max	Min	Max	Min(Gi)	Max(Gi)
Helm test	0	0	0	0	0	0	0	0
Helm Hook	0	0	0	0	0	0	0	0

Table 2-5 (Cont.) 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
<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

Table 2-5 (Cont.) Upgrade

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	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
<helm-release-name>-nf-mediation	8	8	8	8	1	1	1	1
<helm-release-name>-coherence-svc	1	1	2	2	1	1	NA	NA
<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"

2.1.3.3 Common Services Container

Following is the resource requirement for Common Services Container:

Table 2-6 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.

2.1.3.4 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 2-7 ASM Sidecar

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-n32-ingress-gateway	2	2	1	1	70	1
<helm-release-name>-n32-egress-gateway	2	2	1	1	70	1
<helm-release-name>-plmn-ingress-gateway	2	2	1	1	70	1
<helm-release-name>-plmn-egress-gateway	2	2	1	1	70	1

Table 2-7 (Cont.) ASM Sidecar

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-pn32f-svc	2	2	1	1	70	1
<helm-release-name>-cn32f-svc	2	2	1	1	70	1
<helm-release-name>-cn32c-svc	2	2	1	1	70	1
<helm-release-name>-pn32c-svc	2	2	1	1	70	1
<helm-release-name>-config-mgr-svc	2	2	1	1	70	1
<helm-release-name>-sepp-nrf-client-nfdiscovery	2	2	1	1	70	1
<helm-release-name>-sepp-nrf-client-nfmanagement	2	2	1	1	70	1
<helm-release-name>-ocpm-config	2	2	1	1	70	1
<helm-release-name>-appinfo	2	2	1	1	70	1
<helm-release-name>-perf-info	2	2	1	1	70	1
<helm-release-name>-nf-mediation	2	2	1	1	70	1

Table 2-7 (Cont.) ASM Sidecar

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-coherence-svc	2	2	1	1	NA	NA
<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"

2.1.3.5 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 2-8 Debug Tool Container

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
Helm Test	0	0	0	0	512	512
Helm Test	0	0	0	0	512	512
<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

Table 2-8 (Cont.) Debug Tool Container

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<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
<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

Table 2-8 (Cont.) Debug Tool Container

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<helm-release-name>-perf-info	0.5	1	4	4	512	512
<helm-release-name>-nf-mediation	0.5	1	4	4	512	512
<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	8704 Mi	8704 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".

2.1.3.6 SEPP Hooks

Following is the resource requirement for SEPP Hooks:

Table 2-9 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

Table 2-9 (Cont.) SEPP Hooks

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

Table 2-9 (Cont.) SEPP Hooks

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

2.1.4 Roaming Hub or Hosted SEPP Resource Requirements

This section lists the resource requirements to install and run Roaming Hub or Hosted SEPP.

2.1.4.1 Roaming Hub or Hosted SEPP Services

The following table lists resource requirement for SEPP Services for Roaming Hub or Hosted SEPP:

Table 2-10 SEPP Services for Roaming Hub or Hosted SEPP

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

Table 2-10 (Cont.) SEPP Services for Roaming Hub or Hosted SEPP

Service Name	CPU		Memory (GB)		POD		Ephemeral Storage	
	Min	Max	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-pn32c-svc	2	2	2	2	2	2	70	1
<helm-release-name>-config-mgr-svc	2	2	2	2	1	1	70	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>-appinfo	1	1	1	2	2	2	1	1
Total	50	50	53.2	58	25	25	702 Mi	13 Gi

Note

- #: <helm-release-name> will be prefixed in each microservice 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 initialisation 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.

2.1.4.2 Upgrade

Following is the resource requirement for upgrading Roaming Hub or Hosted SEPP:

Table 2-11 Upgrade

Service Name	CPU		Memory (GB)		POD		Ephemeral Storage	
	Min	Max	Min	Max	Min	Max	Min(Mi)	Max(Gi)
Helm test	0	0	0	0	0	0	0	0
Helm Hook	0	0	0	0	0	0	0	0
<helm-release-name>-n32-ingress-gateway	6	6	5	5	1	2	70	1
<helm-release-name>-n32-egress-gateway	5	5	5	5	1	2	70	1
<helm-release-name>-plmn-ingress-gateway	5	5	5	5	1	2	70	1
<helm-release-name>-plmn-egress-gateway	5	5	5	5	1	2	70	1
<helm-release-name>-pn32f-svc	5	5	8	8	1	2	70	1
<helm-release-name>-cn32f-svc	5	5	8	8	1	3	70	1
<helm-release-name>-cn32c-svc	2	2	2	2	1	1	70	1
<helm-release-name>-pn32c-svc	2	2	2	2	1	1	70	1
<helm-release-name>-config-mgr-svc	2	2	2	2	1	1	70	1

Table 2-11 (Cont.) Upgrade

Service Name	CPU		Memory (GB)		POD		Ephemeral Storage	
	Min	Max	Min	Max	Min	Max	Min(Mi)	Max(Gi)
<helm-release-name>-perf-info	2	2	200Mi	4	1	1	70	1
<helm-release-name>-nf-mediation	8	8	8	8	1	1	70	1
<helm-release-name>-appinfo	1	1	1	2	1	1	70	1
Total	48	48	51.2	56	12	19	840 Mi	12 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"

2.1.4.3 Common Services Container

Following is the resource requirement for Common Services Container:

Table 2-12 Common Services Container

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

Note

- **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.

2.1.4.4 ASM Sidecar

Note

In Roaming Hub or Hosted SEPP mode, ASM is not supported.

2.1.4.5 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 Roaming Hub/Hosted SEPP deployment or upgrade, this container is injected to each Roaming Hub/Hosted 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 the Debug Tool, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

Table 2-13 Debug Tool Container

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
Helm Test	0	0	0	0	512	512
Helm Test	0	0	0	0	512	512
<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
<helm-release-name>-pn32f-svc	0.5	1	4	4	512	512
<helm-release-name>-cn32f-svc	0.5	1	4	4	512	512

Table 2-13 (Cont.) Debug Tool Container

Service Name	CPU		Memory (GB)		Ephemeral Storage	
	Min	Max	Min(Gi)	Max(Gi)	Min(Mi)	Max(Mi)
<helm-release-name>-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>-perf-info	0.5	1	4	4	512	512
<helm-release-name>-nf-mediation	0.5	1	4	4	512	512
<helm-release-name>-appinfo	0.5	1	4	4	512	512
Total	6	12	48	48	7168 Mi	7168 Mi

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"

2.1.4.6 SEPP Hooks

Following is the resource requirement for SEPP Hooks.

Table 2-14 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

Table 2-14 (Cont.) SEPP Hooks

Hook Name	CPU		Memory (GB)	
<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
<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

Table 2-14 (Cont.) SEPP Hooks

Hook Name	CPU		Memory (GB)	
<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
<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

Table 2-14 (Cont.) SEPP Hooks

Hook Name	CPU		Memory (GB)	
<helm-release-name>-config-mgr-svc-<post-rollback>	1	1	1	1

Note

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

2.2 Installation Sequence

This section describes preinstallation, installation, and postinstallation tasks for SEPP (SEPP, Roaming Hub, or Hosted SEPP).

You must perform these tasks after completing prerequisites and in the same sequence as outlined in the following table for CDCS and CLI installation methods as applicable.

Note

This section does not provide instructions to download the SEPP package and install SEPP using CDCS. For more information, see *Oracle Communications CD Control Server Installation and Upgrade Guide* and *Oracle Communications CD Control Server User Guide*. The postinstallation configurations such as ASM configuration, inter NF communication, OSO installation, Helm test, and so on, remain the same for CDCS and CLI installation methods.

SEPP Installation Sequence

Table 2-15 SEPP Installation Sequence

Sequence	Installation Task	Reference	Applicable for CDCS	Applicable for CLI
1	Preinstallation tasks	Predeployment Configuration	Yes	Yes
2	Installation tasks	InstallationTasks	See <i>Oracle Communications Continuous Delivery Control Server User Guide</i>	Yes
3	Verification of installation	Verifying SEPP Installation	Yes	Yes

2.2.1 Preinstallation Tasks

Before installing SEPP, perform the tasks described in this section.

2.2.1.1 Downloading SEPP package

Perform the following procedure to download the Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) release package from [My Oracle Support](#):

1. Log in to [My Oracle Support](#) using the appropriate credentials.
2. Click the **Patches & Updates** tab to locate the patch.
3. In **Patch Search** console, click the **Product or Family (Advanced)** tab.
4. Enter Oracle Communications Cloud Native Core - 5G in **Product** field and select SEPP from the Product drop-down list.
5. From the **Release** drop-down, select "**Oracle Communications Cloud Native Core Security Edge Protection Proxy <release_number>**".
Where, <release-number> indicates the required release number of Cloud Native Core, Security Edge Protection Proxy.
6. Click **Search**. The Patch Advanced Search Results list appears.
7. Select the required patch from the list. The **Patch Details** window appears.
8. Click **Download**. File Download window appears.
9. Click the <p*****_<release_number>_Tekelec>.zip file to download the package.
Where, <p*****> is the MOS patch number and <release_number> is the release number of SEPP.

2.2.1.2 Pushing the SEPP Images to Customer Docker Registry

SEPP deployment package includes ready-to-use images and Helm charts to orchestrate containers in Kubernetes.

The following table lists the docker images for SEPP:

Table 2-16 SEPP Images

Services	Image	Tag
<helm-helm-release-name>-appinfo	appinfo	23.4.12
<helm-release-name>-cn32c-svc	cn32c-svc	23.4.3
<helm-release-name>-cn32f-svc	cn32f-svc	23.4.3
<helm-release-name>-config-mgr-svc	config-mgr-svc	23.4.3
<helm-release-name>-oc-config-server	oc-config-server	23.4.12
<helm-release-name>-n32-egress-gateway	n32-egress-gateway	23.4.10
<helm-release-name>-n32-ingress-gateway	n32-ingress-gateway	23.4.10
<helm-release-name>-ocpm-config	ocpm-config	23.4.3
<helm-release-name>-oc-perf-info	oc-perf-info	23.4.12
<helm-release-name>-plmn-egress-gateway	plmn-egress-gateway	23.4.10
<helm-release-name>-plmn-ingress-gateway	plmn-ingress-gateway	23.4.10
<helm-release-name>-pn32c-svc	pn32c-svc	23.4.3
<helm-release-name>-pn32f-svc	pn32f-svc	23.4.3
<helm-release-name>-sepp-nrf-client-nfdiscovery	sepp-nrf-client-nfdiscovery	23.4.7

Table 2-16 (Cont.) SEPP Images

Services	Image	Tag
<helm-release-name>- sepp-nrf-client-nfmanagement	sepp-nrf-client-nfmanagement	23.4.7
<helm-release-name>-ocsepp-pre-install-hook	ocsepp-pre-install-hook	23.4.3
<helm-release-name>-nf-mediation	nf-mediation	23.4.3
<helm-release-name>-nf-test	nf-test	23.4.3
<helm-release-name>ocdebugtool/ocdebug-tools	ocdebugtool/ocdebug-tools	23.4.3
<helm-release-name>coherence-svc	coherence-svc	23.4.3
<helm-release-name>alternate-route	alternate-route	23.4.10

To push the images to the registry:

1. Navigate to the location where you want to install SEPP. Unzip the SEPP release package (<p*****>_<release_number>_Tekelec.zip) to retrieve the following CSAR package. The SEPP package is as follows:

ReleaseName-csar-Releasenumbe .zip

Where:

- ReleaseName is a name that is used to track this installation instance.
- Releasenumbe is the release number.

For example:

ocsepp_csar_23_4_3_0_0.zip

2. Unzip the SEPP package file to get SEPP docker image tar file:

unzip ReleaseName-csar-Releasenumbe .zip

For example:

unzip ocsepp_csar_23_4_3_0_0.zip

3. The directory ocsepp_csar_23_4_3_0_0.zip consists of the following:

```

├── Definitions
│   ├── ocsepp_cne_compatibility.yaml
│   └── ocsepp.yaml
├── Files
│   ├── alternate_route-23.4.5.tar
│   ├── ChangeLog.txt
│   ├── common_config_hook-23.4.5.tar
│   ├── configurationinit-23.4.5.tar
│   ├── configurationupdate-23.4.5.tar
│   └── Helm
│       ├── ocsepp-23.4.3.tgz
│       ├── ocsepp-network-policy-23.4.3.tgz
│       └── ocsepp-servicemesh-config-23.4.3.tgz
└── Licenses

```

```

├── mediation-ocmed-nfmediation-23.4.3.tar
├── nf_test-23.4.3.tar
├── nrf-client-23.4.5.tar
├── occnp-oc-app-info-23.4.3.tar
├── occnp-oc-config-server-23.4.3.tar
├── occnp-oc-perf-info-23.4.3.tar
├── ocdebugtool-ocdebug-tools-23.4.3.tar
├── ocegress_gateway-23.4.5.tar
├── ocingress_gateway-23.4.5.tar
├── ocsepp-cn32c-svc-23.4.3.tar
├── ocsepp-cn32f-svc-23.4.3.tar
├── ocsepp-coherence-svc-23.4.3.tar
├── ocsepp-config-mgr-svc-23.4.3.tar
├── ocsepp-pn32c-svc-23.4.3.tar
├── ocsepp-pn32f-svc-23.4.3.tar
├── ocsepp-pre-install-hook-23.4.3.tar
├── ocsepp-update-db-23.4.3.tar
├── Oracle.cert
├── Tests
├── ocsepp.mf
├── Scripts
│   ├── ocsepp-alerting-rules-promha.yaml
│   ├── ocsepp_configuration_openapi_23.4.3.yaml
│   ├── ocsepp_custom_values_23.4.3.yaml
│   ├── ocsepp_custom_values_asm_23.4.3.yaml
│   ├── ocsepp_custom_values_roaming_hub_23.4.3.yaml
│   ├── ocsepp_dashboard.json
│   ├── ocsepp_dashboard_promha.json
│   ├── ocsepp_network_policies_custom_values_23.4.3.yaml
│   ├── ocsepp_servicemesh_config_custom_values_23.4.3.yaml
│   ├── SeppAlerts.yaml
│   ├── SEPP-MIB.mib
│   ├── SEPP-MIB-TC.mib
│   └── toplevel.mib
├── TOSCA-Metadata
└── TOSCA.meta

```

4. Open the Files folder and run one of the following commands to load the SEPP images:

```
podman load --input /IMAGE_PATH/<microservicename-releasename>.tar
```

```
docker load --input /IMAGE_PATH/<microservicename-releasename>.tar
```

Where, IMAGE_PATH is the location where the SEPP docker image tar file is archived.

Sample command:

```
podman load --input /IMAGE_PATH/ocsepp-pn32c-svc-23.4.3.tar
```

Note

The docker/podman load command needs to be executed separately for each tar file/docker image.

5. Run one of the following commands to verify that the image is loaded:

```
docker images
```

```
podman images
```

Note

Verify the list of images shown in the output with the list of images shown in the table SEPP Images. If the list does not match, reload the image tar file.

6. Run one of the following commands to tag the images to the registry:

```
docker tag <image-name>:<image-tag> <docker-repo>/<image-name>:<image-tag>
```

```
podman tag <image-name>:<image-tag> <docker-repo>/<image-name>:<image-tag>
```

7. Run one of the following commands to push the image to the registry:

```
docker push <docker-repo>/<image-name>:<image-tag>
```

```
podman push <docker-repo>/<image-name>:<image-tag>
```

Note

It is recommended to configure the Docker certificate before running the push command to access customer registry through HTTPS, otherwise docker push command may fail.

2.2.1.3 Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry

Roaming Hub or Hosted SEPP deployment package includes ready-to-use images and Helm charts to orchestrate containers in Kubernetes.

The following table lists the docker images for Roaming Hub or Hosted SEPP:

Table 2-17 Roaming Hub or Hosted SEPP

Services	Image	Tag
<helm-release-name>-cn32c-svc	cn32c-svc	23.4.3
<helm-release-name>-cn32f-svc	cn32f-svc	23.4.3
<helm-release-name>-config-mgr-svc	config-mgr-svc	23.4.3
<helm-release-name>-n32-egress-gateway	n32-egress-gateway	23.4.10
<helm-release-name>-n32-ingress-gateway	n32-ingress-gateway	23.4.10
<helm-release-name>-oc-perf-info	oc-perf-info	23.4.12
<helm-release-name>-plmn-egress-gateway	plmn-egress-gateway	23.4.10
<helm-release-name>-plmn-ingress-gateway	plmn-ingress-gateway	23.4.10
<helm-release-name>-pn32c-svc	pn32c-svc	23.4.3
<helm-release-name>-pn32f-svc	pn32f-svc	23.4.3

Table 2-17 (Cont.) Roaming Hub or Hosted SEPP

Services	Image	Tag
<helm-release-name>-ocsepp-pre-install-hook	ocsepp-pre-install-hook	23.4.3
<helm-release-name>-nf-mediation	nf-mediation	23.4.3
<helm-release-name>-nf-test	nf-test	23.4.3
<helm-release-name>ocdebugtool/ocdebug-tools	ocdebugtool/ocdebug-tools	23.4.3
<helm-release-name>alternate-route	alternate-route	23.4.7

Note

<helm-helm-release-name> will be prefixed in each microservice name. Example: if Helm release name is "ocsepp", then cn32f-svc microservice name will be "ocsepp-cn32f-svc".

To push the images to the registry:

1. Navigate to the location where you want to install SEPP. Unzip the SEPP release package (<p*****>_<release_number>_Tekelec.zip) to retrieve the following CSAR package. The SEPP package is as follows:

ReleaseName-csar-Releasenumbe.zip

Where:

- ReleaseName is a name that is used to track this installation instance.
- Releasenumbe is the release number.

For example:

ocsepp_csar_23_4_3_0_0.zip

2. Unzip the SEPP package file to get SEPP docker image tar file:

```
unzip ReleaseName-csar-Releasenumbe.zip
```

For example:

```
unzip ocsepp_csar_23_4_3_0_0.zip
```

3. The directory ocsepp_csar_23_4_3_0_0.zip consists of the following:

```

├── Definitions
│   ├── ocsepp_cne_compatibility.yaml
│   └── ocsepp.yaml
├── Files
│   ├── alternate_route-23.3.5.tar
│   ├── ChangeLog.txt
│   ├── common_config_hook-23.3.5.tar
│   ├── configurationinit-23.3.5.tar
│   └── configurationupdate-23.3.5.tar

```

```

├── Helm
│   ├── ocsepp-23.4.3.tgz
│   ├── ocsepp-network-policy-23.4.3.tgz
│   └── ocsepp-servicemesh-config-23.4.3.tgz
├── Licenses
├── mediation-ocmed-nfmediation-23.4.3.tar
├── nf_test-23.3.2.tar
├── nrf-client-23.3.5.tar
├── occnp-oc-app-info-23.3.2.tar
├── occnp-oc-config-server-23.3.2.tar
├── occnp-oc-perf-info-23.3.2.tar
├── ocdebugtool-ocdebug-tools-23.4.3.tar
├── ocregress_gateway-23.3.5.tar
├── ocingress_gateway-23.3.5.tar
├── ocsepp-cn32c-svc-23.4.3.tar
├── ocsepp-cn32f-svc-23.4.3.tar
├── ocsepp-coherence-svc-23.4.3.tar
├── ocsepp-config-mgr-svc-23.4.3.tar
├── ocsepp-pn32c-svc-23.4.3.tar
├── ocsepp-pn32f-svc-23.4.3.tar
├── ocsepp-pre-install-hook-23.4.3.tar
├── ocsepp-update-db-23.4.3.tar
├── Oracle.cert
├── Tests
├── ocsepp.mf
├── Scripts
│   ├── ocsepp-alerting-rules-promha.yaml
│   ├── ocsepp_configuration_openapi_23.4.3.yaml
│   ├── ocsepp_custom_values_23.4.3.yaml
│   ├── ocsepp_custom_values_asm_23.4.3.yaml
│   ├── ocsepp_custom_values_roaming_hub_23.4.3.yaml
│   ├── ocsepp_dashboard.json
│   ├── ocsepp_dashboard_promha.json
│   ├── ocsepp_network_policies_custom_values_23.4.3.yaml
│   ├── ocsepp_servicemesh_config_custom_values_23.4.3.yaml
│   ├── SeppAlerts.yaml
│   ├── SEPP-MIB.mib
│   ├── SEPP-MIB-TC.mib
│   └── toplevel.mib
├── TOSCA-Metadata
└── TOSCA.meta

```

4. Open the Files folder and run one of the following commands to load the SEPP images:

```
podman load --input /IMAGE_PATH/<microservicename-releasenum>.tar
```

```
docker load --input /IMAGE_PATH/<microservicename-releasenum>.tar
```

Where, IMAGE_PATH is the location where the SEPP docker image tar file is archived.

Sample command:

```
podman load --input /IMAGE_PATH/ocsepp-pn32c-svc-23.4.3.tar
```

Note

The docker/ podman load command needs to be executed separately for each tar file/ docker image.

5. Run one of the following commands to verify that the image is loaded:

```
docker images
```

```
podman images
```

Note

Verify the list of images shown in the output with the list of images shown in the table SEPP Images. If the list does not match, reload the image tar file.

6. Run one of the following commands to tag the images to the registry:

```
docker tag <image-name>:<image-tag> <docker-repo>/<image-name>:<image-tag>
```

```
podman tag <image-name>:<image-tag> <docker-repo>/<image-name>:<image-tag>
```

7. Run one of the following commands to push the image to the registry:

```
docker push <docker-repo>/<image-name>:<image-tag>
```

```
podman push <docker-repo>/<image-name>:<image-tag>
```

Note

- It is recommended to configure the Docker certificate before running the push command to access customer registry through HTTPS, otherwise, docker push command may fail.
- (optional) Timeout duration: If it is not specified, the default value will be 5m (5 minutes) in Helm3. It sets the time to wait for any individual Kubernetes operation (like jobs for hooks). The default value is 5ms. If the helm install command fails at any point to create a Kubernetes object, it will internally call the purge to delete after the timeout value (default: 300s). Here, timeout value is not for overall installation but automatic purge on installation failure.

Caution

Do not exit from `helm install` command manually. After running the `helm install` command, it takes some time to install all the services. In the meantime, you must not press "ctrl+c" to come out from `helm install` command. It leads to some anomalous behavior.

2.2.1.4 Verifying and Creating Namespace

This section explains how to verify and create a namespace in the system.

Note

This is a mandatory procedure, run this before proceeding further with the installation. The namespace created or verified in this procedure is an input for the next procedures.

To verify and create a namespace:

1. Run the following command to verify if the required namespace already exists in system:

```
kubectl get namespaces
```

In the output of the above command, if the namespace exists, continue with the [Creating Service Account, Role and RoleBinding](#) section.

2. If the required namespace is not available, create the namespace using the following command:

```
kubectl create namespace <required namespace>
```

Example:

```
kubectl create namespace seppsvc
```

Sample output:

```
namespace/seppsvc created
```

Naming Convension for Namespace

The namespace should:

- start and end with an alphanumeric character.
- contain 63 characters or less.
- contain only alphanumeric characters or '-'.

Note

It is recommended to avoid using the prefix kube- when creating a namespace. The prefix is reserved for Kubernetes system namespaces.

2.2.1.5 Configuring Database, Creating Users, and Granting Permissions

This section explains how database administrators can create users and database in a single and multisite deployment.

SEPP supports single database (provisional Database) and single type of user.

Note

- Before running the procedure for georedundant sites, ensure that the cnDBTier for georedundant sites is up and replication channels are enabled.
- While performing a fresh installation, if SEPP is already deployed, purge the deployment and remove the database and users that were used for the previous deployment. For uninstallation procedure, see [Uninstalling SEPP](#).

SEPP Users

SEPP supports a single type of user:

This user has a complete set of permissions. This user can perform create, alter, or drop operations on tables to perform install, upgrade, rollback, or delete operations.

SEPP Database

Provisional Database: Provisional Database contains configuration information. The same configuration must be done on each site by the operator. In case of multisite georedundant setups, each site must have a unique provisional database, which is replicated to other sites. SEPP sites can access only the information in their unique provisional database.

For example:

- For Site 1: SEPP-1DB
 - For Site 2: SEPP-2DB
 - For Site 3: SEPP-3DB
1. Log in to the machine where ssh keys are stored. The machine must have permission to access the SQL nodes of NDB cluster.
 2. Connect to the ndbmysqld-0 pod of the primary NDB cluster.
 3. Log in to the MySQL prompt using root permission or root user, who has permission to create users with conditions as mentioned below:

Example:

```
mysql -h 127.0.0.1 -uroot -p
```

4. Check whether SEPP database user already exists. If the user does not exist, create a SEPP database user by running the following queries:

- a. Run the following command to list the users:

```
$ SELECT User FROM mysql.user;
```

- b. If the user does not exist, run the following command to create the new user :

```
$ CREATE USER IF NOT EXISTS '<SEPP User Name>'@'%' IDENTIFIED BY '<SEPP Password>';
```

Example:

```
$ CREATE USER IF NOT EXISTS 'seppusr'@'%' IDENTIFIED BY 'sepppasswd';
```


5. Check if SEPP database already exists. If it does not exist, run the following commands to create a SEPP database and provide permissions to SEPP username created in the previous step:

Note

Ensure that the Database name is not bigger than 15 characters.

- a. Run the following command to check if database exists:

```
$ show databases;
```

- b. If database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <SEPP Database> CHARACTER SET utf8;
```

Example:

```
$ CREATE DATABASE IF NOT EXISTS seppdb CHARACTER SET utf8;
```

- c. If backup database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <SEPP Backup Database> CHARACTER SET utf8;
```

Example:

```
CREATE DATABASE IF NOT EXISTS seppbackupdb CHARACTER SET utf8;
```

6. a. Run the following command to grant permission to user:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <SEPP Database>.* TO '<SEPP User Name>'@'%';
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppdb.* TO 'seppusr'@'%';
```

- b. Run the following command to grant permission to user for backup db:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <SEPP backup Database>.* TO '<SEPP User Name>'@'%';
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE
TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppbackupdb.*
TO 'sepp_usr'@'%';
```

7. Run the following command to grant the permission to NDB_STORED_USER:

```
GRANT NDB_STORED_USER ON *.* TO '<SEPP_username>'@'%' WITH GRANT OPTION;
```

Example:

```
GRANT NDB_STORED_USER ON *.* TO 'seppusr'@'%' WITH GRANT OPTION;
```

8. Run the following command to update or alter the user name:

```
ALTER USER '<username>'@'%' IDENTIFIED WITH mysql_native_password BY
'<password>';
```

2.2.1.5.1 Single Site

This section explains how a database administrator can create database and users for a single site deployment.

1. Log in to the machine where ssh keys are stored. The machine must have permission to access the SQL nodes of NDB cluster.
2. Connect to the ndbmysqld-0 pod of the primary NDB cluster.
3. Log in to the MySQL prompt using root permission or user, which has permission to create users with conditions as mentioned below:

Example:

```
mysql -h 127.0.0.1 -uroot -p
```

4. Check whether OCSEPP database user already exists. If the user does not exist, create an OCSEPP database user by running the following queries:

- a. Run the following command to list the users:

```
$ SELECT User FROM mysql.user;
```

- b. If the user does not exist, run the following command to create the new user :

```
$ CREATE USER IF NOT EXISTS '<OCSEPP User Name>'@'%' IDENTIFIED BY
'<OCSEPP Password>';
```

- c. Example:

```
$ CREATE USER IF NOT EXISTS 'seppusr'@'%' IDENTIFIED BY 'sepppasswd';
```

5. Check if OCSEPP database already exists. If it does not exist, run the following commands to create an OCSEPP database and provide permissions to OCSEPP username created in the previous step:

- a. Run the following command to check if database exists:

```
$ show databases;
```

- b. If database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <OCSEPP Database> CHARACTER SET utf8;
```

Example:

```
$ CREATE DATABASE IF NOT EXISTS seppdb CHARACTER SET utf8;
```

- c. If backup database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <OCSEPP Backup Database> CHARACTER SET utf8;
```

Example:

```
CREATE DATABASE IF NOT EXISTS seppbackupdb CHARACTER SET utf8;
```

6. a. Run the following command to grant permission to user:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <OCSEPP Database>.* TO '<OCSEPP User Name>'@'%';
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppdb.* TO 'seppusr'@'%';
```

- b. Run the following command to grant permission to user for backup db:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <OCSEPP backup Database>.* TO '<OCSEPP User Name>'@'%';
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppbackupdb.* TO 'sepp_usr'@'%';
```

7. Run the following command to grant the permission to NDB_STORED_USER:

```
GRANT NDB_STORED_USER ON *.* TO '<ocsepp_username>'@'%' WITH GRANT OPTION;
```

Example:

```
GRANT NDB_STORED_USER ON *.* TO 'seppusr'@'%' WITH GRANT OPTION;
```

8. Run the following command to update or alter the user name:

```
ALTER USER '<username>'@'%' IDENTIFIED WITH mysql_native_password BY  
'<password>';
```

2.2.1.5.2 Multisite

This section explains how database administrator can create the databases and users for a multisite deployment.

1. Log in to the machine where ssh keys are stored. The machine must have permission to access the SQL nodes of NDB cluster.
2. Connect to the ndbmysqld-0 pod of the primary NDB cluster.
3. Log in to the MySQL prompt using root permission or user, which has permission to create users with conditions as mentioned below:

Example:

```
mysql -h 127.0.0.1 -uroot -p
```

4. Check whether SEPP database user already exists. If the user does not exist, create an SEPP database user by running the following queries:

- a. Run the following command to list the users:

```
$ SELECT User FROM mysql.user;
```

- b. If the user does not exist, run the following command to create the new user :

```
$ CREATE USER IF NOT EXISTS '<SEPP User Name>'@'%' IDENTIFIED BY '<SEPP  
Password>';
```

- c. Example:

```
$ CREATE USER IF NOT EXISTS 'seppusr'@'%' IDENTIFIED BY 'seppasswd';
```

5. Check if SEPP database already exists. If it does not exist, run the following commands to create an SEPP database and provide permissions to SEPP username created in the previous step:

Note

Create database for each site. For SITE-2 or SITE-3, ensure that the database name is different from the previous site names.

- a. Run the following command to check if database exists:

```
$ show databases;
```

- b. If database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <SEPP Database> CHARACTER SET utf8;
```

Example:

```
$ CREATE DATABASE IF NOT EXISTS seppdb CHARACTER SET utf8;
```

- c. If backup database does not exist, run the following command for database creation:

```
$ CREATE DATABASE IF NOT EXISTS <SEPP Backup Database> CHARACTER SET utf8;
```

Example:

```
CREATE DATABASE IF NOT EXISTS seppbackupdb CHARACTER SET utf8;
```

6. a. Run the following command to grant permission to user:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <SEPP Database>.* TO '<SEPP User Name>'@'%' ;
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppdb.* TO 'seppusr'@'%' ;
```

- b. Run the following command to grant permission to user for backup db:

```
$ GRANT SELECT,INSERT,CREATE,ALTER,DROP,LOCK TABLES,CREATE TEMPORARY TABLES,DELETE,UPDATE,REFERENCES,EXECUTE ON <SEPP backup Database>.* TO '<SEPP User Name>'@'%' ;
```

Example:

```
GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, REFERENCES, EXECUTE ON seppbackupdb.* TO 'sepp_usr'@'%' ;
```

7. Run the following command to grant the permission to NDB_STORED_USER:

```
GRANT NDB_STORED_USER ON *.* TO '<SEPP_username>'@'%' WITH GRANT OPTION;
```

Example:

```
GRANT NDB_STORED_USER ON *.* TO 'seppusr'@'%' WITH GRANT OPTION;
```

8. Run the following command to update or alter the user name:

```
ALTER USER '<username>'@'%' IDENTIFIED WITH mysql_native_password BY  
'<password>';
```

2.2.1.6 Configuring Kubernetes Secrets for Accessing Database

This section explains how to configure Kubernetes secrets for accessing SEPP database.

1. Run the following command to create a Kubernetes secret for the users:

```
kubectl create secret generic <secret name> --from-  
literal=DB_USERNAME='<user name>' --from-literal=DB_PASSWORD='<user  
password>' --from-literal=DB_NAME=<DB Name> -n <sepp namespace>
```

Example:

```
kubectl create secret generic ocsepp-mysql-cred --from-literal=mysql-  
username='<USR_NAME>' --from-literal=mysql-password='<PWD>' --from-  
literal=dbName='<Db Name>' -n seppsvc
```

2.2.1.7 Configuring Kubernetes Secret for Enabling HTTPS

This section explains the steps to configure HTTPS at Ingress and Egress Gateways.

2.2.1.7.1 Configuring Secrets at PLMN SEPP Egress and Ingress Gateway

This section explains the steps to configure secrets for enabling HTTPS/HTTP over TLS in Public Land Mobile Network (PLMN) Ingress and Egress Gateways. This procedure must be performed before deploying SEPP.

Note

The passwords for TrustStore and KeyStore are stored in respective password files.

To create kubernetes secret for HTTPS/HTTP over TLS, the following files are required:

- ECDSA private key and CA signed certificate of SEPP, if initialAlgorithm is ES256
- RSA private key and CA signed certificate of SEPP, if initialAlgorithm is RS256
- TrustStore password file
- KeyStore password file
- Certificate chain for trust store
- Signed server certificate or Signed client certificate

Note

The creation process for private keys, certificates, and passwords are at the discretion of the user or operator.

1. Run the following command to create secret:

```
$ kubectl create secret generic < ocsepp-plmn-secret > --
fromfile=<ssl_ecdsa_private_key.pem> --from-
file=<rsa_private_key_pkcs1.pem> --fromfile=<ssl_truststore.txt> --from-
file=<ssl_keystore.txt> --from-file=<caroot.cer> --
fromfile=<ssl_rsa_certificate.crt> --from-file=<ssl_ecdsa_certificate.crt>
-n <Namespace of SEPP deployment>
```

Note

- Note down the command used during the creation of kubernetes secret, this command will be used for updates in future.
- It is recommended to use the same secret name as mentioned in the example. In case you change <ocsepp-plmn-secret>, then update the k8SecretName parameter under plmn-ingress-gateway and plmn-egress-gateway section in the ocsepp-custom-values-<version>.yaml file. For more information, see the [plmn-ingress-gateway](#) and [plmn-egress-gateway](#) section.
- For multiple CA root partners, the SEPP CA certificate should contain the CA information in the particular format. The CAs of the roaming partners should be concatenated in the single file separated by eight hyphens as given below:

```
CA1 content
-----
CA2 content
-----
CA3 content
```

Example:

```
$ kubectl create secret generic ocsepp-plmn-secret --
fromfile=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --
fromfile=ssl_truststore.txt --from-file=ssl_keystore.txt --from-
file=caroot.cer --fromfile=ssl_rsa_certificate.crt --from-
file=ssl_ecdsa_certificate.crt -n seppsvc
```

2. Run the following command to verify the secret:

```
$ kubectl describe secret <ocsepp-plmn-secret> -n <Namespace of SEPP
ocgress Gateway secret>
```

Example:

```
$ kubectl describe secret ocsepp-plmn-secret -n seppsvc
```

2.2.1.7.2 Configuring Secrets at N32 SEPP Egress and Ingress Gateway

This section explains the steps to configure secrets for enabling HTTP over TLS in N32 Ingress and Egress Gateways. This procedure must be performed before deploying SEPP.

Note

The passwords for TrustStore and KeyStore are stored in respective password files.

To create Kubernetes secret for HTTP over TLS, the following files are required:

- ECDSA private key and CA signed certificate of SEPP (if initialAlgorithm is ES256)
- RSA private key and CA signed certificate of SEPP (if initialAlgorithm is RSA256)
- TrustStore password file
- KeyStore password file
- CA certificate

Note

Creation process for private keys, certificates, and passwords is on discretion of user/operator.

1. Run the following command to create secret:

```
$ kubectl create secret generic < ocsepp-n32-secret > --  
fromfile=<ssl_ecdsa_private_key.pem> --from-  
file=<rsa_private_key_pkcs1.pem> --fromfile=<ssl_truststore.txt> --from-  
file=<ssl_keystore.txt> --from-file=<caroot.cer> --  
fromfile=<ssl_rsa_certificate.crt> --from-file=<ssl_ecdsa_certificate.crt>  
-n <Namespace of SEPP deployment>
```

Note

- Note down the command used during the creation of Kubernetes secret, this command will be used for updates in future.
- It is recommended to use the same secret name as mentioned in the example. In case you change <ocsepp-n32-secret>, then update the k8SecretName parameter under n32-ingress-gateway and n32-egress-gateway section in the ocsepp-custom-values-<version>.yaml file. For more information, see the [n32-ingress-gateway](#) and [n32-egress-gateway](#) section.

Example:

```
$ kubectl create secret generic ocsepp-n32-secret --  
fromfile=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --  
fromfile=ssl_truststore.txt --from-file=ssl_keystore.txt --from-  
file=caroot.cer --fromfile=ssl_rsa_certificate.crt --from-  
file=ssl_ecdsa_certificate.crt -n seppsvc
```


2. Run the following command to verify the secret:

```
$ kubectl describe secret <ocsepp-n32-secret> -n <Namespace of SEPP  
ocsepp Gateway secret>
```

Example:

```
$ kubectl describe secret ocsepp-n32-secret -n seppsvc
```

2.2.1.8 Configuring SEPP to Support Aspen Service Mesh

SEPP leverages Aspen Service Mesh (ASM) for all the internal and external TLS communication. The service mesh integration provides inter-NF communication and allows API gateway co-working with service mesh. The service mesh integration supports the services by deploying a special sidecar proxy in each pod to intercept all the network communication between microservices.

Supported ASM version: 1.14.6-am1

For ASM installation and configuration, refer to official Aspen Service Mesh website for details.

Aspen Service Mesh (ASM) configurations are categorized as follows:

- **Control Plane:** It involves adding labels or annotations to inject sidecar. The control plane configurations are part of the NF Helm chart.
- **Data Plane:** It helps in traffic management, such as handling NF call flows by adding Service Entries (SE), Destination Rules (DR), Envoy Filters (EF), and other resource changes such as apiVersion change between different versions. This configuration is done manually by considering each NF requirement and ASM deployment.

Data Plane Configuration

Data Plane configuration consists of following Custom Resource Definitions (CRDs):

- Service Entry (SE)
- Destination Rule (DR)

Note

Use Helm charts to add or remove CRDs that you may require due to ASM upgrades to configure features across different releases.

The data plane configuration is applicable in the following scenarios:

- **NF to NF Communication:** During NF to NF communication, where sidecar is injected on both the NFs, SE and DR must communicate with the corresponding SE and DR of the other NF. Otherwise, the sidecar rejects the communication. All egress communications of NFs must have a configured entry for SE and DR.

Note

Configure the core DNS with the producer NF endpoint to enable the sidecar access for establishing communication between cluster.

- **Kube-api-server:** For Kube-api-server, there are a few NFs that require access to the Kubernetes API server. The ASM proxy (mTLS enabled) may block this. As per F5 recommendation, the NF must add SE for the Kubernetes API server for its own namespace.

ASM Configuration File

A sample `ocsepp-servicemesh-config-custom-values-<version>.yaml` is available in `Custom_Templates` file. For downloading the file, see [Customizing SEPP](#).

① Note

To connect to vDBTier, create an SE and DR for MySQL connectivity service if the database is in different cluster. Else, the sidecar rejects request as vDBTier does not support sidecars.

2.2.1.8.1 Predeployment Configurations

This section explains the predeployment configuration procedure to install SEPP with ASM support.

Follow the procedure as mentioned below:

1. Creating SEPP namespace

- a. Run the following command to verify if the required namespace already exists in the system:

```
kubectl get namespaces
```

- b. In the output of the above command, check if required namespace is available. If not available, then create the namespace using the following command:

```
kubectl create namespace <namespace>
```

Where,

<Namespace> is the SEPP namespace.

Example:

```
kubectl create namespace seppsvc
```

ASM Resources Specific Changes

In the `ocsepp_servicemesh_config_custom_values_23.4.3.yaml` file, do the following changes:

1. Uncomment the `DestinationRule` section in the `ocsepp_servicemesh_config_custom_values_23.4.3.yaml` file.

Note

If the cnDBTier does not have istio sidecar injection, then create the destination rule. Else, skip this step.

DestinationRule section

```
apiVersion: networking.istio.io/v1alpha3
kind: DestinationRule
metadata:
  name: ocsepp-db-service-dr
  namespace: <ocsepp-namespace>
spec:
  exportTo:
    - "."
  host: <db-service-fqdn>.<db-namespace>.svc.<domain>
  trafficPolicy:
    tls:
      mode: DISABLE
```

2. Uncomment the service entry in pod networking, so that the pods can access Kubernetes

api- server:

kube-api-se

```
apiVersion: networking.istio.io/v1alpha3
kind: ServiceEntry
metadata:
  name: kube-api-server
  namespace: <ocsepp-namespace>
spec:
  hosts:
    - kubernetes.default.svc.<domain>
  exportTo:
    - "."
  addresses:
    - <10.96.0.1> # cluster IP of kubernetes api server
  location: MESH_INTERNAL
  ports:
    - number: 443
      name: https
      protocol: HTTPS
  resolution: NONE
```

3. Uncomment the PeerAuthentication section and update as following:

peerauth

```
apiVersion: security.istio.io/v1beta1
kind: PeerAuthentication
metadata:
  name: ocsepp-peerauthentication
  namespace: ocsepp-namespace
spec:
  selector:
```

```
matchLabels:
  app.kubernetes.io/part-of: ocsepp
mtls:
mode: STRICT
```

Note

After the successful deployment, you can change the PeerAuthentication mtl mode to STRICT from PERMISSIVE.

4. **Optional:** Uncomment the SE section below, if deploying OCSEPP in ASM mode (only for ATS):

```
apiVersion: networking.istio.io/v1beta1
kind: ServiceEntry
metadata:
  name: stub-serviceentry
  namespace: seppsvc
spec:
  exportTo:
  - '*'
  hosts:
  - '*.svc.cluster.local'
  - '*.3gppnetwork.org'
  location: MESH_INTERNAL
  ports:
  - name: http2
    number: 8080
    protocol: HTTP2
  resolution: NONE
```

5. **Optional:** The user can configure the resources assigned to the Aspen Mesh (istio-proxy) sidecars for all supported microservices in their respective sections:

```
istioResources:
  limits:
    cpu: 2
    memory: 1Gi
  requests:
    cpu: 100m
    memory: 128Mi
```

Note

It is preferable to use the default values of the resources.

6. Run the following command to install ASM specific resources in your namespace:

```
helm install -f ocsepp_servicemesh_config_custom_values_23.4.3.yaml
<release-name> ocsepp_servicemesh_config.tgz --namespace <ns>
```

Example:

```
helm install -f ocsepp_servicemesh_config_custom_values_23.4.3.yaml
ocsepp-servicemesh ocsepp_servicemesh_config.tgz --namespace seppsvc
```

SEPP Specific Changes

Note

These changes are not required if deploying only in ATS mode.

In the `ocsepp-custom-values-asm-23.4.3.yaml`, do the following changes:

1. In the N32 Egress Gateway section, add `sanValues: ["init.sepp.oracle.com"]`. This value should match with FQDN in the `ssl.conf` file, which is used for creating certificate for C-side.
2. In N32 Ingress Gateway section, change the parameters to the following values:

```
xfccHeaderValidation:
  validation:
    enabled: false
  extract:
    enabled: true
    certextractindex: 0
    extractfield: DNS
    extractindex: 0
```

This change is done to extract the SAN from DNS header which is received from N32 Egress Gateway.

3. In the PN32C-svc microservice, do the following changes for SAN header name, regex and delimiter:

```
sanHeaderName: "oc-xfcc-dns"
extractSANRegex: "(.*)"
extractSANDelimiter: " "
```

4. In the PN32F-svc microservice, do the following changes for SAN header name, regex and delimiter:

```
sanHeaderName: "oc-xfcc-dns"
extractSANRegex: "(.*)"
extractSANDelimiter: " "
```

2.2.1.8.2 Deploying SEPP with ASM

This section explains how to deploy SEPP using ASM.

1. Create namespace label for auto sidecar injection to automatically add the sidecars in all of the pods spawned in SEPP namespace:

```
kubectl label ns <ocsepp-namespace> istio-injection=enabled
```

Example:

```
kubectl label ns seppsvc istio-injection=enabled
```

2. To deploy and use SEPP with ASM, ensure to use `ocsepp-custom-values-asm.yaml` file while performing helm install or upgrade. The file must have all the necessary changes such as annotations required for deploying SEPP with ASM.

Note

Set `mediationEnable` flag to `false`, as mediation feature is not supported for ASM.

3. (Optional) If SEPP is deployed with OSO, the pods need to have an annotation `oracle.com/cnc: true`:

```
#####
# ***** Sub-Section Start: Custom Extension Global Parameters *****
#####

customExtension:
  allResources:
    labels: {}
    annotations: {}

  lbServices:
    labels: {}
    annotations: {}

  lbDeployments:
    labels: {}
    annotations: {}
    # The annotation oracle.com/cnc: "true" is required if OSO is used
    #oracle.com/cnc: '"true"'

  nonlbServices:
    labels: {}
    annotations: {}

  nonlbDeployments:
    labels: {}
    annotations: {}
    # The annotation oracle.com/cnc: "true" is required if OSO is used
    #oracle.com/cnc: '"true"'
```

2.2.1.8.3 Postdeployment Configuration

This section explains the postdeployment configurations.

Note

The following steps are not required if SEPP is deployed only in ATS mode.

1. Apply the following yaml on C-SEPP side:

```

apiVersion: networking.istio.io/v1beta1
kind: ServiceEntry
metadata:
  annotations:
    name: service-entry-csepp
    namespace: <namespace>

spec:
  #N32 IGW service IP of P-side
  addresses:
    - 10.233.12.232/32
  endpoints:
    - address: 10.233.12.232
  #Add the FQDN of P-side used in deployment
  hosts:
    - prod.sepp.inter.oracle.com
  location: MESH_INTERNAL
  ports:
    - name: http2
      number: 80 #N32 IGW port exposed
      protocol: HTTP2
  resolution: STATIC

```

2. Apply the following Virtual Service yaml on the P-SEPP side:

```

apiVersion: networking.istio.io/v1beta1
kind: VirtualService
metadata:
  name: n32-igw
  namespace: <namespace>
spec:
  hosts:
    #FQDN of P-side
    - prod.sepp.inter.oracle.com
  http:
    - match:
        - uri:
            prefix: /
        route:
          - destination:
              #Host of N32 IGW svc name at P-side and port number
              host: <release-name>-n32-ingress-gateway
              port:
                number: 80

```

3. OSO deployment

No additional steps are required. For more information on OSO deployment, see *Oracle Communications Operations Services Overlay Installation and Upgrade Guide*.

Note

If OSO is deployed in the same namespace as SEPP, make sure all deployments of OSO have the following annotations to skip sidecar injection as OSO currently does not support ASM sidecar proxy.

```
sidecar.istio.io/inject: "\"false\""
```

2.2.1.8.4 Deleting ASM

This section describes the steps to disable or delete the ASM.

To disable ASM, run the following command:

```
kubectl label --overwrite namespace seppsvc istio-injection=disabled
```

To verify if ASM is disabled, run the following command:

```
kubectl get se,dr,peerauthentication,envoyfilter,vs -n ocns
```

To delete ASM, run the following command:

```
helm delete <helm-release-name> -n <namespace>
```

Where,

- <helm-release-name> is the release name used by the helm command. This release name must be the same as the release name used for ServiceMesh.
- <namespace> is the deployment namespace used by Helm command.

For example:

```
helm delete ocsepp-servicemesh -n seppsvc
```

Note

The changes due to the disabling of ASM will be reflected only if SEPP is redeployed.

2.2.1.9 Configuring Network Policies

Kubernetes network policies allow you to define ingress or egress rules based on Kubernetes resources such as Pod, Namespace, IP, and Port. These rules are selected based on Kubernetes labels in the application. These network policies enforce access restrictions for all the applicable data flows except communication from Kubernetes node to pod for invoking container probe.

Note

Configuring network policies is an optional step. Based on the security requirements, network policies may or may not be configured.

For more information on network policies, see <https://kubernetes.io/docs/concepts/services-networking/network-policies/>.

Note

- If the traffic is blocked or unblocked between the pods even after applying network policies, check if any existing policy is impacting the same pod or set of pods that might alter the overall cumulative behavior.
- If changing default ports of services such as Prometheus, Database, Jaegar, or if Ingress or Egress Gateway names are overridden, update them in the corresponding network policies.

Configuring Network Policies

The following are the various operations that can be performed for network policies:

2.2.1.9.1 Installing Network Policies

Prerequisite

Network Policies are implemented by using the network plug-in. To use network policies, you must be using a networking solution which supports Network Policy.

Note

For a fresh installation, it is recommended to install Network Policies before installing SEPP. However, if SEPP is already installed, you can still install the Network Policies.

To install network policy:

1. Open the `ocsepp_network_policies_custom_values_23.4.3.yaml` file provided in the release package zip file. For downloading the file, see [Downloading SEPP Package](#), [Pushing the SEPP Images to Customer Docker Registry](#), and [Pushing the Roaming Hub or Hosted SEPP Images to Customer Docker Registry](#).
2. The file is provided with the default network policies. If required, update the `ocsepp_network_policies_custom_values_23.4.3.yaml` file. For more information on the parameters, see the Configuration Parameters for network policy parameter table.

Note

- To run ATS, uncomment the following policies from `ocsepp_network_policies_custom_values_23.4.3.yaml` file:
 - `allow-ingress-traffic-to-notification`
 - `allow-egress-ats`
 - `allow-ingress-ats`
- To connect with CNC Console, update the below parameter in the `allow-ingress-from-console` policy in the `ocsepp_network_policies_custom_values_23.4.3.yaml` file:
 - `kubernetes.io/metadata.name: <namespace in which CNCC is deployed>`
- In `allow-ingress-prometheus` policy, `kubernetes.io/metadata.name` parameter must contain the value for the namespace where Prometheus is deployed, and `app.kubernetes.io/name` parameter value should match the label from Prometheus pod.
- The following Network Policies require modification for ASM deployment. The required modifications are mentioned in the comments in `ocsepp_custom_values_network_policies.yaml` file. Update the policies as per the comments.
 - `allow-ingress-sbi-n32-igw`
 - `allow-ingress-sbi-plmn-igw`

3. Run the following command to install the network policies:

```
helm install <helm-release-name> <network-policy>/ -n <namespace> -f  
  <custom-value-file>
```

For Example:

```
helm install ocsepp-network-policy  
  ocsepp-network-policy-23.4.3/ -n seppsvc -f  
  ocsepp_network_policies_custom_values_23.4.3.yaml
```

Where,

- `helm-release-name`: `ocsepp-network-policy` helm release name.
- `custom-value-file`: `ocsepp-network-policy` custom value file.
- `namespace`: SEPP namespace.
- `network-policy`: location where the network-policy package is stored.

Note

- Connections that were created before installing network policy and still persist are not impacted by the new network policy. Only the new connections would be impacted.
- If you are using ATS suite along with network policies, it is required to install the SEPP and ATS in the same namespace.

2.2.1.9.2 Upgrading Network Policies

To add, delete, or update network policy:

1. Modify the `ocsepp_network_policies_custom_values_23.3.0.yaml` file to update, add, and delete the network policy.
2. Run the following command to upgrade the network policies:

```
helm upgrade <helm-release-name> <network-policy>/ -n <namespace> -f <custom-value-file>
```

For Example:

```
helm upgrade ocsepp-network-policy  
  ocsepp-network-policy-23.3.0/ -n seppsvc -f  
  ocsepp_network_policies_custom_values_23.3.0.yaml
```

Where,

- `helm-release-name`: `ocsepp-network-policy` Helm release name.
- `custom-value-file`: `ocsepp-network-policy` custom value file.
- `namespace`: SEPP namespace.
- `network-policy`: location where the network-policy package is stored

2.2.1.9.3 Verifying Network Policies

Run the following command to verify that the network policies have been applied successfully:

```
kubectl get <helm-release-name> -n <namespace>
```

For Example:

```
kubectl get seppsvc-network-policy -n seppsvc
```

Where,

- `helm-release-name`: `seppsvc-network-policy` Helm release name
- `namespace`: SEPP namespace

Sample output:

NAME	POD-	AGE
allow-egress-ats	app=sepp-ats-rel-	
bddclient		2m17s
allow-egress-database	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
allow-egress-dns	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
allow-egress-jaeger	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
allow-egress-k8-api	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
allow-egress-to-sepp-pods	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
allow-ingress-ats	app=sepp-ats-rel-	
bddclient		2m17s
allow-ingress-from-console	app.kubernetes.io/name=config-mgr-	
svc	2m17s	
allow-ingress-from-sepp-pods	app.kubernetes.io/part-	
of=ocsepp	2m17s	
allow-ingress-prometheus	app.kubernetes.io/part-	
of=ocsepp	2m17s	
allow-ingress-sbi-n32-igw	app.kubernetes.io/name=n32-ingress-	
gateway	2m17s	
allow-ingress-sbi-plmn-igw	app.kubernetes.io/name=plmn-ingress-	
gateway	2m17s	
deny-egress-all-except-egw	app.kubernetes.io/name notin (n32-egress-	
gateway,plmn-egress-gateway)	2m17s	
deny-ingress-all	app.kubernetes.io/part-	
of=ocsepp	2m17s	

2.2.1.9.4 Uninstalling Network Policies

1. Run the following command to uninstall the network policies:

```
helm uninstall <helm-release-name> -n<namespace>
```

For Example:

```
helm uninstall ocsepp-network-policy -n seppsvc
```

Note

While using the debug container, it is recommended to uninstall the network policies or update them as required to establish the connections.

2.2.1.9.5 Configuration Parameters for Network Policies

This section includes information about the supported Kubernetes resource and configuration parameters for configuring Network Policies.

Table 2-18 Supported Kubernetes Resource for Configuring Network Policies

Parameter	Description	Details
apiVersion	This is a mandatory parameter. Specifies the Kubernetes version for access control. Note: This is the supported API version for network policy. This is a read-only parameter.	DataType: String Default Value: networking.k8s.io/v1
kind	This is a mandatory parameter. Represents the kind of REST resource this object represents. Note: This is a read only parameter.	DataType: String Default Value: NetworkPolicy

Table 2-19 Configuration Parameters for Network Policies

Parameter	Description	Details
metadata.name	This is a mandatory parameter. Specifies a unique name for the network policy.	DataType: String Default Value: {{ .metadata.name }}
spec. {}	This is a mandatory parameter. This consists of all the information needed to define a particular network policy in the given namespace. Note: SEPP supports the spec parameters defined in Kubernetes Resource Category .	DataType: Object Default Value: NA

For more information about this functionality, see "Network Policies" in the *Cloud Native Core, Security Edge Protection Proxy User Guide*.

2.2.2 Installation Tasks

This section provides installation procedures to install Security Edge Protection Proxy (SEPP) using Command Line Interface (CLI). To install SEPP using CDCS, see *Oracle Communications Cloud Native Core, CD Control Server User Guide*.

Before installing SEPP, you must complete [Prerequisites](#) and [Preinstallation Tasks](#) for both the deployment methods.

2.2.2.1 Installing SEPP Package

To install the SEPP package:

1. Navigate to the Helm directory which is a part of Files directory of unzipped csar package. Run the following command:

```
cd Files/Helm
```

2. Run the following command to verify the SEPP Helm charts in the Helm directory:

```
ls
```

The output must be:

- ocsepp-23.4.3.tgz
 - ocsepp-network-policy-23.4.3.tgz
 - ocsepp-servicemesh-config-23.4.3.tgz
3. Customize the ocsepp_23.4.3.0.0.custom_values.yaml file with the required deployment parameters. See [Customizing SEPP](#) section to customize the file. For more information about predeployment parameter configurations, see [Predeployment Configuration tasks](#).
 4. Run the following command to install SEPP:

Note

The recommended <helm-release> value is ocsepp-release. If some other release name is to be configured while installing, see the [Deployment Configuration for Config-mgr-svc](#) section.

```
helm install <helm-release> ocsepp-23.4.3.tgz --namespace <k8s namespace> -f <path to ocsepp_customized_values.yaml>
```

Example:

```
helm install ocsepp-release ocsepp-23.4.3.tgz --namespace seppsvc -f ocsepp-custom-values-23.4.3.yaml
```

Note

- Ensure the following:
 - <helm-release> must not exceed 20 characters.
 - namespacename is the deployment namespace used by helm command.
 - custom-values.yaml-file name is the name of the custom values yaml file (including location).
- **Timeout duration:** Timeout duration is an optional parameter that can be used in the Helm install command. If it is not specified, the default value will be 5m (5 minutes) in Helm3. It sets the time to wait for any individual Kubernetes operation (like Jobs for hooks). The default value is 5ms. If the helm install command fails at any point to create a Kubernetes object, it will internally call the purge to delete after the timeout value (default: 300s). Here, timeout value is not for overall installation but automatic purge on installation failure.
- In Georedundant deployment, if you want to add or remove a site, refer to [Adding a Site to an Existing SEPP Georedundant Site](#) and [Removing a Site to from an Existing Georedundant Deployment](#).

 Caution

Do not exit from `helm install` command manually. After running the `helm install` command, it takes some time to install all the services. In the meantime, you must not press "ctrl+c" to come out from `helm install` command. It leads to some anomalous behavior.

2.2.2.2 Installing Roaming Hub or Hosted SEPP

This section describes how to install Roaming Hub or Hosted SEPP in the Cloud Native Environment.

 Note

This is applicable only for Roaming Hub or Hosted SEPP installation.

1. Navigate to the Helm directory which is a part of Files directory of unzipped csar package. Run the following command:

```
cd Files/Helm
```

2. Run the following command to verify the SEPP Helm charts in the Helm directory:

```
ls
```

The output must be:

- ocsepp-23.4.3.tgz
- ocsepp-network-policy-23.4.3.tgz
- ocsepp-servicemesh-config-23.4.3.tgz

3. Customize the `ocsepp_23.4.3.0.0.custom_values.yaml` file with the required deployment parameters. See [Customizing SEPP](#) section to customize the file. For more information about predeployment parameter configurations, see [Predeployment Configuration tasks](#).
4. Run the following command to install SEPP:

 Note

The recommended `<helm-release>` value is `ocsepp-release`. If some other release name is to be configured while installing, see the [Deployment Configuration for Config-mgr-svc](#) section.

```
helm install <helm-release> ocsepp-23.4.3.tgz --namespace <k8s namespace> -f <path to ocsepp-custom-values-Roaming-Hub-23.4.3.yaml>
```

Example:

```
helm install ocsepp-release ocsepp-23.4.3.tgz --namespace seppsvc -f  
ocsepp-custom-values-Roaming-Hub-23.4.3.yaml
```

Note

- Ensure the following:

<helm-release> must not exceed 20 characters.
namespace is the deployment namespace used by helm command.

custom-values.yaml-file name is the name of the custom values yaml file (including location).
- **Timeout duration:** Timeout duration is an optional parameter that can be used in the Helm install command. If it is not specified, the default value will be 5m (5 minutes) in Helm3. It sets the time to wait for any individual Kubernetes operation (like Jobs for hooks). The default value is 5ms. If the helm install command fails at any point to create a Kubernetes object, it will internally call the purge to delete after the timeout value (default: 300s). Here, timeout value is not for overall installation but automatic purge on installation failure.
- In Georedundant deployment, if you want to add or remove a site, refer to [Adding a Site to an Existing SEPP Georedundant Site](#) and [Removing a Site to from an Existing Georedundant Deployment](#).

Caution

Do not exit from helm install command manually. After running the helm install command, it takes some time to install all the services. In the meantime, you must not press "ctrl+c" to come out from helm install command. It leads to some anomalous behavior.

2.2.3 Postinstallation Tasks

This section explains the postinstallation tasks for SEPP.

2.2.3.1 Verifying Installation

To verify the installation:

1. To verify the deployment status, open a new terminal and run the following command:

```
$ watch kubectl get pods -n <k8s namespace>
```

The pod status gets updated at regular intervals.

2. Run the following command to verify the installation status:

```
helm status <helm-release> -n <namespace>
```

Example:

```
helm status ocsepp -n seppsvc
```

Where,

<release_name> is the Helm release name of SEPP.

In the output, if status is showing as deployed, then the deployment is successful.

3. Run the following command to check the status of the services:

```
kubectl -n <k8s namespace> get services
```

Example:

```
kubectl -n seppsvc get services
```

4. Run the following command to check the status of the pods:

```
$ kubectl get pods -n <namespace>
```

The value in the STATUS column of all the pods must be *Running*.

The value in the READY column of all the pods must be n/n, where n is the number of containers in the pod.

Example:

```
$ kubectl get pods -n seppsvc
```

NAME	READY	STATUS	RESTARTS	AGE
ocsepp-release-appinfo-55b8d4f687-wqtgj			1/1	
Running 0	141m			
ocsepp-release-cn32c-svc-64cd9c555c-ftd8z			1/1	
Running 0	113m			
ocsepp-release-cn32f-svc-dd886fbcc-xr2z8			1/1	
Running 0	4m4s			
ocsepp-release-config-mgr-svc-6c8ddf4c4f-lb4zj			1/1	
Running 0	141m			
ocsepp-release-n32-egress-gateway-5b575bbf5f-z5bbx			2/2	
Running 0	131m			
ocsepp-release-n32-ingress-gateway-76874c967b-btp46			2/2	
Running 0	131m			
ocsepp-release-ocpm-config-65978858dc-t4t5k			1/1	
Running 0	141m			
ocsepp-release-performance-67d76d9d58-llwmt			1/1	
Running 0	141m			
ocsepp-release-plmn-egress-gateway-6dc4759cc7-wn6r8			2/2	
Running 0	31m			

```

ocsepp-release-plmn-ingress-gateway-56c9b45658-hfcxx      2/2
Running 0 131m
ocsepp-release-pn32c-svc-57774fdc4-2qpvx                  1/1
Running 0 141m
ocsepp-release-pn32f-svc-586cd87c7b-pxk6m                 1/1
Running 0 3m47s
ocsepp-release-sepp-nrf-client-nfdiscovery-65747884cd-qblqn 1/1
Running 0 141m
ocsepp-release-sepp-nrf-client-nfmanagement-5dd6ff98d6-cr7s7 1/1
Running 0 141m
ocsepp-release-nf-mediation-74bd4dc799-d9ks2              1/1
Running 0 141m
ocsepp-release-coherence-svc-54f7987c4b-wv4h7            1/1
Running 0 141m

```

① Note

- Take a backup of the following files that are required during fault recovery:
 - Updated ocsepp-custom-values-23.3.0.yaml file
 - Updated Helm charts
 - Secrets, certificates, and keys that are used during installation
- If the installation is not successful or you do not see the status as Running for all the pods, perform the troubleshooting steps provided in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

2.2.3.2 Performing Helm Test

This section describes how to perform sanity check for SEPP installation through Helm test. The pods to be checked should be based on the namespace and label selector configured for the Helm test configurations.

Helm Test is a feature that validates successful installation of SEPP and determines if the NF is ready to take traffic.

This test also checks for all the PVCs to be in bound state under the Release namespace and label selector configured.

① Note

Helm Test can be performed only on Helm3.

Perform the following Helm test procedure:

1. Configure the Helm test configurations under the global parameters section of the values.yaml file as follows:

```

#helm test configuration
test:

```

```

imageRepository: cgbu-ocsepp-dev-docker.dockerhub-phx.oci.oraclecorp.com
nfName: ocsepp
image:
  name: nf_test
  tag: helm_sepp_test_tag
  pullPolicy: Always
config:
  logLevel: WARN
  # Configure timeout in SECONDS.
  # Estimated total time required for SEPP deployment and helm test
command completion
  timeout: 180
resources:
  requests:
    cpu: 1
    memory: 1Gi
    #ephemeral-storage: 70Mi
  limits:
    cpu: 1
    memory: 1Gi
    #ephemeral-storage: 1Gi
complianceEnable: true
k8resources:
  - horizontalpodautoscalers/v1
  - deployments/v1
  - configmaps/v1
  - prometheusrules/v1
  - serviceaccounts/v1
  - poddisruptionbudgets/v1
  - roles/v1
  - services/v1
  - rolebindings/v1

```

2. Run the following Helm test command:

```
helm test <release_name> -n <namespace>
```

Where,

<release_name> is the release name.

<namespace> is the deployment namespace where SEPP is installed.

Example:

```
helm test ocsepp -n seppsvc
```

Sample Output:

```

[admusr@cnejac0101-bastion-2 ocsepp-22.4.0-0]$ helm test ocsepp-release -
n seppsvc
NAME: ocsepp-release
LAST DEPLOYED: Fri Aug 19 04:56:36 2022
NAMESPACE: seppsvc
STATUS: deployed
REVISION: 1
TEST SUITE:      ocsepp-release

```

Last Started: Fri Aug 19 05:02:03 2022
Last Completed: Fri Aug 19 05:02:26 2022
Phase: Succeeded

If the Helm test fails, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

2.2.3.3 Taking the Back Up

Take a backup of the following files, which are required during fault recovery:

- Current custom-values.yaml file from which you are upgrading
- Updated ocsepp_custom_values_<version>.yaml file
- Updated Helm charts
- Secrets, certificates, and keys that are used during installation

3

Customizing SEPP

This chapter provides information about customizing SEPP deployment in a cloud native environment.

The SEPP deployment is customized by overriding the default values of various configurable parameters in the `ocsepp_custom_values_23.4.3.yaml` file.

Perform the following procedure to customize the `ocsepp_custom_values_23.4.3.yaml` file as per the required parameters:

1. Navigate to the Scripts directory under the unzipped csar package. For more information on how to download the package from MOS, see [Downloading SEPP package](#).
2. The following files are used to customize the deployment parameters during installation:
 - `ocsepp_custom_values_23.4.3.yaml`: This file is used to customize the deployment parameters during SEPP installation.
 - `ocsepp_custom_values_roaming_hub_23.4.3.yaml`: This file is used to customize the deployment parameters during Roaming Hub installation.
 - `ocsepp_custom_values_asm_23.4.3.yaml`: This file is used to customize the deployment parameters during ASM integration.
 - `seppMetricDashboard_promha.json`: This file is used by Grafana for CNE 1.9.0 and later or CNE with Prometheus Operator.
 - `seppMetricDashboard.json`: This file is used by Grafana.
 - `ocsepp_alerting_rules_promha.yaml`: This file is used for Prometheus for CNE 1.9.0 and later or CNE with Prometheus Operator.
 - `seppAlert.yaml`: This file is used for Prometheus.
 - `ocsepp_sepp_mib_tc_23.4.3.mib`: This is considered as SEPP top level MIB file, where the Objects and their data types are defined.
 - `ocsepp_sepp_mib_23.4.3.mib`: This file fetches the Objects from the top level MIB file and based on the Alert notification, these objects can be selected for display.
 - `toplevel.mib`: This file contains TEKELEC top level reg definitions.
3. Customize the `ocsepp_custom_values_23.4.3.yaml` file.
4. Save the updated `ocsepp_custom_values_23.4.3.yaml` file in the Helm chart directory.

3.1 Configurable Parameters

This section includes information about the configuration parameters of SEPP.

SEPP allows customization of parameters for the different microservices and related settings.

Note

Mandatory parameters must be configured before the SEPP deployment.

3.1.1 Global Parameters

This section includes information about the global parameters of the SEPP.

Note

The user can add multiple Load Balancer (LB) annotations under the global section in the following format:

```
global:
  customExtension:
    lbServices:
      annotations:
        oci.oraclecloud.com/load-balancer-type: "lb"
        oci-network-load-balancer.oraclecloud.com/internal: '"true"'
        oci-network-load-balancer.oraclecloud.com/security-list-
management-mode: "All"
```

All the services of type LoadBalancer gets these annotations. User can also add annotations specific to a service under NF microservice section. The annotation example given here is OCI specific. It must be customized as per the platform.

Table 3-1 Global Parameters

Parameter	Description	Details
dockerRegistry	This is a mandatory parameter. This is the name of the docker registry where SEPPs docker images are available.	Data Type: String Range: It may contain lowercase letters, digits, and separators. A separator is defined as a period, one or two underscores, or one or more dashes. Default Value: reg-1
dbCredSecretName	This is a mandatory parameter. This attribute specifies the name of the Kubernetes secret object containing database credentials.	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
nameSpace	This is a mandatory parameter. This attribute specifies the name of the deployed NF.	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
asm.serviceMeshCheck	To enable ASM for all services - change flag to true ASM setup: When serviceMeshCheck is enabled signature validation of certificate is skipped. There is no need to configure the certificate or the secret.	Data Type: Boolean Range: true false Default Value: false
asm.istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/quitquitquit
asm.istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/ready
mysql.primary.host	This is a mandatory parameter. This attribute specifies the IP address or hostname of the primary database connection service. SEPP connects to the primary database connection service. If the primary database connection service is unavailable, then SEPP connects to the secondary database connection service.	Data Type: String Range: NA Default Value: sepp-mysql-svc
mysql.primary.port	This is a mandatory parameter. This attribute specifies the port that is used while connecting to primary database connection service.	Data Type: Integer Range: NA Default Value: 3306
mysql.secondary.host	This is a mandatory parameter. This attribute specifies the IP address or hostname of the secondary database connection service. SEPP connects to the secondary database connection service only if the primary database connection service is unavailable. It again switches to the primary database connection service once it is available.	Data Type: String Range: NA Default Value: sepp-mysql-svc
mysql.secondary.port	This is a mandatory parameter. This attribute specifies the port that is used while connecting to secondary database connection service.	Data Type: Integer Range: NA Default Value: 3306

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
seppDbName	This is a mandatory parameter. It is the name of SEPP database.	Data Type: String Range: NA Default Value: seppdb
seppBackupDbName	This is a mandatory parameter. It is the name of SEPP Backup database. Defines backupdb name where backup will be created during upgrade	Data Type: String Range: NA Default Value: seppbackupdb
seppDbEngine	This is a mandatory parameter. It is the name of the DB Engine used by SEPP. It's possible values are NDBCLUSTER / INNODB	Data Type: String Range: NDBCLUSTER / INNODB Default Value: INNODB
nfTypeMsgCpy	This is an optional Parameter. Identifies a type of producer NF	Data Type: String Range: NA Default Value: SEPP
nfInstanceIdMsgCpy	This is an optional Parameter. Identifies a producer NF Instance	Data Type: String Range: NA Default Value: 9faf1bbc-6e4a-4454-a507-aef01a101a06
nfFqdn	This is a mandatory parameter. This is the NF FQDN for SEPP	Data Type: String Range: NA Default Value: sepp2.inter.oracle.com
hookJob.weight.subscription		Data Type: Integer Range: NA Default Value: 2
mediationService	This is a mandatory parameter. It is a Flag to enable/disable mediation microservice. If set to true, mediation microservice will be deployed otherwise it will not be deployed.	Data Type: Boolean Range: true or false Default Value: false
seppCoherenceServiceEnabled	This is a mandatory parameter. flag to enable/disable coherence service. If set to true, coherence microservice will be deployed otherwise it will not be deployed.	Data Type: Boolean Range: true or false Default Value: false
nrfClientHost	This parameter defines the service name of NRF Client NF discovery, which will send the, UDR Discovery request to NRF, to get the UDR Profile for CAT 3 - Previous Location Check Feature work	Data Type: String Range: NA Default Value: ocsepp-release-sepp-nrf-client-nfdiscovery

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
nrfClientPort	This parameter defines the port number of NRF Client NF discovery service which will send the, UDR Discovery request to NRF, to get the UDR Profile for CAT 3 - Previous Location Check Feature work	Data Type: Integer Range: NA Default Value: 5910
supiPattern	This parameter defines the regular expression to extract the SUPI range from UDR Profile to select the FQDN which stores the information for the UE's falling in SUPI Range.	Data Type: String Range: NA Default Value: (?<=imsi-)[0-9]{15}
test.imageRepository	This is a mandatory parameter. Name of the Repository	Data Type: String Range: NA Default Value: reg-1
test.nfName	This is a mandatory parameter. NF name on which the helm test is performed. For SEPP, the default value is SEPP and is used in container name as suffix	Data Type: String Range: NA Default Value: ocsepp
test.image.name	This is a mandatory parameter. Image name for the helm test container image.	Data Type: String Range: NA Default Value: nf_test
test.image.tag	This is a mandatory parameter. Image version tag for helm test. Image tag to be used for helm test container.	Data Type: String Range: NA Default Value: helm_udr_test_tag
test.image.pullpolicy	This is a mandatory parameter. Image pull policy.	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
test.config.logLevel	This is a mandatory parameter. Log level for helm test pod.	Data Type: String Range: WARN INFO DEBUG Default Value: WARN
test.config.timeout	This is a mandatory parameter. Option timeout is the total time required for deployment of OCSEPP and helm test to take place for checking the readiness probe of OCSEPP pods. If the timeout value exceeds, helm test is considered as failure.	Data Type: Integer Range: Min-0, Max:65535 Unit: seconds Unit: seconds Default Value: 180

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
test.complianceEnable	This is a mandatory parameter. This field performs compliance check for each Kubernetes resource and Indicates whether or not the Kubernetes logging feature is enabled.	Data Type: Boolean Range: True or False Default Value: True
test.k8resources	This is a mandatory parameter. Kubernetes resources for which the API version information needs to be fetched	Data Type: String Default Value: horizontalpodautoscalers/v1 • deployments/v1 • configmaps/v1 • prometheusrules/v1 • serviceaccounts/v1 • poddisruptionbudgets/v1 • roles/v1 • services/v1 • rolebindings/v1
nrfClientEnabled	This is a mandatory parameter. Whether nrf client services are required or not. If mode is nrfClientDisable/ Roaming-Hub then this value should be set to false	Data Type: Boolean Range: true or false Default Value: true
test.limits.memory	This is an optional parameter. Specifies the maximum memory allocated.	Data Type: String Default Value: 1Gi
podSecurityPolicy	This is a mandatory parameter. allows for default security policies to be set on the cluster	Data Type: String Range: DISABLED, ENABLED Default Value: DISABLED
extraContainers	This is a mandatory parameter. flag can be used to enable or disable injecting extra container	Data Type: String Range: DISABLED, ENABLED Default Value: DISABLED
debugToolContainerMemoryLimit	This is a mandatory parameter. Memory limit for debug tool container	Data Type: String Range: NA Default Value: 4Gi
extraContainersImageDetails.image	This is a mandatory parameter. Docker image name	Data Type: String Range: NA Default Value: ocdebugtool/ocdebug-tools
extraContainersImageDetails.tag	This is a mandatory parameter. Docker image tag	Data Type: String Range: NA Default Value: debug_container_tag

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
<code>extraContainersImageDetails.imagePullPolicy</code>	This is a mandatory parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
<code>extraContainersVolumesTpl.name</code>	This is a mandatory parameter Name of the volume for debug tool logs storage.	Data Type: String Range: NA Default Value: debug-tools-dir
<code>extraContainersVolumesTpl.emptyDir.medium</code>	This is a mandatory parameter Where emptyDir volume is stored	Data Type: String Range: Memory Default Value: Memory
<code>extraContainersVolumesTpl.emptyDir.sizeLimit</code>	This is a mandatory parameter emptyDir volume size	Data Type: String Default Value:
<code>extraContainersTpl.command</code>	This is a mandatory parameter String array used for container command.	Data Type: String Array Range: /bin/sleep infinity Default Value: /bin/sleep infinity
<code>extraContainersTpl.name</code>	This is a mandatory parameter Name of the container	Data Type: String Range: tools Default Value: tools
<code>extraContainersTpl.resources.requests.ephemeral-storage</code>	This is a mandatory parameter Limits describes the maximum amount of compute resources allowed Ephemeral Storage limits	Data Type: String Range: NA Default Value: 512 Mi
<code>extraContainersTpl.resources.requests.cpu</code>	This is a mandatory parameter CPU requests	Data Type: Integer Range: NA Default Value: 0.5
<code>extraContainersTpl.resources.requests.memory</code>	This is a mandatory parameter Memory requests	Data Type: String Range: NA Default Value:
<code>extraContainersTpl.resources.limits.ephemeral-storage</code>	This is a mandatory parameter Limits describes the maximum amount of compute resources allowed Ephemeral Storage limits	Data Type: String Range: NA Default Value: 512 Mi
<code>extraContainersTpl.resources.limits.cpu</code>	This is a mandatory parameter CPU requests	Data Type: Integer Range: NA Default Value: 1

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
<code>extraContainersTpl.resources.limits.memory</code>	This is a mandatory parameter Memory requests	Data Type: String Range: NA Default Value:
<code>extraContainersTpl.securityContext.allowPrivilegeEscalation</code>	This is a mandatory parameter AllowPrivilegeEscalation controls whether a process can gain more privileges than its parent process. This bool directly controls if the <code>no_new_privs</code> flag will be set on the container process	Data Type: Boolean Range: true or false Default Value: true
<code>extraContainersTpl.securityContext.capabilities.drop</code>	This is a mandatory parameter securityContext.capabilities-The capabilities to add/drop when running containers. Defaults to the default set of capabilities granted by the container runtime. Removed capabilities	Data Type: String Range: ALL Default Value: ALL
<code>extraContainersTpl.securityContext.capabilities.add</code>	This is a mandatory parameter securityContext.capabilities-The capabilities to add/drop when running containers. Defaults to the default set of capabilities granted by the container runtime. Added capabilities	Data Type: String Range: NET_RAW NET_ADMIN Default Value: NET_RAW NET_ADMIN
<code>extraContainersTpl.securityContext.runAsUser</code>	This is an mandatory parameter The UID to run the entrypoint of the container process.	Data Type: String Range: NA Default Value:
<code>extraContainersTpl.volumeMounts.mountPath</code>	This is an mandatory parameter For mounting the volume.	Data Type: String Range: NA Default Value: /tmp/tools
<code>extraContainersTpl.volumeMounts.name</code>	This is an mandatory parameter Name of the directory for debug tool logs storage	Data Type: String Range: NA Default Value: debug-tools-dir
<code>debugToolContainerMemoryLimit</code>	This is an optional parameter. Indicates the memory assigned for the debug tool container.	Data Type: String Default Value: 4Gi Range: NA
<code>extraContainersVolumesTpl</code>	This is an optional parameter. Specifies the extra container template for the debug tool volume.	Data Type: array Default Value: NA Range: NA
<code>extraContainersVolumesTpl.name</code>	This is an optional parameter. Indicates the name of the volume for debug tool logs storage.	Data Type: array Default Value: debug-tools-dir Range: NA

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
extraContainersVolumesTpl.emptyDir.medium	This is an optional parameter. Indicates the location where emptyDir volume is stored.	Data Type: array Default Value: Memory Range: NA
extraContainersVolumesTpl.emptyDir.sizeLimit	This is an optional parameter. Indicates the emptyDir volume size.	Data Type: array Default Value: Memory Range: NA
customExtension.allResources.labels	Custom Labels that needs to be added to all the OCSEPP k8s resources	Data Type: String Range: NA Default Value: null
customExtension.allResources.annotations	Custom Annotations that needs to be added to all the OCSEPP k8s resources	Data Type: String Range: NA Default Value: null
customExtension.lbServices.labels	This is an optional parameter. Custom Labels that needs to be added to OCSEPP Services that are considered as Load Balancer type.	Data Type: String Range: NA Default Value: null
customExtension.lbServices.annotations	This is an optional parameter. Custom Annotations that needs to be added to OCSEPP Services that are considered as Load Balancer type.	Data Type: String Range: NA Default Value: null
customExtension.lbDeployments.labels	This is an optional parameter. Custom Labels that needs to be added to OCSEPP Deployments that are associated to a Service which is of Load Balancer type.	Data Type: String Range: NA Default Value: null
customExtension.lbDeployments.annotations	This is an optional Parameter.If SEPP is integrated with OSO, use the following annotations: oracle.com/cnc : "true"	Data Type: String Range: NA Default Value: {}
customExtension.nonlbServices.labels	This is an optional parameter. Custom Labels that needs to be added to OCSEPP Services that are considered as not Load Balancer type.	Data Type: String Range: NA Default Value: null
customExtension.nonlbServices.annotations	This is an optional parameter. Custom Annotations that needs to be added to OCSEPP Services that are considered as not Load Balancer type.	Data Type: String Range: NA Default Value: null
customExtension.nonlbDeployments.labels	Custom Labels that needs to be added to OCSEPP Deployments that are associated to a Service which is not of Load Balancer type	Data Type: String Range: NA Default Value: null

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
customExtension.nonlbDeployments.annotations	This is an optional Parameter. If SEPP is integrated with OSO, use the following annotations: oracle.com/cnc: "true".	Data Type: StringRange: NA Default Value: {}
k8sResource.container.prefix	Value that will be prefixed to all the container names of OCUDR.	Data Type: String Range: NA Default Value: null
k8sResource.container.suffix	Value that will be suffixed to all the container names of OCUDR.	Data Type: String Range: NA Default Value: null
configMgrPort	This is a mandatory parameter. SEPP config manager port number	Data Type: Integer Range: NA Default Value: 9090
Local Profile		
localProfile.name	This is a mandatory parameter. SEPP Local Profile Name.	Data Type: String Range: NA Default Value: SEPP-1
localProfile.plmnIdList	This is a mandatory parameter. List of local PLMN IDs supported by this network List in the form of MCC and MNC.	Data Type: String Range count: Minimum 1 and maximum 30 PLMNs Default Value: [{"mcc": "332", "mnc": "221"}]
localProfile.sbiTargetApiRootSupported	This is a mandatory parameter. This parameter signifies whether 3gpp-sbi-target-api-root-header is supported by this SEPP or not.	Data Type: Boolean Range: True or False Default Value: True (for Oracle SEPP)
localProfile.n32cHandshakePlmnIdListValidationEnabled	This parameter is used to enable or disable PLMN ID List Validation in Exchange Capability Request/Response.	Data Type: Boolean Range: True or False Default Value: True (for Oracle SEPP)
localProfile.n32cHandshakePlmnIdListValidationType	This parameter indicate PLMN ID List Validation Type in Exchange Capability Request/Response.	Data Type: String Range: SUBSET/ STRICT Default Value: SUBSET
localProfile.n32cHandshakePlmnIdListSend	Indicates whether the list of PLMN IDs can be sent in the exchange capability request to Remote SEPP.	Data Type: Boolean Range: True or False Default Value: True for SEPP mode and False for Roaming hub mode.
localProfile.sanValidationRequired	This is an optional parameter. SAN validation is enabled for incoming capability-exchange handshake request or not.	Data Type: Boolean Range: True or False Default Value: True
localProfile.domain	This is a mandatory parameter. SEPP Local Domain.	Data Type: String Range: NA Default Value: svc.cluster.com

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
<code>localProfile.seppViaVersion</code>	This is a mandatory parameter. The version number of the SEPP local profile.	Data Type: String Range: NA Default Value: 2.0
<code>localProfile.viaHeaderSeppViaInterFqdn</code>	This is a mandatory parameter. This parameter is used to configure the inter FQDN for Network and will be used in via header N32F message to be sent to Remote SEPP.	Data Type: String Range: NA Default Value: 2.0 SEPP-sepp2.inter.oracle.com
<code>localProfile.viaHeaderSeppViaIntraFqdn</code>	This is a mandatory parameter. This parameter is used to configure the intra FQDN for Network and will be used in via header N32F message to be sent to NF in home network.	Data Type: String Range: NA Default Value: 2.0 SEPP-ocsepp-plmn-ingress-gateway.DEPLOYMENT_NAMESPACE
<code>localProfile.interPlmnFqdn</code>	This is a mandatory parameter. SEPP FQDN for Inter PLMN Access. This value should match with FQDN in ssl.conf file used for creating certificate.	Data Type: String Range: NA Default Value: sepp1.inter.oracle.com
<code>localProfile.intraPlmnFqdn</code>	This is a mandatory parameter. SEPP FQDN for Intra PLMN Access.	Data Type: String Range: NA Default Value: ocsepp-plmn-ingress-gateway.DEPLOYMENT_NAMESPACE
<code>localProfile.supportedSecurityCapabilityList</code>	This is a mandatory parameter. SEPP supported security capability (Only TLS is supported in this release).	Data Type: String Range: NA Default Value: TLS
<code>localProfile.apiPrefix</code>	This is an optional parameter. SEPP apiPrefix.	Data Type: String Range: NA Default Value: ""
<code>localProfile.retryInterval</code>	This is a mandatory parameter. SEPP Audit retry interval (For handshake Retry).	Data Type: Integer Range: NA Default Value: 300000 (In milli seconds)
<code>localProfile.maxRetry</code>	This is a mandatory parameter. SEPP Audit Max retry count (for handshake retry), Default is -1 means infinite.	Data Type: Integer Range: -1 means no limit on retry count. Mean infinite. Default Value: -1
<code>localProfile.nfInstanceId</code>	This is a mandatory parameter. SEPP NF Instance Id.	Data Type: String Range: NA Default Value: 9faf1bbc-6e4a-4454-a507-aef01a101a06

Table 3-1 (Cont.) Global Parameters

Parameter	Description	Details
enableOpenTelemetry	This is an optional parameter. For enabling the open Telemetry for all SEPP services.	Data Type: Boolean Range: True or False Default Value: False

3.1.2 cn32c-svc

This section includes information about the cn32c-svc parameters of the SEPP.

Table 3-2 cn32c-svc

Parameter	Description	Details
cn32c-svc.extraContainers	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBU G tool). # If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" Yaml chunk is defined # at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
cn32c-svc.image.repository	This is a mandatory parameter. Repo location of image.	Data Type: String Range: NA Default Value: reg-1
cn32c-svc.image.name	This is a mandatory parameter. Name of image.	Data Type: String Range: NA Default Value: ocsepp-cn32f-svc
cn32c-svc.image.tag	This is a mandatory parameter. Tag of image.	Data Type: String Range: NA Default Value: helm-tag
cn32c-svc.image.pullPolicy	This is a mandatory parameter. This setting indicates if the image needs to be pulled or not.	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
cn32c-svc.minReplicas	This is a mandatory parameter. Minimum Number of Replicas.	Data Type: Integer Range: NA Default Value: 2
cn32c-svc.maxReplicas	This is a mandatory parameter. Maximum num of replicas of pod.	Data Type: Integer Range: NA Default Value: 2
cn32c-svc.log.root	This is a mandatory parameter. Root log level.	Data Type: String Range: WARN, INFO, DEBUG , ERROR Default Value: ERROR

Table 3-2 (Cont.) cn32c-svc

Parameter	Description	Details
cn32c-svc.log.sepp	This is a mandatory parameter. Sepp sepecific log level.	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
cn32c-svc.resources.limit.cpu	This is a mandatory parameter. Resource Requirements(limit of cpu)	Data Type: Integer Range: NA Default Value: 2
cn32c-svc.resources.limit.memory	This is a mandatory parameter. Resource Requirements(limit of memory).	Data Type: Integer Range: NA Default Value: 2Gi
cn32c-svc.resources.requests.cpu	This is a mandatory parameter. Resource Requirements(requested cpu).	Data Type: Integer Range: NA Default Value: 2
cn32c-svc.resources.requests.memory	This is a mandatory parameter. Resource Requirements(requested memory).	Data Type: Integer Range: NA Default Value: 2Gi
cn32c-svc.resources.target.averageCpuUtil	This is a mandatory parameter. Resource Requirements(avg cpu utilisation).	Data Type: Integer Range: NA Default Value: 70
cn32c-svc.maxSurge	This is a mandatory parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: Integer Range: NA Default Value: 25%
cn32c-svc.maxUnavailable	This is a mandatory parameter. The number of pods that can be unavailable during an update	Data Type: Integer Range: NA Default Value: 0%
cn32c-svc.pdbMaxUnavailable	This is a mandatory parameter. PDB limits the number of Pods of a replicated application that are down simultaneously from voluntary disruptions.	Data Type: Integer Range: NA Default Value: 25%
cn32c-svc.bodyInTraceEnabled	This is an optional parameter. Enables openTelemetry trace for Body	Data Type: boolean Range: true or false Default Value: false
cn32c-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
cn32c-svc.openTelemetry.jaeger.httpExporter.port	This is an optional parameter. openTelemetry port	Data Type: Integer Range: NA Default Value: 4318
cn32c-svc.openTelemetry.jaeger.logSpans	This is an optional parameter. openTelemetry logspans	Data Type: boolean Range: true or false Default Value: false

Table 3-2 (Cont.) cn32c-svc

Parameter	Description	Details
cn32c-svc.openTelemetry.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5 (Note: it means 50%)
cn32c-svc.nameSpace	This is a mandatory parameter. This parameter is used for displaying namespace and corresponding service name from where the traces are generated.	Data Type: String Range: NA Default Value: Value will be deployment namespace as per custom-values.yaml file.
cn32c-svc.enableOpenTelemetry	This is an optional parameter. This parameter enables the openTelemetry.	Data Type: boolean Range: true or false Default Value: false
cn32c-svc.service.active.type	This is a mandatory parameter. It defines the type of service,	Data Type: String Range: ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: ClusterIP
cn32c-svc.service.active.svcPortHttp	This is a mandatory parameter. It defines the http port for cn32c service,	Data Type: Integer Range: NA Default Value: 8081
cn32c-svc.service.active.svcPortHttps	This is a mandatory parameter. It defines the https port for cn32c service,	Data Type: Integer Range: NA Default Value: 8082
cn32c-svc.service.active.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 8085
cn32c-svc.service.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to cn32c specific Service.	Data Type: String Range: NA Default Value: { }
service.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to cn32c specific Services.	Data Type: String Range: NA Default Value: { }
cn32c-svc.deployment.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to cn32c specific Deployment	Data Type: String Range: NA Default Value: { }
cn32c-svc.deployment.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to cn32c specific Deployment.	Data Type: String Range: NA Default Value: { }

Table 3-2 (Cont.) cn32c-svc

Parameter	Description	Details
cn32c-svc.resources.requests.ephemeralStorage	This is an optional parameter. Pods and containers can require ephemeral storage for their operation.	Data Type: String Range: depends on cluster resources Default Value: 70Mi
cn32c-svc.resources.limits.ephemeralStorage	This is an optional parameter. Pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: String Range: depends on cluster Resources Default Value: 1Gi

3.1.3 pn32c-svc

This section includes information about the pn32c-svc parameters of the SEPP.

Table 3-3 pn32c-svc

Parameter	Description	Details
pn32c-svc.extraContainers	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBU G tool). # If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" Yaml chunk is defined # at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range : DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
pn32c-svc.image.repository	This is a mandatory parameter.Repo location of image	Data Type: String Range : NA Default Value: reg-1
pn32c-svc.image.name	This is a mandatory parameter.Name of image	Data Type: String Range : NA Default Value: ocsepp-pn32c-svc
pn32c-svc.image.tag	This is a mandatory parameter.Tag of image	Data Type: String Range : NA Default Value: helm-tag
pn32c-svc.image.pullPolicy	This is a mandatory parameter.This setting indicates if the image needs to be pulled or not	Data Type: String Range : NA Default Value: Always
pn32c-svc.minReplicas	This is a mandatory parameter.Minimum Number of Replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range : NA Default Value: 2

Table 3-3 (Cont.) pn32c-svc

Parameter	Description	Details
pn32c-svc.maxReplicas	This is a mandatory parameter. Maximum num of replicas of pod to scale to maintain an average CPU utilisation	Data Type: Integer Range : NA Default Value: 2
pn32c-svc.maxSurge	This is a mandatory parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: Integer Range : NA Default Value: 25%
pn32c-svc.maxUnavailable	This is a mandatory parameter. The number of pods that can be unavailable during an update	Data Type: Integer Range : NA Default Value: 0%
pn32c-svc.pdbMaxUnavailable	This is a mandatory parameter. PDB limits the number of Pods of a replicated application that are down simultaneously from voluntary disruptions.	Data Type: Integer Range : NA Default Value: 25%
pn32c-svc.log.root	This is a mandatory parameter. Root log level	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
pn32c-svc.log.sepp	This is a mandatory parameter. Sepp specific log level	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
pn32c-svc.resources.limit.cpu	This is a mandatory parameter. Resource Requirements(limit of cpu)	Data Type: Integer Range : NA Default Value: 2
pn32c-svc.resources.limit.memory	This is a mandatory parameter. Resource Requirements(limit of memory)	Data Type: String Range : NA Default Value: 2Gi
pn32c-svc.resources.requests.cpu	This is a mandatory parameter. Resource Requirements(requested cpu)	Data Type: Integer Range : NA Default Value: 1
pn32c-svc.resources.requests.memory	This is a mandatory parameter. Resource Requirements(requested memory)	Data Type: String Range : NA Default Value: 1Gi
pn32c-svc.resources.target.averageCpuUtil	This is a mandatory parameter. Resource Requirements(avg cpu utilisation)	Data Type: Integer Range : NA Default Value: 50
pn32c-svc.service.active.type	This is a mandatory parameter. It defines the type of service	Data Type: String Range : ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: ClusterIP

Table 3-3 (Cont.) pn32c-svc

Parameter	Description	Details
pn32c-svc.service.active.svcPortHttp	This is a mandatory parameter. It defines the http port for pn32c service	Data Type: Integer Range : NA Default Value: 8083
pn32c-svc.service.active.svcPortHttps	This is a mandatory parameter. It defines the https port for pn32c service	Data Type: Integer Range : NA Default Value: 8084
pn32c-svc.service.active.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range : NA Default Value: 8085
pn32c-svc.configs.sanHeaderName	This is a mandatory parameter. Header name to use to pick SAN values at PN32F	Data Type: String Range : NA Default Value: x-custom-ingress-client-identity
pn32c-svc.configs.extractSANRegex	This is a mandatory parameter. Regex expression to use to extract SAN values at PN32F	Data Type: String Range : NA Default Value: SAN=(.*)\\s
pn32c-svc.configs.extractSANDelimiter	This is a mandatory parameter. Delimiter used for extracting SAN values at PN32F	Data Type: String Range : NA Default Value: ","
pn32c-svc.jaegerTracingEnabled	This is an optional parameter. Enable Jaeger trace	Data Type: boolean Range: true or false Default Value: false
pn32c-svc.bodyInTraceEnabled	This is an optional parameter. Enable Jaeger trace for Body	Data Type: boolean Range: true or false Default Value: false
pn32c-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
pn32c-svc.openTelemetry.jaeger.httpExporter.port	This is an optional parameter. openTelemetry port	Data Type: Integer Range: NA Default Value: 4318
pn32c-svc.openTelemetry.jaeger.logSpans	This is an optional parameter. openTelemetry logspans	Data Type: boolean Range: true or false Default Value: false
pn32c-svc.openTelemetry.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5 (Note: it means 50%)

Table 3-3 (Cont.) pn32c-svc

Parameter	Description	Details
pn32c-svc.namespace	This is a mandatory parameter. This parameter is used for displaying namespace and corresponding service name from where the traces are generated.	Data Type: String Range: NA Default Value: Value will be deployment namespace as per custom-values.yaml file.
pn32c-svc.enableOpenTelemetry	This is an optional parameter. This parameter enables the openTelemetry.	Data Type: boolean Range: true or false Default Value: false
pn32c-svc.service.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to pn32c specific Services	Data Type: String Range : NA Default Value:
pn32c-svc.service.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to pn32c specific Services	Data Type: String Range : NA Default Value:
pn32c-svc.deployment.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to pn32c specific Deployment	Data Type: String Range : NA Default Value:
pn32c-svc.deployment.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to pn32c specific Deployment	Data Type: String Range : NA Default Value:
pn32c-svc.resources.requests.ephemeralStorage	This is an optional parameter. pods and containers can require ephemeral storage for their operation.	Data Type: String Range: depends on cluster resources Default Value: 75Mi
pn32c-svc.resources.limits.ephemeralStorage	This is an optional parameter. Pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: String Range: depends on cluster Resources Default Value: 1Gi
dbCheckRefreshTimeout	This is a mandatory parameter. This value represents time interval that checks whether Database connectivity with Service is healthy or not.	Data Type: Integer Default Value: 30000ms

3.1.4 cn32f-svc

This section includes information about the cn32f-svc parameters of the SEPP.

Table 3-4 cn32f-svc

Parameter	Description	Details
cn32f-svc.extraContainers	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBU G tool). # If assigned with ENABLED or USE_GLOBAL_V ALUE, then ensure "extraContainers Tpl" Yaml chunk is defined # at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
cn32f-svc.image.repository	This is a mandatory parameter.Repo location of image	Data Type: String Range : NA Default Value: reg-1
cn32f-svc.image.name	This is a mandatory parameter.Name of image	Data Type: String Range : NA Default Value: ocsepp-cn32f-svc
cn32f-svc.image.tag	This is a mandatory parameter.Tag of image	Data Type: String Range : NA Default Value: helm-tag
cn32f-svc.image.pullPolicy	This is a mandatory parameter.This setting indicates if the image needs to be pulled or not	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
cn32f-svc.minReplicas	This is a mandatory parameter.Minimum Number of Replicas for cn32f service	Data Type: Integer Range : NA Default Value: 14
cn32f-svc.maxReplicas	This is a mandatory parameter.Maximum num of replicas for cn32f service	Data Type: Integer Range : NA Default Value: 14
cn32f-svc.log.root	This is a mandatory parameter.Root log level	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
cn32f-svc.log.sepp	This is a mandatory parameter.Sepp specific log level	Data Type: String Range: WARN, INFO, DEBUG,ERROR Default Value: ERROR
cn32f-svc.resources.limit.cpu	This is a mandatory parameter.Resource Requirements(limit of cpu)	Data Type: Integer Range : NA Default Value: 5
cn32f-svc.resources.limit.memory	This is a mandatory parameter.Resource Requirements(limit of memory)	Data Type: String Range : NA Default Value: 8Gi

Table 3-4 (Cont.) cn32f-svc

Parameter	Description	Details
cn32f-svc.resources.limit.ephemeralStorage	This is an optional parameter.Pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: String Range : NA Default Value: 1Gi
cn32f-svc.resources.requests.cpu	This is a mandatory parameter.Resource Requirements(requested cpu)	Data Type: Integer Range : NA Default Value: 5
cn32f-svc.resources.requests.memory	This is a mandatory parameter.Resource Requirements(requested memory)	Data Type: String Range : NA Default Value: 8Gi
cn32f-svc.resources.target.averageCpuUtil	This is a mandatory parameter.Resource Requirements(avg cpu utilisation)	Data Type: Integer Range : NA Default Value: 70
cn32f-svc.maxSurge	This is a mandatory parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: Integer Range : NA Default Value: 25%
cn32f-svc.maxUnavailable	This is a mandatory parameter. The number of pods that can be unavailable during an update	Data Type: Integer Range : NA Default Value: 0%
cn32f-svc.pdbMaxUnavailable	This is a mandatory parameter. PDB limits the number of Pods of a replicated application that are down simultaneously from voluntary disruptions.	Data Type: Integer Range : NA Default Value: 25%
cn32f-svc.service.active.type	This is a mandatory parameter. This is the service type of cn32f service	Data Type: String Range : ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: ClusterIP
cn32f-svc.service.active.svcPortHttp	This is a mandatory parameter. This is the http port number for cn32f service	Data Type: Integer Range : NA Default Value: 9090
cn32f-svc.service.active.svcPortHttps	This is a mandatory parameter. This is the https port number for cn32f service	Data Type: Integer Range : NA Default Value: 9091
cn32f-svc.service.active.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range : NA Default Value: 8085
cn32f-svc.service.customExtension.labels	This is an optional parameter. Indicates the Custom Labels that needs to be added to cn32f specific Service	Data Type: String Range : NA Default Value: { }

Table 3-4 (Cont.) cn32f-svc

Parameter	Description	Details
cn32f-svc.service.customExtension.annotations	This is an optional parameter. Indicates the Custom Annotations that needs to be added to cn32f specific Services	Data Type: String Range : NA Default Value: { }
cn32f-svc.deployment.customExtension.labels	This is an optional parameter. Indicates the Custom Labels that needs to be added to cn32f specific Service	Data Type: String Range : NA Default Value: { }
cn32f-svc.deployment.customExtension.annotations	This is an optional parameter. Indicates the Custom Annotations that needs to be added to cn32f specific Services	Data Type: String Range : NA Default Value: { }
cn32f-svc.hostedSepp.RequestRejectStatusCodeName	This is a mandatory parameter. Defines global error reason for Hosted SEPP	Data Type: Integer Range : 400, 403 and 406. 401 is not an allowed value Default Value: 400
cn32f-svc.hostedSepp.RequestRejectReasonName	This is a mandatory parameter. Defines global error reason for Hosted SEPP	Data Type: String Range : NA Default Value: Allowed Producer Remote SEPP Set routing failure
cn32f-svc.bodyInTraceEnabled	This is an optional parameter. Enable Jaeger trace for Body	Data Type: boolean Range: true or false Default Value: false
cn32f-svc.openTelemetry.jaeger.httpExporter.port	This is an optional parameter. openTelemetry port	Data Type: Integer Range: NA Default Value: 4318
cn32f-svc.openTelemetry.jaeger.logSpans	This is an optional parameter. openTelemetry logspans	Data Type: boolean Range: true or false Default Value: false
cn32f-svc.openTelemetry.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5 (Note: it means 50%)
cn32f-svc.namespace	This is a mandatory parameter. This parameter is used for displaying namespace and corresponding service name from where the traces are generated.	Data Type: String Range: NA Default Value: Value will be deployment namespace as per custom-values.yaml file.
cn32f-svc.enableOpenTelemetry	This is an optional parameter. This parameter enables the openTelemetry.	Data Type: boolean Range: true or false Default Value: false
cn32f-svc.openTracing.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage	Data Type: String Range : NA Default Value: 0.5 (Note: it means 50%)

Table 3-4 (Cont.) cn32f-svc

Parameter	Description	Details
cn32f-svc.configs.is3gppSbiTargetApiRootSchemeHttp	This is a mandatory parameter. It indicated the http scheme to be used in 3gpp-sbi-target-apiroot header. true indicates http and false indicates https	Data Type: Boolean Range: True or False Default Value: True (for Oracle SEPP)
cn32f-svc.configs.cacheRefreshTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database.	Data Type: Integer Range : NA Default Value:30,000 (ms)
cn32f-svc.configs.cacheRefreshInitTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database at Init time.	Data Type: Integer Range : NA Default Value:5000 (ms)
cn32f-svc.configs.securityCacheRefreshTimeout	This is a mandatory parameter. (If Security Countermeasure Feature is enabled) Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration.	Data Type: Integer Range : NA Default Value:30,000 (ms)
cn32f-svc.configs.securityCacheRefreshInitTimeout	This is a mandatory parameter. (If Security Countermeasure Feature is enabled) Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration at the Init time when Application comes up.	Data Type: Integer Range : NA Default Value:50,000 (ms)
cn32f-svc.topologyHiding.timerConfig.topologyhidingCacheRefreshTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration. This is a cache refresh value which triggers every time at a regular interval with a given configured value. This will keeps on making the cache data in sync with database.	Data Type: Integer Range : NA Default Value:30,000 (ms)

Table 3-4 (Cont.) cn32f-svc

Parameter	Description	Details
cn32f-svc.topologyHiding.timerConfig.topologyhidingCacheRefreshInitTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration at the Init time when Application comes up.	Data Type: Integer Range : NA Default Value:50,000 (ms)
cn32f-svc.topologyHiding.timerConfig.topologyhidingHistoryUpdateTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) This is the Time for the old entries to be removed from cache. Entries older than topologyhidingHistoryRefreshSeconds are purged. In case actual pseudo mapping is deleted, then we still support initial holding of the deleted values to support the messages in progress. This cache keeps on updating with given configured value.	Data Type: Integer Range : NA Default Value:30,000 (ms)
cn32f-svc.topologyHiding.timerConfig.topologyhidingHistoryRefreshSeconds	This is a mandatory parameter. (If Topology hiding Feature is enabled) This is the value which signifies how long the message should be used in cache once it get deleted from the actual to pseudo mapping.	Data Type: Integer Range : NA Default Value:60 (sec)
cn32f-svc.topologyHiding.config.topologyHidingStateCheck	This is a mandatory parameter. This is the value used like if request is unhiding some identifier and in response if we want to hide the identifier with the same value.	Data Type: String Range : NA Default Value:true
cn32f-svc.connectionTimeout	This is Jetty Client Settings. This is a mandatory parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	Data Type: Integer Range : NA Default Value:10,000 (ms)

Table 3-4 (Cont.) cn32f-svc

Parameter	Description	Details
cn32f-svc.dnsRefreshDelay	This is Jetty Client Settings. This is a mandatory parameter. This value represents the Time taken to refresh the DNS entries for a destination	Data Type: Integer Range : NA Default Value:10,000 (ms)
cn32f-svc.requestTimeout	This is Jetty Client Settings. This is a mandatory parameter. Request timeout is the maximum time that can be taken to process HTTP request after the connection is established. Sum of time to process request plus ConnectionTimeout and should always be greater than Connection Timeout.	Data Type: Integer Range : NA Default Value:10,000 (ms)
cn32f-svc.serverMaxConcurrentStreams	This is a mandatory parameter. Max Concurrent Stream sent by PN32F in HTTP2 Settings Frame	Data Type: Integer Range : NA Default Value: 100
cn32f-svc.serverInitialWindowSize	This is a mandatory parameter. Server Initial Window Size sent by PN32F in HTTP2 Settings Frame	Data Type: Integer Range : NA Default Value: 65534
cn32f-svc.mediation.mediationRequestTimeout	This is a conditional parameter. N32f service will wait for mediation service response for mediationRequestTimeout time before sending error message, if mediation service is unreachable	Data Type: Integer Range : NA Default Value: 900 (ms)
cn32f-svc.mediation.header.mediationRequestRejectStatusCodeHeaderName	This is a conditional parameter. The name of the header added in response that will depict that n32f service has to reject this request and value of this header indicates the error code to be returned.	Data Type: String Range : NA Default Value: ocsepp-reject-status
cn32f-svc.mediation.header.mediationRequestRejectReasonHeaderName	This is a conditional parameter. The name of the header added in response that will depict that n32f service has to reject this request and value of this header indicates the error reason/detail to be returned.	Data Type: String Range : NA Default Value: ocsepp-reject-reason

3.1.5 pn32f-svc

This section includes information about the pn32f-svc parameters of the SEPP.

Table 3-5 pn32f-svc

Parameter	Description	Details
pn32f-svc.extraContainers	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBUG tool). # If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" Yaml chunk is defined # at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
pn32f-svc.image.repository	This is a mandatory parameter.Repo location of image	Data Type: String Range: NA Default Value: reg-1
pn32f-svc.image.name	This is a mandatory parameter.Name of image	Data Type: String Range: NA Default Value: ocsepp-pn32f-svc
pn32f-svc.image.tag	This is a mandatory parameter.Tag of image	Data Type: String Range: NA Default Value: helm-tag
pn32f-svc.image.pullPolicy	This is a mandatory parameter.This setting indicates if the image needs to be pulled or not	Data Type: String Range: NA Default Value: Always
pn32f-svc.log.root	This is a mandatory parameter.Root log level	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
pn32f-svc.log.sepp	This is a mandatory parameter.Sepp specific log level	Data Type: String Range: WARN, INFO, DEBUG, ERROR Default Value: ERROR
pn32f-svc.minReplicas	This is a mandatory parameter.Minimum Number of Replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
pn32f-svc.maxReplicas	This is a mandatory parameter.Maximum num of replicas of pod to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
pn32f-svc.resources.limit.cpu	This is a mandatory parameter.Resource Requirements(limit of cpu)	Data Type: Integer Range: NA Default Value: 5
pn32f-svc.resources.limit.memory	This is a mandatory parameter.Resource Requirements(limit of memory)	Data Type: String Range: NA Default Value: 8Gi

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.resources.requests.cpu	This is a mandatory parameter.Resource Requirements(requested cpu)	Data Type: Integer Range: NA Default Value: 5
pn32f-svc.resources.requests.memory	This is a mandatory parameter.Resource Requirements(requested memory)	Data Type: String Range: NA Default Value: 8Gi
pn32f-svc.resources.target.averageCpuUtil	This is a mandatory parameter.Resource Requirements(avg cpu utilisation)	Data Type: Integer Range: NA Default Value: 70
pn32f-svc.maxSurge	This is a mandatory parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: Integer Range: NA Default Value: 25%
pn32f-svc.maxUnavailable	This is a mandatory parameter. The number of pods that can be unavailable during an update	Data Type: Integer Range: NA Default Value: 0%
pn32f-svc.pdbMaxUnavailable	This is a mandatory parameter. PDB limits the number of Pods of a replicated application that are down simultaneously from voluntary disruptions.	Data Type: Integer Range: NA Default Value: 25%
pn32f-svc.hostedSepp.RequestRejectStatusCodeName	This is a mandatory parameter. Defines global error code for Hosted SEPP	Data Type: Integer Range: 400, 403 and 406. 401 is not an allowed value Default Value: 400
pn32f-svc.hostedSepp.RequestRejectReasonName	This is a mandatory parameter. Defines global error reason for Hosted SEPP	Data Type: String Range: NA Default Value: Allowed Producer Remote SEPP Set routing failure
pn32f-svc.jaegerTracingEnabled	This is an optional parameter.To Enable Jaeger trace	Data Type: boolean Range: true or false Default Value: false
pn32f-svc.openTelemetry.jaeger.httpExporter.port	This is an optional parameter. openTelemetry port	Data Type: Integer Range: NA Default Value: 4318
pn32f-svc.openTelemetry.jaeger.logSpans	This is an optional parameter. openTelemetry logspans	Data Type: boolean Range: true or false Default Value: false
pn32f-svc.openTelemetry.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5 (Note: it means 50%)

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.namespace	This is a mandatory parameter. This parameter is used for displaying namespace and corresponding service name from where the traces are generated.	Data Type: String Range: NA Default Value: Value will be deployment namespace as per custom-values.yaml file.
pn32f-svc.enableOpenTelemetry	This is an optional parameter. This parameter enables the openTelemetry.	Data Type: boolean Range: true or false Default Value: false
pn32f-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
pn32f-svc.configs.is3gppSbiTargetApiRootSchemeHttp	This is a mandatory parameter. Indicates scheme to be used for egress SBI request 3gpp-Sbi-Target-apiRoot header in absence of 3gpp-Sbi-Target-apiRoot header in the ingress SBI request. This is applicable only when 3gpp-Sbi-Target-apiRoot is supported for egress SBI request. true indicates http and false indicates https	Data Type: Boolean Range: true or false Default Value:true
pn32f-svc.configs.cacheRefreshTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database.	Data Type: Integer Range: NA Default Value:30,000 (ms)
pn32f-svc.configs.cacheRefreshInitTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database at Init time.	Data Type: Integer Range: NA Default Value:5000 (ms)
pn32f-svc.configs.securityCacheRefreshTimeout	This is a mandatory parameter. (If Security Countermeasure Feature is enabled) Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration.	Data Type: Integer Range: NA Default Value:30,000 (ms)
pn32f-svc.configs.securityCacheRefreshInitTimeout	This is a mandatory parameter. (If Security Countermeasure Feature is enabled) Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration at the Init time when Application comes up.	Data Type: Integer Range: NA Default Value:50,000 (ms)

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.configs.evictSanHeaderCacheDelay	This is a mandatory parameter. This parameter defines the timer value after which San Header Cache gets cleared out and updated with new N32F Context (if added).	Data Type: Integer Range: NA Default Value:50,000 (ms) Note: In ATS setup, set the value as 100.
pn32f-svc.configs.nrfDiscoveryCacheRefreshTimeout	This is a mandatory parameter. This parameter defines the timer value when UDR Discovery request will be triggered if coherence map containing UDR Profile information is empty. After this timer expiry, UDR Discovery request will be initiated by NRF Client towards NRF.	Data Type: Integer Range: NA Default Value:30,000 (ms) Note: In ATS setup, set the value as 10.
pn32f-svc.configs.nrfDiscoveryCacheRefreshInitTimeout	This is a mandatory parameter. This parameter defines the timer value after which UDR Discovery request will be triggered at SEPP INIT Time. After this timer expiry, UDR Discovery request will be initiated by NRF Client towards NRF.	Data Type: Integer Range: NA Default Value:5,000 (ms)
pn32f-svc.configs.sanHeaderName	This is a mandatory parameter. Header name to use to pick SAN values at PN32F	Data Type: String Range: NA Default Value: x-custom-ingress-client-identity
pn32f-svc.configs.extractSANRegex	This is a mandatory parameter. Regex expression to use to extract SAN values at PN32F	Data Type: String Range: NA Default Value: SAN=(.*)\s
pn32f-svc.configs.extractSANDelimiter	This is a mandatory parameter. Delimiter used for extracting SAN values at PN32F	Data Type: String Range: NA Default Value: ","
pn32f-svc.topologyHiding.timerConfig.topologyhidingCacheRefreshTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration.	Data Type: Integer Range: NA Default Value:30,000 (ms)

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.topologyHiding.timerConfig.topologyhidingCacheRefreshInitTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration at the Init time when Application comes up.	Data Type: Integer Range: NA Default Value:50,000 (ms)
pn32f-svc.topologyHiding.timerConfig.topologyhidingHistoryUpdateTimeout	This is a mandatory parameter. (If Topology hiding Feature is enabled) This is the Time for the old entries to be removed from cache. Entries older than topologyhidingHistoryRefreshSeconds are purged.	Data Type: Integer Range: NA Default Value:30,000 (ms)
pn32f-svc.topologyHiding.timerConfig.topologyhidingHistoryRefreshSeconds	This is a mandatory parameter. (If Topology hiding Feature is enabled) This value represents the Time until old Topology Hiding feature entries are kept in cache.	Data Type: Integer Range: NA Default Value:60 (sec)
pn32f-svc.topologyHiding.config.topologyHidingStateCheck	This is a mandatory parameter. This is the value used like if request is unhiding some identifier and in response if we want to hide the identifier with the same value.	Data Type: Boolean Range: True or False Default Value: true
pn32f-svc.connectionTimeout	This is Jetty Client Settings. This is a mandatory parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	Data Type: Integer Range: NA Default Value: 60(ms)
pn32f-svc.dnsRefreshDelay	This is Jetty Client Settings. This is a mandatory parameter. This value represents the Time taken to refresh the DNS entries for a destination	Data Type: Integer Range: NA Default Value: 10,000 (ms)
pn32f-svc.requestTimeout	This is Jetty Client Settings. This is a mandatory parameter. This value represents the Time to wait for the response.	Data Type: Integer Range: NA Default Value: 600 (ms)

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.serverMaxConcurrentStreams	This is a mandatory parameter. Max Concurrent Stream sent by PN32F in HTTP2 Settings Frame	Data Type: Integer Range: NA Default Value: 100
pn32f-svc.serverInitialWindowSize	This is a mandatory parameter. Server Initial Window Size sent by PN32F in HTTP2 Settings Frame	Data Type: Integer Range: NA Default Value: 65534
pn32f-svc.mediation.mediationRequestTimeout	This is a conditional parameter. N32f service will wait for mediation service response for mediationRequestTimeout time before sending error message, if mediation service is unreachable	Data Type: Integer Range: NA Default Value: 900 (ms)
pn32f-svc.mediation.header.mediationRequestRejectStatusCodeHeaderName	This is a conditional parameter. The name of the header added in response that will depict that n32f service has to reject this request and value of this header indicates the error code to be returned.	Data Type: String Range: NA Default Value: ocsepp-reject-status
pn32f-svc.mediation.header.mediationRequestRejectReasonHeaderName	This is a conditional parameter. The name of the header added in response that will depict that n32f service has to reject this request and value of this header indicates the error reason/detail to be returned.	Data Type: String Range: NA Default Value: ocsepp-reject-reason
nrfconfiguration.service.type	This is an optional parameter. Kind of Service that will be used for this Deployment	Data Type: String Default Value:
pn32f-svc.service.active.type	This is a mandatory parameter. It defines the type of service	Data Type: String Range: ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: ClusterIP
pn32f-svc.service.active.svcPortHttp	This is a mandatory parameter. It defines the http port for pn32f service	Data Type: Integer Range: NA Default Value: 9090
pn32f-svc.service.active.svcPortHttps	This is a mandatory parameter. It defines the https port for pn32f service	Data Type: Integer Range: NA Default Value: 9091
pn32f-svc.service.active.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 8085

Table 3-5 (Cont.) pn32f-svc

Parameter	Description	Details
pn32f-svc.service.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to nrfconfiguration specific Service	Data Type: String Range: NA Default Value: { }
pn32f-svc.service.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to nrfconfiguration specific Services	Data Type: String Range: NA Default Value: { }
pn32f-svc.deployment.customExtension.labels	This is an optional parameter. Custom Labels that needs to be added to nrfconfiguration specific Deployment	Data Type: String Range: NA Default Value: { }
pn32f-svc.deployment.customExtension.annotations	This is an optional parameter. Custom Annotations that needs to be added to nrfconfiguration specific Deployment	Data Type: String Range: NA Default Value: { }
pn32f-svc.resources.requests.ephemeralStorage	This is an optional parameter. pods and containers can require ephemeral storage for their operation.	Data Type: String Range: depends on cluster resources Default Value: 70Mi
pn32f-svc.resources.limits.ephemeralStorage	This is an optional parameter. Pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: String Range: depends on cluster Resources Default Value: 1G

3.1.6 config-mgr-svc

This section includes information about the config-mgr-svc parameters of the SEPP.

Table 3-6 config-mgr-svc

Parameter	Description	Details
config-mgr-svc.extraContainers	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBU G tool). # If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" Yaml chunk is defined # at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
config-mgr-svc.image.repository	This is a mandatory parameter. Indicates the repo location of image	Data Type: String Range: NA Default Value: reg-1

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
config-mgr-svc.image.name	This is a mandatory parameter. Indicates the name of image	Data Type: String Range: NA Default Value: ocsepp-config-mgr-svc
config-mgr-svc.image.tag	This is a mandatory parameter. Indicates the tag of image	Data Type: String Range: NA Default Value: helm-tag
config-mgr-svc.image.pullPolicy	This is a mandatory parameter. This setting indicates if the image needs to be pulled or not	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
config-mgr-svc.service.loadBalancer.addressPool	This is a mandatory parameter. To request the assignment of public IP from a specific IP pool using metallb.universe.tf/address-pool annotation to config-mgr-svc.	Data Type: String Range: NA Default Value: signaling1
config-mgr-svc.log.root	This is a mandatory parameter. Indicates the Root log level	Data Type: String Range: DEBUG, INFO, WARN, ERROR Default Value: ERROR
config-mgr-svc.log.sepp	This is a mandatory parameter. Indicates the Sepp sepecific log level	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
config-mgr-svc.resources.limit.cpu	This is a mandatory parameter. Indicates the Requirements(limit of cpu)	Data Type: Integer Range: Valid Integer Default Value: 2
config-mgr-svc.resources.limit.memory	This is a mandatory parameter. Indicates the Resource Requirements(limit of memory)	Data Type: String Range: NA Default Value: 2Gi
config-mgr-svc.resources.limits.ephemeralStorage	This is an optional parameter.Pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: String Range: depends on cluster Resources Default Value: 1Gi
config-mgr-svc.resources.requests.ephemeralStorage	This is an optional parameter.pods and containers can require ephemeral storage for their operation.	Data Type: String Range: depends on cluster resources Default Value: 70Mi
config-mgr-svc.resources.requests.cpu	This is a mandatory parameter. Indicates the Resource Requirements(requested cpu)	Data Type: Integer Range: NA Default Value: 2

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
config-mgr-svc.resources.requests.memory	This is a mandatory parameter. Indicates the Resource Requirements(requested memory)	Data Type: String Range: NA Default Value: 2Gi
config-mgr-svc.service.customExtension.labels	This is an optional parameter. Indicates the Custom Labels that needs to be added to config-mgr-svc specific Service	Data Type: String Range: NA Default Value: NA
config-mgr-svc.service.customExtension.annotations	This is an optional parameter. Indicates the Custom Annotations that needs to be added to config-mgr-svc specific Services	Data Type: String Range: NA Default Value: NA
config-mgr-svc.deployment.customExtension.labels	This is an optional parameter. Indicates the Custom Labels that needs to be added to config-mgr-svc specific Deployment	Data Type: String Range: NA Default Value: NA
config-mgr-svc.deployment.customExtension.annotations	This is an optional parameter. Indicates the Custom Annotations that needs to be added to config-mgr-svc specific Deployment	Data Type: String Range: NA Default Value: NA
config-mgr-svc.startupProbe.initialDelaySeconds	This is a mandatory parameter. Tells the kubelet that it should wait second before performing the first probe	Data Type: Integer Range: NA Default Value: 30
config-mgr-svc.startupProbe.timeoutSeconds	This is a mandatory parameter. Number of seconds after which the probe times out	Data Type: Integer Range: NA Default Value: 3
config-mgr-svc.startupProbe.periodSeconds	This is a mandatory parameter. specifies that the kubelet should perform a readiness probe every xx seconds	Data Type: Integer Range: NA Default Value: 10
config-mgr-svc.startupProbe.successThreshold	This is a mandatory parameter. Minimum consecutive successes for the probe to be considered successful after having failed	Data Type: Integer Range: NA Default Value: 1
config-mgr-svc.startupProbe.failureThreshold	This is a mandatory parameter. When a Pod starts and the probe fails, Kubernetes will try failureThreshold times before giving up	Data Type: Integer Range: NA Default Value: 6
config-mgr-svc.readinessProbe.initialDelaySeconds	This is a mandatory parameter. Tells the kubelet that it should wait second before performing the first probe	Data Type: Integer Range: NA Default Value: 30

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
config-mgr-svc.readinessProbe.timeoutSeconds	This is a mandatory parameter. Number of seconds after which the probe times out	Data Type: Integer Range: NA Default Value: 3
config-mgr-svc.readinessProbe.periodSeconds	This is a mandatory parameter. specifies that the kubelet should perform a readiness probe every xx seconds	Data Type: Integer Range: NA Default Value: 10
config-mgr-svc.readinessProbe.successThreshold	This is a mandatory parameter. Minimum consecutive successes for the probe to be considered successful after having failed	Data Type: Integer Range: NA Default Value: 1
config-mgr-svc.readinessProbe.failureThreshold	This is a mandatory parameter. When a Pod starts and the probe fails, Kubernetes will try failureThreshold times before giving up	Data Type: Integer Range: NA Default Value: 3
config-mgr-svc.livenessProbe.initialDelaySeconds	This is a mandatory parameter. Tells the kubelet that it should wait second before performing the first probe	Data Type: Integer Range: NA Default Value: 180
config-mgr-svc.livenessProbe.timeoutSeconds	This is a mandatory parameter. Number of seconds after which the probe times out	Data Type: Integer Range: NA Default Value: 3
config-mgr-svc.livenessProbe.periodSeconds	This is a mandatory parameter. specifies that the kubelet should perform a liveness probe every xx seconds	Data Type: Integer Range: NA Default Value: 15
config-mgr-svc.livenessProbe.successThreshold	This is a mandatory parameter. Minimum consecutive successes for the probe to be considered successful after having failed	Data Type: Integer Range: NA Default Value: 1
config-mgr-svc.livenessProbe.failureThreshold	This is a mandatory parameter. When a Pod starts and the probe fails, Kubernetes will try failureThreshold times before giving up	Data Type: Integer Range: NA Default Value: 3
config-mgr-svc.maxPerRemotePlmnListSize	This is a mandatory parameter. This value defines the max number of PLMNs allowed per remote SEPP# Value of MaxAllowedPLMNs, can be increased upto 900 in nrfClientDisable/Roaming-Hub Mode	Data Type: Integer Range: NA Default Value: 30
config-mgr-svc.totalRemotePlmnListSize	This is a mandatory parameter. Value for total PLMNs that can be configured for the remote SEPPs on local SEPP	Data Type: Integer Range: NA Default Value: 900

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
config-mgr-svc.maxSurge	This is a mandatory parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: Integer Range: NA Default Value: 25%
config-mgr-svc.maxUnavailable	This is a mandatory parameter. The number of pods that can be unavailable during an update	Data Type: Integer Range: NA Default Value: 0%
config-mgr-svc.service.active.type	This is a mandatory parameter. It defines the type of service	Data Type: String Range: ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: NodePort
config-mgr-svc.service.active.svcPortHttp	This is a mandatory parameter. It defines the http port for config-mgr-svc service	Data Type: Integer Range: NA Default Value: 9090
config-mgr-svc.service.active.svcPortHttps	This is a mandatory parameter. It defines the https port for config-mgr-svc service	Data Type: Integer Range: NA Default Value: 9091
config-mgr-svc.service.active.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 8085
alternateRoute.orderId.rejectAll	This is a mandatory parameter for SBI routing to work on N32-egress-gateway Specifies the OrderId of RejectAll Route. RejectAll route will be selected when there is no matching N32f route	Data Type: Integer Default Value: 90
alternateRoute.orderId:n32c	This is a mandatory parameter for SBI routing to work on N32-egress-gateway Specifies the OrderId of N32c Route. N32c route will be used for all the capability-exchange message sent on N32C interface.	Data Type: Integer Default Value: 80
alternateRoute.path.format1	This is a mandatory parameter for SBI routing to work on N32-egress-gateway Specifies the API format of n32c capability-exchnage message	Data Type: String Default Value: /n32c-handshake/**
alternateRoute.path.format2	This is a mandatory parameter for SBI routing to work on N32-egress-gateway Specifies the API format of n32c capability-exchnage message	Data Type: String Default Value: /*/n32c-handshake/**

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[]</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. It is an array and contains the list of error criteria set. Error criteria's can be created on the basis of status or exceptions (not both). Only 2 criteria's are currently supported – <code>criteria_0</code> and <code>criteria_1</code>	Data Type: String Default Value: NA
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].Id</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. This defined the unique name of the criteria set	Data Type: String Default Value: <code>criteria_0</code> and <code>criteria_1</code>
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].method</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. The methods supported while doing sbi rerouting. The alternate routing takes place only for the response messages that share the defined methods present.	Data Type: String Range: GET, POST, PUT, DELETE, PATCH
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].Response.statuses.status</code>	This is an optional parameter. The error response status supported while doing sbi rerouting. The alternate routing takes place only for the response that matches the status code defined in this array list	Data Type: array of integer Range: [500,503,504], [400,404]
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].Response.statuses.statusSeries</code>	This is an optional parameter. This needs to be set along with status code. <code>statusSeries</code> will defined the HTTP error code series and status will define the specific HTTP error code status.	Data Type: string Range and Default value: "4xx", "5xx"
<code>alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].exceptions</code>	This is an optional parameter. Rerouting will happen either on the basis of status code or exception (any one). When exceptions are defined in <code>errorCriteriaSet</code> , re-Routing takes place only if the exception received in the error response matched with the configured exception.	Data Type: String Range: <code>java.util.concurrent.TimeoutException</code>, <code>java.net.SocketException</code>, <code>java.net.SocketTimeoutException</code>, <code>java.net.UnknownHostException</code>, <code>java.net.ConnectException</code>, <code>java.net.NoRouteToHostException</code>

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
<code>alternateRoute.sbiReRoute.exceptionPriority</code>	This is an optional parameter. 2 errorCriteriaSets are created – one with status code and other with exception. When an error response is received, which error criteria set will get the priority will be defined by this parameter. This parameter defines the priority of exception error criteria set.	Data Type: Integer Default Value: 1
<code>alternateRoute.sbiReRoute.responsePriority</code>	This is an optional parameter. 2 errorCriteriaSets are created – one with status code and other with exception. When an error response is received, which error criteria set will get the priority will be defined by this parameter. This parameter defines the priority of status response error criteria set.	Data Type: Integer Default Value: 2
<code>alternateRoute.sbiReRoute.sbiRoutingErrorActionSets[]</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. It is an array and contains the list of actions set. When an error criteria defined above matches with the response, what action would be taken, reroute/redirect/drop and their corresponding parameters.	Data Type: String Default Value: NA
<code>alternateRoute.sbiReRoute.sbiRoutingErrorActionSets[].Id</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. This defined the unique name of the error action set.	Data Type: String Default Value: action_0
<code>alternateRoute.sbiReRoute.sbiRoutingErrorActionSets[].action</code>	This is a mandatory parameter for SBI routing to work on N32-egress-gateway. This defined the action to be performed if the error criteria set matches with the response received.	Data Type: String Default Value: reroute (rerouting to secondary/tertiary)
<code>alternateRoute.sbiReRoute.sbiRoutingErrorActionSets[].Attempts</code>	This is an optional parameter. The routing takes place based on the retries count set here. Example: if retry count is 1, then EGW will try to route towards secondary SEPP only (and not tertiary), if routing to primary SEPP fails.	Data Type: Integer Default Value: 0 Note: To enable alternate routing feature, change this parameter value to 2. This allows switching from primary to secondary to tertiary Remote SEPPs

Table 3-6 (Cont.) config-mgr-svc

Parameter	Description	Details
alternateRoute.sbiReRoute.sbiRoutingErrorCriteriaSets[].headersMatchingScript	This is an optional parameter. To enable server and Via Header handling, headersMatchingScript is added under the response entity within sbiRoutingErrorCriteriaSets. This headersMatchingScript configuration will get satisfied, if the response contains server or via header and the content of the header matches the regex configured. A comma separated String values, with the following format: 1st token: headerCheck (Hard coded values). 2nd to n-1 token: Header names which has to be validated. nth token: regex expression for header validation. Note: The final result would be an aggregated OR of the individual header checks."headerCheck, server, via, .*(SEPP UDR)." Note: Not Currently used.	Data Type: String Default Value: ""

Note

The following parameters are configured in SEPP config-mgr-svc/values.yaml file.

Table 3-7 config-mgr-svc

Parameter	Description	Details
sorReRoute.sbiRoutingErrorCriteriaSets[].Id	This is a mandatory parameter for SOR re-routing to work on PLMN-egress-gateway. This defined the unique name of the criteria set	Data Type: String Default Value: criteria_0 and criteria_1
sorReRoute.sbiRoutingErrorCriteriaSets[].method	This is a mandatory parameter for SOR re-routing to work on PLMN-egress-gateway. The methods supported while doing SOR rerouting. The alternate routing takes place only for the response messages that share the defined methods present.	Data Type: String Range: GET, POST, PUT, DELETE, PATCH

Table 3-7 (Cont.) config-mgr-svc

Parameter	Description	Details
<code>sorReRoute.sbiRoutingErrorCriteriaSets[].Response.statuses.status</code>	This is an optional parameter. The error response status supported while doing SOR rerouting. The alternate routing takes place only for the response that matches the status code defined in this array list	Data Type: array of integer Range: [500,503,504]
<code>sorReRoute.sbiRoutingErrorCriteriaSets[].Response.statuses.statusSeries</code>	This is an optional parameter. This needs to be set along with status code. statusSeries will define the HTTP error code series and status will define the specific HTTP error code status.	Data Type: string Default value: "5xx"
<code>sorReRoute.sbiRoutingErrorCriteriaSets[].exceptions</code>	This is an optional parameter. Rerouting will happen either on the basis of status code or exception (any one). When exceptions are defined in errorCriteriaSet, re-Routing takes place only if the exception received in the error response matched with the configured exception.	Data Type: String Range: • <code>java.util.concurrent.TimeoutException</code>, • <code>java.net.SocketException</code>, • <code>java.net.SocketTimeoutException</code>, • <code>java.net.UnknownHostException</code>, • <code>java.net.NoRouteToHostException</code>, • <code>java.net.ConnectException</code>
<code>sorReRoute.sbiRoutingErrorCriteriaSets[].headersMatchingScript</code>	This is an optional parameter. Blacklisting of a destination will happen if the server header value received in error response matches the string criteria defined in this field.	Data Type: String Default Value: "headerCheck,server,via,.*(SEPP SOR).*"
<code>sorReRoute.exceptionPriority</code>	This is an optional parameter. 2 errorCriteriaSets are created – one with status code and other with exception. When an error response is received, which error criteria set will get the priority will be defined by this parameter. This parameter defines the priority of exception error criteria set.	Data Type: Integer Default Value: 2
<code>sorReRoute.responsePriority</code>	This is an optional parameter. 2 errorCriteriaSets are created – one with status code and other with exception. When an error response is received, which error criteria set will get the priority will be defined by this parameter. This parameter defines the priority of status response error criteria set.	Data Type: Integer Default Value: 1

Table 3-7 (Cont.) config-mgr-svc

Parameter	Description	Details
<code>sorReRoute.sbiRoutingErrorActionSets[]</code>	This is a mandatory parameter for SOR re-routing to work on PLMN-egress-gateway. It is an array and contains the list of actions set. When an error criteria defined above matches with the response, what action would be taken – reroute/redirect/drop and their corresponding parameters.	Data Type: String Default Value: NA
<code>sorReRoute.sbiRoutingErrorActionSets[].Id</code>	This is a mandatory parameter for SOR re-routing to work on PLMN-egress-gateway. This defines the unique name of the error action set.	Data Type: String Default Value: action_0
<code>sorReRoute.sbiRoutingErrorActionSets[].action</code>	This is a mandatory parameter. SOR re-routing to work on PLMN-egress-gateway. This defines the action to be performed if the error criteria set matches with the response received.	Data Type: String Default Value: reroute (rerouting to secondary/tertiary)
<code>sorReRoute.sbiRoutingErrorActionSets[].Attempts</code>	This is an optional parameter. The routing takes place based on the retries count set here. Example: if retry count is 1, then EGW will try to route towards secondary SEPP only (and not tertiary), if routing to primary SEPP fails.	Data Type: Integer Default Value: 2
<code>sorReRoute.sbiRoutingErrorActionSets[].blacklist</code>	This is an optional parameter. This defines whether the destination should be blacklisted for some amount of time	Data Type: String Default Value: NA
<code>sorReRoute.sbiRoutingErrorActionSets[].blacklist.enabled</code>	This is an optional parameter. If it is enabled, the blacklist functionality will work if the server header values match with the error response received	Data Type: boolean Default Value: false
<code>sorReRoute.sbiRoutingErrorActionSets[].blacklist.duration</code>	This is an optional parameter. This defines the duration for which a destination is blacklisted. Time in MS	Data Type: Integer Default Value: 60000

3.1.7 n32-ingress-gateway

This section includes information about the n32-ingress-gateway parameters of the SEPP.

Table 3-8 n32-ingress-gateway

Name	Description	Details
cmName	This is an optional parameter. To enable the span	Data Type: String Range: NA Default Value: ingressgateway
serviceMeshCheck	This is a mandatory parameter. when enabled, OAuth signature validation is disabled ASM setup: When serviceMeshCheck is enabled signature validation of certificate is skipped. There is no need to configure the certificate or the secret.	Data Type: Boolean Range: true or false Default Value: false
istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/quitquitquit Note: Port should be envoy admin port.
istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/ready Note: Port should be envoy admin port.
ingressServer.keepAlive.enabled	This is a Optional parameter. If enabled netty server will send keep alive message for each connection	Data Type: Boolean Range: true or false Default Value: false
ingressServer.keepAlive.idleTime	This is a Optional parameter. Time after which keep alive will be tried after successful response from the peer	Data Type: Integer Range: NA Default Value: 180 #(Second)
ingressServer.keepAlive.count	This is a Optional parameter. No of times it should retry if there is no response for keep alive	Data Type: Integer Range: NA Default Value: 9
ingressServer.keepAlive.interval	This is an Optional parameter. The interval after which it should retry in case of failure	Data Type: Integer Range: NA Default Value: 60 #(Second)
serverHeaderConfigMode	This is a mandatory parameter. Possible values: HELM, REST. Based on this value, the feature flag for "server" header will need to be enabled either in Helm configuration or Rest configuration.	Data Type: ENUM Range: NA Default Value: HELM

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>serverHeaderDetails.enabled</code>	This is a mandatory parameter. All attributes under "serverHeaderDetails" will need to be configured only if "serverHeaderConfigMode" is set as "HELM" If enabled at Global level, Global configuration will be used by default if no configuration exists at Route level.	Data Type: Boolean Range: HELM or REST Default Value: false
<code>serverHeaderDetails.errorCodeSeriesId</code>	This is a mandatory parameter if not defined at Route level. By default used for Global level configuration. Value need to be one among "errorCodeSeriesList" resource defined below.	Data Type: String Range: NA Default Value: E1
<code>serverHeaderDetails.configuration.nfType</code>	This is a mandatory parameter. This value is common across Global and Route level configuration. If not defined, server header will not be included in response.	Data Type: String Range: NA Default Value: SEPP
<code>serverHeaderDetails.configuration.nfInstanceId</code>	This is an Optional parameter. This value is common across Global and Route level configuration. If not defined, only "nfType" will be used for server header value.	Data Type: String Range: NA Default Value: 9faf1bbc-6e4a-4454-a507-aef01a101a06
<code>errorCodeSeriesList[0].id</code>	This is an Optional parameter. it is used for assigning "errorCodeSeriesId" either at Global or Route level configuration for Server header.	Data Type: String Range: NA Default Value: E1
<code>errorCodeSeriesList[0].errorCodeSeries[0].errorSet</code>	This is a mandatory parameter. Possible values for "errorSet" attribute: 5xx, 4xx, 3xx, 2xx, 1xx	Data Type: String Range: NA Default Value: 4xx
<code>errorCodeSeriesList[0].errorCodeSeries[0].errorCodes</code>	This is a mandatory parameter. Possible values include all error codes in the respective HttpSeries(Ex: 4xx) value assigned for "errorSet". Use single value of -1 if all error codes are to be considered.	Data Type: String Range: NA Default Value: 400, 408, 404, 429
<code>errorCodeSeriesList[0].errorCodeSeries[1].errorSet</code>	This is a mandatory parameter. Possible values for "errorSet" attribute: 5xx, 4xx, 3xx, 2xx, 1xx	Data Type: String Range: NA Default Value: 5xx

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>errorCodeSeriesList[0].errorCodeSeries[1].errorCodes</code>	This is a mandatory parameter. Possible values include all error codes in the respective <code>HttpSeries</code> (Ex: 4xx) value assigned for "errorSet". Use single value of -1 if all error codes are to be considered.	Data Type: String Range: NA Default Value: 500, 503, 504
<code>routesConfig[0].id</code>	This is a mandatory parameter. It represents the id of the route.	Data Type: String Range: NA Default Value: n32f
<code>routesConfig[0].uri</code>	This is a mandatory parameter. Service name of the internal microservice of this NF	Data Type: String Range: NA Default Value: <code>http://{ .Release.Name }-pn32f-svc:9090/</code>
<code>routesConfig[0].path</code>	This is a mandatory parameter. Provide the path to be matched.	Data Type: String Range: NA Default Value: <code>/**</code>
<code>routesConfig[0].order</code>	This is a mandatory parameter. Provide the order of the execution of this route.	Data Type: Integer Range: NA Default Value: 3
<code>routesConfig[0].metadata.requestTimeout</code>	This is a Optional parameter. <code>requestTimeout</code> is used to set timeout at route level. Value should be in milliseconds.	Data Type: Integer Range: NA Default Value: 700
<code>routesConfig[0].metadata.requiredTime</code>	This is a Optional parameter. <code>requiredTime</code> is minimum time below which request will be rejected if <code>isSbiTimerEnabled</code> is true. Value should be in milliseconds	Data Type: Integer Range: NA Default Value: 3000
<code>routesConfig[0].metadata.xfccHeaderValidation.validationEnabled</code>	This is a Optional parameter. This is used to provide an option to enable/not enable route level <code>xfccHeaderValidation</code> . It overrides global configuration for <code>xfccHeaderValidation.enabled</code>	Data Type: Boolean Range: true or false Default Value: false

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>routesConfig[0].metadata.oauthValidator.enabled</code>	This is a mandatory parameter. OAuth can be disabled at route level if needed. Global OAuth level should be enabled if route level options need to take effect. OAuth Validator uses OAuthTokenValid interface to check the validity of access token received from service consumer. It returns true if access token is valid or false if access token is invalid.	Data Type: Boolean Range: true or false Default Value: false
<code>routesConfig[0].metadata.svcName</code>	This is a Optional parameter. The following parameter is configurable per route in route-metadata is used to track Overload Control data. If this parameter is not configured in route metadata then svc name from routesConfig.uri field is used as the required key to track Overload Control data. The value of "svcName" attribute denotes the back-end service tag to be used as the required key (configurable per route) to track Overload Control data instead of using back-end service name from routesConfig[0].uri as the required key.	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.addRequestHeader[0].name</code>	This is a Optional parameter. This field is used for adding a request header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.addRequestHeader[0].value</code>	This is an Optional parameter. value of the header to be added	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.invalidRouteFilter.errorCodeOnInvalidRoute</code>	This is a mandatory parameter, (if invalidRouteFilter is required) If invalidRouteFilter filter is configured, then keep the 'order' value highest compared to other routes. Comment the parameters related to invalidRouteFilter if configurable error code is not required for invalid route. Configurable error code for invalid route.	Data Type: String Range: NA Default Value:

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>routesConfig[0].filters.invalidRouteFilter.errorCauseOnInvalidRoute</code>	This is a mandatory parameter, (if <code>invalidRouteFilter</code> is required) Error cause for invalid route	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.invalidRouteFilter.errorTitleOnInvalidRoute</code>	This is a mandatory parameter, (if <code>invalidRouteFilter</code> is required) Error cause for invalid route	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.invalidRouteFilter.errorDescriptionOnInvalidRoute</code>	This is a mandatory parameter, (if <code>invalidRouteFilter</code> is required) Error cause for invalid route	Data Type: String Range: NA Default Value:
<code>routesConfig[0].removeRequestHeader[0].name</code>	This is a Optional parameter. This field is used for blacklisting(removing) a request header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: Range: NA Default Value: forwarded x-http2-scheme
<code>routesConfig[0].removeResponseHeader[0].name</code>	This is a Optional parameter. Below field is used for blacklisting(removing) a response header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: Range: NA Default Value: nettylatency requestmethod
<code>extraContainers</code>	This is a mandatory parameter. Use 'extraContainers' attribute to control the usage of extra container(DEBUG tool). Allowed Values: DISABLED, ENABLED, USE_GLOBAL_VALUE If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" Yaml chunk is defined at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>prefix</code>	This is a mandatory parameter. Support for multiple egress instances. When set to some value then that value will be used in the names of resources along with release name so that there will not be any clash between the instances. When the value of this flag is set to "" then the resources are prepended with release name only.	Data Type: String Range: NA Default Value: 'n32'

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
global.k8sResources.hpa.supportedVersions	Kubernetes resource	Data Type: String Range: NA Default Value: autoscaling/v1
global.k8sResources.pdb.supportedVersions	Kubernetes resource PDB supported version	Data Type: String Range: NA Default Value: policy/v1
global.publicHttpSignalingPort	This is a mandatory parameter.Http Signalling port	Data Type: Integer Range: NA Default Value: 80
global.publicHttpsSignalingPort	This is a mandatory parameter.Https Signalling port	Data Type: Integer Range: NA Default Value: 443
global.serviceAccountName	This is an optional parameter. Service Account name. Specify type of service - Possible values are :- ClusterIP, NodePort, LoadBalancer and ExternalName	Data Type: String Range: NA Default Value: ''
global.type	This is a mandatory parameter. type of service	Data Type: String Range: ClusterIP, NodePort, LoadBalancer and ExternalName Default Value: NodePort
global.staticIpAddressEnabled	This is an optional parameter. If Static load balancer IP needs to be set, then set staticIpAddressEnabled flag to true and provide value for staticIpAddress	Data Type: Boolean Range: True or False Default Value: False
global.staticIpAddress	This is an optional parameter.Static load balancer IP	Data Type: String Range: NA Default Value: 10.75.212.60
global.staticNodePortEnabled	This is an optional parameter. If Static node port needs to be set, then set staticNodePortEnabled flag to true and provide value for staticNodePort, else random node port will be assigned by K8	Data Type: Boolean Range: True or False Default Value: false
global.staticHttpNodePort	This is a mandatory parameter. Http Node Port	Data Type: Integer Range: NA Default Value: 30075
global.staticHttpsNodePort	This is a mandatory parameter. Https Node Port	Data Type: Integer Range: NA Default Value: 30043

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>global.logStorage</code>	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
<code>global.crictlStorage</code>	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
<code>global.ephemeralStorageLimit</code>	This is an optional parameter. Ephemeral storage Limit	Data Type: Integer Range: NA Default Value: 1024
<code>global.app_name</code>	This is an optional parameter. App Name	Data Type: String Range: NA Default Value: ingress-gateway
<code>global.xfccHeaderValidation.enabled</code>	This is a mandatory parameter. This parameter should be enabled in an ASM setup. It validates the xfcc header	Data Type: Boolean Range: True or False Default Value: false
<code>global.xfccHeaderValidation.extract.enabled</code>	This is a mandatory parameter if <code>global.xfccHeaderValidation.enabled</code> is true. if set to true then xfcc header value is extracted for validation	Data Type: Boolean Range: True or False Default Value: false
<code>global.xfccHeaderValidation.extract.certExtractIndex</code>	This is a mandatory parameter if <code>global.xfccHeaderValidation.enabled</code> is true. 0 represents the right most field 1 represents the left most and 2-3rd from right most	Data Type: Integer Range: NA Default Value: 0
<code>global.xfccHeaderValidation.extract.extractField</code>	This is a mandatory parameter if <code>global.xfccHeaderValidation.enabled</code> is true. name of the field to be extracted	Data Type: String Range: NA Default Value: DNS
<code>global.xfccHeaderValidation.extract.extractIndex</code>	This is a mandatory parameter if <code>global.xfccHeaderValidation.enabled</code> is true. 0 represents the right most field 1 represents the left most and 2-3rd from right most	Data Type: Integer Range: NA Default Value: 0
<code>cfgServer.enabled</code>	This is an optional parameter. Config server switch. For the usage of Policy teams. For other NF's this has to be left false	Data Type: Boolean Range: True or False Default Value: false
<code>cfgClient.enabled</code>	This is an optional parameter. Config Client switch	Data Type: Boolean Range: True or False Default Value: false

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>commonCfgClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: True or False Default Value: false
<code>commonCfgServer.configServerSvcName</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.host</code>	This is an optional parameter. Host name of Common configuration server to which client tries to poll for configuration updates. This value is picked up if <code>commonCfgServer.configServerSvcName</code> is not available	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.port</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Port of Common Configuration server	Data Type: Integer Range: NA Default Value: 9090
<code>commonCfgServer.pollingInterval</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true. This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000
<code>commonServiceName</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true. This is the common service name that is currently requesting for configuration updates from server	Data Type: String Range: NA Default Value: igw
<code>restoreBackupOnInstall</code>	This is an optional parameter. This flag when enabled picks up the data from the backup table during installation of ingress gateway	Data Type: Boolean Range: true or false Default Value: false
<code>dbConfig.dbHost</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true. Hostname of Mysql in which the configuration must be stored	Data Type: String Range: NA Default Value: sepp-mysql-svc

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
dbConfig.dbPort	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Port of mysql	Data Type: Integer Range: NA Default Value: 3306
dbConfig.configFile	This is a Mandatory parameter if commonCfgClient.enabled is set to true. File name for initial configuration that must be stored in the db	Data Type: String Range: NA Default Value: defaultconfig.yaml
dbConfig.schemaFile	This is a Mandatory parameter if commonCfgClient.enabled is set to true. File name for json schema validation	Data Type: String Range: NA Default Value: defaultconfig.yaml
dbConfig.secretName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Secret name from which the db name, db password and db user name is picked	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
dbConfig.dbName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Database name	Data Type: String Range: NA Default Value: seppdb
dbConfig.dbUNameLiteral	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Name of the Key configured for "DB Username" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-username
dbConfig.dbPwdLiteral	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Name of the Key configured for "DB Password" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-password
dbConfig.dbEngine	This is a Mandatory parameter. This parameter defines the storage engine of the database	Data Type: String Range: NDBCLUSTER or InnoDB Default Value: InnoDB
image.name	This is an optional parameter. Image name of ingress gateway	Data Type: String Range: NA Default Value: ocingress_gateway

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
image.tag	This is an optional parameter. Image Tag name of ingress gateway	Data Type: String Range: NA Default Value: helm-gateway-ingress-tag
image.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initContainersImage.name	This is an optional parameter. Image name of initContainer	Data Type: String Range: NA Default Value: configurationinit
initContainersImage.tag	This is an optional parameter. Image tag name of initContainer	Data Type: String Range: NA Default Value: helm-gateway-config-tag
initContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
updateContainersImage.name	This is an optional parameter. Image name of updateContainer	Data Type: String Range: NA Default Value: configurationupdate
updateContainersImage.tag	This is an optional parameter. Image tag name of updateContainer	Data Type: String Range: NA Default Value: helm-gateway-config-tag
updateContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
dbHookImage.name	This is an optional parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook
dbHookImage.tag	This is an optional parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: helm-gateway-dbhook-tag
dbHookImage.pullPolicy	This is an optional parameter. Pull Policy of Image	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
service.ssl.tlsVersion	This is a mandatory parameter.TLS Version	Data Type: String Range: NA Default Value: TLSv1.2
service.ssl.privateKey.k8SecretName	This is a mandatory parameter.Name of the privateKey secret	Data Type: String Range: NA Default Value: ocsepp-n32-secret
service.ssl.privateKey.k8Namespace	This is a mandatory parameter.Namespace of privateKey	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
service.ssl.privateKey.rsa.fileName	This is a mandatory parameter.rsa private key file name	Data Type: String Range: NA Default Value: rsa_private_key_pkcs1.pem
service.ssl.privateKey.ecdsa.fileName	This is a mandatory parameter.ecdsa private key file name	Data Type: String Range: NA Default Value: ssl_ecdsa_private_key.pem
service.ssl.certificate.k8SecretName	This is a mandatory parameter.Name of the certificate secret	Data Type: String Range: NA Default Value: ocsepp-n32-secret
service.ssl.certificate.k8Namespace	This is a mandatory parameter.Namespace of certificate	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
service.ssl.certificate.rsa.fileName	This is a mandatory parameter.rsa certificate key file name	Data Type: String Range: NA Default Value: ocsepp.cer
service.ssl.certificate.ecdsa.fileName	This is a mandatory parameter.ecdsa certificate key file name	Data Type: String Range: NA Default Value: ssl_ecdsa_certificate.crt
service.ssl.caBundle.k8SecretName	This is a mandatory parameter.Name of the caBundle secret	Data Type: String Range: NA Default Value: ocsepp-n32-secret
service.ssl.caBundle.k8Namespace	This is a mandatory parameter.Namespace of the caBundle	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
service.ssl.caBundle.fileName	This is a mandatory parameter.rsa private key file name	Data Type: String Range: NA Default Value: caroot.cer

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
service.ssl.keyStorePassword.k8SecretName	This is a mandatory parameter.Secret name that contains keyStorePassword	Data Type: String Range: NA Default Value: ocsepp-n32-secret
service.ssl.keyStorePassword.k8NameSpace	This is a mandatory parameter.Namespace in which SEPPs keystore password is present	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
service.ssl.keyStorePassword.fileName	This is a mandatory parameter.File name that has password for keyStore	Data Type: String Range: NA Default Value: key.txt
service.ssl.trustStorePassword.k8SecretName	This is a mandatory parameter.Secret name that contains trustStorePassword	Data Type: String Range: NA Default Value: ocsepp-n32-secret
service.ssl.trustStorePassword.k8NameSpace	This is a mandatory parameter.Namespace in which trustStorePassword is present	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
service.ssl.trustStorePassword.fileName	This is a mandatory parameter.File name that has password for trustStore	Data Type: String Range: NA Default Value: trust.txt
service.ssl.initialAlgorithm	This is a mandatory parameter.Algorithm based on the certificate	Data Type: String Range: NA Default Value: RS256
service.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific Service	Data Type: String Range: NA Default Value: { }
service.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific Services	Data Type: String Range: NA Default Value: { }
deployment.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: { }
deployment.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: { }
ports.containerPort	This is an optional parameter.ContainerPort represents a network port in a single container	Data Type: Integer Range: NA Default Value: 8081
ports.containersslPort	This is an optional parameter.Ssl port of the container	Data Type: Integer Range: NA Default Value: 8443

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
ports.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 9090
log.level.root	This is an optional parameter.Log level for root logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.ingress	This is an optional parameter.Log level for ingress logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.oauth	This is an optional parameter.Log level for oauth logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.updateContainer	This is an optional parameter.Log level for updateContainer	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.hook	This is an optional parameter. Log level for hook	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.cncc.root	This is an optional parameter. Log level for cncc logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.cncc.audit	This is an optional parameter. Log level for cncc logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.cncc.security	This is an optional parameter.Log level for cncc logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: WARN
log.level.cncc.loggingFilters	This is an optional parameter.logging filters	Data Type: String Range: NA Default Value: []
log.level.cncc.loggingMask s	This is an optional parameter.logging mask	Data Type: String Range: NA Default Value: []

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
log.traceIdGenerationEnabled	This is an optional parameter.TraceId Generation is Enabled	Data Type: Boolean Range: True or False Default Value: True
resources.limits.cpu	This is an optional parameter.CPU Limit	Data Type: Integer Range: NA Default Value: 6
resources.limits.initServiceCpu	This is an optional parameter.Init Container CPU Limit	Data Type: Integer Range: NA Default Value: 1
resources.limits.updateServiceCpu	This is an optional parameter.Update Container CPU Limit	Data Type: Integer Range: NA Default Value: 1
resources.limits.memory	This is an optional parameter.Memory Limit	Data Type: String Range: NA Default Value: 5Gi
resources.limits.commonHooksCpu	This is an optional parameter.Db Hook Container CPU Limit	Data Type: Integer Range: NA Default Value: 1
resources.limits.updateServiceMemory	This is an optional parameter.Update Container Memory Limit	Data Type: String Range: NA Default Value: 1Gi
resources.limits.initServiceMemory	This is an optional parameter.int Container Memory Limit	Data Type: String Range: NA Default Value: 1Gi
resources.limits.commonHooksMemory	This is an optional parameter.Db Hook Container Memory Limit	Data Type: String Range: NA Default Value: 1Gi
resources.requests.cpu	This is an optional parameter.CPU for requests	Data Type: Integer Range: NA Default Value: 6
resources.requests.initServiceCpu	This is an optional parameter.Init Container CPU for requests	Data Type: Integer Range: NA Default Value: 1
resources.requests.updateServiceCpu	This is an optional parameter.Update Container CPU for requests	Data Type: Integer Range: NA Default Value: 1
resources.requests.memory	This is an optional parameter.Memory for requests	Data Type: String Range: NA Default Value: 5Gi
resources.requests.commonHooksCpu	This is an optional parameter.Db Hook Container CPU for requests	Data Type: Integer Range: NA Default Value: 1

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
<code>resources.requests.updateServiceMemory</code>	This is an optional parameter. Update Container Memory for requests	Data Type: String Range: NA Default Value: 1Gi
<code>resources.requests.initServiceMemory</code>	This is an optional parameter. Init Container Memory for requests	Data Type: String Range: NA Default Value: 1Gi
<code>resources.requests.commonHooksMemory</code>	This is an optional parameter. Db Hook Container Memory for requests	Data Type: String Range: NA Default Value: 1Gi
<code>resources.target.averageCPUUtil</code>	This is an optional parameter. Average CPU for target	Data Type: Integer Range: NA Default Value: 70
<code>maxUnavailable</code>	This is an optional parameter. Number of Pods that will be unavailable during a disruption	Data Type: String Range: NA Default Value: 25%
<code>minReplicas</code>	This is an optional parameter. Min replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
<code>maxReplicas</code>	This is an optional parameter. Max replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
<code>jaegerTracingEnabled</code>	This is an optional parameter. Enable jaeger tracing	Data Type: Boolean Range: True or False Default Value: False
<code>openTracing.jaeger.enableb3Propagation</code>	This is an Mandatory parameter. If <code>jaegerTracingEnabled</code> is true To send b3 zipkin headers instead of uber-trace-id	Data Type: Boolean Range: True or False Default Value: False
<code>openTracing.jaeger.udpsender.host</code>	This is an optional parameter. Jaeger Host	Data Type: String Range: NA Default Value: <code>occne-tracer-jaeger-agent.occne-infra</code>
<code>openTracing.jaeger.udpsender.port</code>	This is an optional parameter. Jaeger Port	Data Type: Integer Range: NA Default Value: 6831
<code>openTracing.jaeger.probabilisticSampler</code>	This is an optional parameter. Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
allowedCipherSuites	This is an optional parameter.Allowed Ciphers	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
cipherSuites	This is an optional parameter.Supported Cipher Suites in Ingress	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
initssl	This is an optional parameter.Enabling it generates key and trust store for https support	Data Type: Boolean Range: True or False Default Value: True
enableIncomingHttp	This is an optional parameter.Enabling it for incoming http request	Data Type: Boolean Range: True or False Default Value: false

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
enableIncomingHttps	This is an optional parameter. Enabling it for incoming https request	Data Type: Boolean Range: True or False Default Value: True
enableOutgoingHttps	This is an optional parameter. Enabling it for outgoing https request	Data Type: Boolean Range: True or False Default Value: False
needClientAuth	This is an optional parameter. This must be true if client certificate identity is required in the header x-custom-ingress-client-identity	Data Type: Boolean Range: True or False Default Value: True
sbiPriorityHeaderName	This is an optional parameter. This parameter defines the header name which will contain the SBI Priority value	Data Type: String Range: NA Default Value: 3gpp-sbi-message-priority
dnsRefreshDelay	This is an optional parameter. Dns Refresh Delay in milliseconds	Data Type: Integer Range: NA Default Value: 120000 # ms
ingressGwCertReloadEnabled	This is an optional parameter. changes in k8s secrets	Data Type: boolean Range: True or False Default Value: True
ingressGwCertReloadPath	This is an optional parameter. Path to reload ingress gateway certificate	Data Type: String Range: NA Default Value: /ingress-gw/certificate/reload
ingressGwCertReloadDelay	This is an optional parameter. The polling interval to monitor k8s secrets for changes.	Data Type: init Range: NA Default Value: 15000
rateLimiting.enabled	This is an optional parameter. This parameter enables Rate Limiting on Ingress Gateway.	Data Type: boolean Range: True or False Default Value: True
rssRateLimiter.enabled	This is an optional parameter. This parameter enables Ingress Rate Limiting per Remote SEPP Set on Ingress Gateway.	Data Type: boolean Range: True or False Default Value: True
globalIngressRateLimiting.enabled	This is an optional parameter. This parameter enables Global Rate Limiting on Ingress Gateway.	Data Type: boolean Range: True or False Default Value: false
globalIngressRateLimiting.duration	This is a mandatory parameter(if globalIngressRateLimiting is enabled to true). Iterations of time duration(In seconds) for which bucketCapacity and refillRate are reset.	Data Type: Integer Range: NA Default Value: 1

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
globalIngressRateLimiting.burstCapacity	This is a mandatory parameter. (if globalIngressRateLimiting is enabled true) Holds maximum number of tokens in the bucket for the given duration	Data Type: Integer Range: NA Default Value: 7500
globalIngressRateLimiting.refillRate	This is a mandatory parameter (if globalIngressRateLimiting is enabled true) Number of tokens to be added to the bucket for the given duration Recommended to have refillRate equal to burstCapacity	Data Type: Integer Range: NA Default Value: 7500
errorCodeOnRateLimit	This is a conditional parameter (if globalIngressRateLimiting is enabled true) Configurable error code returned when ratelimit is reached. Populated in ProblemDetails response in ProblemDetails.status section.	Data Type: Integer Range: NA Default Value: 429
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. # 's' in case of seconds and 'm' in case of minutes	Data Type: String Range: NA Default Value: 1m
gracefulShutdown.defaultErrorCode	This is a optional parameter Default error code returned at the time of Graceful shut down	Data Type: Integer Range: NA Default Value: 500
gracefulShutdown.errorDescription	This is an optional parameter. Graceful shut down Error description	Data Type: String Range: NA Default Value: " "
gracefulShutdown.errorCause	This is an optional parameter. Graceful shut down error cause	Data Type: String Range: NA Default Value: " "
gracefulShutdown.errorTitle	This is an optional parameter. Graceful shut down error title	Data Type: String Range: NA Default Value: " "
gracefulShutdown.retryAfter	This is an optional parameter. determines the value in seconds per particular date after which the service should be retried post graceful shutdown.	Data Type: String Range: NA Default Value: " "
gracefulShutdown.redirectURL	This is an optional parameter. redirection URL for validation failure due to graceful shutdown	Data Type: String Range: NA Default Value: " "

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
dnsSrv.host	This is an optional parameter. DNS SRV Host name	Data Type: String Range: NA Default Value: localhost
dnsSrv.port	This is an optional parameter. DNS SRV port number	Data Type: Integer Range: NA Default Value: 8004
dnsSrv.scheme	This is an optional parameter. DNS SRV scheme name	Data Type: String Range: NA Default Value: http
nettyIdleTimeout	This is an optional parameter. Netty Idle Timeout in milliseconds	Data Type: Integer Range: NA Default Value: 120000000 #(ms)
nfFqdn	This is a mandatory parameter. NF FQDN	Data Type: String Range: NA Default Value: sepp2.inter.oracle.com
messageCopy.enabled	This is an optional parameter. This parameter enables or disables the Message feed feature at the Ingress Gateway.	Data Type: Boolean Range: True or False Default Value: False
messageCopy.copyPayload	This is an optional parameter. This parameter specifies whether to copy the message payload in the feed towards Data Director or not. true: the complete payload message is copied. false: Only the header information is copied.	Data Type: Boolean Range: True or False Default Value: False
messageCopy.topicName	This is an optional parameter. Name of the topic to which Ingress Gateway send the payloads.	Data Type: String Range: NA Default Value: message.copy
messageCopy.ackRequired	This is a mandatory parameter. This parameter specifies if we wait for any acknowledgement from DD.	Data Type: Boolean Range: True or False Default Value: False
messageCopy.retryOnFailure	This is a mandatory parameter. This parameter specifies how many times SEPP should retry if message was not sent to DD successfully.	Data Type: Integer Range: NA Default Value: 0
messageCopy.security.enabled	This is a mandatory parameter. Security mode enabled for message feed feature	Data Type: Boolean Range: True or False Default Value: False

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
messageCopy.security.protocol	This is a conditional parameter. It is used for message feed feature when security is enabled between SEPP and Gateway.	Data Type: String Range: SASL_SSL or SSL Default Value: SASL_SSL
messageCopy.security.tlsVersion	This is a mandatory parameter. TLS version details	Data Type: String Range: TLSv1.2 Default Value: TLSv1.2
messageCopy.security.saslConfiguration.username	This is a mandatory parameter. username for DD Refer to DD guide for more details	Data Type: String Range: NA Default Value: test
messageCopy.security.saslConfiguration.password	This is a mandatory parameter. Password for gateway on which feature enabled	Data Type: Object Range: NA Default:
messageCopy.security.saslConfiguration.password.k8SecretName	This is a mandatory parameter. Secret name for gateway on which feature enabled	Data Type: String Range: ocsepp-plmn-secret for PLMN Gateways and ocsepp-n32-secret for N32 Gateways Default Value: message-copy-secret
messageCopy.security.saslConfiguration.password.k8Namespace	This is a mandatory parameter. Namespace where DD deployed Please refer to DD guide for more details	Data Type: String Range: NA Default Value: ocingress
messageCopy.security.saslConfiguration.password.fileName	This is a mandatory parameter. File used to create DD secrets Please refer to DD guide for more details	Data Type: String Range: NA Default Value: password.txt
messageCopy.threadPoolConfigurations.coreSize	This is an optional parameter. core Size for thread pool configuration for message feed thread. For performance enhancement, set the value as 16.	Data Type: Integer Range: NA Default Value: 8
messageCopy.threadPoolConfigurations.maxSize	This is an optional parameter. max Size for thread pool configuration for message feed thread For performance enhancement, set the value as 16.	Data Type: Integer Range: NA Default Value: 8
messageCopy.threadPoolConfigurations.queueCapacity	This is an optional parameter. queue capacity for thread pool configuration message feed thread For performance enhancement, set the value as 3000.	Data Type: Integer Range: NA Default Value: 1000

Table 3-8 (Cont.) n32-ingress-gateway

Name	Description	Details
kafka.bootstrapAddress	This is a conditional parameter. List of comma- separated Kafka Nodes (to which messages should be copied if messageCopy feature is enabled)	Data Type: String Range: NA Default Value: <kafka-broker>:<port> Port = 9093 for SSL protocol Port = 9094 for SASL_SSL protocol
egressRateLimiter.enabled	This is an optional parameter. This parameter is used to enable or disable the egress rate limiting per egress rate limiting list on Ingress Gateway	Data Type: Boolean Range: True or False Default Value: True

3.1.8 plmn-ingress-gateway

This section includes information about the plmn-ingress-gateway parameters of the SEPP.

Table 3-9 plmn-ingress-gateway

Name	Description	Details
cmName	This is an optional parameter. To enable the span	Data Type: String Range: NA Default Value: ingress gateway
serviceMeshCheck	This is a mandatory parameter. when enabled, OAuth signature validation is disabled ASM setup: When serviceMeshCheck is enabled signature validation of certificate is skipped. There is no need to configure the certificate or the secret.	Data Type: Boolean Range: NA Default Value: false
istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: Boolean Range: NA Default value: http://127.0.0.1:15020/quitquitquit Note: Port should be envoy admin port.
istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: Boolean Range: NA Default value: http://127.0.0.1:15020/ready Note: Port should be envoy admin port.

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>ingressServer.keepAlive.enabled</code>	This is a Optional parameter. If enabled netty server will send keep alive message for each connection	Data Type: Boolean Range: NA Default Value: true
<code>ingressServer.keepAlive.idleTime</code>	This is a Optional parameter. Time after which keep alive will be tried after successful response from the peer	Data Type: Integer Range: NA Default Value: 180 (Second)
<code>ingressServer.keepAlive.count</code>	This is a Optional parameter. No of times it should retry if there is no response for keep alive	Data Type: Integer Range: NA Default Value: 6
<code>ingressServer.keepAlive.interval</code>	This is a Optional parameter. The interval after which it should retry in case of failure	Data Type: Integer Range: NA Default Value: 60 (Second)
<code>serverHeaderConfigMode</code>	Possible values: HELM, REST. Based on this value, the feature flag for "server" header will need to be enabled either in Helm configuration or Rest configuration.	Data Type: Enum Range: NA Default Value: HELM
<code>serverHeaderDetails.enabled</code>	All attributes under "serverHeaderDetails" will need to be configured only if "serverHeaderConfigMode" is set as "HELM" If enabled at Global level, Global conf will be used by default if no conf exists at Route level.	Data Type: Boolean Range: NA Default Value: false
<code>serverHeaderDetails.errorCodeSeriesId</code>	Mandatory attribute if not defined at Route level. By default used for Global level conf. Value need to be one among "errorCodeSeriesList" resource defined below.	Data Type: String Range: NA Default Value: E1
<code>serverHeaderDetails.configuration.nfType</code>	Mandatory attribute. This value is common across Global and Route level conf. If not defined, server header will not be included in response.	Data Type: String Range: NA Default Value: SEPP
<code>serverHeaderDetails.configuration.nfInstanceId</code>	Optional attribute. This value is common across Global and Route level conf. If not defined, only "nfType" will be used for server header value.	Data Type: String Range: NA Default Value: 9faf1bbc-6e4a-4454-a507-aef01a101a06

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>errorCodeSeriesList[0].id</code>	This is a Optional parameter. it is used for assigning "errorCodeSeriesId" either at Global or Route level conf for Server header.	Data Type: String Range: NA Default Value: E1
<code>errorCodeSeriesList[0].errorCodeSeries[0].errorSet</code>	This is a mandatory parameter. Possible values for "errorSet" attribute: 5xx, 4xx, 3xx, 2xx, 1xx	Data Type: String Range: NA Default Value: 4xx
<code>errorCodeSeriesList[0].errorCodeSeries[0].errorCodeS[0]</code>	This is a mandatory parameter. Possible values include all error codes in the respective HttpSeries(Ex: 4xx) value assinged for "errorSet". Use single value of -1 if all error codes are to be considered.	Data Type: String Range: NA Default Value: 400, 408, 404
<code>extraContainers</code>	This is a mandatory parameter. The attribute is used to control the usage of extra container(DEBUG tool). Allowed Values: DISABLED, ENABLED, USE_GLOBAL_VALUE If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" yaml chunk is defined at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: String Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>prefix</code>	This is a mandatory parameter. When set to some value then that value will be used in the names of resources along with release name	Data Type: String Range: NA Default Value: 'plmn'
<code>global.k8sResources.hpa.supportedVersions</code>	Kubernetes resource	Data Type: String Range: NA Default Value: autoscaling/v1
<code>global.k8sResources.pdb.supportedVersions</code>	Kubernetes resource PDB supported version	Data Type: String Range: NA Default Value: policy/v1
<code>global.publicHttpSignalingPort</code>	This is a mandatory parameter. Http Signalling port	Data Type: Integer Range: NA Default Value: 80
<code>global.publicHttpsSignalingPort</code>	This is a mandatory parameter. Https Signalling port	Data Type: Integer Range: NA Default Value: 443
<code>global.serviceAccountName</code>	This is an optional parameter. Service Account name	Data Type: String Range: NA Default Value: ''

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
global.type	This is an optional parameter.Type of service	Data Type: String Range: Possible values are ClusterIP, NodePort, LoadBalancer and ExternalNameDefault Value: NodePort
global.staticIpAddressEnabled	This is an optional parameter. If Static load balancer IP needs to be set, then set staticIpAddressEnabled flag to true and provide value for staticIpAddress Else random IP will be assigned by the metalLB from its IP Pool	Data Type: Boolean Range: True or FalseDefault Value: False
global.staticIpAddress	This is an optional parameter. It is the Static IP.	Data Type: String Range: NA Default Value: 10.75.212.60
global.staticNodePortEnabled	This is an optional parameter.Node Port Enabled	Data Type: Boolean Range: True or FalseDefault Value: True
global.staticHttpNodePort	Http Node Port	Data Type: Integer Range: NA Default Value: 30085
global.staticHttpsNodePort	Https Node Port	Data Type: Integer Range: NA Default Value: 30053
global.logStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.crictlStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.ephemeralStorageLimit	This is an optional parameter. Ephemeral storage Limit	Data Type: Range: NA Default Value: 1024
commonCfgClient.enabled	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: true or false Default Value: true
commonCfgServer.configServerSvcName	This is a Mandatory parameter if commonCfgClient.enabled is set to true Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: config-mgr-svc
commonCfgServer.host	This is an optional parameter. Host name of Common configuration server to which client tries to poll for configuration updates. This value is picked up if commonCfgServer.configServerSvcName is not available	Data Type: String Range: NA Default Value: config-mgr-svc

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
commonCfgServer.port	This is a Mandatory parameter if commonCfgClient.enabled is set to true Port of Common Configuration server	Data Type: Integer Range: NA Default Value: 9090
commonCfgServer.pollingInterval	This is a Mandatory parameter if commonCfgClient.enabled is set to true. This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000
commonServiceName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. This is the common service name that is currently requesting for configuration updates from server	Data Type: string Range: NA Default Value: egw
restoreBackupOnInstall	This is an optional parameter. This flag when enabled picks up the data from the backup table during installation of ingress gateway	Data Type: Boolean Range: true or false Default Value: false
dbConfig.dbHost	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Hostname of Mysql in which the configuration must be stored	Data Type: String Range: NA Default Value: sepp-mysql-svc
dbConfig.dbPort	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Port of mysql	Data Type: Integer Range: NA Default Value: 3306
dbConfig.configFile	This is a Mandatory parameter if commonCfgClient.enabled is set to true. File name for initial configuration that must be stored in the db	Data Type: String Range: NA Default Value: defaultconfig.yaml
dbConfig.schemaFile	This is a Mandatory parameter if commonCfgClient.enabled is set to true. File name for json schema validation	Data Type: String Range: NA Default Value: defaultschema.json
dbConfig.secretName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Secret name from which the db name, db password and db user name is picked	Data Type: String Range: NA Default Value: ocsepp-mysql-cred

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
dbConfig.dbName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Database name	Data Type: String Range: NA Default Value: seppdb
dbConfig.backupDbName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. configure when your backup table should have separate schema	Data Type: Range: NA Default Value:
dbConfig.dbUNameLiteral	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Name of the Key configured for "DB Username" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-username
dbConfig.dbPwdLiteral	This is a Mandatory parameter if commonCfgClient.enabled is set to true. Name of the Key configured for "DB Password" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-password
dbConfig.dbEngine	This is a Mandatory parameter. This parameter defines the storage engine of the database	Data Type: String Range: NDBCLUSTER or InnoDB Default Value: InnoDB
image.name	This is an optional parameter. Image name of ingress gateway	Data Type: String Range: NA Default Value: ocingress_gateway
image.tag	This is an optional parameter. Image Tag name of ingress gateway	Data Type: String Range: NA Default Value: helm-gateway-ingress-tag
image.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initContainersImage.name	This is an optional parameter. Image name of initContainer	Data Type: String Range: NA Default Value: configurationinit
initContainersImage.tag	This is an optional parameter. Image tag name of initContainer	Data Type: String Range: NA Default Value: helm-gateway-ingress-tag
initContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
updateContainersImage.name	This is an optional parameter. Image name of updateContainer	Data Type: String Range: NA Default Value: configurationupdate

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
updateContainersImage.tag	This is an optional parameter. Image tag name of updateContainer	Data Type: StringRange: NA NADefault Value: helm-gateway-ingress-tag
updateContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: StringRange: Always, IfNotPresent, Never NADefault Value: Always
dbHookImage.name	This is an optional parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook
dbHookImage.tag	This is an optional parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: helm-gateway-ingress-tag
dbHookImage.pullPolicy	This is an optional parameter. Pull Policy of Image	Data Type: String Range: NA Default Value: Always
service.ssl.tlsVersion	This is a mandatory parameter. TLS Version	Data Type: StringRange: TLSv1.2 NADefault Value: TLSv1.2
service.ssl.privateKey.k8SecretName	This is a mandatory parameter. Name of the privatekey secret	Data Type: StringRange: NA NADefault Value: ocsepp-plmn-secret
service.ssl.privateKey.k8Namespace	This is a mandatory parameter. Namespace of privatekey	Data Type: StringRange: NA NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.privateKey.rsa.fileName	This is a mandatory parameter. rsa private key file name	Data Type: StringRange: NA NADefault Value: rsa_private_key_pkcs1.pem
service.ssl.privateKey.ecdsa.fileName	This is a mandatory parameter. ecdsa private key file name	Data Type: StringRange: NA NADefault Value: ssl_ecdsa_private_key.pem
service.ssl.certificate.k8SecretName	This is a mandatory parameter. Name of the certificate secret	Data Type: StringRange: NA NADefault Value: ocsepp-plmn-secret
service.ssl.certificate.k8Namespace	This is a mandatory parameter. Namespace of certificate	Data Type: StringRange: NA NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.certificate.rsa.fileName	This is a mandatory parameter. rsa certificate key file name	Data Type: StringRange: NA NADefault Value: ocsepp.cer
service.ssl.certificate.ecdsa.fileName	This is a mandatory parameter. ecdsa certificate key file name	Data Type: StringRange: NA NADefault Value: ssl_ecdsa_certificate.crt
service.ssl.caBundle.k8SecretName	This is a mandatory parameter. Name of the caBundle secret	Data Type: StringRange: NA NADefault Value: ocsepp-plmn-secret
service.ssl.caBundle.k8Namespace	This is a mandatory parameter. Namespace of private	Data Type: StringRange: NA NADefault Value: DEPLOYMENT_NAMESPACE

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
service.ssl.caBundle.fileName	This is a mandatory parameter.rsa private key file name	Data Type: StringRange: NADefault Value: caroot.cer
service.ssl.keyStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.keyStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.keyStorePassword.fileName	This is a mandatory parameter.File name that has password for keyStore	Data Type: StringRange: NADefault Value: key.txt
service.ssl.trustStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.trustStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.trustStorePassword.fileName	This is a mandatory parameter.File name that has password for trustStore	Data Type: StringRange: NADefault Value: trust.txt
service.ssl.initialAlgorithm	This is a mandatory parameter.Algorithm based on the certificate	Data Type: StringRange: NADefault Value: RS256
service.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific Service	Data Type: String Range: NA Default Value: { }
service.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific Services	Data Type: String Range: NA Default Value: { }
deployment.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: { }
deployment.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific deployment	Data Type: StringRange: NADefault Value: { }
ports.containerPort	This is an optional parameter.ContainerPort represents a network port in a single container	Data Type: IntegerRange: NADefault Value: 8081
ports.containersslPort	This is an optional parameter.Ssl port of the container	Data Type: IntegerRange: NADefault Value: 8443

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
ports.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: IntegerRange: NADefault Value: 9090
log.level.root	This is an optional parameter.Log level for root logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.ingress	This is an optional parameter.Log level for ingress logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.oauth	This is an optional parameter.Log level for oauth logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.updateContainer	This is an optional parameter.log.level.updateContainer	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.cncc.root	This is an optional parameter. Log level for cncc logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.cncc.audit	This is an optional parameter. Log level for cncc logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.cncc.security	This is an optional parameter.Log level for cncc logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: ERROR
log.level.cncc.loggingFilters	This is an optional parameter. Log level filters for cncc logs	Data Type: String Range: NA Default Value: []
log.level.cncc.loggingMask	This is an optional parameter. Logging mask filters for cncc logs	Data Type: String Range: NA Default Value: []
log.traceIdGenerationEnabled	This is an optional parameter.TraceId Generation is Enabled	Data Type: BooleanRange: NADefault Value: True
resources.limits.cpu	This is an optional parameter.CPU Limit	Data Type: IntegerRange: NADefault Value: 5
resources.limits.initServiceCpu	This is an optional parameter.Init Container CPU Limit	Data Type: IntegerRange: NADefault Value: 1
resources.limits.updateServiceCpu	This is an optional parameter.Update Container CPU Limit	Data Type: IntegerRange: NADefault Value: 1
resources.limits.memory	This is an optional parameter.Memory Limit	Data Type: StringRange: NADefault Value: 5Gi
resources.limits.updateServiceMemory	This is an optional parameter.Update Container Memory Limit	Data Type: StringRange: NADefault Value: 1Gi

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>resources.limits.initServiceMemory</code>	This is an optional parameter. Init Container Memory Limit	Data Type: StringRange: NADefault Value: 1Gi
<code>resources.requests.cpu</code>	This is an optional parameter. CPU for requests	Data Type: IntegerRange: NADefault Value: 5
<code>resources.requests.initServiceCpu</code>	This is an optional parameter. Init Container CPU for requests	Data Type: FloatRange: NADefault Value: 1
<code>resources.requests.updateServiceCpu</code>	This is an optional parameter. Update Container CPU for requests	Data Type: FloatRange: NADefault Value: 1
<code>resources.requests.memory</code>	This is an optional parameter. Memory for requests	Data Type: StringRange: NADefault Value: 5Gi
<code>resources.requests.updateServiceMemory</code>	This is an optional parameter. Update Container Memory for requests	Data Type: StringRange: NADefault Value: 1Gi
<code>resources.requests.initServiceMemory</code>	This is an optional parameter. Init Container Memory for requests	Data Type: StringRange: NADefault Value: 1Gi
<code>resources.target.averageCPUUtil</code>	This is an optional parameter. Average CPU Utilisation	Data Type: IntegerRange: NADefault Value: 70
<code>maxAvailable</code>	This is an optional parameter. Number of Pods must always be available, even during a disruption	Data Type: IntegerRange: NADefault Value: 25%
<code>minReplicas</code>	This is an optional parameter. Min replicas to scale to maintain an average CPU utilization	Data Type: IntegerRange: NADefault Value: 10
<code>maxReplicas</code>	This is an optional parameter. Max replicas to scale to maintain an average CPU utilization	Data Type: IntegerRange: NADefault Value: 10
<code>routesConfig[0].id</code>	This is a mandatory parameter. It represents the id of the route.	Data Type: String Range: NA Default Value: cn32f
<code>routesConfig[0].uri</code>	This is a mandatory parameter. Service name of the internal microservice of this NF	Data Type: String Range: NA Default Value: <code>http://{ .Release.Name }-cn32f-svc:9090/</code>
<code>routesConfig[0].path</code>	This is a mandatory parameter. Provide the path to be matched.	Data Type: String Range: NA Default Value: <code>/**</code>
<code>routesConfig[0].order</code>	This is a mandatory parameter. Provide the order of the execution of this route.	Data Type: Integer Range: NA Default Value: 1
<code>routesConfig[0].metadata.requestTimeout</code>	This is a Optional parameter. requestTimeout is used to set timeout at route level. Value should be in milliseconds.	Data Type: Integer Range: NA Default Value: 2100

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>routesConfig[0].metadata.requiredTime</code>	This is a Optional parameter. <code>requiredTime</code> is minimum time below which request will be rejected if <code>isSbiTimerEnabled</code> is true. Value should be in milliseconds	Data Type: Integer Range: NA Default Value: 3000
<code>routesConfig[0].metadata.xfccHeaderValidation.validationEnabled</code>	This is a Optional parameter. This is used to provide an option to enable/not enable route level <code>xfccHeaderValidation</code> . It overrides global configuration for <code>xfccHeaderValidation.enabled</code>	Data Type: Boolean Range: true or false Default Value: false
<code>routesConfig[0].metadata.oauthValidator.enabled</code>	This is a mandatory parameter. OAuth can be disbaled at route level if needed. Global Oauth level should be enabled if route level options need to take effect. Oauth Validator uses <code>OauthTokenValid</code> interface to check the validity of access token received from service consumer. It returns true if access token is valid or false if access token is invalid.	Data Type: Boolean Range: true or false Default Value: false
<code>routesConfig[0].metadata.svcName</code>	This is a Optional parameter. The following parameter is configurable per route in route-metadata is used to track Overload Control data. If this parameter is not configured in route metadata then <code>svc</code> name from <code>routesConfig.uri</code> field is used as the required key to track Overload Control data. The value of "svcName" attribute denotes the back-end service tag to be used as the required key (configurable per route) to track Overload Control data instead of using back-end service name from <code>routesConfig[0].uri</code> as the required key.	Data Type: String Range: NA Default Value:
<code>routesConfig[0].filters.addRequestHeader[0].name</code>	This is a Optional parameter. This field is used for adding a request header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: String Range: NA Default Value:

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>routesConfig[0].filters.addRequestHeader[0].value</code>	This is a Optional parameter. value of the header to be added	Data Type: Range: NA Default Value:
<code>routesConfig[0].filters.methodRateLimiting[0].method</code>	specify the list of methods u have to rate limit. Method based route limiting is applied only for the methods that are configured in each route to be rate limited.	Data Type: Range: NA Default Value: POST
<code>routesConfig[0].filters.methodRateLimiting[0].burstCapacity</code>	The maximum number of token the bucket can hold	Data Type: Range: NA Default Value: 1
<code>routesConfig[0].filters.methodRateLimiting[0].refillRate</code>	The number of tokens that are added to the bucket during a refill N tokens are added to the bucket every M seconds.	Data Type: Range: NA Default Value: 1
<code>routesConfig[0].filters.methodRateLimiting[0].duration</code>	The amount of time between the refills	Data Type: Range: NA Default Value: 1
<code>routesConfig[0].removeRequestHeader[0].name</code>	This is a Optional parameter. This field is used for blacklisting(removing) a request header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: Range: NA Default Value: myheader1 myheader3
<code>routesConfig[0].removeResponseHeader[0].name</code>	This is a Optional parameter. Below field is used for blacklisting(removing) a response header at route level. Additional header can be configured by adding a new element in the next line and so on.	Data Type: Range: NA Default Value: myresponseheader1 myresponseheader3
<code>jaegerTracingEnabled</code>	This is an optional parameter.Enable jaeger tracing	Data Type: BooleanRange: True or FalseDefault Value: False
<code>openTracing.jaeger.udpSender.host</code>	This is an optional parameter.Jaeger Host	Data Type: StringRange: NADefault Value: occne-tracer-jaeger-agent.occne-infra
<code>openTracing.jaeger.udpSender.port</code>	This is an optional parameter.Jaeger Port	Data Type: IntegerRange:Default Value: 6831
<code>openTracing.jaeger.probabilisticSampler</code>	This is an optional parameter.Trace capture in percentage	Data Type: FloatRange:Default Value: 0.5

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
allowedCipherSuites	This is an optional parameter. Allowed Ciphers	Data Type: StringRange: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
cipherSuites	This is an optional parameter. Supported Cipher Suites in Ingress	Data Type: StringRange: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
initssl	This is an optional parameter. Enabling it generates key and trust store for https support	Data Type: BooleanRange: True or False Default Value: True
enableIncomingHttp	This is an optional parameter. Enabling it for incoming http request	Data Type: BooleanRange: True or False Default Value: true
enableIncomingHttps	This is an optional parameter. Enabling it for incoming https request	Data Type: BooleanRange: True or False Default Value: True

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
enableOutgoingHttps	This is an optional parameter. Enabling it for outgoing https request	Data Type: BooleanRange: True or FalseDefault Value: False
needClientAuth	This is an optional parameter. This must be true if client certificate identity is required in the header x-custom-ingress-client-identity	Data Type: BooleanRange: True or FalseDefault Value: True
sbiPriorityHeaderName	This is an optional parameter. This parameters defines the header name which will contain the SBI Priority value	Data Type: StringRange: NADefault Value: 3gpp-sbi-message-priority
dnsRefreshDelay	This is an optional parameter. Dns Refresh Delay in milli-seconds	Data Type: IntegerRange: NADefault Value: 120000
rateLimiting.enabled	This is an optional parameter. This parameter enables Rate Limiting on Ingress Gateway.	Data Type: booleanRange: True or FalseDefault Value: false
rssRateLimiter.enabled	This is an optional parameter. This parameter enables Ingress Rate Limiting per Remote SEPP Set on Ingress Gateway.	Data Type: booleanRange: True or FalseDefault Value: false
globalIngressRateLimiting.enabled	This is an optional parameter. This parameter enables Global Rate Limiting on Ingress Gateway.	Data Type: booleanRange: True or FalseDefault Value: false
globalIngressRateLimiting.duration	This is a mandatory parameter.(if globalIngressRateLimiting is enabled true)Iterations of time duration(in seconds) for which bucketCapacity and refillRate are reset.	Data Type: IntegerRange: NADefault Value: 1
globalIngressRateLimiting.burstCapacity	This is a mandatory parameter.(if globalIngressRateLimiting is enabled true)Holds maximum number of tokens in the bucket for the given duration	Data Type: IntegerRange: NADefault Value: 7500
globalIngressRateLimiting.refillRate	This is a mandatory parameter (if globalIngressRateLimiting is enabled true) Number of tokens to be added to the bucket for the given duration Recommended to have refillRate equal to burstCapacity	Data Type: IntegerRange: NADefault Value: 7500

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
errorCodeOnRateLimit	This is a conditional parameter (if globalIngressRateLimiting is enabled true) Configurable error code returned when ratelimit is reached. Populated in ProblemDetails response in ProblemDetails.status section.	Data Type: IntegerRange: NADefault Value: 429
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. # 's' in case of seconds and 'm' in case of minutes	Data Type: String Range: NA Default Value: 1m
gracefulShutdown.defaultErrorCode	This is a optional parameter Default error code returned at the time of Graceful shut down	Data Type: Integer Range: NA Default Value: 500
gracefulShutdown.errorDescription	This is an optional parameter. Graceful shut down Error description	Data Type: String Range: NA Default Value: ""
gracefulShutdown.errorCause	This is an optional parameter. Graceful shut down error cause	Data Type: String Range: NA Default Value: ""
gracefulShutdown.errorTitle	This is an optional parameter. Graceful shut down error title	Data Type: String Range: NA Default Value: ""
gracefulShutdown.retryAfter	This is an optional parameter. determines the value in seconds per particular date after which the service should be retried post graceful shutdown.	Data Type: String Range: NA Default Value: ""
gracefulShutdown.redirectURL	This is an optional parameter. redirection URL for validation failure due to graceful shutdown	Data Type: String Range: NA Default Value: ""
cfgServer.enabled	This is an optional parameter. Config server switch. For the usage of Policy teams. For other NF's this has to be left false.	Data Type: boolean Range: true or false Default Value: false
cfgClient.enabled	This is an optional parameter. flag to enable config client	Data Type: boolean Range: true or false Default Value: false
dnsSrv.host	This is an optional parameter. DNS SRV Host name	Data Type: String Range: NA Default Value: localhost

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
<code>dnsSrv.port</code>	This is an optional parameter. DNS SRV port number	Data Type: Integer Range: NA Default Value: 8004
<code>dnsSrv.scheme</code>	This is an optional parameter. DNS SRV scheme name	Data Type: Range: NA Default Value:
<code>nettyIdleTimeout</code>	This is an optional parameter. Netty Idle Timeout in milliseconds	Data Type: Integer Range: NA Default Value: 120000000 #(ms)
<code>nfFqdn</code>	This is a mandatory parameter. NF FQDN	Data Type: String Range: NA Default Value: sepp2.inter.oracle.com
<code>messageCopy.enabled</code>	This is an optional parameter. This parameter enables or disables the Message feed feature at the Ingress Gateway.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.copyPayload</code>	This is an optional parameter. This parameter specifies whether to copy the message payload in the feed towards Data Director or not. true: the complete payload message is copied. false: Only the header information is copied.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.topicName</code>	This is an optional parameter. Name of the topic to which Ingress Gateway send the payloads.	Data Type: String Range: NA Default Value: message.copy
<code>messageCopy.ackRequired</code>	This is a mandatory parameter. This parameter specifies if we wait for any acknowledgement from DD.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.retryOnFailure</code>	This is a mandatory parameter. This parameter specifies how many times SEPP should retry if message was not sent to DD successfully.	Data Type: Integer Range: NA Default Value: 0
<code>messageCopy.threadPoolConfigurations.coreSize</code>	This is an optional parameter. core Size for thread pool configuration for message feed thread For performance enhancement, set the value as 16.	Data Type: Integer Range: NA Default Value: 8

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
messageCopy.threadPoolConfigurations.maxSize	This is an optional parameter. max Size for thread pool configuration for message feed thread For performance enhancement, set the value as 16.	Data Type: IntegerRange: NA Default Value: 8
messageCopy.threadPoolConfigurations.queueCapacity	This is an optional parameter. queue capacity for thread pool configuration message feed thread For performance enhancement, set the value as 3000.	Data Type: IntegerRange: NA Default Value: 1000
messageCopy.security.enabled	This is a mandatory parameter. Security mode enabled for message feed feature	Data Type: Boolean Range: True or False Default Value: False
messageCopy.security.protocol	This is a conditional parameter. It is used for message feed feature when security is enabled between SEPP and Gateway.	Data Type: String Range: SASL_SSL or SSL Default Value: SASL_SSL
messageCopy.security.tlsVersion	This is a mandatory parameter. TLS version details	Data Type: String Range: TLSv1.2 Default Value: TLSv1.2
messageCopy.security.saslConfiguration.username	This is a mandatory parameter. username for DD Refer to DD guide for more details	Data Type: String Range: NA Default Value: test
messageCopy.security.saslConfiguration.password.k8SecretName	This is a mandatory parameter. Secret name for gateway on which feature enabled	Data Type: StringRange: ocsepplmn-secret for PLMN Gateways and ocsepp-n32-secret for N32 Gateways Default Value: message-copy-secret
messageCopy.security.saslConfiguration.password.k8Namespace	This is a mandatory parameter. Namespace where DD deployed Please refer to DD guide for more details	Data Type: StringRange: NA Default Value: ocingress
messageCopy.security.saslConfiguration.password.fileName	This is a mandatory parameter. File used to create DD secrets Please refer to DD guide for more details	Data Type: StringRange: NA Default Value: password.txt
kafka.bootstrap-servers	This is a conditional parameter. List of comma-separated DD Nodes IP address The port will change to 9092 if security is disabled	Data Type: String Range: NA Default Value: <kafka-broker>:<port> Port = 9093 for SSL protocol Port = 9094 for SASL_SSL protocol

Table 3-9 (Cont.) plmn-ingress-gateway

Name	Description	Details
egressRateLimiter.enabled	This is an optional parameter. This parameter is used to enable or disable the egress rate limiting per egress rate limiting list on Ingress Gateway	Data Type: Boolean Range: True or False Default Value: True

3.1.9 n32-egress-gateway

This section includes information about the n32-egress-gateway parameters of the SEPP.

Table 3-10 n32-egress-gateway

Name	Description	Details
cmName	This is an optional parameter. Name of the configmap	Data Type: String Range: NA Default Value: egressgateway
serviceMeshCheck	This is a mandatory parameter. Enabled when deployed in serviceMesh.	Data Type: Boolean Range: true false Default Value: false
istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/quitquitquit
istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/ready
global.k8sResources.hpa.supportedVersions	Kubernetes resource	Data Type: String Range: NA Default Value: autoscaling/v1
global.k8sResources.pdb.supportedVersions	Kubernetes resource PDB supported version	Data Type: String Range: NA Default Value: policy/v1
global.logStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.criCtlStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.ephemeralStorageLimit	This is an optional parameter. Ephemeral storage Limit	Data Type: Integer Range: NA Default Value: 1024

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
extraContainers	This is a mandatory parameter. The attribute is used to control the usage of extra container(DEBUG tool). Allowed Values: DISABLED, ENABLED, USE_GLOBAL_VALUE If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" yaml chunk is defined at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: String Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
prefix	This is a optional parameter.Support for multiple egress instances. When set to some value then that value is used in the name of resources along with release name so that there is any clash between the instances. When the value of this flag is set to ' ' then the resources are prepended with release name only.When set to some value then that value will be used in the names of resources along with release name	Data Type: String Range: NA Default Value: 'n32'
sepp.removeUnusedProxyAfter	This is an optional parameter. Time in minutes after which unused proxy beans are removed. If this parameter is not added, then default value is picked up.	Data Type: Integer Range: NA Default Value: 30
sepp.forwardProxy	This is an optional parameter. Flag to enable sepp forward proxy	Data Type: Boolean Range: NA Default Value: true
sepp.tlsConnectionMode	Set true only if sepp.forwardProxy is true,otherwise it wont have effect. For ASM this will be set to false	Data Type: Boolean Range: true or false Default Value: true
serviceEgressGateway.port	This is a mandatory parameter.Egress gw port	Data Type: Integer Range: NA Default Value: 8080
serviceEgressGateway.sslPort	This is a mandatory parameter.SSL Port	Data Type: Integer Range: NA Default Value: 8442

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
serviceEgressGateway.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 9090
deploymentEgressGateway.image	This is an optional parameter. Image name of ingress gateway	Data Type: String Range: NA Default Value: ocegress_gateway
deploymentEgressGateway.imageTag	This is an optional parameter. Image Tag name of ingress gateway	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
deploymentEgressGateway.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initContainersImage.name	This is an optional parameter. Image name of initContainer	Data Type: String Range: NA Default Value: configurationinit
initContainersImage.tag	This is an optional parameter. Image tag name of initContainer	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
initContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
updateContainersImage.name	This is an optional parameter. Image name of updateContainer	Data Type: String Range: NA Default Value: configurationupdate
updateContainersImage.tag	This is an optional parameter. Image tag name of updateContainer	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
updateContainersImage.pullPolicy	This is an optional parameter. Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
dbHookImage.name	This is an optional parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
dbHookImage.tag	This is an optional parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
dbHookImage.pullPolicy	This is an optional parameter. Pull Policy of Image	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initssl	This is an optional parameter. Enabling it generates key and trust store for https support	Data Type: Boolean Range: True or False Default Value: true
enableIncomingHttps	This is an optional parameter. Enabling it for incoming http request	Data Type: Boolean Range: True or False Default Value: false
enableOutgoingHttps	This is an optional parameter. Enabling it for incoming https request	Data Type: Boolean Range: True or False Default Value: true
httpsTargetOnly	This is an optional parameter. This is global parameter which will be taken into consideration if route (under routeConfig section) based httpsTargetOnly parameter is not available. true: Select SbiRouting instances for https list only false: Run existing logic as per provided scheme. Note: double quotes to be enclosed for values of httpsTargetOnly	Data Type: Boolean Range: True or False Default Value: false
httpRuriOnly	This is an optional parameter. Global parameter is taken into consideration if route (under routeConfig section) based httpRuriOnly parameter is not available. true: Means change Scheme of RURI to http false: Keep scheme as is.	Data Type: Boolean Range: True or False Default Value: false
sbiRouting.sbiRoutingDefaultScheme	This is an optional parameter. Default scheme applicable when 3gpp-sbi-target apiroot header is missing	Data Type: String Range: NA Default Value: https
sbiRouting.sbiRerouteEnabled	This is an optional parameter. Set this flag to true if re-routing to multiple SCP instances is to be enabled.	Data Type: Boolean Range: True or False Default Value: true
log.level.root	This is an optional parameter. Log level for root logs	Data Type: ENUM Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
log.level.egress	This is an optional parameter.Log level for ingress logs	Data Type: ENUM Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.oauth	This is an optional parameter.Log level for oauth logs	Data Type: ENUM Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.updateContainer	This is an optional parameter.Log level for update container logs	Data Type: ENUM Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
log.level.hook	This is an optional parameter. Log level for hook	Data Type: ENUM Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
service.type	This is a mandatory parameter.Service type	Data Type: StringRange:ClusterIP, NodePort, LoadBalancer and ExternalNameDefault Value: ClusterIP
service.ssl.tlsVersion	This is a mandatory parameter.TLS Version	Data Type: StringRange: NADefault Value:TLSv1.2
service.ssl.privateKey.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-n32-secret
service.ssl.privateKey.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.privateKey.rsa.fileName	This is a mandatory parameter.rsa private key file name	Data Type: StringRange: NADefault Value: rsa_private_key_pkcs1.pem
service.ssl.privateKey.ecdsa.fileName	This is a mandatory parameter.ecdsa private key file name	Data Type: StringRange: NADefault Value: ssl_ecdsa_private_key.pem
service.ssl.certificate.k8SecretName	This is a mandatory parameter.Name of the certificate secret	Data Type: StringRange: NADefault Value: ocsepp-n32-secret
service.ssl.certificate.k8Namespace	This is a mandatory parameter.Namespace of certificate	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.certificate.rsa.fileName	This is a mandatory parameter.rsa certificate key file name	Data Type: StringRange: NADefault Value: ocsepp.cer
service.ssl.certificate.ecdsa.fileName	This is a mandatory parameter.ecdsa certificate key file name	Data Type: StringRange: NADefault Value: ssl_ecdsa_certificate.crt
service.ssl.caBundle.k8SecretName	This is a mandatory parameter.Name of the caBundle secret	Data Type:String Range: NA Default Value:ocsepp-n32-secret

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
service.ssl.caBundle.k8Namespace	This is a mandatory parameter.Namespace of private	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.caBundle.fileName	This is a mandatory parameter.rsa private key file name	Data Type: StringRange: NADefault Value: caroot.cer
service.ssl.keyStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type:StringRange: NADefault Value: ocsepp-n32-secret
service.ssl.keyStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.keyStorePassword.fileName	This is a mandatory parameter.File name that has password for keyStore	Data Type: StringRange: NADefault Value: key.txt
service.ssl.trustStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-n32-secret
service.ssl.trustStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.trustStorePassword.fileName	This is a mandatory parameter.File name that has password for trustStore	Data Type: StringRange: NADefault Value: trust.txt
service.ssl.initialAlgorithm	This is a mandatory parameter.Algorithm based on the certificate	Data Type: StringRange: NADefault Value: RSA256
service.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific Service	Data Type: String Range: NA Default Value: {}
service.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific Services	Data Type: String Range: NA Default Value: {}
deployment.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: {}
deployment.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: {}
deDupeResponseHeader	This is an optional parameter. it is used for handling duplicate values in response headers. Multiple values can be provided with space. # Ex: content-type nettylatency requestmethod, RETAIN_LAST	Data Type: String Range: nettylatency, requestmethod, RETAIN_LAST Default Value: content-type, RETAIN_LAST

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>commonCfgClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: True or False Default Value: true
<code>commonCfgServer.configServerSvcName</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.host</code>	This is an optional parameter. No (It is needed if <code>commonCfgServer.configServerSvcName</code> is not available) Host name of Common configuration server to which client tries to poll for configuration updates. This value is picked up if <code>commonCfgServer.configServerSvcName</code> is not available	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.port</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Port of Common Configurations server	Data Type: Integer Range: NA Default Value: 9090
<code>commonCfgServer.pollingInterval</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000
<code>commonServiceName</code>	This is a Mandatory parameter if <code>commonCfgClient.enabled</code> is set to true. This is the common service name that is currently requesting for configuration updates from server	Data Type: string Range: NA Default Value: egw
<code>enableSecondaryInstance</code>	To enable secondary instance of config client <code>enableSecondaryInstance</code> must be set to true.	Data Type: Boolean Range: true or false Default Value: false
<code>ingressServiceName</code>	<code>IngressServiceName</code> must be set with the value of <code>commonServiceName</code> present in <code>ingress values.yaml</code> .	Data Type: string Range: NA Default Value: igw

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
ingressReleaseVersion	IngressReleaseVersion must be same as version in Chart.yaml of IngressGateway.	Data Type: string Range: NA Default Value: helm-gateway-ingress-tag
restoreBackupOnInstall	This is an optional parameter. This flag when enabled picks up the data from the backup table during installation of gateway	Data Type: Boolean Range: true or false Default Value: false
dbConfig.dbHost	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Hostname of Mysql in which the configuration must be stored	Data Type: String Range: NA Default Value: sepp-mysql-svc
dbConfig.dbPort	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Port of mysql	Data Type: Integer Range: NA Default Value: 3306
dbConfig.configFile	This is a mandatory parameter. (if commonCfgClient enabled is set to true) File name for initial configuration that must be stored in the db	Data Type: String Range: NA Default Value: defaultconfig.yaml
dbConfig.schemaFile	This is a mandatory parameter. (if commonCfgClient enabled is set to true) File name for json schema validation	Data Type: String Range: NA Default Value: defaultschema.json
dbConfig.secretName	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Secret name from which the db name, db password and db user name is picked	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
dbConfig.dbName	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Database name	Data Type: String Range: NA Default Value: seppdb
dbConfig.dbUserNameLiteral	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Name of the Key configured for "DB Username" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-username

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
dbConfig.dbPwdLiteral	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Name of the Key configured for "DB Password" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-password
dbConfig.dbEngine	This is a mandatory parameter. This parameter defines the storage engine of the database	Data Type: String Range: NDBCLUSTER or InnoDB Default Value: InnoDB
routesConfig[0].id	This is a mandatory parameter. id of the route. Multiple routes can be configured in a similar way.	Data Type: Range: NA Default Value: scp_via_proxy
routesConfig[0].uri	This is a mandatory parameter. Provide any dummy url, existing url can also left with existing value. Please note provided sample url does not make any impact (http or https) as url's will be constructed in the code.	Data Type: Range: NA Default Value: http://request.uri
outesConfig[0].path	This is a mandatory parameter. Provide the path to be matched.	Data Type: Range: NA Default Value: /nef/**
routesConfig[0].order	This is a mandatory parameter. Provide the order of the execution of this route.	Data Type: Range: NA Default Value: 1
routesConfig[0].metadata.httpRuriOnly	This is an optional parameter Provide true or false enclosed with double quotes. If "true" then change scheme of RURI to http , "false" then keep scheme as is.	Data Type: BooleanRange: True or FalseDefault Value: false
routesConfig[0].metadata.httpsTargetOnly	This is an optional parameter Provide true or false enclosed with double quotes. If "true" then select SBI instances for https list only (if 3gpp sbi target root header is http), if "false" then run existing logic as per the provided scheme.	Data Type: BooleanRange: True or FalseDefault Value: false

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>routesConfig[0].metadata.sbiRoutingEnabled</code>	This is an optional parameter true: SbiRouting functionality is enabled false: SbiRouting functionality is disabled	Data Type: BooleanRange: True or FalseDefault Value: false
<code>routesConfig[0].filterNameReqEntry.name</code>	This is an optional parameter This parameter defines the custom header filter name in incoming request	Data Type: String Range: NA Default Value: CustomReqHeaderEntryFilter
<code>routesConfig[0].filterNameReqEntry.args.headers[0].methods</code>	This is an optional parameter This parameter defines the method in incoming request for adding custom header filter	Data Type: String Range: NA Default Value: ALL
<code>routesConfig[0].filterNameReqEntry.args.headers[0].headersList[0].headerName</code>	This is an optional parameter This parameter defines the list of custom headers to be added in incoming request	Data Type: String Range: NA Default Value: x-headereq-2014
<code>routesConfig[0].filterNameReqEntry.args.headers[0].headersList[0].defaultValue</code>	This is an optional parameter This parameter defines the default value for custom headers to be added in incoming request	Data Type: String Range: NA Default Value: script:shm-02,x-exit-new-req
<code>routesConfig[0].filterNameReqEntry.args.headers[0].headersList[0].source</code>	This is an optional parameter This parameter defines the source for custom headers to be added	Data Type: String Range: NA Default Value: incomingReq
<code>routesConfig[0].filterNameReqEntry.args.headers[0].headersList[0].sourceHeader</code>	This is an optional parameter This parameter defines the source header for custom headers to be added in incoming request	Data Type: String Range: NA Default Value: x-current-user
<code>routesConfig[0].filterNameReqExit.name</code>	This is an optional parameter This parameter defines the custom header filter name in egress request	Data Type: String Range: NA Default Value: CustomReqHeaderExitFilter
<code>routesConfig[0].filterNameReqExit.args.headers.methods</code>	This is an optional parameter This parameter defines the method in egress request for adding custom header filter	Data Type: String Range: NA Default Value: ALL
<code>routesConfig[0].filterNameReqExit.args.headers.headersList[0].headerName</code>	This is an optional parameter This parameter defines the list of custom headers to be added in egress request	Data Type: String Range: NA Default Value: x-headereq-2021
<code>routesConfig[0].filterNameReqExit.args.headers.headersList[0].defaultValue</code>	This is an optional parameter This parameter defines the default value for custom headers to be added in egress request	Data Type: Integer Range: NA Default Value: 0505

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>routesConfig[0].filterNameReqExit.args.headers.headersList[0].source</code>	This is an optional parameter This parameter defines the source for custom headers to be added	Data Type: String Range: NA Default Value: incomingReq
<code>routesConfig[0].filterNameReqExit.args.headers.headersList[0].sourceHeader</code>	This is an optional parameter This parameter defines the source header for custom headers to be added in egress request	Data Type: String Range: NA Default Value: x-current-user
<code>routesConfig[0].filterNameResEntry.name</code>	This is an optional parameter This parameter defines the custom header filter name in incoming response	Data Type: String Range: NA Default Value: CustomResHeaderEntryFilter
<code>routesConfig[0].filterNameResEntry.args.headers[0].methods</code>	This is an optional parameter This parameter defines the method in incoming response for adding custom header filter	Data Type: String Range: NA Default Value: ALL
<code>routesConfig[0].filterNameResEntry.args.headers[0].headersList[0].headerName</code>	This is an optional parameter This parameter defines the list of custom headers to be added in incoming response	Data Type: String Range: NA Default Value: x-headereRes-3014
<code>routesConfig[0].filterNameResEntry.args.headers[0].headersList[0].defaultVal</code>	This is an optional parameter This parameter defines the default value for custom headers to be added in incoming response	Data Type: String Range: NA Default Value: pqr
<code>routesConfig[0].filterNameResEntry.args.headers[0].headersList[0].source</code>	This is an optional parameter This parameter defines the source for custom headers to be added	Data Type: String Range: NA Default Value: incomingRes
<code>routesConfig[0].filterNameResEntry.args.headers[0].headersList[0].sourceHeader</code>	This is an optional parameter This parameter defines the source header for custom headers to be added in incoming response	Data Type: String Range: NA Default Value: x-current-hooman
<code>routesConfig[0].filterNameResExit.name</code>	This is an optional parameter This parameter defines the custom header filter name in egress response	Data Type: String Range: NA Default Value: CustomResHeaderExitFilter
<code>routesConfig[0].filterNameResExit.args.headers.methods</code>	This is an optional parameter This parameter defines the method in egress response for adding custom header filter	Data Type: String Range: NA Default Value: ALL
<code>routesConfig[0].filterNameResExit.args.headers.headersList[0].headerName</code>	This is an optional parameter This parameter defines the list of custom headers to be added in egress response	Data Type: String Range: NA Default Value: x-headereRes-2021

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>routesConfig[0].filterNameResExit.args.headers.headersList[0].defaultVal</code>	This is an optional parameter This parameter defines the default value for custom headers to be added in egress response	Data Type: Integer Range: NA Default Value: 0909
<code>routesConfig[0].filterNameResExit.args.headers.headersList[0].source</code>	This is an optional parameter This parameter defines the source for custom headers to be added	Data Type: String Range: NA Default Value: incomingRes
<code>routesConfig[0].filterNameResExit.args.headers.headersList[0].sourceHeader</code>	This is an optional parameter This parameter defines the source header for custom headers to be added in egress response	Data Type: String Range: NA Default Value: x-current-hooman
<code>routesConfig[0].filterName1.name</code>	This is a mandatory parameter if <code>routesConfig[0].metadata.sbiRoutingEnabled</code> is true Provide filtername as "SBIRoutingFilter" If FilterName1 is not provided then it would be considered as direct Egress Gateway path and configured accordingly during deployment.	Data Type: String Range: NA Default Value: SbiRouting
<code>routesConfig[0].filterName1.args.peerSetIdentifier</code>	This is a mandatory parameter if <code>routesConfig[0].metadata.sbiRoutingEnabled</code> is true This flag maps to id of <code>peerSetConfiguration</code>	Data Type: String Range: NA Default Value: set0
<code>routesConfig[0].filterName1.args.customPeerSelectorEnabled</code>	This is an optional parameter This flag allows the user to send request to a particular instance directly when enabled according to "ocalternaterouteattempt" header	Data Type: Boolean Range: True or False Default Value: false
<code>routesConfig[0].filterName1.args.errorHandling.errorCriteriaSet</code>	This is a mandatory parameter, if the NF wants to enable SBI Rerouting Feature. This flag maps to the id of <code>sbiRoutingErrorCriteriaSets</code> configuration.	Data Type: String Range: NA Default Value: <code>scp_direct2_criteria_1</code>
<code>routesConfig[0].filterName1.args.errorHandling.actionSet</code>	This is a mandatory parameter, if the NF wants to enable SBI Rerouting Feature. This flag maps to the id of <code>sbiRoutingErrorActionSets</code> configuration	Data Type: String Range: NA Default Value: <code>scp_direct2_action_1</code>

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>routesConfig[0].filterName1.args.errorHandling.priority</code>	This is a mandatory parameter, if the NF wants to enable SBI Rerouting Feature. This maps the priority of execution for <code>sbiRoutingErrorCriteriaSets</code> & <code>sbiRoutingErrorActionSets</code> mapping	Data Type: integer Range: NA Default Value: 1
<code>routesConfig[0].removeRequestHeader[0].name</code>	This is an optional parameter This field is used for removing a request header at route level. Additional header can be configured by adding a new element in the next line and so on. The value of "name" attribute denotes the name of the request header which is to be removed at route level. Add a new entry in next line for every header to be removed.	Data Type: String Range: NA Default Value: <code>myheader1</code> <code>myheader3</code>
<code>routesConfig[0].removeResponseHeader[0].name</code>	This is an optional parameter This field is used for removing a responseheader at route level. Additional header can be configured by adding a new element in the next line and so on. The value of "name" attribute denotes the name of the request header which is to be removed at route level. Add a new entry in next line for every header to be removed.	Data Type: String Range: NA Default Value: <code>myresponseheader1</code> <code>myresponseheader3</code>
<code>dnsSrv.host</code>	This is a mandatory parameter, If DnsSrv integration is required, else optional Host of DNS Alternate Route Service	Data Type: String Range: NA Default Value: 10.75.225.67

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
dnsSrv.alternateRouteSvcName	This is a mandatory parameter, if DnsSrv integration is required and Service Name is expected to be provided otherwise optional Service name of Alternate Route Service. If Service name is provided , then this parameter would be picked for integrating Egress Gateway with alternate route service. If IP or Fqdn is expected to be provided then update this parameter as blank and update above parameter accordingly. If this parameter is populated with data then above parameter would be ignored.	Data Type: String Range: NA Default Value: alternate-route
dnsSrv.port	This is a mandatory parameter, If DnsSrv integration is required, else optional Port of DNS Alternate Route Service	Data Type: String Range: NA Default Value: 80
dnsSrv.scheme	This is a mandatory parameter, If DnsSrv integration is required, else optional Scheme of request that need to be sent to alternate route service. By default it is http. Just gave configurable privilege for future.	Data Type: String Range: NA Default Value: http
dnsSrv.errorCodeOnDNSResolutionFailure	This is a mandatory parameter, If DnsSrv integration is required, else optional. Currently, this value cannot be modified.	Data Type: Integer Range: NA Default Value: 425
dnsSrv.errorDescriptionOnDNSResolutionFailure	This is an optional parameter. Error Description for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.detail section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""
dnsSrv.errorTitleOnDNSResolutionFailure	This is an optional parameter. Error title for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.title section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
<code>dnsSrv.errorCauseOnDNSResolutionFailure</code>	This is an optional parameter. Error cause for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.cause section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""
<code>jaegerTracingEnabled</code>	This is an optional parameter.Enable jaeger tracing	Data Type: Boolean Range: True or False Default Value: false
<code>openTracing.jaeger.udpSender.host</code>	This is an optional parameter.Jaeger Host	Data Type: String Range: NA Default Value: occne-tracer-jaeger-agent.occne-infra
<code>openTracing.jaeger.udpSender.port</code>	This is an optional parameter.Jaeger Port	Data Type: Integer Range: NA Default Value: 6831
<code>openTracing.jaeger.probabilisticSampler</code>	This is an optional parameter.Trace capture in percentage	Data Type: Float Range: NA Default Value: 0.5
<code>dnsRefreshDelay</code>	This is an optional parameter. Dns Refresh Delay in milliseconds	Data Type: Integer Range: NA Default Value: 10000
<code>resources.limits.cpu</code>	This is an optional parameter.CPU Limit	Data Type: Integer Range: NA Default Value: 5
<code>resources.limits.initServiceCpu</code>	This is an optional parameter.Init Container CPU Limit	Data Type: Float Range: NA Default Value: 1
<code>resources.limits.updateServiceCpu</code>	This is an optional parameter.Update Container CPU Limit	Data Type: Float Range: NA Default Value: 1
<code>resources.limits.memory</code>	This is an optional parameter.Memory Limit	Data Type: String Range: NA Default Value: 5Gi
<code>resources.limits.updateServiceMemory</code>	This is an optional parameter.Update Container Memory Limit	Data Type:String Range: NA Default Value: 1Gi
<code>resources.limits.initServiceMemory</code>	This is an optional parameter.int Container Memory Limit	Data Type: String Range: NA Default Value: 1Gi
<code>resources.requests.cpu</code>	This is an optional parameter.CPU for requests	Data Type: Integer Range: NA Default Value: 5

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
resources.requests.initServiceCpu	This is an optional parameter.Init Container CPU for requests	Data Type: Float Range: NA Default Value: 1
resources.requests.updateServiceCpu	This is an optional parameter.Update Container CPU for requests	Data Type:Float Range: NA Default Value: 1
resources.requests.memory	This is an optional parameter.Memory for requests	Data Type: String Range: NA Default Value: 5Gi
resources.requests.updateServiceMemory	This is an optional parameter.Update Container Memory for requests	Data Type: String Range: NA Default Value: 1Gi
resources.requests.initServiceMemory	This is an optional parameter.Init Container Memory for requests	Data Type: String Range: NA Default Value: 1Gi
resources.target.averageCpuUtil	This is an optional parameter.Resource Requirements(avg cpu utilisation)	Data Type: Integer Range: NA Default Value: 70
minAvailable	This is an optional parameter.Number of Pods must always be available, even during a disruption	Data Type: Integer Default Value: 1
maxUnavailable	This is an optional parameter.Number of Pods that will be unavailable during a disruption	Data Type: Integer Range: NA Default Value: 25%
minReplicas	This is an optional parameter.Min replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
maxReplicas	This is an optional parameter.Max replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 10
connectionTimeout	This is an optional parameter. Connection timeout in milliseconds	Data Type: Integer Range: NA Default Value: 60
requestTimeout	This is an optional parameter. Request Timeout in milli seconds	Data Type: Integer Range: NA Default Value: 1000 #ms
gracefulCloseDelay	This is an mandatory parameter. gracefulCloseDelay value should be positive value greater than request Timeout and lesser than jettyIdleTimeout. If gracefulCloseDelay is set to 0 then default value of 30000 ms will be considered internally.	Data Type: Integer Range: NA Default Value: 1500 ms

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
cipherSuites	This is an optional parameter. Supported Cipher Suites in Ingress	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
allowedCipherSuites	This is an optional parameter. Allowed Ciphers	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. 's' in case of seconds and 'm' in case of minutes	Data Type: String Range: NA Default Value: 1m

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
gracefulShutdown.defaultErrorCode	This is a optional parameter Default error code returned at the time of Graceful shut down	Data Type: Integer Range: NA Default Value: 500
gracefulShutdown.errorDescription	This is an optional parameter. Graceful shut down Error description	Data Type: String Range: NA Default Value: Shutdown in progress
gracefulShutdown.errorTitle	This is an optional parameter. Graceful shut down error title	Data Type: String Range: NA Default Value: Graceful shutdown
gracefulShutdown.errorCause	This is an optional parameter. Graceful shut down error cause	Data Type: String Range: NA Default Value: Shutdown
egressRateLimiting.enabled	This is a mandatory parameter.This parameter enables Global Rate Limiting on Gateway.	Data Type: boolean Range: True or False Default Value: false
egressRateLimiting.duration	This is a mandatory parameter.This parameter defines the duration to decide how frequently to refill(in seconds)	Data Type: Integer Range: NA Default Value: 1
egressRateLimiting.bucketCapacity	This is a mandatory parameter.This parameter defines the Bucket size in which capacity to handle traffic burst is defined.	Data Type: Integer Range: NA Default Value: 7500
egressRateLimiting.refillRate	This is a mandatory parameter.This parameter defines the number of tokens to be added to refill the bucket	Data Type: Integer Range: NA Default Value: 7500
egressRateLimiting.errorCodeOnRateLimit	This is a mandatory parameter.This parameter defines the configurable error code to be returned	Data Type: Integer Range: NA Default Value: 429
nettyIdleTimeout	This is an optional parameter. Netty Idle Timeout in milli seconds	Data Type: Integer Range: NA Default Value: 120000000
nfFqdn	This is a mandatory parameter. NF FQDN	Data Type: Integer Range: NA Default Value: sepp2.inter.oracle.com
messageCopy.enabled	This is an optional parameter.This parameter enables or disables the Message feed feature at the Ingress Gateway.	Data Type: Boolean Range: True or False Default Value: False

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
messageCopy.copyPayload	This is an optional parameter. This parameter specifies whether to copy the message payload in the feed towards Data Director or not. true: the complete payload message is copied. false: Only the header information is copied.	Data Type: Boolean Range: True or False Default Value: False
messageCopy.topicName	This is an optional parameter. Name of the topic to which Ingress Gateway send the payloads.	Data Type:String Range: NA Default Value:message.copy
messageCopy.ackRequired	This is a mandatory parameter. This parameter specifies if we wait for any acknowledgement from DD.	Data Type: Boolean Range: True or False Default Value:False
messageCopy.retryOnFailure	This is a mandatory parameter. This parameter specifies how many times SEPP should retry if message was not sent to DD successfully.	Data Type: Integer Range: NA Default Value: 0
messageCopy.threadPoolConfigurations.coreSize	This is an optional parameter. core Size for thread pool configuration for message feed thread For performance enhancement, set the value as16.	Data Type: Integer Range: NA Default Value: 8
messageCopy.threadPoolConfigurations.maxSize	This is an optional parameter. max Size for thread pool configuration for message feed thread For performance enhancement, set the value as16.	Data Type: Integer Range: NA Default Value: 8
messageCopy.threadPoolConfigurations.queueCapacity	This is an optional parameter. queue capacity for thread pool configuration message feed thread For performance enhancement, set the value as 3000.	Data Type: Integer Range: NA Default Value: 1000
messageCopy.security.enabled	This is a mandatory parameter. Security mode enabled for message feed feature	Data Type: Boolean Range: True or False Default Value:False
messageCopy.security.protocol	This is a conditional parameter. It is used for message feed feature when security is enabled between SEPP and Gateway.	Data Type:String Range: Range: SASL_SSL or SSL Default Value: SASL_SSL
messageCopy.security.tlsVersion	This is a mandatory parameter. TLS version details	Data Type: String Range: TLSv1.2 Default Value: TLSv1.2

Table 3-10 (Cont.) n32-egress-gateway

Name	Description	Details
messageCopy.security.saslConfiguration.username	This is a mandatory parameter. username for DD Refer to DD guide for more details	Data Type: String Range: NA Default Value: test
messageCopy.security.saslConfiguration.password.k8SecretName	This is a mandatory parameter. Secret name for gateway on which feature enabled	Data Type: String Range: ocsepp-plmn-secret for PLMN Gateways and ocsepp-n32-secret for N32 Gateways Default Value: message-copy-secret
messageCopy.security.saslConfiguration.password.k8Namespace	This is a mandatory parameter. Namespace where DD deployed Please refer to DD guide for more details	Data Type: String Range: Default Value: ocregress
messageCopy.security.saslConfiguration.password.fileName	This is a mandatory parameter. File used to create DD secrets Please refer to DD guide for more details	Data Type: String Range: NA Default Value: password.txt
kafka.bootstrap.servers	This is a conditional parameter. List of comma-separated DD Nodes IP address The port will change to 9092 if security is disabled	Data Type: String Range: NA Default Value: <kafka-broker>:<port> Port = 9093 for SSL protocol Port = 9094 for SASL_SSL protocol

3.1.10 plmn-egress-gateway

This section includes information about the plmn-egress-gateway parameters of the SEPP.

Table 3-11 plmn-egress-gateway

Name	Description	Details
cmName	This is an optional parameter. Indicates the name of the configmap.	Data Type: String Range: NA Default Value: egressgateway
serviceMeshCheck	This is a mandatory parameter. Enabled when deployed in serviceMesh.	Data Type: Boolean Range: true or false Default Value: false
istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/quitquitquit Note: Port should be envoy admin port.

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/ready Note: Port should be envoy admin port.
global.k8sResources.hpa.supportedVersions	Kubernetes resource	Data Type: String Range: NA Default Value: autoscaling/v1
global.k8sResources.pdb.supportedVersions	Kubernetes resource PDB supported version	Data Type: String Range: NA Default Value: policy/v1
global.logStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.crictlStorage	This is an optional parameter. Ephemeral storage configuration for log storage	Data Type: Integer Range: NA Default Value: 32
global.ephemeralStorageLimit	This is an optional parameter. Ephemeral storage Limit	Data Type: Integer Range: NA Default Value: 1024
extraContainers	This is a mandatory parameter. The attribute is used to control the usage of extra container(DEBUG tool). Allowed Values: DISABLED, ENABLED, USE_GLOBAL_VALUE If assigned with ENABLED or USE_GLOBAL_VALUE, then ensure "extraContainers Tpl" yaml chunk is defined at Service level or Global level in the parent chart based on the value assigned respectively.	Data Type: String Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
prefix	This is a mandatory parameter. When this parameter is set to specific value then that value will be used in the names of resources along with release name.	Data Type: String Range: NA Default Value: plmn
routeConfigMode	This is an optional parameter. Mode of route configuration for sbiRouting. Possible values are Helm, REST	Data Type: String Range: Helm, REST Default Value: REST

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
serviceEgressGateway.port	This is a mandatory parameter.Indicates the Egress Gateway port.	Data Type: Integer Range: NA Default Value: 8080
serviceEgressGateway.sslPort	This is a mandatory parameter.SSL Port	Data Type: Integer Range: NA Default Value: 8442
serviceEgressGateway.actuatorPort	This is a Mandatory parameter (for ASM and non ASM Setups). ActuatorPort is used for prometheus port and probes. It Cannot be same as service port.	Data Type: Integer Range: NA Default Value: 9090
deploymentEgressGateway.image	This is an optional parameter.Image name of ingress gateway	Data Type: String Range: NA Default Value: ocingress_gateway
deploymentEgressGateway.imageTag	This is an optional parameter.Image Tag name of ingress gateway	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
deploymentEgressGateway.pullPolicy	This is an optional parameter.Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initContainersImage.name	This is an optional parameter.Image name of initContainer	Data Type: String Range: NA Default Value: configurationinit
initContainersImage.tag	This is an optional parameter.Image tag name of initContainer	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
initContainersImage.pullPolicy	This is an optional parameter.Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
updateContainersImage.name	This is an optional parameter.Image name of updateContainer	Data Type: String Range: NA Default Value: configurationupdate
updateContainersImage.tag	This is an optional parameter.Image tag name of updateContainer	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
updateContainersImage.pullPolicy	This is an optional parameter.Image Pull Policy	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
dbHookImage.name	This is an optional parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook
dbHookImage.tag	This is an optional parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: helm-gateway-egress-tag
dbHookImage.pullPolicy	This is an optional parameter. Pull Policy of Image	Data Type: String Range: Always, IfNotPresent, Never Default Value: Always
initssl	This is an optional parameter.Enabling it generates key and trust store for https support	Data Type: BooleanRange: True or FalseDefault Value: True
enableIncomingHttps	This is an optional parameter.Enabling it for incoming http request	Data Type: Boolean Range: True or False Default Value: False
enableOutgoingHttps	This is an optional parameter.Enabling it for incoming https request	Data Type: Boolean Range: True or False Default Value: True
httpsTargetOnly	This is an optional parameter. This is global parameter which will be taken into consideration if route (under routeConfig section) based httpsTargetOnly parameter is not available. true: Select SbiRouting instances for https list only false: Run existing logic as per provided scheme. Note: double quotes to be enclosed for values of httpsTargetOnly	Data Type: Boolean Range: True or False Default Value: false
httpRuriOnly	This is an optional parameter. Global parameter is taken into consideration if route (under routeConfig section) based httpRuriOnly parameter is not available. true: Means change Scheme of RURI to http false: Keep scheme as is.	Data Type: Boolean Range: True or False Default Value: false
sbiRouting.sbiRoutingDefaultScheme	This is an optional parameter. Default scheme applicable when3gpp-sbi-target apirooheader is missing	Data Type: String Range: NA Default Value: https
sbiRouting.peerConfiguration[0].id	This is a mandatory parameter. Peer identifier for the peer	Data Type: String Range: NA Default Value: peer1

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>sbiRouting.peerConfiguration[0].host</code>	This is a mandatory parameter. First peer instance HTTP IP/ FQDN	Data Type: String Range: NA Default Value: <release-name>- plmn-ingress-gateway
<code>sbiRouting.peerConfiguration[0].port</code>	This is a mandatory parameter. First peer instance Port	Data Type: Integer Range: NA Default Value: 80
<code>sbiRouting.peerConfiguration[0].apiPrefix</code>	This is an optional parameter. First peer instance apiPrefix. Change this value to corresponding prefix if "/" is not expected to be provided. Applicable only for SCP with TLS enabled.	Data Type: String Range: NA Default Value: "/"
<code>sbiRouting.peerSetConfiguration[0].id[0]</code>	This is a mandatory parameter. (If route-level "metadata.sbiRoutingEnabled" flag is set to true) This is the peer set id that contains list of http and http instances	Data Type: String Range: NA Default Value: set0
<code>sbiRouting.peerSetConfiguration[0].id[0].httpConfiguration[0].priority</code>	This is a mandatory parameter. (If route-level "metadata.sbiRoutingEnabled" flag is set to true) This denotes the priority of the http instance that request needs to be forwarded. Lower the priority, higher the preference	Data Type: Integer Range: NA Default Value: 2
<code>sbiRouting.peerSetConfiguration[0].id[0].httpConfiguration[0].peerIdentifier</code>	This is a mandatory parameter. (If route-level "metadata.sbiRoutingEnabled" flag is set to true) This denotes the peer id that is present in the list of peers configured with unique ids	Data Type: String Range: NA Default Value: peer1
<code>headlessServiceEnabled</code>	This is an optional parameter. Enabling this will make the service type default to ClusterIP	Data Type: Boolean Range: True or False Default Value: false
<code>log.level.root</code>	This is an optional parameter.Log level for root logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR
<code>log.level.egress</code>	This is an optional parameter.Log level for ingress logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: ERROR

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
log.level.oauth	This is an optional parameter.Log level for oauth logs	Data Type: String Range: DEBUG/ INFO/ WARN/ ERROR Default Value: WARN
log.level.updateContainer	This is an optional parameter.Log level for update container logs	Data Type: StringRange: DEBUG/ INFO/ WARN/ ERRORDefault Value: WARN
connectionTimeout	This is an optional parameter. Connection timeout in milliseconds	Data Type: Integer Range: NA Default Value: 2000
requestTimeout	This is an optional parameter. Request Timeout in milli seconds	Data Type: IntegerRange: NADefault Value: 10000 #ms
gracefulCloseDelay	This is an mandatory parameter. gracefulCloseDelay value should be positive value greater than request Timeout and lesser than jettyIdleTimeout. If gracefulCloseDelay is set to 0 then default value of 30000 ms will be considered internally.	Data Type: IntegerRange: NADefault Value: 30000 ms
service.type	This is a mandatory parameter.Service type	Data Type: StringRange: NADefault Value: ClusterIP
service.ssl.tlsVersion	This is a mandatory parameter.TLS Version	Data Type: StringRange: NADefault Value: TLSv1.2
service.ssl.privateKey.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.privateKey.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.privateKey.rsa.fileName	This is a mandatory parameter.rsa private key file name	Data Type: StringRange: NADefault Value: rsa_private_key_pkcs1.pem
service.ssl.privateKey.ecdsa.fileName	This is a mandatory parameter.ecdsa private key file name	Data Type: StringRange: NADefault Value: ssl_ecdsa_private_key.pem
service.ssl.certificate.k8SecretName	Name of the certificate secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.certificate.k8Namespace	This is a mandatory parameter.Namespace of certificate	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.certificate.rsa.fileName	This is a mandatory parameter.rsa certificate key file name	Data Type: StringRange: NADefault Value: ocsepp.cer
service.ssl.certificate.ecdsa.fileName	This is a mandatory parameter.ecdsa certificate key file name	Data Type: StringRange: NADefault Value: ssl_ecdsa_certificate.crt

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
service.ssl.caBundle.k8SecretName	This is a mandatory parameter.Name of the caBundle secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.caBundle.k8Namespace	This is a mandatory parameter.Namespace of private	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.caBundle.fileName	This is a mandatory parameter.rsa private key file name	Data Type: StringRange: NADefault Value: caroot.cer
service.ssl.keyStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.keyStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.keyStorePassword.fileName	This is a mandatory parameter.File name that has password for keyStore	Data Type: StringRange: NADefault Value: key.txt
service.ssl.trustStorePassword.k8SecretName	This is a mandatory parameter.Name of the privatekey secret	Data Type: StringRange: NADefault Value: ocsepp-plmn-secret
service.ssl.trustStorePassword.k8Namespace	This is a mandatory parameter.Namespace of privatekey	Data Type: StringRange: NADefault Value: DEPLOYMENT_NAMESPACE
service.ssl.trustStorePassword.fileName	This is a mandatory parameter.File name that has password for trustStore	Data Type: StringRange: NADefault Value: trust.txt
service.ssl.initialAlgorithm	This is a mandatory parameter.Algorithm based on the certificate	Data Type: StringRange: NADefault Value: RS256
service.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific Service	Data Type: StringRange: NADefault Value: { }
service.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific Services	Data Type: StringRange: NADefault Value: { }
deployment.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific deployment	Data Type: StringRange: NADefault Value: { }
deployment.customExtension.annotations	This is an optional parameter.Custom Annotations that needs to be added to sepp specific deployment	Data Type: StringRange: NADefault Value: { }
deployment.customExtension.labels	This is an optional parameter.Custom Labels that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: { }

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>deployment.customExtension.annotations</code>	This is an optional parameter. Custom Annotations that needs to be added to sepp specific deployment	Data Type: String Range: NA Default Value: { }
<code>deDupeResponseHeader</code>	This is an optional parameter. it is used for handling duplicate values in response headers. Multiple values can be provided with space. # Ex: content-type nettylatency requestmethod, RETAIN_LAST	Data Type: String Range: NA Default Value: content-type, RETAIN_LAST
<code>commonCfgClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: True or False Default Value: true
<code>commonCfgServer.configServerSvcName</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.host</code>	This is an optional parameter. No (It is needed if <code>commonCfgServer.configServerSvcName</code> is not available) Host name of Common configuration server to which client tries to poll for configuration updates. This value is picked up if <code>commonCfgServer.configServerSvcName</code> is not available	Data Type: String Range: NA Default Value: config-mgr-svc
<code>commonCfgServer.port</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true Port of Common Configurationserver	Data Type: Integer Range: NA Default Value: 9090
<code>commonCfgServer.pollingInterval</code>	This is a mandatory parameter if <code>commonCfgClient.enabled</code> is set to true This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
commonServiceName	This is a Mandatory parameter if commonCfgClient.enabled is set to true. This is the common service name that is currently requesting for configuration updates from server	Data Type: string Default Value: egw
enableSecondaryInstance	To enable secondary instance of config client enableSecondaryInstance must be set to true.	Data Type: Boolean Range: NA Default Value: false
ingressServiceName	IngressServiceName must be set with the value of commonServiceName present in ingress values.yaml.	Data Type: string Range: NA Default Value: igw
ingressReleaseVersion	IngressReleaseVersion must be same as version in Chart.yaml of IngressGateway.	Data Type: String Range: NA Default Value: helm-gateway-ingress-tag
restoreBackupOnInstall	This is an optional parameter. This flag when enabled picks up the data from the backup table during installation of gateway	Data Type: Boolean Range: true or false Default Value: false
dbConfig.dbHost	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Hostname of Mysql in which the configuration must be stored	Data Type: String Range: NA Default Value: sepp-mysql-svc
dbConfig.dbPort	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Port of mysql	Data Type: Integer Range: NA Default Value: 3306
dbConfig.configFile	This is a mandatory parameter. (if commonCfgClient enabled is set to true) File name for initial configuration that must be stored in the db	Data Type: String Range: NA Default Value: defaultconfig.yaml
dbConfig.schemaFile	This is a mandatory parameter. (if commonCfgClient enabled is set to true) File name for json schema validation	Data Type: String Range: NA Default Value: defaultschema.json
dbConfig.secretName	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Secret name from which the db name, db password and db user name is picked	Data Type: String Range: NA Default Value: ocsepp-mysql-cred

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
dbConfig.dbName	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Database name	Data Type: String Range: NA Default Value: seppdb
dbConfig.dbUserNameLiteral	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Name of the Key configured for "DB Username" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-username
dbConfig.dbPwdLiteral	This is a mandatory parameter. (if commonCfgClient enabled is set to true) Name of the Key configured for "DB Password" in Secret with following name: "<dbConfig.secretName>"	Data Type: String Range: NA Default Value: mysql-password
dbConfig.dbEngine	This is a mandatory parameter. This parameter defines the storage engine of the database	Data Type: String Range: NDBCLUSTER or InnoDB Default Value: InnoDB
globalretry.enabled	This is an optional parameter Can be set to true if Scp re-route feature (scpRerouteEnabled) is enabled.	Data Type: Boolean Range: True or False Default Value: false
globalretry.retries	This is a mandatory parameter if, "routesConfig[0].filterName2.retries" is not defined Number of reroute to be attempted to alternate SCP instances and this property will be considered in the absence of "routesConfig[0].filterName2.retries" attribute at route level.	Data Type: Integer Range: NA Default Value: 2
routesConfig[0].id	This is a mandatory parameter. id of the route. Multiple routes can be configured in a similar way.	Data Type: Integer Range: NA Default Value: scp_via_proxy
routesConfig[0].uri	This is a mandatory parameter. Provide any dummy url, existing url can also left with existing value. Please note provided sample url does not make any impact (http or https) as url's will be constructed in the code.	Data Type: String Range: NA Default Value: http://request.uri

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>routesConfig[0].path</code>	This is a mandatory parameter. Provide the path to be matched.	Data Type: String Range: NA Default Value: /**
<code>routesConfig[0].order</code>	This is a mandatory parameter. Provide the order of the execution of this route.	Data Type: Integer Range: NA Default Value: 1
<code>routesConfig[0].metadata.httpRuriOnly</code>	This is an optional parameter Provide true or false enclosed with double quotes. If "true" then change scheme of RURI to http , "false" then keep scheme as is.	Data Type: BooleanRange: True or FalseDefault Value: false
<code>routesConfig[0].metadata.httpsTargetOnly</code>	This is an optional parameter Provide true or false enclosed with double quotes. If "true" then select SBI instances for https list only (if 3gpp sbi target root header is http), if "false" then run existing logic as per the provided scheme.	Data Type: BooleanRange: True or FalseDefault Value: false
<code>routesConfig[0].metadata.sbiRoutingEnabled</code>	This is an optional parameter true: SbiRouting functionality is enabled false: SbiRouting functionality is disabled	Data Type: BooleanRange: True or FalseDefault Value: false
<code>routesConfig[0].filterName1.name</code>	This is a mandatory parameter if <code>routesConfig[0].metadata.sbiRoutingEnabled</code> is true Provide filtername as "SBIRoutingFilter" If <code>FilterName1</code> is not provided then it would be considered as direct Egress Gateway path and configured accordingly during deployment.	Data Type: String Range: NA Default Value: "SBIRoutingFilter"
<code>routesConfig[0].filterName1.args.peerSetIdentifier</code>	This is a mandatory parameter if <code>routesConfig[0].metadata.sbiRoutingEnabled</code> is true This flag maps to id of <code>peerSetConfiguration</code>	Data Type: String Range: NA Default Value: set0
<code>routesConfig[0].filterName1.args.customPeerSelectorEnabled</code>	This is an optional parameter This flag allows the user to send request to a particular instance directly when enabled according to "ocalternaterouteattempt" header	Data Type: BooleanRange: True or FalseDefault Value: false

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>routesConfig[0].removeRequestHeader[0].name</code>	This is an optional parameter This field is used for removing a request header at route level. Additional header can be configured by adding a new element in the next line and so on. The value of "name" attribute denotes the name of the request header which is to be removed at route level. Add a new entry in next line for every header to be removed.	Data Type: String Range: NA Default Value: NA
<code>routesConfig[0].removeResponseHeader[0].name</code>	This is an optional parameter This field is used for removing a responseheader at route level. Additional header can be configured by adding a new element in the next line and so on. The value of "name" attribute denotes the name of the request header which is to be removed at route level. Add a new entry in next line for every header to be removed.	Data Type: String Range: NA Default Value: NA
<code>dnsSrv.host</code>	This is a mandatory parameter, If DnsSrv integration is required, else optional Host of DNS Alternate Route Service	Data Type: String Range: NA Default Value: NA
<code>dnsSrv.alternateRouteSvcName</code>	This is a mandatory parameter, if DnsSrv integration is required and Service Name is expected to be provided otherwise optional Service name of Alternate Route Service. If Service name is provided , then this parameter would be picked for integrating Egress Gateway with alternate route service. If IP or Fqdn is expected to be provided then update this parameter as blank and update above parameter accordingly. If this parameter is populated with data then above parameter would be ignored.	Data Type: String Range: NA Default Value: alternate-route

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>dnsSrv.port</code>	This is a mandatory parameter, If DnsSrv integration is required, else optional Port of DNS Alternate Route Service	Data Type: Integer Range: NA Default Value: 80
<code>dnsSrv.scheme</code>	This is a mandatory parameter, If DnsSrv integration is required, else optional Scheme of request that need to be sent to alternate route service. By default it is http. Just gave configurable privilege for future.	Data Type: StringRange: NADefault Value: http
<code>dnsSrv.errorCodeOnDNSResolutionFailure</code>	This is a mandatory parameter, If DnsSrv integration is required, else optional Currently, this value cannot be modified.	Data Type: IntegerRange: NADefault Value: 425
<code>dnsSrv.errorDescriptionOnDNSResolutionFailure</code>	This is an optional parameter. Error Description for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.detail section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""
<code>dnsSrv.errorTitleOnDNSResolutionFailure</code>	This is an optional parameter. Error title for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.title section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""
<code>dnsSrv.errorCauseOnDNSResolutionFailure</code>	This is an optional parameter. Error cause for DNS resolution failure. Populated in ProblemDetails response in ProblemDetails.cause section. Currently, this value cannot be modified.	Data Type: String Range: NA Default Value: ""
<code>dnsRefreshDelay</code>	This is an optional parameter. Dns Refresh Delay in milliseconds	Data Type: IntegerRange: NADefault Value: 10000
<code>resources.limits.cpu</code>	This is an optional parameter.CPU Limit	Data Type: IntegerRange: NADefault Value: 5
<code>resources.limits.initServiceCpu</code>	This is an optional parameter.Init Container CPU Limit	Data Type: FloatRange: NADefault Value: 1
<code>resources.limits.updateServiceCpu</code>	This is an optional parameter.Update Container CPU Limit	Data Type: FloatRange: NADefault Value: 1

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
resources.limits.memory	This is an optional parameter.Memory Limit	Data Type: StringRange: NADefault Value: 5Gi
resources.limits.updateServiceMemory	This is an optional parameter.Update Container Memory Limit	Data Type:StringRange: NADefault Value: 1Gi
resources.limits.initServiceMemory	This is an optional parameter.int Container Memory Limit	Data Type: StringRange: NADefault Value: 1Gi
resources.requests.cpu	This is an optional parameter.CPU for requests	Data Type: IntegerRange: NADefault Value: 1
resources.requests.initServiceCpu	This is an optional parameter.Init Container CPU for requests	Data Type: IntegerRange: NADefault Value: 1
resources.requests.updateServiceCpu	This is an optional parameter.Update Container CPU for requests	Data Type: IntegerRange: NADefault Value: 1
resources.requests.memory	This is an optional parameter.Memory for requests	Data Type: StringRange: NADefault Value: 5Gi
resources.requests.updateServiceMemory	This is an optional parameter.Update Container Memory for requests	Data Type: StringRange: NADefault Value: 1Gi
resources.requests.initServiceMemory	This is an optional parameter.Init Container Memory for requests	Data Type: StringRange: NADefault Value: 1Gi
resources.target.averageCpuUtil	This is an optional parameter.Resource Requirements(avg cpu utilisation)	Data Type: IntegerRange: NADefault Value: 70
maxUnavailable	Number of Pods that will be unavailable during a disruption	Data Type: StringRange: NADefault Value: 25%
minReplicas	This is an optional parameter.Min replicas to scale to maintain an average CPU utilisation	Data Type: IntegerRange: NADefault Value: 10
maxReplicas	This is an optional parameter.Max replicas to scale to maintain an average CPU utilisation	Data Type: IntegerRange: NADefault Value: 10

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
allowedCipherSuites	This is an optional parameter. Allowed Ciphers	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
cipherSuites	This is an optional parameter. Supported Cipher Suites in Ingress	Data Type: String Range: NA Default Value: - TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_RSA_WITH_CHACHA20_POLY1305_SHA256 - TLS_DHE_RSA_WITH_AES_256_GCM_SHA384 - TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256 - TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. 's' in case of seconds and 'm' in case of minutes	Data Type: String Range: NA Default Value: 1m

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
gracefulShutdown.defaultErrorCode	This is a optional parameter Default error code returned at the time of Graceful shut down	Data Type: IntegerRange: NADefault Value: 500
gracefulShutdown.errorDescription	This is an optional parameter. Graceful shut down Error description	Data Type: StringRange: NADefault Value:Shutdown in progress
gracefulShutdown.errorTitle	This is an optional parameter. Graceful shut down error title	Data Type: StringRange: NADefault Value:Graceful shutdown
gracefulShutdown.errorCause	This is an optional parameter. Graceful shut down error cause	Data Type: StringRange: NADefault Value:Shutdown
egressRateLimiting.enabled	This is a mandatory parameter.This parameter enables Global Rate Limiting on Gateway.	Data Type: boolean Range: True or False Default Value: false
egressRateLimiting.duration	This is a mandatory parameter.This parameter defines the duration to decide how frequently to refill(in seconds)	Data Type:IntegerRange: NADefault Value: 1
egressRateLimiting.bucketCapacity	This is a mandatory parameter.This parameter defines the Bucket size in which capacity to handle traffic burst is defined.	Data Type: IntegerRange: NADefault Value: 7500
egressRateLimiting.refillRate	This is a mandatory parameter.This parameter defines the number of tokens to be added to refill the bucket	Data Type: IntegerRange: NADefault Value: 7500
egressRateLimiting.errorCodeOnRateLimit	This is a mandatory parameter.This parameter defines the configurable error code to be returned	Data Type: IntegerRange: NADefault Value: 429
nettyIdleTimeout	This is an optional parameter. Netty Idle Timeout in milli seconds	Data Type: IntegerRange: NADefault Value: 120000
nfFqdn	This is a mandatory parameter. NF FQDN	Data Type:IntegerRange: NADefault Value: sepp2.inter.oracle.com
jaegerTracingEnabled	This is an optional parameter.Enable jaeger tracing	Data Type: Boolean Range: True or False Default Value: false
openTracing.jaeger.udpSender.host	This is an optional parameter.Jaeger Host	Data Type: StringRange: NADefault Value: occne-tracer-jaeger-agent.occne-infra
openTracing.jaeger.udpSender.port	This is an optional parameter.Jaeger Port	Data Type: IntegerRange: NADefault Value: 6831
openTracing.jaeger.probabilisticSampler	This is an optional parameter.Trace capture in percentage	Data Type: FloatRange: NADefault Value: 0.5

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
<code>messageCopy.enabled</code>	This is an optional parameter. This parameter enables or disables the Message feed feature at the Ingress Gateway.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.copyPayload</code>	This is an optional parameter. This parameter specifies whether to copy the message payload in the feed towards Data Director or not. true: the complete payload message is copied. false: Only the header information is copied.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.topicName</code>	This is an optional parameter. Name of the topic to which Ingress Gateway send the payloads.	Data Type: String Range: NA Default Value: message.copy
<code>messageCopy.ackRequired</code>	This is a mandatory parameter. This parameter specifies if we wait for any acknowledgement from DD.	Data Type: Boolean Range: True or False Default Value: False
<code>messageCopy.retryOnFailure</code>	This is a mandatory parameter. This parameter specifies how many times SEPP should retry if message was not sent to DD successfully.	Data Type: Integer Range: NA Default Value: 0
<code>messageCopy.threadPoolConfigurations.coreSize</code>	This is an optional parameter. core Size for thread pool configuration for message feed thread For performance enhancement, set the value as 16.	Data Type: Integer Range: NA Default Value: 8
<code>messageCopy.threadPoolConfigurations.maxSize</code>	This is an optional parameter. max Size for thread pool configuration for message feed thread For performance enhancement, set the value as 16.	Data Type: Integer Range: NA Default Value: 8
<code>messageCopy.threadPoolConfigurations.queueCapacity</code>	This is an optional parameter. queue capacity for thread pool configuration message feed thread For performance enhancement, set the value as 3000.	Data Type: Integer Range: NA Default Value: 1000
<code>messageCopy.security.enabled</code>	This is a mandatory parameter. Security mode enabled for message feed feature	Data Type: Boolean Range: True or False Default Value: False

Table 3-11 (Cont.) plmn-egress-gateway

Name	Description	Details
messageCopy.security.protocol	This is a conditional parameter. It is used for message feed feature when security is enabled between SEPP and Gateway.	Data Type: String Range: SASL_SSL or SSL Default Value: SASL_SSL
messageCopy.security.tlsVersion	This is a mandatory parameter. TLS version details	Data Type: String Range: TLSv1.2 Default Value: TLSv1.2
messageCopy.security.saslConfiguration.username	This is a mandatory parameter. username for DD Refer to DD guide for more details	Data Type: String Range: NA Default Value: test
messageCopy.security.saslConfiguration.password.k8SecretName	This is a mandatory parameter. Secret name for gateway on which feature enabled	Data Type: String Range: ocsepp-plmn-secret for PLMN Gateways and ocsepp-n32-secret for N32 Gateways Default Value: message-copy-secret
messageCopy.security.saslConfiguration.password.k8Namespace	This is a mandatory parameter. Namespace where DD deployed Please refer to DD guide for more details	Data Type: String Range: NA Default Value: ocegress
messageCopy.security.saslConfiguration.password.fileName	This is a mandatory parameter. File used to create DD secrets Please refer to DD guide for more details	Data Type: String Range: NA Default Value: password.txt
kafka.bootstrap-servers	This is a conditional parameter. List of comma-separated DD Nodes IP address The port will change to 9092 if security is disabled	Data Type: String Range: NA Default Value: <kafka-broker>:<port> Port = 9093 for SSL protocol Port = 9094 for SASL_SSL protocol
configureDefaultRoute	This is a mandatory parameter. This parameter is used to configure default route in the plmn-egress-gateway for direct routing.	Data Type: Boolean Range: True or False Default Value: True
sbiRoutingConfigMode	This is a mandatory parameter. This parameter is used to enable or disable the egress rate limiting per egress rate limiting list on Ingress Gateway	Data Type: String Default Value: REST
routeConfigMode	This is a mandatory parameter. This parameter is used to configure in which all the routes should be operated.	Data Type: String Default Value: REST

3.1.11 nrf-client

This section includes information about the nrf-client parameters of the SEPP.

Table 3-12 nrf-client

Name	Description	Details
nrfclient.nrf-client.configmapApplicationConfig.profile	This is a mandatory parameter. It contains configuration parameters that goes into nrf-client's config map. Note: See configmap table for configurable parameters	Data Type: String Range: NA Default Value: <pre>[appcfg] primaryNrfApiRoot= ocnrf-ingressgateway:80 secondaryNrfApiRoot= nrfScheme=http retryAfterTime=PT120S nrfClientType=SEPP nrfClientSubscribeTypes= appProfiles= [{"nfInstanceId":"9faf1bbc-6e4a-4454-a507-aef01a101a06","nfType":"SEPP","nfStatus":"REGISTERED","fqdn":"ocsepp-plmn-ingress-gateway.DEPLOYMENT_NAMESPACE","plmnList": [{"mcc":"333","mnc":"222"}, {"mcc":"444","mnc":"555"}], "scheme":"http", "priority":1}] enableF3=true enableF5=true registrationRetryInterval=5000 subscriptionRetryInterval=5000 discoveryRetryInterval=5000 renewalTimeBeforeExpiry=3600 validityTime=30 enableSubscriptionAutoRenewal=true nfHeartbeatRate=80 acceptAdditionalAttributes=false retryForCongestion=5 supportedDataSetId= enableVirtualNrfResolution=false virtualNrfFqdn=nrf.oracle.com virtualNrfScheme=http virtualNrfPort= useAlternateScpOnAlternateRouting= subscriberNotificationRetry=2 requestTimeoutGracePeriod=2 useAlternateScpOnAlternateRouting= nrfRetryConfig=[{"serviceRequestType":"ALL_REQUESTS","primaryNRFRetryCount":1,"nonPr</pre>

Table 3-12 (Cont.) nrf-client

Name	Description	Details
		<pre> imaryNRFRetryCount":1,"alternateNRFRetryCount":-1,"errorReasonsForFailure": ["503","504","500","SocketTimeoutException","JsonProcessingException","UnknownHostException","NoRouteToHostException","IOException"],"gatewayErrorCodes": ["503"],"requestTimeout":10} / {"serviceRequestType":"AUTONOMOUS_NFREGISTER","primaryNRFRetryCount":1,"nonPrimaryNRFRetryCount":1,"alternateNRFRetryCount":-1,"errorReasonsForFailure": ["503","504","500","SocketTimeoutException","JsonProcessingException","UnknownHostException","NoRouteToHostException","IOException"],"gatewayErrorCodes": ["503"],"requestTimeout":10}] healthCheckConfig={"healthCheckCount":-1,"healthCheckInterval":5,"requestTimeout":10,"errorReasonsForFailure": ["503","504","500","SocketTimeoutException","IOException"],"gatewayErrorCodes":[]}</pre>
nrf-client-nfdiscovery		
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.extraContainers</code>	This is an optional parameter. This attribute is used to control the usage of extra container when DEBUG tool is ENABLED.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.image</code>	This is a mandatory parameter. NRF Client Microservice image name	Data Type: String Range: NA Default Value: nrf-client
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.imageTag</code>	This is a mandatory parameter. NRF Client Microservice image tag	Data Type: String Range: NA Default Value: helm_nrfclient_tag
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.dbHookImage.name</code>	This is a mandatory parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook

Table 3-12 (Cont.) nrf-client

Name	Description	Details
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.dbHookImage.tag</code>	This is a mandatory parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: <code>helm_nrf_client_db_hook_tag</code>
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.dbHookImage.pullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: IfNotPresent
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.global.logStorage</code>	This is an optional parameter. Log storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.global.criticalStorage</code>	This is an optional parameter. Critical storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.global.ephemeralStorageLimit</code>	This is an optional parameter. Ephemeral storage allocation limits	Data Type: Integer Range: NA Default Value: 1024
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.envJaegerSamplerParam</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Trace capture in percentage	Data Type: Integer Range: NA Default Value: '1'
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.envJaegerSamplerType</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Trace Sampler type	Data Type: String Range: NA Default Value: <code>ratelimiting</code>
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.envJaegerServiceName</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Jaeger Service Name	Data Type: String Range: NA Default Value: <code>nrf-client-nfdiscovery</code>
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.cpuRequest</code>	This is a mandatory parameter. maximum cpu limit to which it can be requested	Data Type: Integer Range: NA Default Value: 1
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.cpuLimit</code>	This is a mandatory parameter. maximum CPU limit for nrf-client discovery service	Data Type: Integer Range: NA Default Value: 1
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.memoryRequest</code>	This is a mandatory parameter. amount of memory requested	Data Type: String Range: NA Default Value: 2Gi
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.memoryLimit</code>	This is a mandatory parameter. Memory limit for nrf-client discovery service	Data Type: String Range: NA Default Value: 2Gi

Table 3-12 (Cont.) nrf-client

Name	Description	Details
nrfclient.nrf-client.nrf-client-nfdiscovery.minReplicas	This is a mandatory parameter. Min replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 2
nrfclient.nrf-client.nrf-client-nfdiscovery.maxReplicas	This is a mandatory parameter. Max replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 2
nrfclient.nrf-client.nrf-client-nfdiscovery.averageCpuUtil	This is a mandatory parameter. CPU utilisation limit for autoscaling (creating HPA)	Data Type: Integer Range: NA Default Value: 70
nrfclient.nrf-client.nrf-client-nfdiscovery.upgradeStrategy	This is a mandatory parameter. This parameter indicates the update strategy used in nrf-client discovery service	Data Type: String Range: NA Default Value: RollingUpdate
nrfclient.nrf-client.nrf-client-nfdiscovery.maxUnavailable	This is an optional parameter. Number of replicas that can go down during a disruption	Data Type: String Range: NA Default Value: 25%
nrfclient.nrf-client.nrf-client-nfdiscovery.type	This is an optional parameter. Exposes the service on cluster internal ip	Data Type: String Range: NA Default Value: ClusterIP
nrfclient.nrf-client.nrf-client-nfdiscovery.cacheDiscoveryResults	This is a mandatory parameter. Set to true if the discovery results should be cached.	Data Type: Boolean Range: NA Default Value: false
nrfclient.nrf-client.nrf-client-nfdiscovery.envDiscoveryServicePort	This is a mandatory parameter. Discovery Service Port used for subscribing to management Service	Data Type: Integer Range: NA Default Value: 5910
nrfclient.nrf-client.nrf-client-nfdiscovery.envManagementServicePort	This is a mandatory parameter. Management Service Port used to send subscriptions to the Management Service	Data Type: Integer Range: NA Default Value: 5910
nrfclient.nrf-client.nrf-client-nfdiscovery.hookRestartPolicy	This is a mandatory parameter. Restart Policy for hooks	Data Type: String Range: NA Default Value: Never
nrfclient.nrf-client.nrf-client-nfdiscovery.metricPrefix	This is an optional parameter. A prefix that shall be added to all the metric names. By default, this shall contain the value configured in the global section metricPrefix	Data Type: String Range: NA Default Value: ""
nrfclient.nrf-client.nrf-client-nfdiscovery.metricSuffix	This is an optional parameter. A suffix that shall be added to all the metric names. By default, this shall contain the value configured in the global section metricSuffix	Data Type: String Range: NA Default Value: ""

Table 3-12 (Cont.) nrf-client

Name	Description	Details
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.istioSidecarQuitUrl</code>	This is an conditional parameter. The sidecar (istio quit url) when deployed in serviceMesh. This value shall be considered only when serviceMeshCheck is true.	Data Type: String Range: NA Default Value: http://127.0.0.1:15000/quitquitquit
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.istioSidecarReadyUrl</code>	This is an conditional parameter. The sidecar (istio ready url) when deployed in serviceMesh. This value shall be considered only when serviceMeshCheck is true.	Data Type: String Range: NA Default Value: http://127.0.0.1:15000/ready
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.serviceMeshCheck</code>	This is an optional parameter. Flag to enable aspen service mesh.	Data Type: String Range: NA Default Value: false
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.nfProfileConfigMode</code>	This is an optional parameter. Flag to switch between "HELM" based or "REST" based nfProfile configuration	Data Type: String Range: NA Default Value: HELM
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.commonCfgClient.enabled</code>	This is an optional parameter. Flag to enable/disable dynamic logging using common configuration service	Data Type: Boolean Range: True or False Default Value: true
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.commonCfgServer.configServerSvcName</code>	This is an optional parameter. Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: 'config-mgr-svc'
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.commonCfgServer.host</code>	This is an optional parameter. The Host name of the Nf Configuration Service name or the common config service. This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: 'config-mgr-svc'
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.commonCfgServer.port</code>	This is an optional parameter. The port of the Nf Configuration Service name or the common config service. This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: 9090
<code>nrfclient.nrf-client.nrf-client-nfdiscovery.commonCfgServer.pollingInterval</code>	This is an optional parameter. The interval at which the discovery service shall poll the configuration service to check for updates in ms This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: Integer Range: NA Default Value: 5000

Table 3-12 (Cont.) nrf-client

Name	Description	Details
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbHost	This is a mandatory parameter. Specifies the Hostname of MySQL that is used to store configurations.	Data Type: String Range: NA Default Value: sepp-mysql-svc
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbPort	This is a mandatory parameter. Specifies the port number of MySQL.	Data Type: String Range: NA Default Value: 3306
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.secretName	This is a mandatory parameter. The database secretThis attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbName	This is a mandatory parameter. The database name which will be used to store the common configuration. This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: seppdb
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbUserNameLiteral	This is a mandatory parameter. The db literal name that shall be used as per the secrets configured. This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: mysql-username
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbPasswordLiteral	This is a mandatory parameter. The db password literal name that shall be used as per the secrets configured. This attribute shall be configured only if commonCfgClient.enabled is set to true.	Data Type: String Range: NA Default Value: mysql-password
nrfclient.nrf-client.nrf-client-nfdiscovery.dbConfig.dbEngine	This is a mandatory parameter. db engine for nrf-client discovery service	Data Type: ENUM Range: NA Default Value: NDBCLUSTER
nrf-client-nfmanagement		
nrfclient.nrf-client.nrf-client-nfmanagement.image	This is a mandatory parameter. NRF Client Microservice image name	Data Type: String Range: NA Default Value: nrf-client
nrfclient.nrf-client.nrf-client-nfmanagement.imageTag	This is a mandatory parameter. NRF Client Microservice image tag	Data Type: String Range: NA Default Value: helm_nrfclient_tag

Table 3-12 (Cont.) nrf-client

Name	Description	Details
<code>nrfclient.nrf-client.nrf-client-nfmanagement.extraContainers</code>	This is an optional parameter. This attribute is used to control the usage of extra container when DEBUG tool is ENABLED.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>nrfclient.nrf-client.nrf-client-nfmanagement.dbHookImage.name</code>	This is a mandatory parameter. Image name of dbHook	Data Type: String Range: NA Default Value: common_config_hook
<code>nrfclient.nrf-client.nrf-client-nfmanagement.dbHookImage.tag</code>	This is a mandatory parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: helm_nrf_client_db_hook_tag
<code>nrfclient.nrf-client.nrf-client-nfmanagement.dbHookImage.pullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: IfNotPresent
<code>nrfclient.nrf-client.nrf-client-nfmanagement.global.logStorage</code>	This is an optional parameter. Log storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrfclient.nrf-client.nrf-client-nfmanagement.global.criticalStorage</code>	This is an optional parameter. Critical storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrfclient.nrf-client.nrf-client-nfmanagement.global.ephemeralStorageLimit</code>	This is an optional parameter. Ephemeral storage allocation limits	Data Type: Integer Range: NA Default Value: 1024
<code>nrfclient.nrf-client.nrf-client-nfmanagement.envJaegerSamplerParam</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Trace capture in percentage	Data Type: String Range: NA Default Value: '1'
<code>nrfclient.nrf-client.nrf-client-nfmanagement.envJaegerSamplerType</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Trace Sampler type	Data Type: String Range: NA Default Value: ratelimiting
<code>nrfclient.nrf-client.nrf-client-nfmanagement.envJaegerServiceName</code>	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Jaeger Service Name	Data Type: String Range: NA Default Value: nrf-client-nfmanagement

Table 3-12 (Cont.) nrf-client

Name	Description	Details
<code>nrfclient.nrf-client.nrf-client-nfmanagement.enablePDBSupport</code>	This is an optional parameter. This flag is to enable and disable Pod Disruption Budget feature. If its enabled, <code>nrf-client-nfmanagement.replicas</code> should be set to 2.	Data Type: Boolean Range: True or False Default Value: false
<code>nrfclient.nrf-client.nrf-client-nfmanagement.replicas</code>	This is a mandatory parameter. Indicates the number of pods, which needs to be created as part of deployment.	Data Type: Integer Range: NA Default Value: 1
<code>nrfclient.nrf-client.nrf-client-nfmanagement.cpuRequest</code>	This is a mandatory parameter. maximum cpu limit to which it can be requested	Data Type: Integer Range: NA Default Value: 1
<code>nrfclient.nrf-client.nrf-client-nfmanagement.cpuLimit</code>	This is a mandatory parameter. maximum cpu limit	Data Type: Integer Range: NA Default Value: 1
<code>nrfclient.nrf-client.nrf-client-nfmanagement.memoryRequest</code>	This is a mandatory parameter. amount of memory requested	Data Type: String Range: NA Default Value: 1Gi
<code>nrfclient.nrf-client.nrf-client-nfmanagement.memoryLimit</code>	This is a mandatory parameter. Memory limit for nrf-client nfmanagement service	Data Type: String Range: NA Default Value: 1Gi
<code>nrfclient.nrf-client.nrf-client-nfmanagement.type</code>	This is a mandatory parameter. Kubernetes service type for exposing perf-info deployment	Data Type: String Range: NA Default Value: ClusterIP
<code>nrfclient.nrf-client.nrf-client-nfmanagement.hookRestartPolicy</code>	This is a mandatory parameter. Restart Policy for hooks	Data Type: String Range: NA Default Value: Never
<code>nrfclient.nrf-client.nrf-client-nfmanagement.metricPrefix</code>	This is an optional parameter. A prefix that shall be added to all the metric names. By default, this shall contain the value configured in the global section <code>metricPrefix</code>	Data Type: String Range: NA Default Value: ""
<code>nrfclient.nrf-client.nrf-client-nfmanagement.metricSuffix</code>	This is an optional parameter. A suffix that shall be added to all the metric names. By default, this shall contain the value configured in the global section <code>metricSuffix</code>	Data Type: String Range: NA Default Value: ""
<code>nrfclient.nrf-client.nrf-client-nfmanagement.istioSidecarQuitUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar quit URL (envoy container quite URL) if deployed with <code>serviceMesh</code> . This URL is needed to explicitly shutdown the sidecar container.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15000/quitquitquit</code>

Table 3-12 (Cont.) nrf-client

Name	Description	Details
<code>nrfclient.nrf-client.nrf-client-nfmanagement.istioSidecarReadyUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar ready URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to check the readiness of the sidecar container during initialization process.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15000/ready</code>
<code>nrfclient.nrf-client.nrf-client-nfmanagement.serviceMeshCheck</code>	This is an optional parameter.Flag to enable aspen service mesh.	Data Type: String Range: NA Default Value: false
<code>nrfclient.nrf-client.nrf-client-nfmanagement.nfProfileConfigMode</code>	This is an optional parameter. Flag to switch between "HELM" based or "REST" based nfProfile configuration	Data Type: String Range: NA Default Value: HELM
<code>nrfclient.nrf-client.nrf-client-nfmanagement.commonCfgClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: True or False Default Value: true
<code>nrfclient.nrf-client.nrf-client-nfmanagement.commonCfgServer.configServerSvcName</code>	This is an optional parameter. Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: <code>config-mgr-svc</code>
<code>nrfclient.nrf-client.nrf-client-nfmanagement.commonCfgServer.host</code>	This is an optional parameter. The Host name of the Nf Configuration Service name or the common config service.This attribute shall be configured only if <code>commonCfgClient.enabled</code> is set to true.	Data Type: String Range: NA Default Value: <code>config-mgr-svc</code>
<code>nrfclient.nrf-client.nrf-client-nfmanagement.commonCfgServer.port</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) Port of Common Configuration server	Data Type: Integer Range: NA Default Value: 9090
<code>nrfclient.nrf-client.nrf-client-nfmanagement.commonCfgServer.pollingInterval</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000

Table 3-12 (Cont.) nrf-client

Name	Description	Details
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbHost	This is a mandatory parameter. Specifies the Hostname of MySQL that is used to store configurations.	Data Type: String Range: NA Default Value: sepp-mysql-svc
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbPort	This is a mandatory parameter. Specifies the port number of MySQL.	Data Type: String Range: NA Default Value: 3306
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.secretName	This is a mandatory parameter. Specifies the database secret from which the db name, db password and db user name is picked.	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbName	This is a mandatory parameter. Specifies the database name to be used to store the common configuration.	Data Type: String Range: NA Default Value: seppdb
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.leaderPodDbName	This is a mandatory parameter. Name of the database	Data Type: String Range: NA Default Value: seppdb
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.networkDbName	This is a mandatory parameter. Name of the database	Data Type: String Range: NA Default Value: seppdb
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbUNameliteral	This is a mandatory parameter. Specifies the database literal name that shall be used as per the <dbConfig.secretName>.	Data Type: String Range: NA Default Value: mysql-username
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbPwdLiteral	This is a mandatory parameter. Specifies the database password literal name that shall be used as per the <dbConfig.secretName>.	Data Type: String Range: NA Default Value: mysql-password
nrfclient.nrf-client.nrf-client-nfmanagement.dbConfig.dbEngine	This is a mandatory parameter. This parameter defines the storage engine of the database	Data Type: String Range: NA Default Value: NDBCLUSTER

nrf-client Global Parameters**Table 3-13 nrf-client Global Parameters**

Parameter	Description	Details
nfName	This is a mandatory parameter. nfName is used as a prefix in service names of nrf client's service and other services it connects to.	Data Type: String Range: NA Default Value: sepp

Table 3-13 (Cont.) nrf-client Global Parameters

Parameter	Description	Details
nrfClientNfDiscoveryEnable	This is a mandatory parameter Global control to enable or disable deployment of NF Discovery service. Enable it if on demand discovery of NF is required.	Data Type: Boolean Range: True or False Default Value: true
nrfClientNfManagementEnable	This is a mandatory parameter Global control to enable or disable deployment of NF Management service.	Data Type: Boolean Range: True or False Default Value: true
alternateRouteServiceEnable	This is a mandatory parameter Global parameter to mention if alternate-route service is available (deployed) or not.	Data Type: Boolean Range: True or False Default Value: false
altServiceHTTP2Enabled	This is a mandatory parameter enable HTTP2 support for alternate service requests	Data Type: Boolean Range: True or False Default Value: true
altServiceReqTimeout	This is a mandatory parameter http timeout value. Unit : milliseconds	Data Type: Integer Range: NA Default Value: 3000
altServiceLookupInterval	This is a mandatory parameter Alternate service lookup interval	Data Type: Integer Range: NA Default Value: 3000
envJaegerAgentHost	This is a mandatory parameter Jaeger tracing host	Data Type: String Range: NA Default Value: ''
envJaegerAgentPort	This is a mandatory parameter Jaeger tracing port	Data Type: Integer Range: NA Default Value: 6831
nrfClientNodePort	This is a mandatory parameter Provide value for NodePort	Data Type: Integer Range: NA Default Value: 0
vendor	This is a mandatory parameter Vendor name	Data Type: String Range: NA Default Value: Oracle
applicationName	This is a mandatory parameter Application name	Data Type: String Range: NA Default Value: nrf-client
metricPrefix	This is a mandatory parameter parameterprefix for Metrics	Data Type: String Range: NA Default Value: ""
metricSuffix	This is a mandatory parameter parametersuffix for Metrics	Data Type: String Range: NA Default Value: ""

Table 3-13 (Cont.) nrf-client Global Parameters

Parameter	Description	Details
nrfClientCommonServicePort	This is a mandatory parameter Common service port	Data Type: Integer Range: NA Default Value: 9091
prometheusScrapingConfig.enabled	This is a mandatory parameter flag to enable or disable Prometheus scraping	Data Type: Boolean Range: True or False Default Value: true
prometheusScrapingConfig.path	This is a mandatory parameter Path for Prometheus scraping	Data Type: String Range: NA Default Value: /actuator/prometheus
configServerEnable	This is a mandatory parameter Flag to enable or Disable Config server If nrfclientDisable mode is set/ Roaming-Hub mode is set, set the value to false	Data Type: Boolean Range: True or False Default Value: true
configServerFullNameOverride	This is a mandatory parameter Config-Server Service full name. Shall be used as {{ ReleaseName }}-configServerFullNameOverride	Data Type: String Range: NA Default Value: ocpm-config
envMySQLHost	This is a mandatory parameter MySQL Host name	Data Type: String Range: NA Default Value: sepp-mysql-svc
envMySQLPort	This is a mandatory parameter MySQL Port number	Data Type: String Range: NA Default Value: 3306
dbCredSecretName	This is a mandatory parameter MySQL Secret name	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
appinfoServiceEnable	This is a mandatory parameter flag to enable or disable appinfo service	Data Type: Boolean Range: True or False Default Value: true
performanceServiceEnable	This is a mandatory parameter flag to enable or disable performance service	Data Type: Boolean Range: True or False Default Value: true
deploymentNrfClientService.envNfNamespace	This is an optional parameter namespace of Services to be monitored by performance service. If no services are to be monitored, envNfNamespace can be left blank	Data Type: String Range: NA Default Value: DEPLOYMENT_NAMESPACE
deploymentNrfClientService.envNfType	This is an optional parameter Name of Service to be monitored by performance service. If no services are to be monitored, envNfType can be left blank	Data Type: String Range: NA Default Value: sepp

Table 3-13 (Cont.) nrf-client Global Parameters

Parameter	Description	Details
deploymentNrfClientService. envConsumeSvcName	This is an optional parameter Name of consumer Service to be monitored by performance service.	Data Type: String Range: NA Default Value: nsepp- telescopic:ocsepp-release-plmn- ingress-gateway
deploymentNrfClientService. envEgressGatewayFullnameO verride	This is a mandatory parameter Egress gateway Host.	Data Type: String Range: NA Default Value: plmn-egress- gateway
deploymentNrfClientService. envEgressGatewayPort	This is a mandatory parameter Egress gateway port number	Data Type: Integer Range: NA Default Value: 8080
deploymentNrfClientService. nfApiRoot	This is a mandatory parameter Callback URI to receive Notifications from NRF	Data Type: String Range: NA Default Value: http://ocnrf- ingressgateway.ocnrf:80
deploymentNrfClientService. nodeSelectorEnabled	This is a mandatory parameter Flag to enable or disable node selector	Data Type: Boolean Range: True or False Default Value: false
deploymentNrfClientService. nodeSelectorKey	This is a mandatory parameter NodeSelector key configuration at the microservice level when helm Based Configuration Node Selector Api Version is set to v1 then this configuration is used. And this configuration does not depend on nodeSelection flag, once configured this is used for all microservices.	Data Type: String Range: NA Default Value: cnf
deploymentNrfClientService. nodeSelectorValue	This is a mandatory parameter NodeSelector Value configuration at the global level when helmBasedConfigu rationNodeSelectorApiVersion is set to v1 then this configuration is used. And this configuration does not depend on nodeSelection flag, once configured this is used for all microservices.	Data Type: String Range: NA Default Value: ocsepp
privilegedDbCredSecretName	This is a mandatory parameter. K8s Secret containing Database/ user/password for DB Hooks for creating tables	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
releaseDbName	This is a mandatory parameter MySQL Release DB Name	Data Type: String Range: NA Default Value: seppdb

Table 3-13 (Cont.) nrf-client Global Parameters

Parameter	Description	Details
leaderPodDbName	This is a mandatory parameter. (if multipod is supported for NRF client) Specifies the database name for LeaderPodDb database. This database is unique per site	Data Type: String Range: NA Default Value: seppdb
networkDbName	This is a mandatory parameter. (if multipod is supported for NRF client) Specifies the network database name.	Data Type: String Range: NA Default Value: seppdb

3.1.12 config-server

This section includes information about the config-server parameters of the SEPP.

Table 3-14 config-server

Name	Description	Details
nrfclient.config-server.extraContainers	This is an optional parameter. This attribute is used to control the usage of extra container when DEBUG tool is ENABLED.	Data Type: Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value:
nrfclient.config-server.enabled	This is a mandatory parameter. flag to enable or disable config-server	Data Type: Boolean Range: True or False Default Value: true
nrfclient.config-server.image	This is a mandatory parameter. config-server microservice image name.	Data Type: String Range: NA Default Value: occnp/oc-config-server
nrfclient.config-server.imageTag	This is a mandatory parameter. config-server Microservice image tag	Data Type: String Range: NA Default Value: helm_nrfclient_config_server_tag
nrfclient.config-server.fullnameOverride	This is a mandatory parameter. Full name to be used for configuration server service	Data Type: String Range: NA Default Value: occnp-config-server
nrfclient.config-server.installedChartVersion	This is a mandatory parameter. Chart version to be read by hooks	Data Type: String Range: NA Default Value: ''
nrfclient.config-server.envJaegerServiceName	This is an Conditional Parameter Note: You must customize this parameter only when NRF client services are enabled. Jaeger Service Name	Data Type: String Range: NA Default Value: occne-tracer-jaeger-agent.occne-infra

Table 3-14 (Cont.) config-server

Name	Description	Details
<code>nrfclient.config-server.nfInstanceId</code>	This is an Conditional Parameter This is the NfInstanceId of NF that will get deployed. This shall be used in the profile being registered.	Data Type: String Range: NA Default Value: 9faf1bbc-6e4a-4454-a507-aef01a101a06
<code>nrfclient.config-server.envMySQLDatabase</code>	This is a mandatory parameter. MySQL Database to be used.	Data Type: String Range: NA Default Value: seppdb
<code>nrfclient.config-server.replicas</code>	This is a mandatory parameter. Indicates the number of pods, which needs to be created as part of deployment.	Data Type: Integer Range: NA Default Value: 2
<code>nrfclient.config-server.minReplicas</code>	This is a mandatory parameter. Min replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 2
<code>nrfclient.config-server.maxReplicas</code>	This is a mandatory parameter. Max replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: NA Default Value: 2
<code>nrfclient.config-server.averageCpuUtil</code>	This is a mandatory parameter. CPU utilisation limit for autoscaling (creating HPA)	Data Type: Integer Range: NA Default Value: 70
<code>nrfclient.config-server.dbConfig.dbEngine</code>	This is a mandatory parameter. Defines the MySQL engine that is used to store information in the MySQL database.	Data Type: String Range: NDBCLUSTER or INNODB Default Value: NDBCLUSTER Note: NDBCLUTER must be used when using cnDBTier.
<code>nrfclient.config-server.global.serviceMeshEnabled</code>	This is an optional parameter.Flag to enable aspen service mesh.	Data Type: Boolean Range: True or False Default Value: false
<code>nrfclient.config-server.global.istioSidecarQuitUrl</code>	This is an conditional parameter. Applicable only when serviceMeshCheck parameter is set to true. Specifies the sidecar quit URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to explicitly shutdown the sidecar container.	Data Type: String Range: NA Default Value: http://127.0.0.1:15020/quitquitquit

Table 3-14 (Cont.) config-server

Name	Description	Details
<code>nrclient.config-server.global.istioSidecarReadyUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar ready URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to check the readiness of the sidecar container during initialisation process.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15020/healthz/ready</code>
<code>nrclient.config-server.global.logStorage</code>	This is an optional parameter. Log storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrclient.config-server.global.criticalStorage</code>	This is an optional parameter. Critical storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrclient.config-server.resources.limits.cpu</code>	This is an optional parameter. CPU Limit for config-server service	Data Type: Range: Default Value: 1
<code>nrclient.config-server.resources.limits.memory</code>	This is an optional parameter. Memory Limit for config-server service	Data Type: Range: Default Value: 1Gi
<code>nrclient.config-server.resources.limits.ephemeralStorage</code>	This is an optional parameter. Ephemeral storage allocation limits	Data Type: Range: Default Value: 1Gi
<code>nrclient.config-server.resources.requests.cpu</code>	This is an optional parameter. Requested CPU usage for config-server pod to come up	Data Type: Range: Default Value: 1
<code>nrclient.config-server.resources.requests.memory</code>	This is an optional parameter. Requested memory usage for config-server pod to come up	Data Type: Range: Default Value: 1Gi
<code>nrclient.config-server.maxUnavailable</code>	This is an optional parameter. Number of replicas that can go down during a disruption	Data Type: String Range: NA Default Value: 25%
<code>nrclient.config-server.servicePcfConfig.type</code>	This is a mandatory parameter. Kubernetes service type for exposing config-server deployment	Data Type: String Range: NA Default Value: NodePort

3.1.13 appinfo

This section includes information about the appinfo parameters of the SEPP.

Table 3-15 appinfo

Parameter	Description	Details
<code>nrclient.appinfo.serviceMeshCheck</code>	This is an optional parameter. Flag to enable aspen service mesh.	Data Type: Boolean Range: True or False Default Value: false
<code>nrclient.appinfo.istioSidecarQuitUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar quit URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to explicitly shutdown the sidecar container.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15020/quitquitquit</code>
<code>nrclient.appinfo.istioSidecarReadyUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar ready URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to check the readiness of the sidecar container during initialization process.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15020/ready</code>
<code>nrclient.appinfo.extraContainers</code>	This is an optional parameter. This attribute is used to control the usage of extra container when DEBUG tool is ENABLED.	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>nrclient.appinfo.enabled</code>	This is a mandatory parameter. Flag to enable or disable appinfo service	Data Type: Boolean Range: True or False Default Value: true
<code>nrclient.appinfo.image</code>	This is a mandatory parameter. Name of the docker image of app info service	Data Type: String Range: NA Default Value: <code>ocnp/oc-app-info</code>
<code>nrclient.appinfo.imageTag</code>	This is a mandatory parameter. Tag of the image of app info service	Data Type: String Range: NA Default Value: <code>helm_nrclient_app_info_tag</code>
<code>nrclient.appinfo.imagePullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not.	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: Always
<code>nrclient.appinfo.dbHookImage.name</code>	This is a mandatory parameter. Image name of dbHook	Data Type: String Range: NA Default Value: <code>common_config_hook</code>

Table 3-15 (Cont.) appinfo

Parameter	Description	Details
<code>nrfclient.appinfo.dbHookImage.tag</code>	This is a mandatory parameter. Image tag name of dbHook	Data Type: String Range: NA Default Value: <code>helm_nrf_client_db_hook_tag</code>
<code>nrfclient.appinfo.dbHookImage.pullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: Always
<code>nrfclient.appinfo.replicas</code>	This is a mandatory parameter. Indicates the number of pods, which needs to be created as part of deployment.	Data Type: Integer Range: NA Default Value: 2
<code>nrfclient.appinfo.minReplicas</code>	This is a mandatory parameter. Min replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: Default Value: 2
<code>nrfclient.appinfo.maxReplicas</code>	This is a mandatory parameter. Max replicas to scale to maintain an average CPU utilisation	Data Type: Integer Range: Default Value: 2
<code>nrfclient.appinfo.debug</code>	Specifies the log level of app info service. When this parameter is set to true, the log level of app info is DEBUG, otherwise, log level is INFO or WARN.	Data Type: Boolean Range: True or False Default Value: true
<code>nrfclient.appinfo.global.logStorage</code>	This is an optional parameter. Log storage for ephemeral storage request	Data Type: Range: Default Value: 32
<code>nrfclient.appinfo.global.criticalStorage</code>	This is an optional parameter. Critical storage for ephemeral storage request	Data Type: Range: Default Value: 32
<code>nrfclient.appinfo.resources.limits.cpu</code>	This is an optional parameter. CPU Limit for app info pod	Data Type: Range: Default Value: 1
<code>nrfclient.appinfo.resources.limits.memory</code>	This is an optional parameter. Memory Limit for app info pod	Data Type: Range: Default Value: 2Gi
<code>nrfclient.appinfo.resources.limits.ephemeralStorage</code>	This is an optional parameter. Ephemeral storage allocation limits	Data Type: Range: Default Value: 1Gi
<code>nrfclient.appinfo.resources.requests.cpu</code>	This is an optional parameter. Requested CPU usage for app info pod to come up	Data Type: Range: Default Value: 1
<code>nrfclient.appinfo.resources.requests.memory</code>	This is an optional parameter. Requested memory usage for app info pod to come up	Data Type: Range: Default Value: 1Gi

Table 3-15 (Cont.) appinfo

Parameter	Description	Details
<code>nrfclient.appinfo.resources.maxUnavailable</code>	This is an optional parameter. Number of replicas that can go down during a disruption	Data Type: Range: Default Value: 25%
<code>nrfclient.appinfo.serviceAccountName</code>	This is an optional parameter. Name of Service account	Data Type: Range: Default Value: ''
<code>nrfclient.appinfo.commonServiceName</code>	This is an optional parameter. This is the common service name that is currently requesting for configuration updates from server	Data Type: String Range: NA Default Value: app-info
<code>nrfclient.appinfo.log.level.appinfo</code>	This is an optional parameter. Identifies log level of app info	Data Type: ENUM Range: INFO, DEBUG, ERROR Default Value: INFO
<code>nrfclient.appinfo.commonConfigClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: True or False Default Value: true
<code>nrfclient.appinfo.commonConfigServer.configServerSvcName</code>	This is an optional parameter. Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: config-mgr-svc
<code>nrfclient.appinfo.commonConfigServer.host</code>	This is an optional parameter. The Host name of the Nf Configuration Service name or the common config service. This attribute shall be configured only if <code>commonConfigClient.enabled</code> is set to true.	Data Type: String Range: NA Default Value: config-mgr-svc
<code>nrfclient.appinfo.commonConfigServer.port</code>	This is a mandatory parameter. (Applicable only if <code>commonConfigClient.enabled</code> is set to true) Port of Common Configuration server	Data Type: Integer Range: NA Default Value: 9090
<code>nrfclient.appinfo.commonConfigServer.pollingInterval</code>	This is the interval between two subsequent polling requests from configuration client to server	Data Type: Integer Range: NA Default Value: 5000
<code>nrfclient.appinfo.commonConfigServer.connectionTimeout</code>	This is a mandatory parameter. (Applicable only if <code>commonConfigClient.enabled</code> is set to true) This is the limit for connection to be established between config client and server	Data Type: Integer Range: NA Default Value: 10000 #ms

Table 3-15 (Cont.) appinfo

Parameter	Description	Details
<code>nrfclient.appinfo.dbConfig.dbHost</code>	This is a mandatory parameter. Specifies the Hostname of MySQL that is used to store configurations.	Data Type: String Range: NA Default Value: sepp-mysql-svc
<code>nrfclient.appinfo.dbConfig.dbPort</code>	This is a mandatory parameter. Specifies the port number of MySQL.	Data Type: Integer Range: NA Default Value: 3306
<code>nrfclient.appinfo.dbConfig.secretName</code>	This is a mandatory parameter. Specifies the database secret from which the db name, db password and db user name is picked.	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
<code>nrfclient.appinfo.dbConfig.dbName</code>	This is a mandatory parameter. Specifies the database name to be used to store the common configuration.	Data Type: String Range: NA Default Value: seppdb
<code>nrfclient.appinfo.dbConfig.dbUNameLiteral</code>	This is a mandatory parameter. Specifies the database literal name that shall be used as per the <code><dbConfig.secretName></code> .	Data Type: String Range: NA Default Value: mysql-username
<code>nrfclient.appinfo.dbConfig.dbPwdLiteral</code>	This is a mandatory parameter. Specifies the database password literal name that shall be used as per the <code><dbConfig.secretName></code> .	Data Type: String Range: NA Default Value: mysql-password
<code>nrfclient.appinfo.dbConfig.dbEngine</code>	This is a mandatory parameter. This parameter defines the storage engine of the database	Data Type: ENUM Range: NA Default Value: NDBCLUSTER
<code>nrfclient.appinfo.core_services.sepp</code>	This is an optional parameter. Specifies the list of SEPP services to be monitored.	Data Type: String Range: NA Default Value: []

Table 3-15 (Cont.) appinfo

Parameter	Description	Details
<code>nrfclient.appinfo.infraServices</code>	This is a conditional parameter. Specifies the URI for the health check of InfraServices that need to be monitored. Examples: <code>http://mysql-cluster-db-monitor-svc.vzw1-cndbtier:8080/actuator/health</code> <code>http://mysql-cluster-db-replication-svc.vzw1-cndbtier/actuator/health</code> Uncomment this parameter and set this parameter to an empty array if any one of following conditions is true: - Deploying on OCCNE 1.4 or lower version - Not deploying on OCCNE - Do not wish to monitor infra services such as db-monitor service	Data Type: String Range: NA Default Value: []

3.1.14 Pre-install hook

This section includes information about the Pre-install hook parameters of the SEPP.

Table 3-16 Pre-install hook

Parameter	Description	Details
<code>pre-install-hook.image.repository</code>	This is a mandatory parameter. Repository location of image	Data Type: String Range: NA Default Value: reg-1
<code>pre-install-hook.image.name</code>	This is a mandatory parameter. Name of image	Data Type: String Range: NA Default Value: ocsepp-pre-install-hook
<code>pre-install-hook.image.tag</code>	This is a mandatory parameter. Tag of image	Data Type: String Range: NA Default Value: helm-tag
<code>pre-install-hook.image.pullPolicy</code>	This is a mandatory parameter. This setting indicates if the image needs to be pulled or not	Data Type: String Range: NA Default Value: Always

3.1.15 update-db

This section includes information about the update-db parameters of the SEPP.

Table 3-17 update-db

Parameter	Description	Details
update-db.serviceMeshCheck	Enabled when deployed in serviceMesh.	Data Type: Boolean Range: NA Default Value: false
update-db.istioSidecarQuitUrl	This is a mandatory parameter. The sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/quitquitquit
update-db.istioSidecarReadyUrl	This is a mandatory parameter. The sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Range: NA Default value: http://127.0.0.1:15020/ready
update-db.image.repository	This is a mandatory parameter. Repository location of image	Data Type: String Range: NA Default Value: reg-1
update-db.image.name	This is a mandatory parameter. Name of image	Data Type: String Range: NA Default Value: ocsepp-update-db
update-db.image.tag	This is a mandatory parameter. Tag of image	Data Type: String Range: NA Default Value: helm-tag
update-db.image.pullPolicy	This is a mandatory parameter. This setting indicates if the image needs to be pulled or not.	Data Type: String Range: NA Default Value: Always
update-db.hookAlerts.prometheus fqdn	This is a Mandatory parameter. This parameter defines the fqdn for prometheus service. Incorrect value may result in timeout failures during install, upgrade or rollback.	Data Type: String Range: NA Default Value: occne-prometheus-server.occne-infra.svc.cluster.local Format : servicename.namespace
update-db.hookAlerts.prometheus.port	This is a Mandatory parameter. This parameter defines the port number for prometheus service. Incorrect value may result in timeout failures during install, upgrade or rollback	Data Type: Integer Range: NA Default Value: 80
update-db.hookAlerts.prometheus.pathToFetchAlertManagerEndpoint	This is a Mandatory parameter. This parameter defines the endpoint for prometheus actuator service.	Data Type: String Range: NA Default Value: /prometheus/api/v1/alertmanagers
update-db.hookAlerts.alertManagerContainerPort	This is a Mandatory parameter. This parameter defines the alert manager container port number.	Data Type: Integer Range: NA Default Value: 9093

Table 3-17 (Cont.) update-db

Parameter	Description	Details
update-db.hookAlerts.customAlertExpiryEnabled	This is a Mandatory parameter Following variable indicates, alert expiry occurs according to resolve_timeout value of AlertManager and upgrade/rollback hooks shall clear the alerts as applicable. If it is set to true, auto alert clear shall occur after customAlertExpiryDuration value and upgrade/rollback hooks may not clear the alerts	Data Type: Boolean Range: true or false Default Value: false
update-db.hookAlerts.customAlertExpiryDuration	This is a Mandatory parameter The custom duration (in minutes) post which Alert gets auto cleared, applicable only when customAlertExpiryEnabled is set to true	Data Type: Integer Range: NA Default Value: 60

3.1.16 perf-info

This section includes information about the perf-info of the SEPP.

Table 3-18 perf-info

Parameter	Description	Details
nrclient.perf-info.image	This is a mandatory parameter. perf-info microservice image name.	Data Type: String Range: NA Default Value: occnp/oc-perf-info
nrclient.perf-info.imageTag	This is a mandatory parameter. perf-info microservice image tag name.	Data Type: String Range: NA Default Value: helm_nrclient_perf_info_tag
nrclient.perf-info.serviceMeshCheck	This is an optional parameter. Flag to enable aspen service mesh.	Data Type: String Range: true or false Default Value: false
nrclient.perf-info.istioSidecarQuitUrl	This is an conditional parameter. Applicable only when serviceMeshCheck parameter is set to true. Specifies the sidecar quit URL (envoy container quite URL) if deployed with serviceMesh. This URL is needed to explicitly shutdown the sidecar container.	Data Type: String Range: NA Default Value: http://127.0.0.1:15020/quitquitquit

Table 3-18 (Cont.) perf-info

Parameter	Description	Details
<code>nrfclient.perf-info.istioSidecarReadyUrl</code>	This is an conditional parameter. Applicable only when <code>serviceMeshCheck</code> parameter is set to true. Specifies the sidecar ready URL (envoy container quite URL) if deployed with <code>serviceMesh</code> . This URL is needed to check the readiness of the sidecar container during initialization process.	Data Type: String Range: NA Default Value: <code>http://127.0.0.1:15020/ready</code>
<code>nrfclient.perf-info.dbHookImage.name</code>	This is a mandatory parameter. Image name of <code>dbHook</code>	Data Type: String Range: NA Default Value: <code>common_config_hook</code>
<code>nrfclient.perf-info.dbHookImage.tag</code>	This is a mandatory parameter. Image tag name of <code>dbHook</code>	Data Type: String Range: NA Default Value: <code>helm_nrf_client_db_hook_tag</code>
<code>nrfclient.perf-info.dbHookImage.pullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: Always
<code>nrfclient.perf-info.extraContainers</code>	This is an optional parameter Flag to enable addition of container configuration under <code>extraContainersTpl</code> to all the deployments under <code>perf-info</code> umbrella. This parameter is used for debug container template	Data Type: ENUM Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>nrfclient.perf-info.service_namespace</code>	This is a mandatory parameter. Namespace in which <code>perf-info</code> will be deployed.	Data Type: String Range: NA Default Value: <code>DEPLOYMENT_NAMESPACE</code>
<code>nrfclient.perf-info.envMySQLDatabase</code>	This is a mandatory parameter. MySQL Database to be used.	Data Type: String Range: NA Default Value: <code>seppdb</code>
<code>nrfclient.perf-info.replicas</code>	This is a mandatory parameter. Replicas for <code>perf Info</code> - This is exact value without scaling	Data Type: Integer Range: NA Default Value: 2
<code>nrfclient.perf-info.imagepullPolicy</code>	This is a mandatory parameter. Indicates if the image needs to be pulled or not	Data Type: ENUM Range: Always, IfNotPresent, Never Default Value: Always
<code>nrfclient.perf-info.service.type</code>	This is a mandatory parameter. Kubernetes service type for exposing <code>perf-info</code> deployment	Data Type: String Range: NA Default Value: <code>ClusterIP</code>

Table 3-18 (Cont.) perf-info

Parameter	Description	Details
<code>nrflclient.perf-info.service.port</code>	This is a mandatory parameter. Kubernetes service port for exposing perf-info deployment	Data Type: Integer Range: NA Default Value: 5905
<code>nrflclient.perf-info.global.logStorage</code>	This is an optional parameter. Log storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrflclient.perf-info.global.crictlStorage</code>	This is an optional parameter. Critical storage for ephemeral storage request	Data Type: Integer Range: NA Default Value: 32
<code>nrflclient.perf-info.resources.limits.ephemeralStorage</code>	This is an optional parameter. Ephemeral Storage allocation limits	Data Type: String Range: NA Default Value: 1Gi
<code>nrflclient.perf-info.resources.limits.cpu</code>	This is an optional parameter. CPU Limit for perf-info service	Data Type: Integer Range: NA Default Value: 2
<code>nrflclient.perf-info.resources.limits.memory</code>	This is an optional parameter. Memory Limit for perf-info service	Data Type: String Range: NA Default Value: 4Gi
<code>nrflclient.perf-info.resources.requests.cpu</code>	This is an optional parameter. CPU Requested for perf-info service	Data Type: Integer Range: NA Default Value: 2
<code>nrflclient.perf-info.resources.requests.memory</code>	This is an optional parameter. Memory Requested for perf-info service	Data Type: String Range: NA Default Value: 200Mi
<code>nrflclient.perf-info.maxUnavailable</code>	This is an optional parameter. Number of replicas that can go down during a disruption	Data Type: String Range: NA Default Value: '25%'
<code>nrflclient.perf-info.affinity</code>	This is an Optional Parameter Pod Affinity configurations	Data Type: String Range: NA Default Value:
<code>nrflclient.perf-info.commonCfgClient.enabled</code>	This is an optional parameter. Set it to true if persistent configuration needs to be enabled.	Data Type: Boolean Range: true or false Default Value: true
<code>nrflclient.perf-info.commonCfgServer.configServerSvcName</code>	This is an optional parameter. Service name of common configuration service to which the client tries to poll for configuration updates	Data Type: String Range: NA Default Value: 'config-mgr-svc'

Table 3-18 (Cont.) perf-info

Parameter	Description	Details
<code>nrflclient.perf-info.commonCfgServer.host</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) Host name of Common configuration server to which client tries to poll for configuration updates. This value is picked up if <code>commonCfgServer.configServerSvcName</code> is not available	Data Type: String Range: NA Default Value: <code>config-mgr-svc</code>
<code>nrflclient.perf-info.commonCfgServer.port</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) Port of Common Configuration server	Data Type: Integer Range: NA Default Value: 9090
<code>nrflclient.perf-info.commonCfgServer.pollingInterval</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) This is the interval between two subsequent polling requests from config client to server	Data Type: Integer Range: NA Default Value: 5000
<code>nrflclient.perf-info.commonCfgServer.connectionTimeout</code>	This is a mandatory parameter. (Applicable only if <code>commonCfgClient.enabled</code> is set to true) This is the limit for connection to be established between config client and server	Data Type: Integer Range: NA Default Value: 10000
<code>nrflclient.perf-info.commonServiceName</code>	This is a mandatory parameter. This is the common service name that is currently requesting for configuration updates from server	Data Type: String Range: NA Default Value: <code>perf-info</code>
<code>nrflclient.perf-info.log.level.perfinfo</code>	This is an optional parameter. Log level for perf-info service	Data Type: ENUM Range: NA Default Value: INFO
<code>nrflclient.perf-info.dbConfig.dbHost</code>	This is a mandatory parameter. Specifies the Hostname of MySQL that is used to store configurations.	Data Type: String Range: NA Default Value: <code>sepp-mysql-svc</code>
<code>nrflclient.perf-info.dbConfig.dbPort</code>	This is a mandatory parameter. Specifies the port number of MySQL.	Data Type: Integer Range: NA Default Value: 3306

Table 3-18 (Cont.) perf-info

Parameter	Description	Details
<code>nrfcntl.perf-info.dbConfig.secretName</code>	This is a mandatory parameter. Specifies the database secret from which the db name, db password and db user name is picked.	Data Type: String Range: NA Default Value: ocsepp-mysql-cred
<code>nrfcntl.perf-info.dbConfig.dbName</code>	This is a mandatory parameter. Specifies the database name to be used to store the common configuration.	Data Type: String Range: NA Default Value: seppdb
<code>nrfcntl.perf-info.dbConfig.dbUNameLiteral</code>	This is a mandatory parameter. Specifies the database literal name that shall be used as per the <code><dbConfig.secretName></code> .	Data Type: String Range: NA Default Value: mysql-username
<code>nrfcntl.perf-info.dbConfig.dbPwdLiteral</code>	This is a mandatory parameter. Specifies the database password literal name that shall be used as per the <code><dbConfig.secretName></code> .	Data Type: String Range: NA Default Value: mysql-password
<code>nrfcntl.perf-info.dbConfig.dbEngine</code>	This mandatory parameter specifies the MySQL engine that is used by perf-info to store information in the MySQL database.	Data Type: ENUM Range: NA Default Value: NDBCLUSTER
<code>nrfcntl.perf-info.overloadManager.enabled</code>	This is a mandatory parameter. Specifies whether to enable or disable overload reporting.	Data Type: Boolean Range: NA Default Value: true
<code>nrfcntl.perf-info.overloadManager.nfType</code>	This is a mandatory parameter. Specifies the NF type that is used to query configuration from common configuration server.	Data Type: String Range: NA Default Value: sepp
<code>nrfcntl.perf-info.overloadManager.ingressGatewaySvcName</code>	This is a mandatory parameter. Specifies the names of backend services	Data Type: String Range: NA Default Value: n32-ingress-gateway
<code>nrfcntl.perf-info.overloadManager.ingressGatewayPort</code>	This is a mandatory parameter. Specifies the port number of Ingress Gateway	Data Type: Integer Range: NA Default Value: 80
<code>nrfcntl.perf-info.ingress.enabled</code>	This is a mandatory parameter. Ingress flag control	Data Type: Boolean Range: NA Default Value: false
<code>nrfcntl.perf-info.configmapPerformance.prometheus</code>	This is a mandatory parameter. Prometheus server k8s service URL Information	Data Type: String Range: NA Default Value: http://prometheus-server.prometheus:5802
<code>nrfcntl.perf-info.tagNamespace</code>	This is a mandatory parameter. Specifies the Kubernetes namespace.	Data Type: String Range: NA Default Value: namespace

Table 3-18 (Cont.) perf-info

Parameter	Description	Details
<code>nrflclient.perf-info.tagContainerName</code>	This is a mandatory parameter. Specifies the tag used for specifying name of the container.	Data Type: String Range: NA Default Value: container
<code>nrflclient.perf-info.tagServiceName</code>	This is a mandatory parameter. Specifies the tag used for specifying name of the service.	Data Type: String Range: NA Default Value: service
<code>probeValidationByPass.enabled</code>	This is an optional parameter. It is used to bypass the startup probe failure during upgrade.	Data Type: Boolean Range: NA Default Value: True

3.1.17 mediation

nf-mediation parameters

This section includes information about the nf-mediation parameters of the SEPP.

Table 3-19 nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.istioSidecarQuitUrl</code>	This is a mandatory parameter Field to define the URL that is used for quitting service mesh sidecar. This URL is used to quit the istio sidecar after successful completion of hook job. The reference variable <code>&sidecarQuitUrl</code> should not be changed, however, the value <code>http://127.0.0.1:15020/quitquitquit</code> can be changed. Applicable only when <code>serviceMeshEnabled</code> is set to true.	Data Type: <code>&sidecarQuitUrl</code> "http://127.0.0.1:15000/quitquitquit" Range: NA Default Value: <code>http://127.0.0.1:15020/quitquitquit</code>
<code>nf-mediation.istioSidecarReadyUrl</code>	This is a mandatory parameter Field to define the URL that is used for checking the service mesh sidecar status and start application when the status is ready. The reference variable <code>&sidecarReadyUrl</code> should not be changed, however, the value <code>"http://127.0.0.1:15020/ready"</code> can be changed. Applicable only when <code>serviceMeshEnabled</code> is set to true.	Data Type: <code>&sidecarReadyUrl</code> "http://127.0.0.1:15000/ready" Range: NA Default Value: <code>"http://127.0.0.1:15020/ready"</code>
<code>nf-mediation.global.imageRepository</code>	This is a mandatory parameter. user need to set <code>imageRepository</code> to the repository where the images are kept.	Data Type: string Range: NA Default Value: reg-1

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.global.serviceMeshEnabled</code>	This is an optional parameter. Flag to enable aspen service mesh.	Data Type: Boolean Range: true or false Default Value: false
<code>nf-mediation.global.database.dbHost</code>	This is a mandatory parameter. DB Connection Service IP Or Hostname. DB Service FQDN	Data Type: string Range: Valid IPv4 address as per RFC 791 or Valid FQDN Default Value: "sepp-mysql-svc"
<code>nf-mediation.global.database.dbPort</code>	This is a mandatory parameter. DB Service Port	Data Type: integer Range: Valid port value Default Value: 3306
<code>nf-mediation.global.database.dbAppUserSecretName</code>	This is a mandatory parameter K8s Secret containing Database/ user/password for all services of SCP interacting with DB.	Data Type: string Range: NA Default Value: 'ocsepp-mysql-cred'
<code>nf-mediation.global.database.dbPrivilegedUserSecretName</code>	This is a mandatory parameter Name of the Kubernetes secret object containing the Database username and password for an admin user.	Data Type: string Range: NA Default Value: 'ocsepp-mysql-cred'
<code>nf-mediation.global.database.createUser</code>	This is a mandatory parameter This parameter can enable or disable the automatic database and application user creation.	Data Type: Boolean Range: true false Default Value: true
<code>nf-mediation.global.database.sqlQueryLimit</code>	This is a mandatory parameter Database query limit value	Data Type: Integer Range: NA Default Value: 1000
<code>nf-mediation.global.database.dbName</code>	This is a mandatory parameter. It is the name of SEPP database.	Data Type: string Range: NA Default Value: seppdb
<code>nf-mediation.global.database.seppBackupDbName</code>	This is a mandatory parameter. It is the name of SEPP Backup database. Defines backupdb name where backup will be created during upgrade	Data Type: string Range: NA Default Value: seppbackupdb
<code>nf-mediation.global.databaseEngine</code>	This is a mandatory parameter. It is the name of the DB Engine used by SEPP. It's possible values are NDBCLUSTER or INNODB	Data Type: String Range: NDBCLUSTER /INNODB Default Value: innodb
<code>nf-mediation.global.hookJobWeight.mediation</code>	This is a mandatory parameter. This parameter decides the pre-hook sequence of Mediation service (In Preinstall, Pre upgrade and Pre rollback)	Data Type: Integer Range: NA Default Value: 8

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.global.hookJob.postHookJobsWeights.mediation</code>	This is a mandatory parameter. This parameter decides the post-hook sequence of Mediation service (In Post install, Post upgrade and Post rollback)	Data Type: Integer Range: NA Default Value: 8
<code>nf-mediation.global.upgradeLimit</code>	This is a mandatory parameter. limit of upgrade versions to be supported	Data Type: Integer Range: NA Default Value: 3
<code>nf-mediation.global.rollbackLimit</code>	This is a mandatory parameter. limit of rollback versions to be supported	Data Type: Integer Range: NA Default Value: 3
<code>nf-mediation.global.customExtension.allResources.labels</code>	This is an optional parameter Option to configure custom labels for the entire deployment applicable to all resource types. Format is: <string_label_1_key>:<string_label_1_value>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.allResources.annotations</code>	This is an optional parameter Option to configure custom annotations for the entire deployment applicable to all resource types. Format is: <string_annotation_1_key>:<string_annotation_1_value> Note: Following is the mandatory annotations if you are deploying SCP in Aspen Service Mesh: sidecar.istio.io/ inject: "false"	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.lbServices.labels</code>	This is an optional parameter Option to configure custom labels for the LoadBalancer pods of the deployment applicable to "Service" resource type. Format is: <string_label_1_key>:<string_label_1_value>	Data Type: String Range: Kubernetes label object syntax Default Value: {}

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.global.customExtension.lbServices.annotations</code>	This is an optional parameter Option to configure custom annotations for the LoadBalancer pods of the deployment applicable to "Service" resource type. Format is: <pre><string_annotation_1_key>:<string_annotation_1_value></pre> Note: Following is the mandatory annotations if you are deploying SCP in Aspen Service Mesh: <pre>sidecar.istio.io/inject: "true"</pre> If integrated with OSO, use the following annotations: <pre>oracle.com/cnc: "true"</pre>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.lbDeployments.labels</code>	This is an optional parameter Option to configure custom labels for the LoadBalancer pods of the deployment applicable to "Deployment" resource type. Format is: <pre><string_label_1_key>:<string_label_1_value></pre>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.lbDeployments.annotations</code>	This is an optional Parameter Option to configure custom annotations for the LoadBalancer pods of the deployment applicable to "Deployment" resource type. Format is: <pre><string_annotation_1_key>:<string_annotation_1_value></pre>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.nonlbServices.labels</code>	This is an optional parameter Option to configure custom labels for the Non LoadBalancer pods of the deployment applicable to "Service" resource type. Format is: <pre><string_label_1_key>:<string_label_1_value></pre>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.nonlbServices.annotations</code>	This is an optional parameter Option to configure custom annotations for the Non LoadBalancer pods of the deployment applicable to "Service" resource type. Format is: <pre><string_annotation_1_key>:<string_annotation_1_value></pre>	Data Type: String Range: Kubernetes label object syntax Default Value: {}

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.global.customExtension.nonlbDeployments.labels</code>	This is an optional parameter Option to configure custom labels for the Non LoadBalancer pods of the deployment applicable to "Deployment" resource type. Format is: <string_label_1_key>: <string_label_1_value>	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.customExtension.nonlbDeployments.annotations</code>	This is an optional Parameter Option to configure custom annotations for the Non LoadBalancer pods of the deployment applicable to "Deployment" resourcetype. Format is: <string_annotation_1_key>:<string_annotation_1_value> Note: Following is the mandatory annotations if you are deploying SCP inAspen Service Mesh:sidecar.istio.io/inject: "true" If integrated with OSO, use the following annotations: oracle.com/cnc: "true"	Data Type: String Range: Kubernetes label object syntax Default Value: {}
<code>nf-mediation.global.k8sResource.container.prefix</code>	This is an optional paramter Option to add prefix to container names.	Data Type: string Range: NA Default Value: {}
<code>nf-mediation.global.k8sResource.container.suffix</code>	This is an optional paramter Option to add suffix to container names.	Data Type: String Range: NA Default Value: {}
<code>nf-mediation.global.mediation.port.servicePort</code>	This is a Mandatory parameter This parameter defines the Http Port for mediation service	Data Type: Integer Range: NA Default Value: 9090
<code>nf-mediation.global.mediation.port.serviceHttpsPort</code>	This is a Mandatory parameter This parameter defines the Https Port for mediation service	Data Type: Integer Range: NA Default Value: 9091
<code>nf-mediation.global.mediation.port.containerPort</code>	This is a Mandatory parameter This parameter defines the container http Port for mediation service	Data Type: Integer Range: NA Default Value: 9090
<code>nf-mediation.global.mediation.port.containerHttpsPort</code>	This is a Mandatory parameter This parameter defines the container https Port for mediation service	Data Type: Integer Range: NA Default Value: 9091

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.global.mediation.port.commonServicePort</code>	This is a Mandatory parameter This parameter defines the port number for prometheus actuator service	Data Type: Integer Range: NA Default Value: 8091
<code>nf-mediation.global.securityContext</code>	This is an optional parameter A security context defines privilege and access control settings for a pod or container.	Data Type: string Range: NA Default Value: {}
<code>nf-mediation.imageDetails.image</code>	This is a mandatory parameter. Indicates the Image name of mediation.	Data Type: string Range: Name components may contain lowercase letters, digits, and separators. A separator is defined as a period, one or two underscores, or one or more dashes. A name component may not start or end with a separator. Default Value: mediation/ocmed-nfmediation
<code>nf-mediation.imageDetails.tag</code>	This is a mandatory parameter. Indicates the Image tag of mediation.	Data Type: string Range: valid ASCII that may contain lowercase and uppercase letters, digits, underscores, periods, and dashes. A tag name may not start with a period or a dash and may contain a maximum of 128 characters. Default Value: nf_mediation_tag
<code>nf-mediation.imageDetails.pullPolicy</code>	This is a mandatory parameter. Indicates if the image has to be pulled.	Data Type: string Range: Always, IfNotPresent, Never Default Value: Always
<code>nf-mediation.targetCpuForScaling.averageCpuUtil</code>	This is an optional parameter. A new replica will be created if this much CPU utilisation is reached. This parameter is used in HPA	Data Type: Integer Range: NA Default Value: 70. # %

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.maxPdbUnavailable</code>	This is an optional parameter. determine the maximum number of pods that can remain unavailable during a voluntary disruption. For example, if <code>maxPdbUnavailable</code> is 25%, the evictions are allowed until not more than 25% of the desired replicas are unhealthy.	Data Type: string Range: NA Default Value: 25%
<code>nf-mediation.upgradeStrategy</code>	This is an optional parameter. Specifies the strategy used during upgrade process. The only supported upgradeStrategy is <code>rollingUpgrade</code> .	Data Type: string Range: <code>RollingUpdate</code> Default Value: <code>RollingUpdate</code>
<code>nf-mediation.maxUnavailable</code>	This is an optional parameter. parameter determines the number of pods that are unavailable during the update. Maximum number of unavailable should be 0. Since maximum number of replicas for mediation microservice is 1	Data Type: integer Range: Default Value: 0
<code>nf-mediation.maxSurge</code>	This is an optional parameter. The number of pods that can be created above the desired amount of pods during an update	Data Type: integer Range: Default Value: 1
<code>nf-mediation.log.level</code>	This is an mandatory parameter. Enables desired level of logging for the service.	Data Type: string Range: N/A Default Value: <code>ERROR</code>
<code>nf-mediation.minreplicas</code>	This is a mandatory parameter Indicates the minimum replica count of the mediation microservice.	Data Type: integer Range: N/A Default Value: 2
<code>nf-mediation.maxreplicas</code>	This is a mandatory parameter Indicates the maximum replica count of the mediation microservice.	Data Type: integer Range: N/A Default Value: 2
<code>nf-mediation.jaegerTracingEnabled</code>	This is an optional parameter. Enables Jaeger traces for mediation.	Data Type: Boolean Range: <code>true false</code> Default Value: <code>false</code>
<code>nf-mediation.bodyInTraceEnabled</code>	This is an optional parameter. Enables body traces for mediation.	Data Type: Boolean Range: <code>true false</code> Default Value: <code>false</code>
<code>nf-mediation.openTracing.jaeger.udpSender.host</code>	This is an optional parameter Indicates the host details of jaeger server.	Data Type: string Range: N/A Default Value: <code>"jaeger-agent.cne-infra"</code>

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.openTracing.jaeger.udpSender.port</code>	This is an optional parameter Indicates the port details of Jaeger server.	Data Type: integer Range: 0 - 65535 Default Value: 6831
<code>nf-mediation.openTracing.jaeger.logSpans</code>	This is an optional parameter Enables Jaeger log spans.	Data Type: Boolean Range: true false Default Value: false
<code>nf-mediation.openTracing.jaeger.probabilisticSamplingRate</code>	This is an optional parameter Indicates the sampling rate for Jaeger	Data Type: string Range: 0-1 Default Value: 0.1
<code>nf-mediation.ruleMetricsEnable</code>	This is an optional parameter Enables pegging of rule based metrics	Data Type: Boolean Range: True or False Default value: false
<code>nf-mediation.nfInstanceId</code>	This is an optional parameter This is the instance ID of Mediation	Data Type: String Range: NA Default Value: IWF1
<code>nf-mediation.MediationMode</code>	This is an optional parameter This parameter defines the mode of Mediation service	Data Type: String Range: NA Default Value: NFMediation
<code>opentracingHost</code>	This is an optional parameter. IP address for Jaeger-Agent This parameter comes into picture only if <code>jaegerTracingEnabled</code> parameter is enabled.	Data Type: string Range: valid IP address Default Value: 10.75.157.169
<code>opentracingPort</code>	This is an optional parameter node port of Jaeger-Agent	Data Type: Integer Range: valid port Default Value: 32460
<code>nf-mediation.server.maxConnections</code>	This is a mandatory parameter This parameter defines the maximum connection created by tomcat server for mediation service	Data Type: Integer Range: Default Value: 10000
<code>nf-mediation.server.queueSize</code>	This is a mandatory parameter This parameter defines the request queue size for tomcat server for mediation service	Data Type: Integer Range: NA Default Value: 100
<code>nf-mediation.server.maxThreads</code>	This is a mandatory parameter This parameter defines the maximum threads for processing the requests created by tomcat server for mediation service	Data Type: Integer Range: NA Default Value: 200

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.server.spareThreads</code>	This is a mandatory parameter This parameter defines the spare threads for processing the requests created by tomcat server for mediation service	Data Type: Integer Range: NA Default Value: 20
<code>nf-mediation.undertowMaxConcurrentStream</code>	This is a mandatory parameter Maximum number of concurrent streams	Data Type: Integer Range: NA Default Value: 1000
<code>nf-mediation.undertowMaxQueueReadBuffers</code>	This is a mandatory parameter Maximum number of buffers that will be used before reads are paused in framed protocols	Data Type: Integer Range: NA Default Value: 200
<code>nf-mediation.undertowQueuedFramesHighWaterMark</code>	This is a mandatory parameter Maximum numbers of frames that can be queued before reads are suspended	Data Type: Integer Range: NA Default Value: 1000
<code>nf-mediation.undertowQueuedFramesLowWaterMark</code>	This is a mandatory parameter The point at which reads will resume again after hitting the high water mark	Data Type: Integer Range: NA Default Value: 200
<code>nf-mediation.settingsMaxDownstreamConcurrentStreams</code>	This is a mandatory parameter Maximum number of down concurrent streams	Data Type: Integer Range: NA Default Value: 999
<code>nf-mediation.commonCPJCConnectFailureThreshold</code>	This is a mandatory parameter This is one of the common jetty client parameter. Connection failure threshold value	Data Type: integer Range: NA Default Value:10
<code>nf-mediation.commonCPJCMaxConcurrentPushedStreams</code>	This is a mandatory parameter This is one of the common jetty client parameter. Maximum no of Concurrent Pushed Streams	Data Type: integer Range: NA Default Value:1000
<code>nf-mediation.commonCPJCConnectTimeout</code>	This is a conditional parameter. This is one of the common jetty client parameter. This is the limit for connection to be established between client and server.	Data Type: integer Range: NA Default Value:10000
<code>nf-mediation.commonCPJCmaxRequestsQueuedPerDestination</code>	This is a mandatory parameter This is one of the common jetty client parameter. Maximum Requests Queued Per Destination	Data Type: integer Range: NA Default Value:1024

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.commonCPJCmaxConnectionsPerDestination</code>	This is a mandatory parameter This is one of the common jetty client parameter. Maximum Connections Per Destination	Data Type: integer Range: NA Default Value: 4
<code>nf-mediation.commonCPJCMaxConnectionsPerIp</code>	This is a mandatory parameter This is one of the common jetty client parameter. Maximum Connections Per IP	Data Type: integer Range: NA Default Value: 4
<code>nf-mediation.commonCPJCRequestTimeout</code>	This is a conditional parameter. This is one of the common jetty client parameter. This is the limit for the configuration for request timeout	Data Type: integer Range: NA Default Value:10000
<code>nf-mediation.commonCPJCDNSRefreshDelay</code>	This is a conditional parameter. This is one of the common jetty client parameter. This is the value for DNS Refresh Delay.	Data Type: integer Range: NA Default Value:15000
<code>nf-mediation.commonCPJCPingDelayDuration</code>	This is a conditional parameter. This is one of the common jetty client parameter. This is the value for Ping delay duration.	Data Type: integer Range: NA Default Value: 0
<code>nf-mediation.downstream.idleTimeout</code>	This is a mandatory parameter The Idle Timeout setting in the TCP profile specifies the length of time that a connection is idle before the connection is eligible for deletion. If no traffic flow is detected within the idle session timeout, the session will be deleted.	Data Type: integer Range: NA Default Value: 600000(sec)
<code>nf-mediation.downstream.tcpKeepAlive.count</code>	This is a mandatory parameter used to adjust the count of TCP Keep-Alive packets.	Data Type: Integer Range: NA Default Value: 10
<code>nf-mediation.downstream.tcpKeepAlive.enabled</code>	This is a mandatory parameter This parameter Enables TCP Keep alive functionality	Data Type: Boolean Range: true or false Default Value: true
<code>nf-mediation.downstream.tcpKeepAlive.interval</code>	This is a mandatory parameter used to adjust the frequency at which TCP Keep-Alive packets are sent to a remote host for connection validation	Data Type: integer Range: NA Default Value: 500 (sec)

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.downstream.tcpKeepalive.time</code>	This is a mandatory parameter. The Keep Alive Interval setting is used to adjust the frequency at which TCP Keep-Alive packets are sent to a remote host for connection validation.	Data Type: integer Range: NA Default Value: 1000 (sec)
<code>nf-mediation.downstream.tcpKeepalive.probes</code>	This is a mandatory parameter. This parameter defines the maximum number of unacknowledged keepalive packets that the system will send before considering the connection dead.	Data Type: Integer Range: NA Default Value: 10
<code>nf-mediation.extraContainers</code>	This is a mandatory parameter. Spawns debug container along with application container in the pod. This debug container is used for debugging purposes.	Data Type: string Range: DISABLED, ENABLED, USE_GLOBAL_VALUE Default Value: USE_GLOBAL_VALUE
<code>nf-mediation.service.type</code>	This is an optional parameter. Indicates the default service type used is ClusterIP.	Data Type: String Range: ClusterIP, LoadBalancer, NodePort Default Value: ClusterIP
<code>nf-mediation.service.loadBalancer.addressPool</code>	This is a mandatory parameter. To request the assignment of public IP from a specific IP pool using metallb.universe.tf/address-pool annotation to mediation service.	Data Type: String Range: NA Default Value: signaling1
<code>nf-mediation.service.active.type</code>	This is a mandatory parameter. Indicates the default service type used is ClusterIP.	Data Type: String Range: ClusterIP, LoadBalancer, NodePort Default Value: ClusterIP
<code>nf-mediation.service.active.corePoolSize</code>	This is a mandatory parameter. Indicates the Thread Pool core pool size.	Data Type: Integer Range: NA Default Value: 34
<code>nf-mediation.service.active.maxPoolSize</code>	This is a mandatory parameter. Indicates the Thread Pool maximum pool size.	Data Type: Integer Range: NA Default Value: 66
<code>nf-mediation.service.active.queueCapacity</code>	This is a mandatory parameter. Indicates the capacity of Thread Pool Blocking Queue.	Data Type: Integer Range: NA Default Value: 10000
<code>nf-mediation.service.active.host</code>	This is a mandatory parameter. Indicated the host name for mediation service	Data Type: String Range: NA Default Value: nf-mediation

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
<code>nf-mediation.service.active.forwardToTest</code>	This is an optional parameter. Enables mediation test mode and forward requests to test the deployment.	Data Type: Boolean Range: True or False Default value: false
<code>nf-mediation.service.active.configMap</code>	This is a mandatory parameter. This parameter indicated the config map name used by mediation service to define mediation rules	Data Type: Range: NA Default Value: nf-mediation-config-active
<code>nf-mediation.service.active.rule.engine</code>	This is a mandatory parameter. This parameter indicated the name of rule engine used by mediation service to apply mediation rules	Data Type: String Range: NA Default Value: droolsRE
<code>nf-mediation.service.test.type</code>	This is a mandatory parameter. Indicates the default service type used is ClusterIP.	Data Type: String Range: ClusterIP, LoadBalancer, NodePort Default Value: ClusterIP
<code>nf-mediation.service.test.corePoolSize</code>	This is a mandatory parameter. Indicates the Thread Pool core pool size.	Data Type: Integer Range: NA Default Value: 34
<code>nf-mediation.service.test.maxPoolSize</code>	This is a mandatory parameter. Indicates the Thread Pool maximum pool size.	Data Type: Integer Range: NA Default Value: 66
<code>nf-mediation.service.test.queueCapacity</code>	This is a mandatory parameter. Indicates the capacity of Thread Pool Blocking Queue.	Data Type: Integer Range: NA Default Value: 10000
<code>nf-mediation.service.test.host</code>	This is a mandatory parameter. Indicated the host name for mediation service	Data Type: String Range: NA Default Value: nf-mediation-test
<code>nf-mediation.service.test.configMap</code>	This is a mandatory parameter. This parameter indicated the config map name used by mediation service to define mediation rules	Data Type: String Range: NA Default Value: nf-mediation-config-test
<code>nf-mediation.service.test.rule.engine</code>	This is a mandatory parameter. This parameter indicated the name of rule engine used by mediation service to apply mediation rules	Data Type: String Range: NA Default Value: droolsRE

Table 3-19 (Cont.) nf-mediation parameters

Parameter	Description	Details
nf-mediation.service.customExtension.labels	Optional field to configure service specific labels applicable to "Service" Resource Type.	Data Type: <string_label_1_key>:<string_label_1_value> <string_label_2_key>:<string_label_2_value> Range: K8s label object syntax Default Value: customExtension: labels:{} annotations: {}
nf-mediation.service.customExtension.annotations	Optional field to configure service specific annotations applicable to "Service" Resource Type.	Data Type: <string_annotation_1_key>:<string_annotation_1_value> <string_annotation_2_key>:<string_annotation_2_value> Range: K8s annotations object syntax Default Value: customExtension: labels:{} annotations: {}
nf-mediation.deployment.customExtension.labels	Optional field to configure service specific labels applicable to "Service" Resource Type.	Data Type: <string_label_1_key>:<string_label_1_value> <string_label_2_key>:<string_label_2_value> Range: K8s label object syntax Default Value: customExtension: labels:{} annotations: {}
nf-mediation.deployment.customExtension.annotations	Optional field to configure service specific annotations applicable to "Service" Resource Type.	Data Type: <string_annotation_1_key>:<string_annotation_1_value> <string_annotation_2_key>:<string_annotation_2_value> Range: K8s annotations object syntax Default Value: customExtension: labels:{} annotations: {}

mediationConfig

This section includes information about the mediation config parameters of the SEPP.

Table 3-20 mediationConfig parameters

Parameter	Description	Details
mediationConfig.ruleApi.enabled	This is a mandatory parameter This flag is used to enable or disable the CNC Console or REST API based rules configurations feature implementation. If the value is true, mediation microservice uses the rules from the CNC Console or REST APIs based rules setup. If the value is false, mediation microservice uses the rules from the config map based rules setup.	Data Type: boolean Range: NA Default Value: true
mediationConfig.idleTimeout	This is a mandatory parameter. This indicates the maximum duration that (milliseconds) a connection can be idle for (that is, without traffic of bytes in either direction).	Data Type: integer Range: NA Default Value: 720000 ms

3.1.18 coherence-svc

This section includes information about the coherence-svc parameters of the SEPP.

Table 3-21 coherence-svc

Parameter	Description	Details
coherence-svc.global.asm.serviceMeshCheck	This is a mandatory parameter. This flag is used to enable or disable ASM for all services. ASM setup: When serviceMeshCheck is enabled signature validation of certificate is skipped. There is no need to configure the certificate or the secret.	Data Type: boolean Range: True or False Default Value: false
coherence-svc.global.asm.istioSidecarQuitUrl	This is a mandatory parameter. This indicates the sidecar (istio quit url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Default Value: " "
coherence-svc.global.asm.istioSidecarReadyUrl	This is a mandatory parameter. This indicates the sidecar (istio ready url) when deployed in serviceMesh. Port should be modified envoy admin port.	Data Type: String Default Value: "http://127.0.0.1:15000/ready"

Table 3-21 (Cont.) coherence-svc

Parameter	Description	Details
coherence-svc.replicaCount	This is a mandatory parameter. This indicates the maximum replicas to scale to maintain an average CPU utilisation	Data Type: Integer Default Value: 1
coherence-svc.clusterName	This is a mandatory parameter. Name of Cluster	Data Type: Integer Default Value: SEPPCoherenceCluster
coherence-svc.image.repository	This is a mandatory parameter. Repo location of image	Data Type: Integer Default Value: reg-1
coherence-svc.image.name	This is a mandatory parameter. Name of image	Data Type: String Default Value: ocsepp-coherence-svc
coherence-svc.image.tag	This is a mandatory parameter. Tag of image	Data Type: String Default Value: helm-tag
coherence-svc.image.pullPolicy	This is a mandatory parameter. This setting indicates if the image needs to be pulled or not	Data Type: String Default Value: Always
coherence-svc.service.type	This is a mandatory parameter. Type of service	Data Type: String Default Value: ClusterIP
coherence-svc.service.port	This is a mandatory parameter. This is the ocsepp-pn32f-cache-svc service Port number	Data Type: Integer Default Value: 9070
coherence-svc.log.root	This is a mandatory parameter. This indicates the Root log level value	Data Type: String Default Value: INFO
coherence-svc.log.sepp	This is a mandatory parameter. This indicates the SEPP specific log level	Data Type: String Default Value: INFO
coherence-svc.resources.limits.ephemeralStorage	This is an optional parameter. This indicates the pods use ephemeral local storage for scratch space, caching, and logs.	Data Type: Integer Default Value: 1Gi
coherence-svc.resources.limits.cpu	This is a mandatory parameter. Resource Requirements(limit of cpu)	Data Type: Integer Default Value: 1
coherence-svc.resources.limits.memory	This is a mandatory parameter. Resource Requirements(limit of memory)	Data Type: String Default Value: 2Gi
coherence-svc.resources.requests.ephemeralStorage	This is an optional parameter. Pods and containers can require ephemeral storage for their operation.	Data Type: String Default Value: 78Mi
coherence-svc.resources.requests.cpu	This is a mandatory parameter. Resource Requirements(requested cpu)	Data Type: Integer Default Value: 1

Table 3-21 (Cont.) coherence-svc

Parameter	Description	Details
coherence-svc.resources.requests.memory	This is a mandatory parameter. Resource Requirements(requested memory)	Data Type: String Default Value: 2Gi
coherence-svc.resources.target.averageCpuUtil	This is a mandatory parameter. Resource Requirements(avg cpu utilisation)	Data Type: Integer Default Value: 50
coherence-svc.coherence.port	This is a mandatory parameter. This is coherence service port number.	Data Type: Integer Default Value: 8070

3.1.19 alternate-route service

This section includes information about the alternate-route service parameters of the SEPP.

Table 3-22 Alternate Route Service

Parameter	Description	Details
alternate-route.logStorage	This is an optional parameter. It is the sum of "50M Logging space requirement of infrastructure (based on kubectl configuration - default log file size if 10M and it maintains max 5 copies)" and "5Kb as infra space". resources.request.ephemeral-storage will be set as 110% of the sum (logStorage + crictlStorage)	Data Type: Integer Default Value: 70MB Range: NA
alternate-route.crictlStorage	This is an optional parameter. It is the disk space usage of a pod that can be collected by running the command <code>crictl stats `crictl ps   grep dummy   cut -d" " -f1`</code> in the node on which the pod is running. To know the pod details, run the <code>kubectl get pods -o wide</code> command. resources.request.ephemeral-storage will be set as 110% of the sum (logStorage + crictlStorage)	Data Type: Integer Default Value: 1MB Range: NA
alternate-route.appinfoServiceEnable	This is a mandatory parameter. Enables or disables app-info service for config client. Note: This is a read-only parameter. It is configured only for config client.	Data Type: Boolean Default Value: true Range: false, true
alternate-route.nodeSelection	This is a mandatory parameter. Specifies whether Kubernetes assigns the alternate-route pod to the node that match with the specified node labels. If the value is set to <code>USE_GLOBAL_VALUE</code> , then the pod uses the configuration from <code>nodeSelection</code> parameter in the Global Parameters section. If the value is set to <code>ENABLED</code> , then the <code>nodeSelector</code> is applied to the deployments. If the value is set to <code>DISABLED</code> , then the <code>nodeSelector</code> is not applied to any deployments.	Data Type: String Default Value: <code>USE_GLOBAL_VALUE</code> Range: <code>ENABLED</code> , <code>DISABLED</code> , <code>USE_GLOBAL_VALUE</code>

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.helmBasedConfigurationNodeSelectorApiVersion	This is a mandatory parameter. Indicates the supported Node Selector API Version. Note: Only v1 is supported.	Data Type: String Default Value: v1 Range: NA
alternate-route.nodeSelector.nodeKey	This is a mandatory parameter. nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods. nodeKey: Key of the node label. Note: This is a read-only parameter. It is configured only for config client.	Data Type: String Default Value: '' Range: NA
alternate-route.nodeSelector.nodeValue	This is a mandatory parameter. Indicates the value of the node label. Note: This is a read-only parameter. It is configured only for config client.	Data Type: String Default Value: "" Range: NA
alternate-route.tolerationsSetting	This is an optional parameter. Specifies whether Kubernetes assigns the toleration to the alternate-route pod. If the value is set to USE_GLOBAL_VALUE, then the pod uses the configuration from the global.tolerations parameter configured in the Global Parameters section. If the value is set to ENABLED, then the toleration is applied to the pod that is defined in the tolerations in the alternate-route pod. If the value is set to DISABLED, then the toleration is not applied to the pod that is defined in the tolerations in the alternate-route pod.	Data Type: String Default Value: USE_GLOBAL_VALUE Range: ENABLED, DISABLED, USE_GLOBAL_VALUE
alternate-route.tolerations	This is an optional parameter. Defines the toleration values. Following is an example to define the configuration: tolerations: - key: "exampleKey" operator: "Equal" value: "value1" effect: "NoSchedule"	Data Type: String Default Value: [] Range: NA
alternate-route.maxUnavailable	This is a mandatory parameter. Indicates the maximum allowed unavailable pods during pod disruption. This parameter uses the same value of the reference variable, maxPdbUnavailable present in the Global Parameters section. Note: By default the global configured value is used. The reference variable must be replaced with absolute value, in case the microservice value needs to be changed.	Data Type: String Default Value: *maxPdbUnavailableRef Range: NA

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.deploymentDnsSrv.name	This is an optional parameter. Indicates the full image path.	Data Type: String Default Value: alternate_route Range: NA
alternate-route.deploymentDnsSrv.tag	This is an optional parameter. Indicates the tag image in docker repository. This parameter uses the same value of the reference variable, gwTag present in the Global Parameters section. Note: This is a read-only parameter and must not be changed.	Data Type: String Default Value: *gwTagRef Range: NA
alternate-route.deploymentDnsSrv.pullPolicy	This is an optional parameter. Indicates if the image need to be pulled. This parameter uses the same value of the reference variable, imagePullPolicy present in the Global Parameters section. Note: This is a read-only parameter and must not be changed.	Data Type: String Default Value: *imagePullPolicyRef Range: Always, IfNotPresent, Never
alternate-route.service.type	This is an optional parameter. Indicates the kind of service that will be used for this deployment. Note: It is not recommended to change the service type.	Data Type: String Default Value: ClusterIP Range: ClusterIP, NodePort, LoadBalancer and ExternalName
alternate-route.dbHookImage.name	This is an optional parameter. Indicates the common configuration hook image.	Data Type: String Default Value: common_config_hook Range: NA
alternate-route.dbHookImage.tag	This is an optional parameter. Indicates the common configuration hook image tag. This parameter uses the same value of the reference variable, gwTag present in the Global Parameters section. Note: This is a read-only parameter and must not be changed.	Data Type: String Default Value: *gwTagRef Range: NA
alternate-route.dbHookImage.pullPolicy	This is an optional parameter. Indicates the common configuration hook image pull policy. Note: This is a read-only parameter and must not be changed.	Data Type: String Default Value: *imagePullPolicyRef Range: NA
alternate-route.minAvailable	This is an optional parameter. Indicates the number of pods must always be available, even during a disruption.	Data Type: Integer Default Value: 2 Range: NA
alternate-route.minReplicas	This is an optional parameter. Indicates the minimum number of pods that will be deployed.	Data Type: Integer Default Value: 2 Range: NA

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.maxReplicas	This is an optional parameter. Indicates the maximum number of pods that will be scaled up.	Data Type: Integer Default Value: 2 Range: NA
alternate-route.startupProbe.initialDelaySeconds	This is an optional parameter. Indicates the configurable wait time (in seconds) before performing the first readiness probe by Kubelet. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 30 Range: NA
alternate-route.startupProbe.periodSeconds	This is an optional parameter. Indicates the time interval (in seconds) for every readiness probe check. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 10 Range: NA
alternate-route.startupProbe.timeoutSeconds	This is an optional parameter. Indicates the number of seconds after which the probe times out. Note: Do not change the default value.	Data Type: Integer Default Value: 15 Range: NA
alternate-route.startupProbe.successThreshold	This is an optional parameter. Indicates the minimum consecutive successes for the probe to be considered successful after having failed. Note: Do not change the default value.	Data Type: Integer Default Value: 1 Range: NA
alternate-route.startupProbe.failureThreshold	This is an optional parameter. When a pod starts and the probe fails, Kubernetes indicates failure threshold time before giving up. Note: Do not change the default value.	Data Type: Integer Default Value: 6 Range: NA
alternate-route.readinessProbe.initialDelaySeconds	This is an optional parameter. Indicates the configurable wait time (in seconds) before performing the first readiness probe by Kubelet. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 30 Range: NA
alternate-route.readinessProbe.periodSeconds	This is an optional parameter. Indicates the time interval (in seconds) for every readiness probe check. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 10 Range: NA
alternate-route.readinessProbe.timeoutSeconds	This is an optional parameter. Indicates the number of seconds after which the probe times out. Note: Do not change the default value.	Data Type: Integer Default Value: 15 Range: NA
alternate-route.readinessProbe.successThreshold	This is an optional parameter. Indicates the minimum consecutive successes for the probe to be considered successful after having failed. Note: Do not change the default value.	Data Type: Integer Default Value: 1 Range: NA

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.readinessProbe.failureThreshold	This is an optional parameter. When a pod starts and the probe fails, Kubernetes indicates failure threshold time before giving up. Note: Do not change the default value.	Data Type: Integer Default Value: 3 Range: NA
alternate-route.livenessProbe.initialDelaySeconds	This is an optional parameter. Indicates the configurable wait time (in seconds) before performing first liveness probe by Kubelet. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 30 Range: NA
alternate-route.livenessProbe.periodSeconds	This is an optional parameter. Indicates the time interval ((in seconds) for every liveness probe check. Note: Do not change the default value. If you see delays in pod to come up and probe is killing the pod then you must tune these parameters.	Data Type: Integer Default Value: 15 Range: NA
alternate-route.livenessProbe.timeoutSeconds	This is an optional parameter. Indicates the number of seconds after which the probe times out. Note: Do not change the default value.	Data Type: Integer Default Value: 15 Range: NA
alternate-route.livenessProbe.successThreshold	This is an optional parameter. Indicates the minimum consecutive successes for the probe to be considered successful after having failed. Note: Do not change the default value.	Data Type: Integer Default Value: 1 Range: NA
alternate-route.livenessProbe.failureThreshold	This is an optional parameter. When a pod starts and the probe fails, Kubernetes tries failure threshold times before giving up. Note: Do not change the default value.	Data Type: Integer Default Value: 3 Range: NA
alternate-route.dbConfig.dbHost	This is a mandatory parameter. Indicates the hostname of database connection in which the common configuration must be stored. This is the MySQL primary DB connection service IP or hostname (mysql.primary.host) present in the Global Parameters section.	Data Type: String Default Value: *mysqlHostRef Range: NA
alternate-route.dbConfig.dbPort	This is a mandatory parameter. Indicates the port of database connection. This is the MySQL primary DB connection service port (mysql.primary.port) present in the Global Parameters section.	Data Type: String Default Value: *mysqlPortRef Range: NA
alternate-route.dbConfig.secretName	This is a mandatory parameter. Indicates the secret name from which the DB name, DB password and db user name is picked for common configuration. This is the privileged user secret name used by DB hooks for creating tables (database.privilegedUserSecretName) present in the Global Parameters section.	Data Type: String Default Value: *privilegedSecretNameRef Range: NA

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.dbConfig.dbName	This is a mandatory parameter. Indicates the name of common configuration database. This is the database name to be used for common configuration (database.commonConfigDbName) present in the Global Parameters section.	Data Type: String Default Value: *dbNameRef Range: NA
alternate-route.dbConfig.dbEngine	This is a mandatory parameter. Indicates the name of common configuration database engine. Value of this parameter is as same as the value of databaseEngine in the Global Parameters section. Note: This is a read-only parameter and must not be changed.	Data Type: String Default Value: *databaseEngineRef Range: NA
alternate-route.staticVirtualFqdns.name	This is an optional parameter. Indicates the name of the virtual FQDN or FQDN.	Data Type: String Default Value: NA Range: NA
alternate-route.staticVirtualFqdns.alternateFqdns.target	This is a mandatory parameter, if "alternate-route.staticVirtualFqdns.name" is defined. Indicates the name of the alternate FQDN mapped to above virtual FQDN.	Data Type: String Default Value: NA Range: NA
alternate-route.staticVirtualFqdns.alternateFqdns.port	This is a mandatory parameter, if "alternate-route.staticVirtualFqdns.name" is defined. Indicates the port of the alternate FQDN.	Data Type: Integer Default Value: 5060 Range: NA
alternate-route.staticVirtualFqdns.alternateFqdns.priority	This is a mandatory parameter, if "alternate-route.staticVirtualFqdns.name" is defined. Indicates the priority of the alternate FQDN.	Data Type: Integer Default Value: 10 Range: NA
alternate-route.dnsSrvEnabled	This is an optional parameter. Indicates the attribute to enable or disable the DNS-SRV query to DNS Server.	Data Type: Boolean Default Value: true Range: false, true
alternate-route.dnsSrvFqdnSetting.enabled	This is an optional parameter. Indicates the flag to enable the usage of custom patterns for the FQDN while triggering DNS-SRV query.	Data Type: Boolean Default Value: false Range: false, true
alternate-route.dnsSrvFqdnSetting.pattern	This is an optional parameter. Indicates the pattern of the FQDN used to format the incoming FQDN and Scheme while triggering the DNS-SRV query. - The value must be in sync with the format used for configuring FQDN's of SRV records in DNS. - If the flag "dnsSrvFqdnSetting.enabled" is set to false, then the default value is used for forming the FQDN while sending a DNS-SRV query to DNS. This default value is in accordance with the standards of DNS-SRV. It is recommended that this pattern must be used for configuring the SRV records in DNS.	Data Type: String Default Value: "{_scheme}._tcp.{fqdn}." Range: NA

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
alternate-route.resources.limits.cpu	This is an optional parameter. Indicates the maximum amount of CPU that Kubernetes will allow the nrfconfiguration service container to use. It is the maximum CPU resource allocated to nrfconfiguration deployment.	Data Type: Integer Default Value: 2 Range: NA
alternate-route.resources.limits.commonHooksCpu	This is an optional parameter. Indicates the maximum amount of CPU that Kubernetes will allow the common hooks container to use.	Data Type: Integer Default Value: 1 Range: NA
alternate-route.resources.limits.memory	This is an optional parameter. Indicates the maximum memory that Kubernetes will allow the nrfconfiguration service container to use. It is the maximum memory allocated to nrfconfiguration deployment.	Data Type: Integer Default Value: 4Gi Range: NA
alternate-route.resources.limits.commonHooksMemory	This is an optional parameter. Indicates the maximum amount of memory that Kubernetes will allow the common hooks container to use.	Data Type: Integer Default Value: 1Gi Range: NA
alternate-route.resources.requests.cpu	This is an optional parameter. Indicates the amount of CPU that the system will guarantee for the nrfconfiguration service container, and Kubernetes will use this value to decide on which node to place the pod. It is the maximum CPU resource allocated to nrfconfiguration deployment.	Data Type: Integer Default Value: 2 Range: NA
alternate-route.resources.requests.memory	This is an optional parameter. Indicates the memory that the system will guarantee for the nrfconfiguration, Kubernetes will use this value to decide on which node to place the pod. It is the maximum memory for requests allocated to nrfconfiguration deployment.	Data Type: Integer Default Value: 2Gi Range: NA
alternate-route.resources.target.averageCPUUtil	This is an optional parameter. Indicates the target CPU utilization after which Horizontal Pod Autoscaler will be triggered.	Data Type: Integer Default Value: 80 Range: NA
alternate-route.gracePeriodSeconds	This is a mandatory parameter. It is the grace period for pod to wait for inflight requests to be completed. If there are no inflight requests, then this period is ignored. If there are pending requests even after this period is elapsed, then the pod will be forcefully shutdown. Unit: seconds.	Data Type: Integer Default Value: 60 Range: NA
alternateRouteServiceEnable	This is a mandatory parameter. This parameter is used to enable the deployment for alternate-route-service.	Data Type: Boolean Range: True or False Default Value: False
dnsSrvFqdnSetting.enabled	This is an optional parameter. This parameter is used to enable or disable the usage of custom patterns for the FQDN while triggering DNS-SRV query.	Data Type: Boolean Range: True or False Default Value: True

Table 3-22 (Cont.) Alternate Route Service

Parameter	Description	Details
dnsSrvFqdnSetting.pattern	This is an optional parameter. This parameter is the default custom pattern for DNS SRV record to be resolved.	Data Type: String Default Value: <code>_{scheme}._tcp.{fqdn}</code> .
dnsSrvEnabled	This is a mandatory parameter. This parameter is used to enable the sending of DNS SRV queries to core-dns.	Data Type: Boolean Range: True or False Default Value: True

3.1.20 SEPP Timer Parameters

The following is the consolidated list of SEPP Timer Parameters:

PN32F

Table 3-23 PN32F

Parameter Name	Description	Default Value	Data Type
cacheRefreshTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database.	30,000 (ms)	Integer
cacheRefreshInitTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database at Init time.	5000 (ms)	Integer
securityCacheRefreshTimeout	This is a mandatory parameter (If Security Countermeasure feature is enabled). Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration.	30,000 (ms)	Integer
securityCacheRefreshInitTimeout	This is a mandatory parameter (If Security Countermeasure feature is enabled). Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration at the Init time when Application comes up.	50,000 (ms)	Integer

Table 3-23 (Cont.) PN32F

Parameter Name	Description	Default Value	Data Type
topologyhidingCacheRefreshTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration.	30,000 (ms)	Integer
topologyhidingCacheRefreshInitTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration at the Init time when Application comes up.	50,000 (ms)	Integer
topologyhidingHistoryUpdateTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. This is the Time for the old entries to be removed from cache. Entries older than topologyhidingHistoryRefreshSeconds are purged.	30,000 (ms)	Integer
topologyhidingHistoryRefreshSeconds	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. This value represents the Time until old Topology Hiding feature entries are kept in cache.	60 (sec)	Integer

Table 3-23 (Cont.) PN32F

Parameter Name	Description	Default Value	Data Type
connectionTimeout	This is a mandatory parameter. This is Jetty Client Settings. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 (ms)	Integer
dnsRefreshDelay	This is a mandatory parameter. This is Jetty Client Settings. This value represents the Time taken to refresh the DNS entries for a destination	10,000 (ms)	Integer
requestTimeout	This is a mandatory parameter. This is Jetty Client Settings. Request timeout is the maximum time that can be taken to process HTTP request after the connection is established. Sum of time to process request plus ConnectionTimeout and should always be greater than Connection Timeout.	1100 (ms)	Integer
mediationRequestTimeout	This is a mandatory parameter (If Mediation feature is enabled). Time to wait for the response from mediation microservice.	400 (ms)	Integer

Table 3-23 (Cont.) PN32F

Parameter Name	Description	Default Value	Data Type
nrfDiscoveryCacheRefreshTimeout	This is a mandatory parameter (If Cat 3 - Previous Location Check feature is enabled). This parameter defines the timer value when UDR Discovery request will be triggered if coherence map containing UDR Profile information is empty. After this timer expiry, UDR Discovery request will be initiated by NRF Client towards NRF.	30000 (ms) Note: In ATS setup, set the value as 10.	Integer
nrfDiscoveryCacheRefreshInitTimeout	This is a mandatory parameter (If Cat 3 - Previous Location Check feature is enabled). This parameter defines the timer value after which UDR Discovery request will be triggered at SEPP INIT Time. After this timer expiry, UDR Discovery request will be initiated by NRF Client towards NRF.	5000 (ms)	Integer
evictSanHeaderCacheDelay	This is a mandatory parameter. This parameter defines the timer value after which San Header Cache gets cleared out and updated with new N32F Context (if added).	50000 (ms) Note: In ATS setup, set the value as 100.	Integer

CN32F

Table 3-24 CN32F

Parameter Name	Description	Default Value	Data Type
cacheRefreshTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database.	30,000 (ms)	Integer

Table 3-24 (Cont.) CN32F

Parameter Name	Description	Default Value	Data Type
cacheRefreshInitTimeout	This is a mandatory parameter. Timeout configured for updating PN32F cache with N32F Context details present in SEPP database at Init time.	5000 (ms)	Integer
securityCacheRefreshTimeout	This is a mandatory parameter (If Security Countermeasure feature is enabled). Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration.	30,000 (ms)	Integer
securityCacheRefreshInitTimeout	This is a mandatory parameter (If Security Countermeasure feature is enabled). Timeout configured for updating PN32F cache with SEPP Features details for loading their Database configuration at the Init time when Application comes up.	50,000 (ms)	Integer
topologyhidingCacheRefreshTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration.	30,000 (ms)	Integer
topologyhidingCacheRefreshInitTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. Timeout configured for updating PN32F cache with Topology Hiding feature configuration for loading their Database configuration at the Init time when Application comes up.	50,000 (ms)	Integer

Table 3-24 (Cont.) CN32F

Parameter Name	Description	Default Value	Data Type
topologyhidingHistoryUpdateTimeout	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. This is the Time for the old entries to be removed from cache. Entries older than topologyhidingHistoryRefreshSeconds are purged.	30,000 (ms)	Integer
topologyhidingHistoryRefreshSeconds	This is a mandatory parameter (If Topology hiding feature is enabled). This is Topology Hiding Settings. This value represents the Time until old Topology Hiding feature entries are kept in cache.	60 (sec)	Integer
connectionTimeout	This is a mandatory parameter. This is Jetty Client Settings. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 (ms)	Integer
dnsRefreshDelay	This is a mandatory parameter. This is Jetty Client Settings. This value represents the Time taken to refresh the DNS entries for a destination	10,000 (ms)	Integer

Table 3-24 (Cont.) CN32F

Parameter Name	Description	Default Value	Data Type
requestTimeout	This is a mandatory parameter This is Jetty Client Settings. Request timeout is the maximum time that can be taken to process HTTP request after the connection is established. Sum of time to process request plus ConnectionTimeout and should always be greater than Connection Timeout.	.	Integer
mediationRequestTimeout	This is a mandatory parameter (If Mediation feature is enabled). Time to wait for the response from mediation microservice.	900 (ms)	Integer

Update DB

Table 3-25 Update DB

Parameter Name	Description	Default Value	Data Type
customAlertExpiryDuration	This is a mandatory parameter (applicable only when customAlertExpiryEnabled is set to true). This timer indicates, alert expiry occurs according to resolve_timeout value of AlertManager and upgrade/rollback hooks shall clear the alerts as applicable. If it is set to true, auto alert clear shall occur after customAlertExpiryDuration value and upgrade/rollback hooks may not clear the alerts. The custom duration (in minutes) post which Alert gets auto cleared, applicable only when customAlertExpiryEnabled is set to true	60 (Min)	Integer

NRF Client**Table 3-26 NRF Client**

Parameter Name	Description	Default Value	Data Type
nrf-client-nfdiscovery.commonCfgServer.pollingInterval	This is a mandatory parameter (applicable only when commonCfgClient.enabled is set to true). The interval at which the discovery service shall poll the configuration service to check for updates in ms. This attribute shall be configured only if commonCfgClient.enabled is set to true.	5000 (ms)	Integer

Table 3-26 (Cont.) NRF Client

Parameter Name	Description	Default Value	Data Type
nrf-client-nfmanagement.commonCfgServer.pollingInterval	This is a mandatory parameter (applicable only when commonCfgClient.enabled is set to true). The interval at which the management service shall poll the configuration service to check for updates in ms This attribute shall be configured only if commonCfgClient.enabled is set to true.	5000 (ms)	Integer

App Info**Table 3-27 App Info**

Parameter Name	Description	Default Value	Data Type
commonCfgServer.pollingInterval	This is a mandatory parameter (applicable only when commonCfgClient.enabled is set to true). This is the interval between two subsequent polling requests from config client to server	5000 (ms)	Integer
commonCfgServer.connectionTimeout	This is a mandatory parameter (applicable only when commonCfgClient.enabled is set to true). This is the limit for connection to be established between config client and server	10000 (ms)	Integer

Perf Info

Table 3-28 Perf Info

Parameter Name	Description	Default Value	Data Type
<code>commonCfgServer.pollingInterval</code>	This is a mandatory parameter (Applicable only if <code>commonCfgClient.enabled</code> is set to true). This is the interval between two subsequent polling requests from config client to server	5000 (ms)	Integer
<code>commonCfgServer.connectionTimeout</code>	This is a mandatory parameter (Applicable only if <code>commonCfgClient.enabled</code> is set to true). This is the limit for connection to be established between config client and server	10000 (ms)	Integer

Config Manager Service

Table 3-29 Config Manager Service

Parameter Name	Description	Default Value	Data Type
<code>readinessProbe.initialDelaySeconds</code>	This is a mandatory parameter. This value Tells the kubelet that it should wait second before performing the first probe. Probes start running after <code>initialDelaySeconds</code> after container is started.	30 (sec)	Integer
<code>readinessProbe.timeoutSeconds</code>	This is a mandatory parameter. This value tells the Number of seconds after which the probe times out.	3 (sec)	Integer
<code>readinessProbe.periodSeconds</code>	This is a mandatory parameter. This value specifies that the kubelet should perform a liveness probe every xx seconds.	10 (sec)	Integer

Table 3-29 (Cont.) Config Manager Service

Parameter Name	Description	Default Value	Data Type
livenessProbe.initialDelaySeconds	This is a mandatory parameter. This value tells the kubelet that it should wait second before performing the first probe.	180 (sec)	Integer
livenessProbe.timeoutSeconds	This is a mandatory parameter. Number of seconds after which the probe times out.	3 (sec)	Integer
livenessProbe.periodSeconds	This is a mandatory parameter. This value specifies that the kubelet should perform a liveness probe every xx seconds.	15 (sec)	Integer

Mediation**Table 3-30 Mediation**

Parameter Name	Description	Default Value	Data Type
commonCPJCConnectTimeout	This is a conditional parameter. This is one of the common jetty client parameter. This is the limit for connection to be established between client and server.	10000	Integer
commonCPJCRequestTimeout	This is a conditional parameter. This is one of the common jetty client parameter. This is the limit for the configuration for request timeout	10000	Integer
commonCPJCDNSRefreshDelay	This is a conditional parameter. This is one of the common jetty client parameter. This is the value for DNS Refresh Delay.	15000	Integer

Table 3-30 (Cont.) Mediation

Parameter Name	Description	Default Value	Data Type
commonCPJCPingDelay Duration	This is a conditional parameter. This is one of the common jetty client parameter. This is the value for Ping delay duration.	0	Integer
downstream.idleTime out	This is a mandatory parameter. The Idle Timeout setting in the TCP profile specifies the length of time that a connection is idle before the connection is eligible for deletion. If no traffic flow is detected within the idle session timeout, the session will be deleted. This timer is for jetty client.	600000 (sec)	Integer
downstream.tcpKeepa live.interval	This is a mandatory parameter. Used to adjust the frequency at which TCP Keep-Alive packets are sent to a remote host for connection validation	500 (sec)	Integer
downstream.tcpKeepa live.time	This is a mandatory parameter. The Keep Alive Interval setting is used to adjust the frequency at which TCP Keep-Alive packets are sent to a remote host for connection validation.	1000 (sec)	Integer

PLMN Egress Gateway**Table 3-31 PLMN Egress Gateway**

Parameter Name	Description	Default Value	Data Type
connectionTimeout	This is an optional parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 (ms)	Integer

Table 3-31 (Cont.) PLMN Egress Gateway

Parameter Name	Description	Default Value	Data Type
requestTimeout	This is an optional parameter. The configuration for request timeout for the call from Egress Gateway to the producer NF.	1000 (ms)	Integer
gracefulCloseDelay	This is a mandatory parameter. gracefulCloseDelay value should be positive value greater than requestTimeout and lesser than jettyIdleTimeout. # if gracefulCloseDelay is set to 0 then default value of 30000 ms will be considered internally	2000 (ms)	Integer
dnsRefreshDelay	This is an optional parameter. This is Jetty Client Settings. This value represents the Time taken to refresh the DNS entries for a destination	10000 (ms)	Integer
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. 's' in case of seconds and 'm' in case of minutes	1 (min)	Integer
jettyIdleTimeout	This is a mandatory parameter. Used for clearing out idle connections on Jetty Client.	3000 MS	Integer
nettyIdleTimeout	This is a mandatory parameter. Netty server Idle Timeout value.	120000000 ms	Integer

PLMN Ingress Gateway

Table 3-32 PLMN Ingress Gateway

Parameter Name	Description	Default Value	Data Type
ingressServer.keepAlive.idleTime	This is an optional parameter. Time after which keep alive will be tried after successful response from the peer.	180 Sec	Integer
ingressServer.keepAlive.interval	This is an optional parameter. The interval after which it should retry in case of failure.	60 Sec	Integer
routesConfig.metadata.requestTimeout	This is a mandatory parameter. requestTimeout is used to set timeout at route level. Value should be in milliseconds.	2600 ms	Integer
routesConfig.metadata.requiredTime	This is a mandatory parameter (Applicable only if isSbiTimerEnabled is true). requiredTime is minimum time below which request will be rejected if isSbiTimerEnabled is true. Value should be in milliseconds.	3000 ms	Integer
dnsRefreshDelay	This is an optional parameter. This value represents the Time taken to refresh the DNS entries for a destination	120000 (ms)	Integer
globalIngressRateLimiting.duration	This is a mandatory parameter (Applicable only if globalIngressRateLimiting.enabled is true). Iterations of time duration(In seconds) for which bucketCapacity and refillRate are reset.	1 (Sec)	Integer

Table 3-32 (Cont.) PLMN Ingress Gateway

Parameter Name	Description	Default Value	Data Type
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected # 's' in case of seconds and 'm' in case of minutes	1 min	Integer
commonCfgServer.pollingInterval	This is a mandatory parameter (Applicable only if commonCfgClient.enabled is set to true). This is the interval between two subsequent polling requests from config client to server	5000	Integer
connectionTimeout	This is a mandatory parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 ms	Integer
jettyIdleTimeout	This is a mandatory parameter. Used for clearing out idle connections on Jetty Client	3000 MS	Integer
nettyIdleTimeout	This is a mandatory parameter. Netty server Idle Timeout value	120000000 ms	Integer

N32 Egress Gateway**Table 3-33 N32 Egress Gateway**

Parameter Name	Description	Default Value	Data Type
dnsRefreshDelay	This is an optional parameter. This value represents the Time taken to refresh the DNS entries for a destination.	10000 (ms)	Integer

Table 3-33 (Cont.) N32 Egress Gateway

Parameter Name	Description	Default Value	Data Type
connectionTimeout	This is an optional parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 (ms)	Integer
requestTimeout	This is an optional parameter. The configuration for request timeout for the call from Egress Gateway to the producer NF.	1500 (ms)	Integer
gracefulCloseDelay	This is a mandatory parameter. gracefulCloseDelay value should be positive value greater than requestTimeout and lesser than jettyIdleTimeout. If gracefulCloseDelay is set to 0 then default value of 30000 ms will be considered internally	2000 (ms)	Integer
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed. If there are no active requests then this period is neglected. 's' in case of seconds and 'm' in case of minutes	1 min	Integer
sepp.removeUnusedProxyAfter	This is an optional parameter (If not added, default value is picked). Time in minutes after which unused proxy beans are removed	30 (min)	Integer
jettyIdleTimeout	This is a mandatory parameter. Used for clearing out idle connections on Jetty Client	3000 ms	Integer

Table 3-33 (Cont.) N32 Egress Gateway

Parameter Name	Description	Default Value	Data Type
nettyIdleTimeout	This is a mandatory parameter. Netty server Idle Timeout value	120000000 ms	Integer

N32 Ingress Gateway**Table 3-34 N32 Ingress Gateway**

Parameter Name	Description	Default Value	Data Type
ingressServer.keepAlive.idleTime	This is an optional parameter. Time after which keep alive will be tried after successful response from the peer	180 (ms)	Integer
ingressServer.keepAlive.interval	This is an optional parameter. The interval after which it should retry in case of failure	60 sec	Integer
routesConfig.metadata.requestTimeout	This is a mandatory parameter. requestTimeout is used to set timeout at route level. Value should be in milliseconds.	1200 ms	Integer
routesConfig.metadata.requiredTime	This is a mandatory parameter (Applicable only if isSbiTimerEnabled is set to true). requiredTime is minimum time below which request will be rejected if isSbiTimerEnabled is true. Value should be in milliseconds.	3000	Integer
commonCfgServer.pollingInterval	This is a mandatory parameter (Applicable only if commonCfgClient.enabled is set to true). This is the interval between two subsequent polling requests from config client to server	5000	Integer

Table 3-34 (Cont.) N32 Ingress Gateway

Parameter Name	Description	Default Value	Data Type
dnsRefreshDelay	This is an optional parameter. Dns Refresh Delay in milli-seconds	120000 (ms)	Integer
globalIngressRateLimiting.duration	This is a mandatory parameter (Applicable only if globalIngressRateLimiting.enabled). Iterations of time duration(In seconds) for which bucketCapacity and refillRate are reset.	1 (Sec)	Integer
gracefulShutdown.gracePeriod	This is an optional parameter. Grace period to wait for active requests to be executed # If there are no active requests then this period is neglected	1 (min)	Integer
connectionTimeout	This is an optional parameter. This value represents connectTimeout the max time, in milliseconds, a connection can take to connect to destinations. Zero value means infinite timeout.	60 (ms)	Integer
jettyIdleTimeout	This is a mandatory parameter. Used for clearing out idle connections on Jetty Client	3000 ms	Integer
nettyIdleTimeout	This is a mandatory parameter. Netty server Idle Timeout value	120000000 ms	Integer

Global Parameters

Table 3-35 Global Parameters

Parameter Name	Description	Default Value	Data Type
retryInterval	This is a mandatory parameter. Retry interval	300000 (ms)	Integer

Table 3-35 (Cont.) Global Parameters

Parameter Name	Description	Default Value	Data Type
altServiceReqTimeout	This is a mandatory parameter. alternate route service http request timeout value.	3000 (ms)	Integer
altServiceLookupInterval	This is a mandatory parameter. alternate route service lookup interval.	3000 (ms)	Integer
test.config.timeout	This is a mandatory parameter. Estimated total time required for SEPP deployment and helm test command completion.	180 (Sec)	Integer

3.1.21 SEPP Configurable Parameters for OCI Deployment

This section includes information about the SEPP configurable parameters for OCI deployment.

Table 3-36 SEPP Configurable Parameters for OCI Deployment

Parameter	Description	Details
openTelemetry.jaeger.collector.httpHost	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: occne-tracer-jaeger-collector.occne-infra
n32-ingress-gateway.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
n32-egress-gateway.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
plmn-ingress-gateway.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
plmn-egress-gateway.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra

Table 3-36 (Cont.) SEPP Configurable Parameters for OCI Deployment

Parameter	Description	Details
alternate-route.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
pn32f-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
cn32f-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
cn32c-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
pn32c-svc.openTelemetry.jaeger.httpExporter.host	This is an optional parameter. openTelemetry host.	Data Type: String Range: NA Default Value: jaeger-collector.cne-infra
cn32c-svc.openTelemetry.jaeger.httpExporter.port	This is an optional parameter. openTelemetry port.	Data Type: Integer Range: NA Default Value: 4318
cn32c-svc.openTelemetry.jaeger.logSpans	This is an optional parameter. openTelemetry logspans.	Data Type: boolean Range: true or false Default Value: false
cn32c-svc.openTelemetry.jaeger.probabilisticSamplingRate	This is an optional parameter. Trace capture in percentage.	Data Type: Float Range: NA Default Value: 0.5 (Note: it means 50%)
cn32c-svc.enableOpenTelemetry	This is an optional parameter. This parameter enables the openTelemetry.	Data Type: boolean Range: true or false Default Value: false

This section includes information about perf-info configurable parameters for OCI deployment of the SEPP.

Table 3-37 perf-info Configurable parameters for OCI Deployment

Parameter	Description	Details
ociMetrics.apiBodyParamNamespace	This is a conditional parameter. This is the metrics namespace to use when searching for metric data points to aggregate. Mandatory for integration with OCI metrics.	Data Type: String Range: NA Default Value: NA

Table 3-37 (Cont.) perf-info Configurable parameters for OCI Deployment

Parameter	Description	Details
<code>ociMetrics.apiBodyParamTimeRangeSecs</code>	This is an optional parameter. This is the time range that should contain at least one metric data point. The guidance is to set it to 2x scraping interval (interval in which metrics is read from pods and reported to OCI).	Data Type: Integer Range: 30 to 600 Default Value: 360
<code>ociMetrics.apiQueryParamCompartmentId</code>	This is an optional parameter. This is the OCID (Oracle Cloud ID) of the compartment containing the NF. Mandatory for integration with OCI metrics.	Data Type: Integer Range: NA Default Value: NA
<code>ociMetrics.clientTimeoutConnectionTimeoutSecs</code>	This is an optional parameter. This is the number of seconds to wait for client to establish a connection to the service.	Data Type: Integer Range: 1- 60 Default Value: 1
<code>ociMetrics.clientTimeoutReadTimeoutSecs</code>	This is an optional parameter. This is the number of seconds the client will wait for the service to send a response.	Data Type: Integer Range: 1- 60 Default Value: 1
<code>ociMetrics.enabled</code>	This is an optional parameter. This parameter indicates whether the integration with OCI metrics is enabled or not.	Data Type: Boolean Range: True or False Default Value: False
<code>ociMetrics.servicePrettyName</code>	This is an optional parameter. This is the OCI Monitoring service pretty name used in metrics generated for debugging or observability.	Data Type: String Range: NA Default Value: OCIMONITORING
<code>summarizeMetricsDataSleepMs</code>	This is an optional parameter. The sleep time to handle too many requests.	Data Type: Integer Range: NA Default Value: 300
<code>nrflclient.perf-info.tagNamespace</code>	This is a mandatory parameter. Specifies the Kubernetes namespace.	Data Type: String Range: NA Default Value: namespace Note: In OCI deployment, the value must be k8Namespace.

3.2 Configuring DNS for Inter PLMN FQDN Resolution

Refer the following document to configure the DNS Server for Inter PLMN FQDN resolution in CNE Environment:

Oracle Communications Cloud Native Core, Cloud Native Environment Installation, Upgrade, and Fault Recovery Guide.

Note

For any other environment other than CNE, refer the corresponding document for configuring the DNS Server for Inter PLMN FQDN resolution.

4

Upgrading SEPP

This chapter provides information about upgrading Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) deployment to the latest release. It is recommended to perform SEPP upgrade in a specific order. For more information about the upgrade order, see *Oracle Communications Cloud Native Core, Solution Upgrade Guide*.

You can upgrade SEPP from a source release to a target release using CDCS or CLI procedure as outlined in the following table:

Table 4-1 SEPP Upgrade procedure Sequence

Sequence	Upgrade Task	References	Supported for CDCS	Supported for CLI
1	Upgrade prerequisites	Preupgrade Tasks	See <i>Oracle Communications CD Control Server User Guide</i> .	Yes
2	Upgrade procedure	Upgrade procedure	See <i>Oracle Communications CD Control Server User Guide</i> .	Yes

4.1 Supported Upgrade Paths

The following table lists the supported upgrade paths for SEPP:

Note

- SEPP deployed in SEPP mode can be upgraded only to SEPP mode.
- SEPP deployed in Roaming Hub mode can be upgraded only to Roaming Hub mode.

Table 4-2 Supported Upgrade Paths

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

Table 4-3 Supported Upgrade Paths

Source Roaming Hub Release	Target Roaming Hub Release
23.2.x, 23.3.x, 23.4.x	23.4.3

Note

SEPP must be upgraded before upgrading cnDBTier.

4.2 Upgrade Strategy

SEPP supports in-service upgrade. The supported upgrade strategy is RollingUpdate. The rolling update strategy is a gradual process that allows you to update your Kubernetes system with only a minor effect on performance and no downtime. The advantage of the rolling update strategy is that the update is applied Pod-by-Pod so the greater system can remain active.

Note

It is recommended to perform SEPP upgrade in a specific order. For more information about the upgrade order, see *Oracle Communications Cloud Native Core, Solution Upgrade Guide*.

The following engineering configuration parameters are used to define upgrade strategy:

- `upgradeStrategy` parameter indicates the update strategy used in SEPP.
- `maxUnavailable` parameter determines the maximum number of pods that can be unavailable during upgrade.

Predefined Upgrade Strategy Value

Table 4-4 Predefined Upgrade Strategy Value

Microservice	Upgrade Value (maxUnavailable)
nf-mediation	1
n32-ingress-Gateway	25%
n32-egress-Gateway	25%
plmn-ingress-Gateway	25%
plmn-egress-Gateway	25%
pn32f-svc	Not Applicable Note: maxSurge=25% attribute is used for this microservice.
cn32f-svc	Not Applicable Note: maxSurge=25% attribute is used for this microservice.
pn32c-svc	Not Applicable Note: maxSurge=25% attribute is used for this microservice.
cn32c-svc	Not Applicable Note: maxSurge=25% attribute is used for this microservice.

Table 4-4 (Cont.) Predefined Upgrade Strategy Value

Microservice	Upgrade Value (maxUnavailable)
config-mgr-svc	Not Applicable Note: maxSurge=25% attribute is used for this microservice.
Appinfo	25%
ocpm-config	50%
performance	50%
sepp-nrf-client-nfmanagement	Single Replica
sepp-nrf-client-nfdiscovery	25%
coherence-svc	1
alternate-route	25%

4.3 Preupgrade Tasks

This section provides information about preupgrade tasks to be performed before upgrading SEPP.

While upgrading an existing SEPP deployment, the running set of containers and pods are replaced with the new set of containers and pods. However, if there is no change in the pod configuration, the running set of containers and pods are not replaced.

① Note

- No configuration should be performed during the upgrade.
- Do not exit from Helm upgrade command manually. After running the Helm upgrade command, it takes some time (depending upon the number of PODs to upgrade) to upgrade all of the services. In the meantime, you must not press "ctrl+c" to come out from Helm upgrade command. It may lead to anomalous behavior.

Note

- The `releaseVersion` value in the `ocsepp_values.yaml` file can not be changed.
- While performing an upgrade from an older release to a newer release, you must align the `ocsepp_values.yaml` file of the new release as per the `ocsepp_values.yaml` file of the older release. Ensure that you do not change any Helm parameter values. Do not enable any new feature during the upgrade. Any `ocsepp_values.yaml` parameter must not be changed while upgrading unless explicitly specified in this guide. For information about enabling any new feature through Helm parameters, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.
- Install or upgrade the network policies, if applicable. For more information, see [Configuring Network Policies](#).
- While performing an upgrade, the Global Rate Limiting feature must be disabled on both the ingress gateways (`n32-ingress-gateway`, `plmn-ingress-gateway`) in the source `custom_values.yaml` file.

```
rateLimiting:
  enabled: false
rssRateLimiter:
  enabled: false
globalIngressRateLimiting:
  enabled: false
```

Preupgrade Steps

1. Keep current `custom_values.yaml` file as backup, that is, `ocsepp-custom values-<version>.yaml` for upgrading.
2. Update the new `custom_values.yaml` defined for target SEPP release. See [Customizing SEPP](#) section for more details about Helm configurable parameters.
3. Perform sanity check using Helm test. See the [Performing Helm Test](#) section for the Helm test procedure.
4. Before starting upgrade, take a manual backup of SEPP REST based configuration. It will help if manual backup is taken in case the data need to be restored before the upgrade. For REST API configuration details, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy REST Specification Guide*.

4.4 Upgrade Tasks

This section includes information about upgrading an existing SEPP deployment.

4.4.1 Helm Upgrade

Upgrading an existing deployment replaces the running containers and pods with new containers and pods. If there is no change in the pod configuration, it is not replaced.

Unless there is a change in the service configuration of a microservice, the service endpoints remain unchanged.

4.4.2 Upgrading SEPP

Perform the following procedure to upgrade SEPP.

⚠ Caution

- Stop the provisioning traffic before you start the upgrade procedure.
- No configuration should be performed during upgrade.
- Do not exit from `helm upgrade` command manually. After running the `helm upgrade` command, it takes some time (depending upon the number of pods to upgrade) to upgrade all the services. In the meantime, you must not press "ctrl+c" to come out from `helm upgrade` command. It may lead to anomalous behavior.

📌 Note

- If the Helm upgrade results in failure and displays *ConfigMap <Egress Rate Limiting ConfigMap Name> in namespace <Namespace> exists and cannot be imported into the current release: invalid ownership metadata* error, do the following:

Delete the Egress Rate Limit ConfigMap using the following command: `kubectl delete cm <Egress Rate Limiting ConfigMap Name> -n <namespace>` and run the Helm upgrade again.

1. Untar the latest SEPP package and if required, re-tag and push the images to registry. For more information, see [Downloading SEPP package](#) and Pushing the Images to Customer Docker Registry.
2. Modify the `ocsepp-23.4.3.0.0.custom-values.yaml` file parameters as per site requirement.
3. Run the following command to upgrade an existing SEPP deployment:
 - a. Using local Helm chart:

```
helm upgrade <release_name> <helm_chart> -f  
<ocsepp_customized_values.yaml> --namespace <namespace-name>
```

Example:

```
helm upgrade seppsvc ocsepp-23.4.3.tgz -f ocsepp-custom  
values-23.4.3.yaml --namespace ocsepp
```

Where,

<release_name> is the SEPP release name.

<helm_chart> is the Helm chart.

<sepp_customized_values.yaml> is the latest custom-values.yaml file.

For example, `ocsepp-23.4.3.0.0.custom-values.yaml`

`<namespace>` is namespace of SEPP deployment.

- b. Using chart from helm repo:

```
helm upgrade <release_name> <helm_repo/helm_chart> --version
<chart_version> -f <ocsepp_customized_values.yaml> --namespace
<namespace-name>
```

Example:

```
helm upgrade seppsvc ocsepp-23.4.3.tgz --version <chart_version> -f
ocsepp-custom values-23.4.3.yaml --namespace ocsepp
```

Where,

`<release_name>` is the SEPP release name.

`<helm_chart>` is the Helm chart.

`<sepp_customized_values.yaml>` is the latest custom-values.yaml file.

For example, `ocsepp-23.4.3.0.0.custom-values.yaml`

`<namespace>` is namespace of SEPP deployment.

4. Run the following command to check the status of the upgrade:

```
helm status <release_name> --namespace <namespace-name>
```

Where,

`<release_name>` is the SEPP release name.

`<namespace>` is namespace of SEPP deployment.

For example:

```
$ helm status ocsepp --namespace seppsvc
```

Sample output of a successful upgrade:

```
[cloud-user@ocne-22-2-0-cluster-bastion-1 ocsepp-23.4.3]$ helm history
ocsepp-release -n seppsvc
REVISION      UPDATED          STATUS
CHART          APP VERSION      DESCRIPTION
1              Wed May 13 07:19:50 2023    superseded
ocsepp-23.3.0  23.4.3.0.0       Install complete
2              Wed May 13 07:31:21 2023    superseded
ocsepp-23.4.3  23.4.3.0.0       Upgrade complete
3              Wed May 13 07:50:08 2023    superseded
ocsepp-23.4.3  23.4.3S.0.0      Rollback to 1
```

5. Perform sanity check using Helm test. See the [Performing Helm Test](#) section for the Helm test procedure.
6. If the upgrade fails, see Upgrade or Rollback failure in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

5

Rolling Back SEPP

This chapter provides information about rolling back Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) deployment to the previous release. It is recommended to perform SEPP rollback in a specific order. For more information about the rollback order, see *Oracle Communications Cloud Native Core, Solution Upgrade Guide*.

You can roll back SEPP from a target release to any supported source release using CDCS or CLI procedures as outlined in the following table:

Table 5-1 SEPP Rollback Sequence

Sequence	Rollback Task	References	Supported for CDCS	Supported for CLI
1	Rolling back process	Rollback Steps	Refer to <i>Oracle Communications CD Control Server User Guide</i> .	Yes

5.1 Supported Rollback Paths

The following table lists the supported rollback paths for SEPP:

Note

- SEPP deployed in SEPP mode can be rolled back only to SEPP mode.
- SEPP deployed in Roaming Hub mode can be rolled back only to Roaming Hub mode.

Table 5-2 Supported Rollback Paths

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

Table 5-3 Supported Rollback Paths

Source Roaming Hub Release	Target Roaming Hub Release
23.4.3	23.4.x, 23.3.x, 23.2.x

5.2 Rollback Steps

Perform this procedure to roll back SEPP deployment from 24.2.0 to the previously supported versions:

 Caution

- No configuration should be performed during rollback.
- Do not exit from `helm rollback` command manually. After running the `helm rollback` command, it takes some time (depending upon number of pods to rollback) to rollback all of the services. In the meantime, you must not press "ctrl+c" to come out from `helm rollback` command. It may lead to anomalous behavior.
- Ensure that no SEPP pod is in the failed state.
- If the Helm rollback results in failure and displays *Rollback "ocsepp" failed: no ConfigMap with the name "rss-ratelimit-map" found* error, it indicates that Helm is not able to merge current and rollback charts. Then run the Helm rollback again with **--force**.
- If the Helm rollback results in failure and displays *ConfigMap <Egress Rate Limiting ConfigMap Name> in namespace <Namespace> exists and cannot be imported into the current release: invalid ownership metadata* error, do the following:

Delete the Egress Rate Limit ConfigMap using the following command: `kubectl delete cm <Egress Rate Limiting ConfigMap Name> -n <namespace>` and run the Helm rollback again.

 Note

SEPP might raise alerts while performing rollback. To clear any alert, see "Alerts" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy User Guide*.

1. Run the following command to check the revision you must roll back to:

```
helm history <release_name> -n <release_namespace>
```

Where,

- <release_name> is the release name used by the Helm command.
- <release_namespace> is the namespace where SEPP is deployed.

For example:

```
helm history ocsepp --namespace seppsvc
```

2. Run the command to rollback to the required revision:

```
helm rollback <release_name> <revision_number> --namespace  
<release_namespace>
```

Where, <revision_number> is the release number to which SEPP needs to be rolled back.

For example:

```
helm rollback ocsepp 1 --namespace seppsvc
```

3. If the rollback fails, see "Upgrade or Rollback Failure" section in *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Troubleshooting Guide*.

5.3 Post Rollback Tasks

After performing rollback, restore preupgrade data obtained earlier through manual backup.

GET API for different resources can be used to see current values in SEPP, then accordingly if any update required, individual service APIs defined for different resources can be used to reconfigure the data backup taken before upgrade.

Caution

Run the following command to delete the rateLimitingConfigMap ConfigMap manually, post rollback (applicable only for the roll back to 22.4.x or previous versions):

```
kubectl delete cm <rateLimitingConfigMap> -n <release-namespace>
```

See *Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) Rest Specification* for API details.

6

Uninstalling SEPP

This chapter provides information about uninstalling Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP).

Note

kubectl commands might vary based on the platform deployment. Replace kubectl with Kubernetes environment-specific command line tool to configure Kubernetes resources through kube-api server. The instructions provided in this document are as per the Oracle Communications Cloud Native Environment (CNE) version of kube-api server.

Caution

User, computer and applications, and character encoding settings may cause an issue when copy-pasting commands or any content from PDF. PDF reader version also affects the copy-pasting functionality. It is recommended to verify the pasted content especially when the hyphens or any special characters are part of the copied content.

6.1 Uninstalling SEPP Using Helm

To uninstall SEPP, run the following command:

1. Run the following command to uninstall SEPP deployment:

```
helm uninstall <helm-release> --namespace <ocsepp kubernetes namespace>
```

Where,

helm-release is a name provided by the user to identify the helm deployment.

release-namespace is a name provided by the user to identify the namespace of SEPP deployment.

Example:

```
helm uninstall ocsepp --namespace seppsvc
```

2. Helm keeps a record of its releases, so you can still reactivate the release after uninstalling it.
To completely remove a release from the cluster, add the --purge parameter to helm delete command:

```
helm delete --purge release_name
```

For example:

```
helm delete --purge seppsvc
```

6.2 Verifying Uninstallation

This section describes how to verify SEPP uninstallation.

1. Run the following command to verify the SEPP uninstallation:

```
$ kubectl get all -n <release-namespace>
```

2. Run the following command to delete all the objects:
 - To delete all the configmaps, run the following command:

```
kubectl delete all --all -n <release-namespace>
```

- To delete all the configmaps, run the following command::

```
kubectl delete cm --all -n <release-namespace>
```

Caution

The command deletes all the Kubernetes objects of the specified namespace. In case you have created the RBAC resources and service accounts before the helm installation in the same namespace and these resources are required, then do not delete them.

3. Run the following command to delete specific resources:

```
kubectl delete <resource-type> <resource-name> -n <release-namespace>
```

4. Run the following command to delete the Kubernetes namespace:

```
kubectl delete namespace <release-namespace>
```

5. Run the following command to verify the uninstallation:

```
kubectl get namespace
```

No SEPP namespace must be displayed in the command output. In case of any failure, contact [My Oracle Support](#) .

In case of successful uninstallation, no SEPP resource is displayed in the command output.

6.3 Removing Database Users

This section describes how to remove MySQL users.

Run the following command to remove MySQL users while uninstalling SEPP:

```
DROP USER IF EXISTS <OCSEPP User Name>;
```

Example:

```
DROP USER IF EXISTS seppusr;
```

Note

Removal of users must be done on all the SQL nodes for all SEPP sites.

6.4 Cleaning up Database

This section describes the steps to completely remove MySQL database and username in the following scenarios.

Note

- SEPP is not going to be installed on that cluster.
- User is configuring the MySQL database name or MySQL user name.

1. Log in to the machine which has permission to access the SQL nodes of NDB cluster.
2. Connect to the SQL node of NDB cluster successively.
3. Log in to the MySQL prompt using root permission or user, which has permission to drop the tables. For example:

```
mysql -h 127.0.0.1 -uroot -p
```

Note

This command may vary from system to system, path for MySQL binary, root user and root password. After running this command, the user must enter the password specific to the user mentioned in the command.

4. Run the following commands to remove SEPP database and backup database:
 - a. Run the following command to remove SEPP database:

```
$ DROP DATABASE if exists <SEPP database>;
```

Example:

```
$ DROP DATABASE if exists seppDB;
```

- b. Run the following command to remove SEPP backup database:

```
$ DROP DATABASE if exists <SEPP backup database>;
```

Example:

```
$ DROP DATABASE if exists seppbackupdb;
```

 Caution

Removal of MySQL Users must be done on all the SQL nodes from the SEPP site.

5. Exit from MySQL prompt and SQL node.

7

Fault Recovery

This chapter describes the procedures to perform fault recovery for Oracle Communications Cloud Native Core, Security Edge Protection Proxy (SEPP) deployment.

7.1 Overview

You must take backup of the databases and restore them either on the same or a different cluster. The SEPP database (MySQL NDB Cluster) is used for running any command or to follow any instruction.

Note

This section describes recovery procedures to restore SEPP completely or partially.

7.2 Impacted Areas

The following table provides information about the impacted areas during SEPP fault recovery:

Table 7-1 Impacted Areas

Scenario	Requires Fault Recovery or re-install of CNE?	Requires Fault Recovery or re-install of cnDBTier?	Requires Fault Recovery or re-install of SEPP?	Other
Scenario 1: Deployment Failure	No	No	Yes	SEPP DB is not restored. Only helm uninstall/install is done.
Scenario 2: cnDBTier Corruption	No	Yes	No (use helm upgrade if DB configuration is changed)	cnDBTier must be restored from backup and not re-install. If re-install of cnDBTier is needed, then CNE also need to re-installed.
Scenario 2A: When DBTier failed in Single or Multiple (but not all) Sites	No	Yes	No	NA
Scenario 2B: When DBTier failed in all Sites	No	Yes	No	NA

Table 7-1 (Cont.) Impacted Areas

Scenario	Requires Fault Recovery or re-install of CNE?	Requires Fault Recovery or re-install of cnDBTier?	Requires Fault Recovery or re-install of SEPP?	Other
Scenario 3: Database Corruption	No	No	No	SEPP backup and restore of configuration database is required on impacted site. This needs automatic periodic backup.
Scenario 4: Site Failure	Yes	Yes	Yes	NA
Scenario 4A: Single or Multiple Site Failure	Yes	Yes	Yes	NA
Scenario 4B: All Site Failure	Yes	Yes	Yes	NA

7.3 Prerequisites

Before performing any fault recovery procedure, ensure that the following prerequisites are met:

1. cnDBTier must be in a healthy state and available on multiple sites along with SEPP. To check the cnDBTier status, perform the following steps:

- a. Run the following command to ensure that all the nodes are connected:

```
ndb_mgm> show
```

- b. Run the following command to check the pod status:

```
kubectl get pods -n <namespace>
```

If the pod status is Running, then cnDBTier is in healthy state.

- c. Run the following command to check if the replication is up:

```
mysql> show slave status\G
```

In case there is any error, see *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.

- d. Run the following command to check which cnDBTier has ACTIVE replication to take backup:

```
select * from replication_info.DBTIER_REPLICATION_CHANNEL_INFO;
```

2. Automatic backup must be enabled on cnDBTier. Enabling automatic backup helps in:
 - restoring stable version of the SEPP database.

- minimizing significant loss of data due to upgrades or roll back failures.
 - minimizing loss of data due to system failure.
 - minimizing loss of data due to data corruption or deletion due to external input.
 - migrating database information from one site to another.
3. The following files must be available for fault recovery:
 - Custom values file used at the time of network function deployment
 - Helm charts used at the time of network function deployment
 - Secrets and Certificates
 - RBAC resources

7.4 Fault Recovery Scenarios

This section describes the fault recovery procedures for various scenarios.

7.4.1 Scenario 1: Deployment Failure

This scenario describes how to recover SEPP when the deployment corrupts.

To recover SEPP:

1. Run the following command to uninstall SEPP:

```
helm uninstall <release_name> --namespace <namespace>
```

Example:

```
helm uninstall ocsepp --namespace seppsvc
```

For more information about uninstalling SEPP, see the [Uninstalling SEPP](#) section.

2. Install SEPP as described in the [Installing SEPP](#) section. Use the backup of custom values file to reinstall SEPP.

Restore SEPP, cnDBTier, and SEPP database (DB) as described in [Restoring SEPP and cnDBTier](#).

7.4.2 Scenario 2: cnDBTier Corruption

This section describes how to recover database when the data replication is broken due to database corruption and cnDBTier has failed in single, multiple sites or all sites.

When the database corrupts, the database on all the other sites may also corrupt due to data replication. It depends on the replication status after the corruption has occurred. If the data replication is broken due to database corruption, then cnDBTier fails in either single or multiple sites (not all sites). And if the data replication is successful, then database corruption replicates to all the cnDBTier sites and cnDBTier fails in all sites.

The following are cnDBTier failure scenarios:

If corrupted database is replicated to mated sites, follow:

- [When DBTier failed in Single or Multiple \(but not all\) Sites](#)

If corrupted database cause replication failure and hence local to a site, follow:

- [When DBTier failed in all Sites](#)

Note

This scenario impacts all the NFs using the corrupted cnDBTier. All the NFs sharing cnDBTier needs to do a fault recovery as cnDBTier is corrupted.

7.4.2.1 When cnDBTier failed in Single or Multiple (but not all) Sites

This section describes how to recover database when the data replication is broken due to database corruption and cnDBTier has failed in either single or multiple sites (not all sites).

To recover database:

1. Uninstall SEPP Helm chart. For information about uninstalling SEPP, see the [Uninstalling SEPP](#) section.
2. For cnDBTier fault recovery:
 - a. Create on-demand backup from mated site that has health replication with failed site. For more information about cnDBTier backup, see the "Create On-demand Database Backup" chapter in the *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.
 - b. Use the backup data from mate site for restore. For more information about cnDBTier restore, see the "Restore Georeplication Failure" chapter in *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.

Note

The "Restore Georeplication Failure" chapter in *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide* has a procedure for two sites where one of the cluster has fatal error. You can perform that procedure for all the sites in a multiple site setup.

3. Install SEPP Helm chart. For more information about installing SEPP, see the [Installing SEPP](#) section.

7.4.2.2 When cnDBTier failed in all Sites

This section describes how to recover database when successful data replication corrupts all the cnDBTier sites.

To recover database:

1. Uninstall SEPP helm charts. For more information about uninstalling SEPP, see the [Uninstalling SEPP](#) section.
2. For cnDBTier fault recovery:
 - a. Use on-demand backup file to restore database from the previous data backup. For more information about cnDBTier restore, see the Restore Georeplication Failure chapter in the *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.

Note

The Restore Georeplication Failure chapter has a procedure for two sites where one of the cluster has fatal error. You can perform that procedure for all the sites in a multiple site setup.

3. Install SEPP helm charts. For more information about installing SEPP, see the [Installing SEPP](#) section.

7.4.3 Scenario 3: Configuration Database Corruption

This scenario describes how to recover SEPP when its configuration database corrupts.

The configuration database is stored in a site exclusive database along with its tables. Thus, corruption of configuration database impacts only a particular site.

To recover SEPP configuration database, user has to restore the database (DB) backup.

1. Transfer the <backup_ filename >.sql.gz file to the SQL node where user wants to restore it.
2. Log in to MySQL NDB Cluster's SQL node on the new DB cluster and create a new database where the database needs to be restored.
3. For details on creating database and user and adding permissions, see [Configuring Database, Creating Users, and Granting Permissions](#) section.

Note

The database name created in the above step should be same as the database name created in the following step. The Kubernetes secret must be the same as in the custom_values.yaml used later for Installing SEPP.

4. Use the following command to restore the database to the new database:

```
gunzip < <backup_filename>.sql.gz | mysql -h127.0.0.1 -u <username> -p  
<backup-database-name>
```

Enter the password when prompted.

Example:

```
gunzip < SEPPdbBackup.sql.gz | mysql -h127.0.0.1 -u dbuser -p seppdb
```

7.4.4 Scenario 4: Site Failure

This section describes how to perform fault recovery when either one, multiple, or all sites have a software failure. The following are site failure scenarios:

- [Single or Multiple Site Failure](#)
- [All Sites Failure](#)

7.4.4.1 Single or Multiple Site Failure

This scenario applies when one or more sites, and not all sites, have failed and there is a requirement to perform fault recovery. It is assumed that the user has cnDBTier and SEPP installed on multiple sites with automatic data replication and backup enabled.

To recover the failed sites:

1. Run the Cloud Native Environment (CNE) installation procedure to install a new cluster. For more information, see *Oracle Communications Cloud Native Core, Cloud Native Environment Installation Guide*.
2. For cnDBTier fault recovery:
 - a. Take on-demand backup from the mate site that has health replication with the failed site or sites. For more information about on-demand backup, see the "Create On-demand Database Backup" chapter in the *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.
 - b. Use the backup data from the mate site to restore the database. For more information about database restore, see "Restore Georeplication Failure" chapter in the *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.
3. Install SEPP Helm chart. For more information about installing SEPP, see the [Uninstalling SEPP](#) section.

7.4.4.2 All Sites Failure

This scenario applies when all sites have failed, and there is a requirement to perform fault recovery. It is assumed that the user has cnDBTier and SEPP installed on multiple sites with automatic data replication and backup enabled.

To recover all the failed sites:

1. Run the Cloud Native Environment (CNE) installation procedure to install a new cluster. For more information, see *Oracle Communications Cloud Native Core, Cloud Native Environment Installation, Upgrade, and Fault Recovery Guide*.
2. Use on-demand backup file to restore database from previous data backup. For more information about database restore, see "Restore Georeplication Failure" chapter in *Oracle Communications Cloud Native Core, cnDBTier Installation, Upgrade, and Fault Recovery Guide*.

Note:

 - The auto-data backup file is one that is built from scheduled automatic backup.
 - The "Restore Georeplication Failure" chapter contains a procedure for two sites where one of the clusters has fatal error. You can perform the same procedure for all the sites in a multiple site setup.
3. Install SEPP helm chart.

A.1 SEPP Database Backup and Restore

Introduction

Perform this procedure to take a backup of the SEPP database (DB) and restore the database on a different cluster. This procedure is for on-demand backup and restoring of SEPP DB. The commands used for these procedures are provided by the MYSQL Network Database (NDB) cluster.

Prerequisite

Ensure that the MYSQL NDB cluster is in a healthy state, and each database node must be in the running state. Run the following command to check the status of cnDBTier service:

```
kubectl -n <namespace> exec <management node pod> -- ndb_mgm -e show
```

Where,

- <namespace> is the namespace where cnDBTier is deployed.
- <management node pod> is the management node pod of cnDBTier.

Example:

```
[cloud-user@vcne2-bastion-1 ~]$ kubectl -n seppsvc exec ndbmgmd-0 -- ndb_mgm -e show
Connected to Management Server at: localhost:1186
Cluster Configuration
-----
[ndbd(NDB)] 2 node(s)
id=1 @10.233.86.202 (mysql-8.0.22 ndb-8.0.22, Nodegroup: 0, *)
id=2 @10.233.81.144 (mysql-8.0.22 ndb-8.0.22, Nodegroup: 0)

[ndb_mgmd(MGM)] 2 node(s)
id=49 @10.233.81.154 (mysql-8.0.22 ndb-8.0.22)
id=50 @10.233.86.2 (mysql-8.0.22 ndb-8.0.22)

[mysqld(API)] 2 node(s)
id=56 @10.233.81.164 (mysql-8.0.22 ndb-8.0.22)
id=57 @10.233.96.39 (mysql-8.0.22 ndb-8.0.22)

[cloud-user@vcne2-bastion-1 ~]$
```

SEPP DB Backup

If the SEPP database backup is required, do the following:

1. Log in to any of the SQL node or API node, and then run the following command to take dump of the database:

```
kubectl exec -it <sql node> -n <namespace> bash
mysqldump --quick -h127.0.0.1 -u <username> -p <databasename>| gzip >
<backup_filename>.sql.gz
```

Where,

- <sql node> is the SQL node of cnDBTier
 - <namespace> is the namespace where cnDBTier is deployed
 - <username> is the database username.
 - <databasename> is the name of the database that has to be backed up
 - <backup_filename> is the name of the backup dump file
2. Enter the SEPP database name and password in the command when prompted.
Example:

```
kubectl exec -it ndbmysqld-0 -n sepp bash
mysqldump --quick -h127.0.0.1 -u dbuser -p seppdb | gzip >
SEPPdbBackup.sql.gz
```

Note

Ensure that there is enough space on the directory to save the backup file.

SEPP RESTORE

If the SEPP database restore is required, do the following:

1. Transfer the <backup_filename>.sql.gz file to the SQL node where you want to restore it.
2. Log in to the SQL node of the MYSQL NDB cluster on the new DB cluster and create a new database where the database needs to be restored
3. Create database, database user, and grant permissions as described in [Configuring Database, Creating Users, and Granting Permissions](#) section.

Note

The database name created in this step should be the same as the database name created in the next sub step. Also, the Kubernetes secret should be the same as in the values.yaml file used for installing SEPP.

4. To restore the database to the new database created, run the following command:

```
gunzip < <backup_filename>.sql.gz | mysql -h127.0.0.1 -u <username> -p
<databasename> >
```

Example:

```
gunzip < seppdbBackup.sql.gz | mysql -h127.0.0.1 -u dbuser -p newseppdb
```

5. Enter the password when prompted.

A.2 Restoring SEPP and cnDBTier

Perform this procedure to restore SEPP, cnDBTier, and SEPP database (DB).

Prerequisites:

- Take a backup of the `custom_values.yaml` file that was used for installing SEPP.
- Take a backup of the SEPP database and restore the database as described in [SEPP Database Backup and Restore](#). Perform this task once every evening.

If SEPP deployment is corrupted, do the following:

1. Run the following command to uninstall the corrupted SEPP deployment:

```
helm uninstall <release_name> --namespace <namespace>
```

Where,

- `<release_name>` is a name used to track this installation instance.
- `<namespace>` is the release number.

Example:

```
helm uninstall ocSEPP --namespace SEPPsvc
```

2. Install SEPP using the backed up copy of the `custom_values.yaml` file.
For information about installing SEPP using Helm, see [Installing SEPP](#) section.

If cnDBTier and NF deployment is corrupted, do the following:

1. Install cnDBTier as described in *Oracle Communication Cloud Native Core DBTier Installation, Upgrade, and Fault Recovery Guide*.
2. Restore SEPP DB as described in [SEPP Database Backup and Restore](#).
3. Install SEPP using the backed up copy of the `custom_values.yaml` file.
For information about installing SEPP using Helm, see [Installing SEPP](#) section.

If DB Secret or cnDBTier mysql FQDN or IP or PORT is changed, do the following:

1. In the backed up copy of the `custom_values.yaml` file, update these values: `dbHost/`
`dbPort/dbAppUserSecretName/dbPrivilegedUserSecretName`.

```
# DB Connection Service IP Or Hostname with secret name.
database:
  dbHost: "mysql-connectivity-service.seppsvc"
  dbPort: "3306"
  # K8s Secret containing Database/user/password for all services of
  SEPP interacting with DB.
  dbAppUserSecretName: "seppuser-secret"
  # K8s Secret containing Database/user/password for DB Hooks for
  creating tables
  dbPrivilegedUserSecretName: "seppprivilegeduser-secret"
```

2. Run the following Helm upgrade command to update the secrets for SEPP control plane microservices, such as configuration, subscription, audit, and notification, to connect to the DB with changed DB Secret or DB FQDN, IP, or Port:

```
helm upgrade <release name> -f <custom_values.yaml> --namespace  
<namespace> <helm-repo>/chart_name --version <helm_version>
```

Example:

```
helm upgrade ocsepp -f /home/cloud-user/1.12/values.yaml /home/cloud-user/  
1.11.0/ocsepp --namespace seppsvc
```

A.3 Adding a Site to an Existing SEPP Georedundant Site

This section describes the procedure to add a site to an existing SEPP site.

Prerequisites

1. SEPP connected to a cnDBTier is up and running. This is referred as Site 1 or Site 2.
2. SEPP and cnDBTier versions used for Site 1 and Site 2 installation must be identified and same must be used for adding another site.

Adding a site

1. Install a new cnDBTier. This cnDBTier must act as a georedundant database to the cnDBTier in Site-1 or Site-2. For more information to install a cnDBTier, see *Oracle Communications Cloud Native Core cnDBTier User Guide*.
2. Verify the replication channel between the cnDBTier sites by sending the following request to the dbMonitor service of both the cnDBTier sites. The responses from both the cnDBTier sites must show the status of replication channel as up:

```
curl http://<mysql-db-monitor-service>:8080/db-tier/status/replication/realtime
```

Sample command:

```
curl http://mysql-cluster-db-monitor-svc:8080/db-tier/status/replication/realtime
```

Sample output:

```
[{"localSiteName":"Site-1","remoteSiteName":"Site-2","remoteSiteName":"Site-3","replicationStatus":"UP","secondsBehindRemote":0}]
```

3. Create the required secrets to install the Site-2 or Site-3 SEPP in the same namespace as the new cnDBTier installed in step-1, by following the steps described in the "Configuring Kubernetes Secret for Accessing SEPP Database" subsection from "Installing SEPP" chapter in *Oracle Communications Cloud Native Core Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide*.
4. Run the following command to verify the secret created:

```
$ kubectl describe secret <database secret name> -n <Namespace of SEPP deployment>
```

5. Install the Site-2 or Site-3 SEPP using the updated ocsepp-custom values-<version>.yaml file. For more information on installation procedure, see *Oracle Communications Cloud Native Core Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide*.
Verify the installation as mentioned in *Oracle Communications Cloud Native Core Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide*.

6. After the installation is complete, make sure that the "DbReplicationStatusInactive" alert is not raised in the alert dashboard. If the alert exists, verify the above configuration steps. If the alert is not present, it means the DBReplication is up and the georedundant deployment of all sites is successful.

A.4 Removing a Site from an Existing Georedundant Deployment

This section describes the procedure to remove a site from an existing SEPP deployment.

Prerequisites

1. SEPP connected to a cnDBTier is up and running. This is referred as Site 1 (SEPP-1 and SEPP-2).

Procedure

This section describes the procedure to remove a site (Site1 or Site 2) from an existing georedundant SEPP deployment.

1. Uninstall the SEPP instance from the site to be removed.
For more information on uninstallation procedure, see *Oracle Communications Cloud Native Core, Security Edge Protection Proxy Installation, Upgrade, and Fault Recovery Guide*.
2. Remove the DB Replication and the NDBCluster on the site to be removed. For more information on this procedure, see *Oracle Communications Cloud Native Core, cnDBTier User Guide*.

A.5 Creating Private Keys and Certificate

This section explains the procedure to create private keys and certificate for enabling HTTPs on N32 gateway and PLMN Gateway (both Ingress and Egress).

Note

Creating keys and certificates are outside SEPP scope and user or operator should perform this at their discretion.

Gateway supports both RSA and ECDSA signing for ingress and egress traffic. Initial algorithm selection is configured by using `initialAlgorithm` flag in the `custom-values.yaml` for each gateway.

Select as follow:

- For RSA use RS256
- For ECDSA use ES256

Certificates for selected initial algorithm must be included in the `ocsepp-n32-secret` and `ocsepp-plmn-secret`.

Note

Prerequisites:

Use the following sample file of `ssl.conf` to configure default entries along with subject alternate name (SAN) details for your certificate.

- `ssl.conf` has various requirements such as `commonName`, `commonName_default`, `subjectAltName`. Configure these values as per SEPP FQDN configuration.
- The SEPP FQDN can be extracted from `ocsepp_custom_values_<version>.yaml` file `localProfile:interPlmnFqdn`:
- Other commands require similar configuration. Keep these parameters consistent across commands.

1. Use the following sample file of `ssl.conf` to configure default entries along with subject alternate name (SAN) details for your certificate: Run the following command to create `ssl.conf` file:

Update the following parameters with SEPP inter PLMN FQDN to be used in TLS certificate:

- `commonName_default`
- `commonName`
- `DNS.1`

```
cat > ssl.conf << EOF
```

```
#ssl.conf
[ req ]
default_bits = 4096
distinguished_name = req_distinguished_name
req_extensions = req_ext

[ req_distinguished_name ]
countryName = Country Name (2 letter code)
countryName_default = IN
stateOrProvinceName = State or Province Name (full name)
stateOrProvinceName_default = Karnataka
localityName = Locality Name (eg, city)
localityName_default = Bangalore
organizationName = Organization Name (eg, company)
organizationName_default = Oracle
commonName = sepp2.inter.oracle.com
commonName_max = 64
commonName_default = sepp2.inter.oracle.com

[ req_ext ]
subjectAltName = @alt_names

[alt_names]
IP = 127.0.0.1
DNS.1 = sepp2.inter.oracle.com
EOF
```

RSA Certificate Generation (To be done for consumer SEPP and producer SEPP individually)

2. Run the following command to generate RSA private key:

```
//Generate rsa_certificate.crt and rsa_private_key

openssl req -x509 -nodes -sha256 -days 365 -newkey rsa:2048 -keyout
rsa_private_key -out rsa_certificate.crt -subj '/C=IN/ST=Karnataka/
L=Bangalore/O=Oracle/CN=sepp2.inter.oracle.com'
```

3. Run the following command to convert the private key to .pem format:

```
//Generate rsa_private_key_pkcs1.pem
openssl rsa -in rsa_private_key -outform PEM -out rsa_private_key_pkcs1.pem
```

4. Run the following command to generate a certificate using private key:

```
/Generate ocsepp.csr
openssl req -new -key rsa_private_key -out ocsepp.csr -config ssl.conf -
subj '/C=IN/ST=Karnataka/L=Bangalore/O=Oracle/CN=sepp2.inter.oracle.com'
```

5. Run the following command to generate serial.txt file:

```
///Generate serial.txt
echo 1234 > serial.txt
```

Root CA creation for self signed certificates (Only done once for any SEPP)

6. Run the following set of commands to create root certificate authority (CA):

```
//Generate cakey.pem and careq.pem
openssl req -new -keyout cakey.pem -out careq.pem -passout pass:${PEM_PHRASE} -subj "/C=IN/ST=Karnataka/L=Bangalore/O=Oracle/CN=sepp2.inter.oracle.com"

//Generate caroot.cer
openssl x509 -signkey cakey.pem -req -days 3650 -in careq.pem -out caroot.cer -extensions v3_ca -passin pass:${PEM_PHRASE}
```

Self Signing RSA Certificates (To be done for consumer and producer SEPP individually)

7. Run the following command to sign the server certificate with root CA private key:

```
openssl x509 -CA caroot.cer -CAkey cakey.pem -CAserial serial.txt -req -in ocsepp.csr -out ocsepp.cer -days 365 -extfile ssl.conf -extensions req_ext -passin pass:${PEM_PHRASE}
```

ECDSA Certificate Generation and Self Signing (To be done for consumer SEPP and producer SEPP individually)

8. Run the following command to generate ECDSA private key and certificate using private key. After that sign the server certificate with root CA private key:

```
openssl ecparam -genkey -name prime256v1 -out host.key

openssl req -new -sha256 -key host.key -nodes -out ecdsa_certificate.csr -config ssl.conf -subj "/C=IN/ST=Karnataka/L=Bangalore/O=Oracle/CN=sepp2.inter.oracle.com"

openssl x509 -CA caroot.cer -req -sha256 -days 730 -in ecdsa_certificate.csr -CAkey cakey.pem -CAcreateserial -extfile ssl.conf -extensions req_ext -out ssl_ecdsa_certificate.crt -passin pass:${PEM_PHRASE}

openssl pkcs8 -topk8 -in host.key -out ssl_ecdsa_private_key.pem -nocrypt
```

9. Create key.txt by entering any password. This password is used to configure gateway key store.
Example:

```
echo "password" > key.txt
```

10. Create trust.txt by entering any password. This password is used to configure gateway trust store.
Example:

```
echo "password" > trust.txt
```

11. Run the following commands to create a secret on n32-egress-gateway and n32-ingress-gateway:

```
kubectl create secret generic ocsepp-n32-secret --from-  
file=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --  
from-file=trust.txt --from-file=key.txt --from-file=caroot.cer --from-  
file=rsa_certificate.crt --from-file=ssl_ecdsa_certificate.crt --from-  
file=ocsepp.cer -n <namespace>
```

Where, <namespace> is the namespace where SEPP is deployed. example:

```
kubectl create secret generic ocsepp-n32-secret --from-  
file=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --  
from-file=trust.txt --from-file=key.txt --from-file=caroot.cer --from-  
file=rsa_certificate.crt --from-file=ssl_ecdsa_certificate.crt --from-  
file=ocsepp.cer -n seppsvc
```

12. Run the following commands to create a secret on plmn-egress-gateway and plmn-ingress-gateway:

```
kubectl create secret generic ocsepp-plmn-secret --from-  
file=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --  
from-file=trust.txt --from-file=key.txt --from-file=caroot.cer --from-  
file=rsa_certificate.crt --from-file=ssl_ecdsa_certificate.crt --from-  
file=ocsepp.cer -n <namespace>
```

Where, <namespace> is the namespace where SEPP is deployed. example:

```
kubectl create secret generic ocsepp-plmn-secret --from-  
file=ssl_ecdsa_private_key.pem --from-file=rsa_private_key_pkcs1.pem --  
from-file=trust.txt --from-file=key.txt --from-file=caroot.cer --from-  
file=rsa_certificate.crt --from-file=ssl_ecdsa_certificate.crt --from-  
file=ocsepp.cer -n seppsvc
```

B.1 PodDisruptionBudget Kubernetes Resource

Background

Pods are the basic units of Kubernetes and are used to deploy Cloud Native Core (CNC) Network Functions (NFs).

Pod disruption occurs due to voluntary and involuntary disruptions.

Voluntary Disruptions

Voluntary pod disruption occurs when:

- pods are removed from a cluster.
- SEPP worker nodes are drained at the time of cluster upgrade and running pods are evicted from these nodes.
- load balancing of worker nodes is performed by evenly distributing pods among worker nodes.

Involuntary Disruptions

Involuntary pod disruption occurs when:

- the system hardware or software fails.
- SEPP worker nodes are removed accidentally.
- pods are evicted due to insufficient resources on SEPP worker nodes.

Kubernetes has introduced the PodDisruptionBudgets (PDB) concept to manage pod disruption outages in the clusters. PDB is applicable only for voluntary disruptions. It is used to avoid service impact due to voluntary disruption and ensures high availability of NF.

PodDisruptionBudget SEPP Implementation Overview

PodDisruptionBudget (PDB) is a Kubernetes resource that allows you to achieve high availability of scalable application services when the cluster administrators perform voluntary disruptions to manage the cluster nodes. PDB restricts the number of pods that are down simultaneously from voluntary disruptions. Defining PDB is helpful to keep the services running undisrupted when a pod is deleted accidentally or deliberately. PDB can be defined for highly available and scalable OC SEPP services such as cn32f-svc, pn32f-svc, cn32c-svc, pn32c-svc, n32-ingress-gateway, n32-egress-gateway, plmn-ingress-gateway, plmn-egress-gateway, nfmanagement-svc, nfdiscovery-svc and perf-info services.

It allows safe eviction of pods when a Kubernetes node is drained to perform maintenance on the node. It uses the maxUnavailable parameter specified in the Helm chart to determine the maximum number of pods that can be unavailable during a voluntary disruption. For example, when a maxUnavailable is 25%, pod evictions are allowed as long as no more than 25% of the desired pods are in unhealthy state.

For more information about this functionality, see <https://kubernetes.io/docs/concepts/workloads/pods/disruptions/#pod-disruption-budgets>.

Default PodDisruptionBudget for SEPP Deployment

Table 2 Default PodDisruptionBudget for SEPP Deployment

Microservice	PDB Value Specified (maxUnavailable)
cn32c-svc	25%
pn32c-svc	25%
cn32f-svc	25%
pn32f-svc	25%
config-mgr-svc	Not Applicable
plmn-ingress-gateway	25%
plmn-egress-gateway	25%
n32-ingress-gateway	25%
n32-egress-gateway	25%
app-info	25%
config-server	50%
perf-info	25%
nf-mediation	25%
coherence-svc	25%

B.2 Deployment Configuration for Config-mgr-SVC

Perform the following procedure for *config-mgr-svc* after the installation, if the release name is anything other than *ocsepp-release*:

1. Run the following command to retrieve the list of deployments in the namespace:

```
get deploy -n <namespace>
```

In the list, the deployment name for the *config-mgr-svc* is displayed as follows:

```
<release-name>-config-mgr-svc
```

2. Run the following command to edit the *config-mgr-svc* deployment file:

```
kubectl edit deploy <release-name>-config-mgr-svc -n <namespace>
```

3. Check whether `ALTSEPP_ENDPOINT_SERVICE_NAME` is present in the file:
 - a. If present, verify the service name of the config manager service. This parameter must be set to `<release-name>-config-mgr-svc`.
 - b. If the parameter is not present, add the following lines in the *config-mgr-svc* deployment file after 'PRODUCER_NOTIFICATION_PORT':

```
- name: ALTSEPP_ENDPOINT_SERVICE_NAME  
  value: <Service name of config mgr service>
```

4. Save and close the file. The pod restarts and new deployment is loaded for *config-mgr-svc*. This service name will be used by configuration manager to load common configuration in database.