Oracle® Communications

Service Communication Proxy (SCP) Cloud Native Installation Guide

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Oracle Communications Service Communication Proxy (SCP) Cloud Native Installation Guide, Release 1.5.3

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Contents

1 What's New in This Guide

2 Installation Overview

Installation Procedures 2-1
References 2-1
Acronyms 2-1
How to use this document 2-2
Documentation Admonishments 2-2
Locate Product Release Software on the Oracle Software Delivery Cloud Site 2-3
Customer Training 2-3
My Oracle Support 2-3
Emergency Response 2-4

3 SCP Installation

Prerequisites 3-1
Installation Preparation 3-2
Configure NRF Details 3-4
SCP Deployment 3-5
Configure SCP as HTTP Proxy 3-7
SCP Uninstall 3-8

4 SCP Configuration Parameters

5 SCP with Ingress Gateway Configuration Parameters

6 OCSCP YAML File

List of Figures

2-1 Example of a Procedure Steps Used in This Document 2-2

List of Tables

2-1	SCP Installation Procedures	2-1
2-2	Acronyms	2-1
2-3	Admonishments	2-3
3-1	SCP Software	3-1
3-2	SCP Images	3-2
3-3	Download Images and Helm files	3-3
3-4	SCP Deployment	3-5
3-5	Configure SCP as HTTP Proxy	3-8
3-6	SCP Uninstall	3-8
4-1	SCP Configuration Parameters	4-1
4-2	Logging level	4-52
5-1	SCP with Ingress Gateway	5-1

1 What's New in This Guide

This section introduces the documentation updates for Release 1.5.x in Oracle Communications Cloud Native Service Communication Proxy (SCP) Installation Guide.

Updates in Release 1.5.3

Following are the updates performed in Release 1.5.3:

- ***ingressGWAvailable*** parameter is added in SCP Configuration Parameters section.
- SCP with Ingress Gateway Configuration Parameters is added.

Updates in Release 1.5.2

`tcpKeepalive` attribute is added for upstream and downstream peer. Following is the configuration updates for both upstream and downstream:

- **Upstream Configuration**:

```
systemOptions:
    trafficPolicy:
      connectionPool:
        http:
          idleTimeout: 3600s
        tcp:
          tcpKeepalive:
            probes: 9
            time: 180s
            interval: 60s
```

- **Downstream Configuration**:

```
downstream:
    idleTimeout: 3600 # seconds
    tcpKeepalive:
      probes: 9 # linux default
      time: 180 # seconds
      interval: 60 # seconds
```

Refer to SCP Configuration Parameters for more information.

Updates in Release 1.5.1

The `defaultTopologySource` parameter is added in configuration parameter table and sample helm file.

Updates in Release 1.5.0

The helm charts, parameters and file names are updated for Release 1.5.0.

2
Installation Overview

This section provides a brief overview of the recommended methods to install Service Communication Proxy (SCP).

The SCP is a decentralized solution and composed of Service Proxy Controllers and Service Proxy Workers and is deployed along side of 5G network functions and provides routing control, resiliency, and observability to the core network. Refer to *SCP User's Guide* for more information on architecture and features.

Installation Procedures

The following table illustrates the progression of the installation process by procedure. The phases outlined are to be executed in the order they are listed.

Table 2-1 SCP Installation Procedures

Procedure	Phase
1	Installation Preparation
2	SCP Deployment

References

1. Cloud Native Environment (CNE) 1.4 Installation Guide
2. Service Communication Proxy (SCP) Cloud Native User's Guide
3. Network Repository Function (NRF) Cloud Native Installation Guide

Acronyms

Table 2-2 Acronyms

Acronym	Meaning
CNE	Cloud Native Environment
DNS	Domain Name System
FQDN	Fully Qualified Domain Name
NRF	Network Repository Function
OHC	Oracle Help Center
OSDC	Oracle Software Delivery Cloud
SCP	Service Communication Proxy
SVC	Services

How to use this document

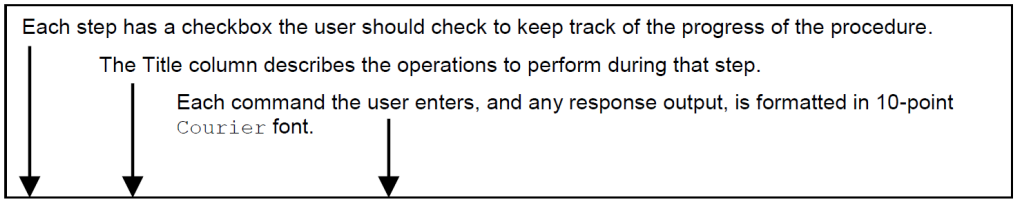
Although this document is primarily to be used as an initial installation guide, its secondary purpose is to be used as a reference for Disaster Recovery procedures.

When executing this document for either purpose, there are a few points which help to ensure that the user understands the author's intent. These points are as follows:

1. Before beginning a procedure, completely read the instructional text (it will appear immediately after the Section heading for each procedure) and all associated procedural WARNINGS or NOTES.
2. Before execution of a STEP within a procedure, completely read the left and right columns including any STEP specific WARNINGS or NOTES.

If a procedural STEP fails to execute successfully, STOP and contact Oracle's Customer Service for assistance before attempting to continue. My Oracle Support for information on contacting Oracle Customer Support.

Figure 2-1 Example of a Procedure Steps Used in This Document



	Title	Directive/Result Step
1. ☐	Change directory	Change to the backout directory. `$ cd /var/TKLC/backout`
2. ☐	**ServerX**: Connect to the console of the server	Establish a connection to the server using cu on the terminal server/console. `$ cu -l /dev/ttyS7`
3. ☐	Verify Network Element data	View the Network Elements configuration data; verify the data; save and print report. 3. Select **Configuration > Network Elements** to view Network Elements Configuration screen.

Documentation Admonishments

Admonishments are icons and text throughout this manual that alert the reader to assure personal safety, to minimize possible service interruptions, and to warn of the potential for equipment damage.

Table 2-3 Admonishments

Icon	Description
	Danger: (This icon and text indicate the possibility of personal injury.)
	Warning: (This icon and text indicate the possibility of equipment damage.)
	Caution: (This icon and text indicate the possibility of service interruption.)

Locate Product Release Software on the Oracle Software Delivery Cloud Site

Oracle Communications software is available for electronic download at the Oracle Software Delivery Cloud site, https://edelivery.oracle.com. Only authorized customers with a valid password may download software from the site.

For directions on downloading the software and other information about using this site, click **FAQ** in the top right corner.

Customer Training

Oracle University offers training for service providers and enterprises. Visit our web site to view, and register for, Oracle Communications training:

http://education.oracle.com/communication

To obtain contact phone numbers for countries or regions, visit the Oracle University Education web site:

www.oracle.com/education/contacts

My Oracle Support

My Oracle Support (https://support.oracle.com) is your initial point of contact for all product support and training needs. A representative at Customer Access Support can assist you with My Oracle Support registration.

Call the Customer Access Support main number at 1-800-223-1711 (toll-free in the US), or call the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. When calling, make the selections in the sequence shown below on the Support telephone menu:

1. Select **2** for New Service Request.

2. Select **3** for Hardware, Networking and Solaris Operating System Support.
3. Select one of the following options:
   - For Technical issues such as creating a new Service Request (SR), select **1**.
   - For Non-technical issues such as registration or assistance with My Oracle Support, select **2**.

You are connected to a live agent who can assist you with My Oracle Support registration and opening a support ticket.

My Oracle Support is available 24 hours a day, 7 days a week, 365 days a year.

Emergency Response

In the event of a critical service situation, emergency response is offered by the Customer Access Support (CAS) main number at 1-800-223-1711 (toll-free in the US), or by calling the Oracle Support hotline for your local country from the list at http://www.oracle.com/us/support/contact/index.html. The emergency response provides immediate coverage, automatic escalation, and other features to ensure that the critical situation is resolved as rapidly as possible.

A critical situation is defined as a problem with the installed equipment that severely affects service, traffic, or maintenance capabilities, and requires immediate corrective action. Critical situations affect service and/or system operation resulting in one or several of these situations:

- A total system failure that results in loss of all transaction processing capability
- Significant reduction in system capacity or traffic handling capability
- Loss of the system's ability to perform automatic system reconfiguration
- Inability to restart a processor or the system
- Corruption of system databases that requires service affecting corrective actions
- Loss of access for maintenance or recovery operations
- Loss of the system ability to provide any required critical or major trouble notification

Any other problem severely affecting service, capacity/traffic, billing, and maintenance capabilities may be defined as critical by prior discussion and agreement with Oracle.

3
SCP Installation

This chapter explains the installation procedure of SCP.

Prerequisites

Following are the prerequisites to install and configure the SCP:

SCP Software

Following minimum software versions must be installed before deploying the SCP:

Table 3-1 SCP Software

Software	Version
Kubernetes	v1.15.3
HELM	v2.14.3

> **Note:**
>
> If case any of the above software is not installed in the CNE, then install the specified software items before proceeding.

Additional software that needs to be deployed as per the requirement of the services:

Software	Chart Version	Notes
elasticsearch	5.5.4	Needed for Logging Area
elastic-curator	5.5.4	Needed for Logging Area
elastic-exporter	1.0.2	Needed for Logging Area
logs	2.0.7	Needed for Logging Area
kibana	6.7.0	Needed for Logging Area
grafana	6.1.6	Needed for Metrics Area
prometheus	9.1.2	Needed for Metrics Area
prometheus-node-exporter	0.17.0	Needed for Metrics Area
metallb	0.7.3	Needed for External IP
metrics-server	0.3.1	Needed for Metric Server
tracer	0.8.3	Needed for Tracing Area

Network access

The Kubernetes cluster hosts must have network access to:

- Local docker image repository where the SCP images are available

- Local helm repository where the SCP helm charts are available
- Service FQDN of SCP must be discoverable from outside of the cluster (that is, publicly exposed so that ingress messages to SCP can come from outside of Kubernetes).

> **Note:**
>
> All the kubectl and helm related commands used in this guide need to be executed on a system depending on the infrastructure/deployment. It could be a client machine such as a VM, server, local desktop, and so on.

Client machine requirements

There are some requirements for the laptop/desktop where the deployment commands need to be executed:

- It should have network access to the helm repository and docker image repository.
- Helm repository must be configured on the client.
- It should have network access to the Kubernetes cluster.
- It should have necessary environment settings to run the `kubectl` commands. The environment should have privileges to create a namespace in the Kubernetes cluster.
- It should have the helm client installed with the **push** plugin. The environment should be configured so that the `helm install` command deploys the software in the Kubernetes cluster.

SCP Images

Following are the SCP images:

Table 3-2 SCP Images

Microservices	Image
SCP-Worker	scp-worker
SCPC-Pilot	scpc-pilot
SCPC-Soothsayer	soothsayer-configuration
	soothsayer-notification
	soothsayer-subscription
	soothsayer-audit
SCP-Apps	scp-db-app

Installation Preparation

The following procedure describes the steps to download the SCP Images and Helm files from Oracle Software Delivery Cloud.

Refer to the following chapters in the *OCCNE 1.4 Installation Guide* for more information on how to configure docker registry and NFs on OCCNE:

- For docker registry, refer to Docker Image Registry Configuration chapter
- For executing the below commands on Bastion Host, refer to Bastion Host Installation chapter

Table 3-3 Download Images and Helm files

Step #	Procedure	Description
1 ☐	Download the SCP package file	Customers are required to download the SCP package file from the Oracle Software Delivery Cloud (OSDC) to the customer specific local repository. The package is named as follows: `<nfname>-pkg-<marketing-release-number>.tgz` For example: **ocscp-pkg-1.5.3.0.0.tgz** **Note**: Move the package from local repository to the docker repository in the Bastion host of OCCNE.
2 ☐	Untar the SCP Package File	Untar the SCP package: `tar -xvf <<nfname>-pkg-<marketing-release-number>>.tgz` The directory consists of following: • Helm File: tarball contains SCP Helm charts and templates `ocscp-1.5.3.tgz` • SCP Docker Images File: tarball contains images of SCP `ocscp-images-1.5.3.tar` • Helm File: tarball contains Ingress Gateway Helm charts and templates `ocscp-ingress-gateway-1.7.2.tgz` • Ingress Gateway Docker Images File: tarball contains images of Ingress Gateway `ocscp-ingress-gateway-images-1.7.2.tar` • Readme txt: Contains cksum and md5sum of the tarballs `Readme.txt`
3 ☐	Check the checksums	Check the checksums of tarballs mentioned in Readme.txt. Refer to Readme.txt for the commands and checksum details.

4 ☐	Load the tarball to system	Execute the following command to load the tar file:
		
		`docker load --input <image_file_name>.tar`
		
		Example:
		
		`docker load --input ocscp-images-1.5.3.tar`
		
		`docker load --input ocscp-ingress-gateway-images-1.7.2.tar`
		
		Note: `ocscp-ingress-gateway-images-1.7.2.tar` image must be loaded, if SCP is deployed with Ingress gateway.

Table 3-3 (Cont.) Download Images and Helm files

5 ☐	Push docker files to Docker registry (recommended step)	Execute the following command to push the docker files to docker registry:
		
		`docker tag <image-name>:<image-tag> <docker-repo>/<image-name>:<image-tag>`
		
		`docker push <docker_repo>/<image_name>:<image-tag>`

6 ☐	Check if all the images are loaded	Execute the following command to check: `docker images`

7 ☐	Untar Helm Files	Execute the following command to push the helm files to helm repository:
		
		`tar -xvzf ocscp-1.5.3.tgz`
		`helm push <image_name>.tgz <helm_repo>`
		
		Note: `ocscp-ingress-gateway-1.7.2.tgz` file must be pushed, if SCP is deployed with Ingress gateway.

8 ☐	Download Service Communication Proxy (SCP) Custom Template	The Service Communication Proxy (SCP) Custom Template is available at the OHC. Customer can download this template and customize it as per the requirement. The **ocscp_values.yaml** template consists of: • ocscp_values.yaml: customer value file having SCP deployment time configurations. • scpAlertrules.yaml: contains sample alerts, which can be further modified by user based on the need • ScpMetricDashboard.json: sample Grafanna dashboard to be used by user. It can be modified based on the requirement.

Configure NRF Details

NRF details must be defined during SCP installation using the SCP YAML file. User needs to update the NRF details in SCP YAML file.

> **Note:**
>
> User can configure a primary NRF and an optional secondary NRF (NRFs must have backend DB Synced).

An IPV4 address needs to be configured in case the NRF is outside the Kubernates cluster. If the NRF is inside the Kubernates cluster, the user can configure FQDN as well. If both IPV4 address and FQDN are provided then IPV4 Address will take precedence over FQDN.

Refer to OCSCP YAML File for NRF details.

> **Note:**
>
> The user needs to configure (or remove) **apiPrefix** parameter based on the APIPrefix supported (or not Supported) by NRF. Refer to SCP Configuration Parameters for more information on NRF parameters.

> **Note:**
>
> The user needs to update the FQDN, ipv4Address and Port of NRF to point to NRF's FQDN/IP and Port. The Primary NRF profile must be always set to higher (i.e. 0), both (primary and secondary) must not be set to same priority.

SCP Deployment

This procedure describes the steps to deploy SCP on CNE. The below steps need to be executed from a server, which has access to Kubectl and helm commands.

Table 3-4 SCP Deployment

Step #	Procedure	Description
1 ☐	Search helm chart	Execute the following command to check the version of the helm chart installation. `helm search <deployment_name>`
2 ☐	Prepare custom_values.yaml file	Prepare a custom_values.yaml file with the required parameter information. Refer to SCP Configuration Parameters for more information on parameters. Refer to OCSCP YAML File for sample YAML file. You can also download sample ocscp_values.yaml file from OHC, refer to Table 3-3 for more information. **Note:** • The user needs to update the "domain" in the custom_values.yaml file per the name of cluster (default value of domain is "svc.cluster.local"). If the cluster name is XYZ then domain must be svc.XYZ. • The user needs to update the "clusterDomain" in the custom_values.yaml file per the name of cluster (default value of domain is "cluster.local"). If the cluster name is XYZ then domain must be XYZ. Update the parameters mentioned in SCP with Ingress Gateway Configuration Parameters , if ingress gateway is deployed with SCP.

Table 3-4 (Cont.) SCP Deployment

Step #	Procedure	Description

3
☐
	Create DB user and database	1. Login to mysql server
		2. Execute `create database <scp_dbname>;` command
		E.g. " create database ocscpdb; "
		3. Create scp user: Execute command "`CREATE USER '<username>'@'%' IDENTIFIED BY '<password>';`"
		4. Grant database access to scp user created: Execute command "`GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, EXECUTE, INDEX ON <scp dbname>.* TO '<scp user>'@'%';`"
		Note: User must use `<scp dbname>` provided on mysql server in helm chart during scp deployment.
		Example:
		`CREATE DATABASE ocscpdb;`
		`CREATE USER 'scpuser'@'%' IDENTIFIED BY 'scppass';`
		`GRANT SELECT, INSERT, CREATE, ALTER, DROP, LOCK TABLES, CREATE TEMPORARY TABLES, DELETE, UPDATE, EXECUTE, INDEX ON ocscpdb.* TO 'scpuser'@'%';`
		5. Execute the following command to create secrets
		`kubectl create secret generic <secretName> --from-literal=DB_USERNAME=<userName> --from-literal=DB_PASSWORD=<password> --from-literal=DB_NAME=<dbName> -n <SCPNamespace>`
		Example:
		`kubectl create secret generic cred --from-literal=DB_USERNAME='root' --from-literal=DB_PASSWORD='lLn94uba5p' --from-literal=DB_NAME='ocscpdb' -n scpsvc`

Table 3-4 (Cont.) SCP Deployment

Step #	Procedure	Description

4
☐
	Deploy Ingress GW (optional)	Execute the following command to install ingress gateway, if ingress gateway is deployed with SCP:
		
		`helm install <ocscp-ingress-gateway-releasenumber.tgz> --name <release_name> --namespace <namespace_name> -f <ocscp_ingress_gateway_values_releasenumber.yaml>`
		
		Example:
		
		`helm install ocscp-ingress-gateway-1.7.2.tgz --name <release_name> --namespace <namespace_name> -f ocscp_ingress_gateway_values_1.7.2.yaml`

5 ☐	Deploy SCP using HELM tgz	Execute the following command to install SCP: `helm install -f <custom values.yaml> --name ocscp --namespace <namespace> <chartpath>./<chart>.tgz` Where: **helm-repo**: repository name where the helm images, charts are stored **custom_values**: helm configuration file, which needs to be updated based on the docker registry **deployment_name** and **namespace_name**: depends on customer configuration
6 ☐	Check repo status	Execute `helm status <deployment_name>` to check the deployment status.
7 ☐	Check svc status	Check if all the services are deployed and running: `kubectl -n <namespace_name> get services`
8 ☐	Check pod status	Check if all the pods are up and running: `kubectl -n <namespace_name> get pods` **Note:** Worker and pilot status must be Running and Ready must be n/n. scpc-soothsayer status must be Running and Ready must be n/n, where n is number of containers in the pod and sds service must be up.

Configure SCP as HTTP Proxy

Consumer NFs are required to set `http_proxy/HTTP_PROXY` to scp-worker's `<FQDN or IPV4 address>:<PORT of SCP-Worker>` for consumer NFs to route messages towards SCP.

> **Note:**
>
> Execute these commands from where SCP worker and FQDN can be accessed.

Table 3-5 Configure SCP as HTTP Proxy

Step #	Procedure	Description
1 ☐	Test successful deployment of SCP	To test that SCP deployed successfully and is able to receive a message as a proxy, route it to the appropriate producer, use the below curl command: `$ curl -v -X GET --url 'http://<FQDN:PORT of SCP-Worker>/nnrf-nfm/v1/subscriptions/' --header 'Host:<FQDN:PORT of NRF>'`
2 ☐	Fetch the current subscription list	The curl command fetches the current subscription list (as a client) from NRF by sending the request to NRF via SCP. Example: `$ curl -v -X GET --url 'http://scp-worker.scpsvc:8000/nnrf-nfm/v1/subscriptions/' --header 'Host:ocnrf-ambassador.nrfsvc:80'`

SCP Uninstall

SCP can be uninstalled as follows. The steps below need to be executed from a server that has access to Kubectl and helm commands.

Table 3-6 SCP Uninstall

Step #	Procedure	Description
1 ☐	Uninstall SCP	Execute the following command to uninstall SCP: `$ helm delete <SCP_deployment_namespace> --purge`

Table 3-6 (Cont.) SCP Uninstall

Step #	Procedure	Description
2 ☐	Remove SCP custom resources definitions	Execute the following command to remove SCP custom resources definitions: `$ kubectl get crds -o name | grep <SCP_deployment_namespace>.oracle.io | xargs kubectl delete` Example: `$ kubectl get crds -o name | grep scp.oracle.io | xargs kubectl delete`
3 ☐	Delete namespace	Execute the following command to delete the namespace: `kubectl delete namespace <SCP_deployment_namespace>` **Note**: Deleting the namespace deletes all the other Kubernates objects in that namespace.

4 ☐	DB Cleanup	1. Login to mysql client on SQL NODE with scp user and password
		
		`mysql -h <IP_adress of SQL Node> -uscpuser -pscppass`
		
		2. Change to scp db and drop NF_RULE_PROFILES and TOPOLOGY_SOURCE_INFO
		
		`mysql> use ocscpdb;`
		`mysql> drop table NF_RULE_PROFILES;`
		`mysql> drop table TOPOLOGY_SOURCE_INFO;`
		
		3. Optionally, AMF and SMF subscriber data tables should be dropped if SDS app was enabled and old subscriber data need to be purged before new installation.
		
		`mysql> drop table SubscriberAmfBindingPei;`
		`mysql> drop table SubscriberAmfBindingGpsi;`
		`mysql> drop table SubscriberAmfBindingData;`
		`mysql> drop table SubscriberSmfBindingData;`

4
SCP Configuration Parameters

Table 4-1 provides list of configuration parameters in the Helm file. Refer to OCSCP YAML File for a sample file.

Global Parameters
This configuration used by all the micro services

Table 4-1 SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
Global: Configuration used by all the micro services						
domain	<string>	Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain	svc.cluster.local	M	Y	Option to configure the Service Domain of the K8 cluster. To know cluster domain one can use command : `kubectl -n kube-system get configmap kubeadm-config -o yaml | grep clusterName`
clusterDomain	<string>	Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain	cluster.local	M	Y	Option to configure the Domain of the K8 cluster. Ideally, it is domain attribute value by removing "svc."

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
ingressGWAvailable	<boolean>	true/false	false	O	Y	If ingress gateway is available then set ingressGWAvailable flag to true and provide ingress gateway IP and Port in publicSignalingIP and publicSignalingPort respectively, else set to false. **Note**: If **ingressGWAvailable** flag is *true* then service type for scp-worker will be set to **ClusterIP**, otherwise it will be set to **LoadBalancer**.
publicSignalingIPSpecified	<boolean>	true/false	false	O	Y	Option to enable/ disable Loadbalancer IP configuration statically for Signaling interface. This parameter must be set to true if SCP needs to be used with ingress gateway. publicSignalingIP and publicSignalingPort must be set to ingress gateway IP and Port in this case. If ingressGWAvailable is set to false then setting it true will cause SCP-Worker service to be exposed as LB and ingress gateway will not be used.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
publicSignalingIP	<IPv4 Address>	Valid IPV4 address as per RFC 791	N/A	C	Y	Option to configure static Signaling Loadbalancer IP. Configured value will be used only if signalingloadbalancerIpenabled is configured as "true".
publicSignalingPort	<integer>	Min- 0 , Max-65535	8000	M	Y	Option to configure Signaling Port
adminport	<integer>	Min- 0 , Max-65535	8001	M	Y	Option to configure Admin Port (used for debugging purpose)
imageRepository	<string>	valid repository	ocspf-registry.us.oracle.com:5000/ocscp	M	Y	User need to set imageRepository to the repository where SCP images are loaded.
scpInfo	SCP Profile that will be used to by SCP register with OCNRF (Primary First and Secondary if primary Fails). Registration of SCP services is optional and can be governed vis the nfService.nfServiceStatus flag. If nfServiceStatus is set to registered than that service will get registered with OCNRF. In case of anything other than registered (i.e. SUSPENDED/UNDISCOVBERABLE) that service will not get registered with OCNRF. In any one of the case the service mentioned can be used locally by SCP as long as its present in SCP Profile. In case a service is omitted from SCP profile, SCP will neither register nor be able to use that service (or in case of SDS-APP service the sds-app service is not even deployed)					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`fqdn: <string>`	Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain	N/A	M	Y	Fully Qualified Domain Name of SCP
	`nfType: <string>`	NA	CUSTOM_ORACLE_SCP	M	Y	
	`locality: <string>`	As per 3GPP TS 29.510 spec	N/A	M	Y	Locality of the current SCP Instance (e.g. geographic location, data center). Same locality must be present in ServingLocalities also.
	`mediation_status: <string>`	mediation_status: ENABLED/ DISABLED	DISABLED	O	Y	Option to enable/ disable mediation. Note once this option is enabled, all the requests will get routed towards mediation. To turn it disable state, user needs to redeploy SCP.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	customInfo: mateScpInfo: capacity: <integer> priority: <integer> mateSCPLocalities: - <string> servingLocalities: - <string> remainingLocalities: - <string>	capacity: Min = 0, Max = 65535, Priority: Min = 0, Max = 65535. Localities: As per 3GPP TS 29.510 spec	capacity: 500 priority: 1 mateSCPLocalities: - Loc10 servingLocalities: - Loc7 - Loc8 - Loc9 - USEast remainingLocalities: - Loc1 - Loc2 - Loc3 - Loc4 - Loc5 - Loc6	M	Y	capacity: Static capacity information in the range of 0-65535, expressed as a weight relative to other SCP instances of the same type. priority: Priority (relative to other SCPs) in the range of 0-65535, to be used for NF selection; lower values indicate a higher priority. servingLocalities: List of serving localities of the current SCP (apart from the locality in present in "locality" attribute) remainingLocalities: List of localities which will be served by current SCP but are not part of mateSCPLocalities and servingLocalities

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`nfInstanceId: string`	String uniquely identifying a NF instance. The format of the NF Instance ID shall be a Universally Unique Identifier (UUID) version 4, as described in IETF RFC 4122 [15].	N/A	M	Y	String uniquely identifying current SCP instance. The format of the Instance ID shall be a Universally Unique Identifier (UUID) version 4, as described in IETF RFC 4122.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`nfServices:`
	`- serviceInstanceId: <string>`
	`serviceName: <string>`
	`fqdn: <string>`
	`port: <integer>`
	`scheme: HTTP2`
	`priority: <integer>`
	`capacity: <integer>`
	`load: <inte`
		serviceInstanceId: String uniquely identifying a NF service instance. The format of the NF Service Instance ID is Universally Unique Identifier (UUID) version 4, as described in IETF RFC 4122 [15].
		fqdn: Labels can be letter a-z, number 0-9, hyphen(-). Hyphen cannot be first character. Label combined with dot(.) forms domain.
		port: 0 to 65535
		priority: 0 to 65535
		capacity: 0 to 65535
		load: 0 to 100
		apiPrefix: Can be combination of letters from a-z and A-Z
		nfServiceStatus : REGISTERED or SUSPENDE
			Default Value for service Name: N/A. Supported values for service Name: nmediation-http (Mediation service), ocscp-sds (Subscriber Data Service)	O	Y	Supported values for serviceName: nmediation-http (Mediation service), ocscp-sds (Subscriber Data Service)
						Note:
						• nfServices are completely optional, one or all services can be removed, for removing all services, user also need to remove nfServices key as well.
						• nfServices block from values.yaml can be removed, if user need to configure any of this services, user need to provide this configuration while deploying it through helm using custom ocscp_values.yaml file.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	ger> ipEndPoints: - ipv4Address: <IPV4 Address> port: <integer> nfServiceStatus: <STATUS> apiPrefix: <integer> versions: - apiFullVersion: <string> apiVersionInUri:	D (TS 29.510)				

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	<string>					
scplocalityconfig	mapping_param: LOCALITY	LOCALITY, NFINSTANCEID, FQDN	LOCALITY	M	Y	Mapping parameter(or Key to look for), will be used to query the corresponding field in NF profile received in response to NF discovery Configuration is used to update the Discovery response based on the match criteria(id_value) with SCP IP/Port/ FQDN in NF Profile received. It is used to handle case of AMF discovery from any consumer so that consumer can send requests back to SCP and not directly to AMF after discovering it. For this functionality consumers must send AMF discovery requests to SCP.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`mapping_info:`
	`- id_value: <string>`
	`ip_v4_address: <string>`
	`fqdn: <string>`
	`port: <integer>`
		ip_v4_address: Valid IPV4 address as per RFC 791
		fqdn: Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain.
		port: 0 to 65535
			N/A	M	Y	id_value: Used to match value against the value obtained from mapping parameter
						ip_v4_address: The IP address to be used while updating ipv4Address and callback URI in NF discovery response
						fqdn: The fqdn to be used while updating fqdn in NF discovery response.
						port: The port to be used while updating port in NF discovery response.

PROBING_LISTENER_PORT	`PROBING_LISTENER_PORT : <integer>`	Min- 0 , Max-65535	8002	M	Y	This port will be used by scp-worker listening for probing.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
SIGNALLING_LISTENER_PORT	`SIGNALLING_LISTENER_PORT : <integer>`	Min- 0 , Max-65535	8080	M	Y	This port will be used by scp-worker listening for signaling.
nrfProfiles	List of NRFs to which the current SCP instance will subscribe for notifications.					
	`nfType: <string>`	NA	NRF	M	N	Description is nfType of NRF

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`nrfManagement:`
	`fqdn: <string>`
	`port: '<integer>'`
	`scheme: HTTP2`
	`priority: <integer>`
	`nfServiceStatus: REGISTERED`
	`capacity: <integer>`
	`apiPr`
		fqdn: Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain.
		port: 0 to 65535
		priority: 0 to 65535
		capacity: 0 to 65535
		apiPrefix: Can be combination of letters from a-z and A-Z
		nfServiceStatus : status of service. Its not used by SCP but needs to be in the NF profile format with all mandatory fields.
			N/A	M	Y	fqdn: Fully Qualified Domain Name of NRF
						port: NRF Management Service Port
						scheme: Always HTTP2
						priority: Priority of the NRF among the NRF List. It is used for load balancing between the NRFs.
						capacity: Capacity of the NRF among the NRF List. It is used for load balancing between the NRFs.
						apiPrefix: Location of NRF. User needs to configure it (or remove it) based on the APIPrefix supported (or not Supported) by NRF.
						ipEndPoints: List of IPv4 Address, transport and port combination of the given NRF.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	efix: <string> ipEndPoints: - ipv4Address: <IPv4 Address> transport: TCP port: <integer>					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`nrfDiscovery:`
	`fqdn: <string>`
	`port: '<integer>'`
	`scheme: HTTP2`
	`nfServiceStatus: REGISTERED`
	`priority: <integer>`
	`capacity: <integer>`
	`apiPr`
		fqdn: Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain.
		port: 0 to 65535
		priority: 0 to 65535
		capacity: 0 to 65535
		apiPrefix: Can be combination of letters from a-z and A-Z
		nfServiceStatus : status of service. Its not used by SCP but needs to be in the NF profile format with all mandatory fields.
			N/A	M	Y	fqdn: Fully Qualified Domain Name of NRF
						port: NRF Management Service Port
						scheme: Always HTTP2
						priority: Priority of the NRF among the NRF List. It is used for load balancing between the NRFs.
						capacity: Capacity of the NRF among the NRF List. It is used for load balancing between the NRFs.
						apiPrefix: Location of NRF. User needs to configure it (or remove it) based on the APIPrefix supported (or not Supported) by NRF.
						ipEndPoints: List of IPv4 Address, transport and port combination of the given NRF

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	efix: <string> ipEndPoints: - ipv4Address: <IPv4 Address> transport: TCP port: <integer>					
scpc-soothsayer: Configuration specific to Soothsayer Micro Service						

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

systemOptions	`trafficPolicy:`
	`connectionPool:`
	`http:`
	`idleTimeout: 3600s`
	`tcp:`
	`tcpKeepalive:`
	`probes: 9`
	`time: 180s`
	`interval: 60s`
		tcpKeepalive.probes - Maximum number of keepalive probes to send without response before deciding the connection is dead.
		tcpKeepalive.time - The time duration that a connection must be idle before keep-alive probes start being sent.
		tcpKeepalive.interval - The time duration between keep-alive probes.
				O	Y	HTTP Idle timeout for upstream connections. TCP keep alive settings for upstream connections. All 3 (probe, time and interval) are required if tcpkeepalive is enabled. Following the scenarios while using these parameters:
						1. Only HTTP IdleTimeout is configured. idleTimeout must be set to a value less than kube-proxy timeout value so that before kube-proxy silently discards connection, connection gets terminated gracefully by HTTP.
						2. Only TCP keepalive is configured. TCP keepalive must be set to a value less than kube-proxy timeout value so that before kube-proxy silently discards connection, connection gets terminated by

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
						TCP RESET if no ACK is received within the defined interval. 3. Both TCP keepalive and HTTP idleTimeout are configured. In this case idleTimeout can be more than kube-proxy timeout but TCP keepalive must be less than kube-proxy timeout. TCP keepalive keeps refreshing the connection at kube-proxy and if no HTTP request is received within the idleTimeout period, connection will get gracefully terminated by HTTP.
soothsayerDatabase	`soothsayerDatabase:` `dbHost:`	Provide MySQL database details here for Soothsayer to connect to	N/A	M	Y	dbHost: provides the host address of ths DB for soothsayer
						dbPort: provides the port address of ths DB for soothsayer.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	"127.0.0.0" dbPort: "3306" poolSize: "10" dbSecretName: "cred"					poolSize: Defines number of concurrent connections to the database dbSecretName: Defines database secret name.
configuration	docker Image details for Configuration container of scpc-soothsayer					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`imageDetails:`
	
	`image: soothsayer-configuration`
	
	`tag: <string>`
		image: 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
		Tag: 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
			N/A	M	Y	tag: Image Tag to be used for Configuration container

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`resources:`
	
	`memory: 1Gi`
	
	`cpu: 0.5`
		NA	memory: 1Gi
			cpu: 0.5
				M	N	memory: Requested memory (RAM) for subscription configuration container in soothsayer micro-service in Giga Bytes.
						cpu: Maximum allocated vCPU for configuration container in soothsayer micro-service

	`serviceName: scpc-configuration`	NA	scpc-configuration	M	Y	It is the service name of subscription configuration container.
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service
	`defaultTopologySource`	(NRF,LOCAL)	NRF	O	Y	This parameter is used to set the topologySource in TopologySourceInfo table for all NFs at the time of deployment. If defaultTopologySource is not present in deployment file, then it will be considered as defaultTopologySource = NRF

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`nodeSelector:`
	
	`nodeKey: ocscp`
	
	`nodeValue:`
	
	`scpc-configuration`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Enable node selector for Configuration Service pods

subscription	docker Image details for Subscription container of scpc-soothsayer					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`imageDetails:`
	
	`image: soothsayer-subscription`
	
	`tag: <string>`
		image: 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
		Tag: 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
			N/A	M	Y	tag: Image Tag to be used for Subscription container

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`resources:`
	
	`memory: 1Gi`
	
	`cpu: 1`
		NA	memory: 1Gi cpu: 1	M	N	memory: Requested memory (RAM) for subscription container in soothsayer micro-service in Giga Bytes.
						cpu: Maximum allocated vCPU for configuration container in soothsayer micro-service

	`serviceName: scpc-subscription`	NA	scpc-subscription	M	Y	It is the service name of subscription container.
	`retryInterval: 1`	Min: 1 Max: 2147483647 (in Seconds)	1	O	Y	Parameter used to set subscription interval and registration interval retry, in case first registration and subscriptions are unsuccessful. Be sure while changing this value. Changing this will also change the reflection period of the data in DB for OCNRF to LOCAL or vice versa.
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`registerScpWithNrf: true`	true/false	true	M	Y	Used to Enable/ Disable SCP registration with NRF. If set false, SCP will not do registration with NRF.

	`nodeSelector:`
	
	`nodeKey: ocscp`
	
	`nodeValue:`
	
	`scpc-configuration`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Enable node selector for Subscription pods.

notification	docker Image details for Notification container of scpc-soothsayer					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`imageDetails:`
	
	`image: soothsayer-notification`
	
	`tag: <string>`
		image: 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
		Tag: 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
			N/A	M	Y	tag: Image Tag to be used for Notification container

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`resources:`
	
	`memory:`
	`4Gi`
	
	`cpu:`
	`3`
		NA	memory: 4Gi
			cpu: 3
				M	Y	memory: Requested memory (RAM) for notification container in soothsayer micro-service in Giga Bytes.
						cpu: Maximum allocated vCPU for notification container in soothsayer micro-service

	`serviceName:` `scpc-notification`	NA	scpc-notification	M	Y	name of notification service
	`logLevel:` `INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service

	`nodeSelector:`
	
	`nodeKey:`
	`ocscp`
	
	`nodeValue:`
	
	`scpc-configuration`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Enable node selector for notification Service pods

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
audit	docker Image details for Audit container of scpc-soothsayer					

	`imageDetails:`
	
	`image: soothsayer-audit`
	
	`tag: <string>`
		image: 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
		Tag: valid ASCII and 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
			N/A	M	Y	tag: Image Tag to be used for Audit container

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`resources:`
	
	`memory:`
	`1Gi`
	
	`cpu:`
	`1`
		NA	memory: 1Gi
			cpu: 1
				M	Y	memory: Requested memory (RAM) for audit container in soothsayer micro-service in Giga Bytes.
						cpu: Maximum allocated vCPU for audit container in soothsayer micro-service

	`serviceName:` `scpc-audit`	NA	scpc-audit	M	Y	Service name for Audit service
	`auditInterval:` `3600`	Min: 1 Max: 2147483647	3600	M	Y	auditInterval: Time interval in seconds that user need to configure.
	`auditInitialRetryInterval: 2`	Min: 1 Max: 2147483647	2	M	Y	auditInitialRetryInterval: Retry interval in seconds for which audit keeps on retrying until successful response from NRF
	`logLevel:` `INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`nodeSelector:`
	
	`nodeKey: ocscp`
	
	`nodeValue:`
	
	`scpc-audit`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Enable node selector for audit Service pods

configService	Configuration related to Configuration container					
	`publicConfigIPSpecified: <boolean>`	true/false	false	O	Y	Option to enable/disable Loadbalancer IP configuration statically for OAM interface.

	`publicConfigIP:`
	
	`<IPv4`
	
	`Address>`
		Valid IPV4 address as per RFC 791	N/A	C	Y	Option to configure static Loadbalancer IP. Configured value is used only if oamloadbalancerienabled is configured as "true".

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	staticnodeportenabled: <boolean>	true/false	false	O	Y	Option to enable/disable configuring static Node Port for OAM interface
	nodeport: <integer>	As per kubernetes cluster, by default value is 30000 to 32767	30002	C	Y	Option to configure static Node Port for OAM interface. Configured value will be used only if staticnodeportenabledis configured as "true"
	configServiceNetworkNameEnabled: <boolean>	true/false	false	O	Y	Option to enable/ disable metalLB IP allocation dynamically from the pool for OAM interface.
	configService	alpha-numeric	oam	C	Y	Configuration related to Configuration container

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
mergeNFServices	`status: <boolean>`	true/false	false	M	Y	Option to enable/ disable merge NF services within a NF profile
	`supportedNFServices: List of strings. (example in description)`	1. Valid 5g NF Services as per 3GPP TS 29.510 2. [] i.e. Blank, which means consider all supported NF services 3. If not provided, all supported NF services are considered	nudm-uecm, nudm-sdm	C	Y	List of NF Services for which merge NF services within a NF Profile is triggered. Format Example: supportedNFServices: - nudm-uecm - nudm-sdm **Note**: This list is considered only if above status flag is enabled.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
defaultLocalityToScp	<boolean>	true/false	true	O	Y	Use this flag to determine whether to consider a NF in SCP locality or outside of SCP Locality (or serving localities) in case locality information is absent in a notified NFProfile. If flag is set to **true** then any NFProfile received without Locality information will be considered as its in SCP's locality.
reverseProxyEnabled	<boolean>	true/false	true	M	Y	If enabled then for all the NFs which support reverseProxy, this parameter will get enabled by default. In case user wants to turn it off after deployment, then use the APIs provided to reconfigure reverseProxySupport option. **Note**: This flag will set reverseProxy flag as **true** but other requirements of setting DbSync as Site and RoutingPolicy as Load balance needs to be done by User.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
nrfServiceForAudit	`nrfServiceForAudit: <string>`	Supported service options are: 1. nnrf-nfm 2. nnrf-disc	nnrf-nfm	O	Y	Configure Service to get profile from NRF. Possible values are 1. nnrf-nfm 2. nnrf-disc User must have to use nnrf-nfm if interplmnfqdn is part of profile
scp-worker: Configuration specific to Worker Micro Service						
image	docker image details for scp-worker micro service					
	`image: scp-worker`	image: 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	N/A	M	Y	

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`tag: <string>`	Tag: 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	N/A	M	Y	Image Tag to be used for scp-worker micro service
jaeger	Jaeger service configuration					
	`address: <fqdn>`	Labels can be letter a-z, number 0-9, hyphen (-). Hyphen cannot be first character. Label combined with dot (.) forms domain	N/A	M	Y	Option to Configure Jaeger Collector FQDN
	`port_value: <integer>`	Min: 0 Max: 65535	N/A	M	Y	Option to Configure Jaeger Collector Port
tracingenable	`<boolean>`	true/false	true	O	Y	Option to enable/ disable Jaeger tracing.
admin						

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	enablejaegerbody: <boolean>	true/false	false	O	Y	Option to enable/ disable tracing of full body of all Request/ Response messages. The configuration will be added only if tracingenable is configured as "true".
	retrytimeoutvalue: <integer>	min: 1 max: 3600	5	O	Y	Option to configure time to wait (in seconds) before making new requests to the upstream cluster after receiving 503 or 429 response code. This value will only be used if 'retry-after' header is not present in response.
service						
	port: staticnodeportenabled: <boolean>	true/false	false	O	Y	Option to enable/disable configuring static Node Port for Signaling interface

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`nodeport: <integer>`	As per kubernetes cluster, by default is 30000 to 32767	30001	C	Y	Option to configure static Node Port for Signaling interface. Configured value will be used only if staticnodeportenabled is configured as "true".
	`networkNameEnabled: <boolean>`	true/false	false	O	Y	Option to enable/ disable metalLB IP allocation dynamically from the pool for Signaling interface.
	`networkName: metallb.universe.tf/address-pool: <string>`	alpha-numeric	signaling	C	Y	Annotation to notify metalLB to allocate an IP for Signaling interface of SCP. The annotation is added only if networkNameEnabled is configured as "true". <TODO> Need few more updates after testing.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
loglevel	`<string>`	trace/debug/info/warning	warning	O	Y	Option to increase/decrease Logging level of scp-worker micro-service.
prometheus	`scrape: <boolean>`	true/false	true	O	Y	Option to enable/disable Prometheus metrics scraping.
resources	Initial requested Resource quota for scp-worker micro-service.					
	`memory: 8Gi`	NA	4096Mi	M	N	Requested memory (RAM) for scp-worker micro-service in Mega Bytes.
	`cpu: 4`	NA	4000m	M	N	Requested CPU for scp-worker micro-service in milliCPU.
limits	Maximum allocated Resource quota for scp-worker micro-service.					
	`memory: 4Gi`	NA	4Gi	M	N	Maximum allocated memory (RAM) for scp-worker micro-service in Mega Bytes.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`cpu: 4`	NA	4	M	N	Maximum allocated CPU for scp-worker micro-service in milliCPU.
minreplicas	`<integer>`	NA	2	M	N	Minimum replica count of scp-worker micro-service.
maxreplicas	`<integer>`	Min: 2 Max: 32	32	M	Y	Maximum replica count of scp-worker micro-service.

nodeSelector	`nodeSelector:`
	`nodeKey: ocscp`
	`nodeValue:`
	`scpc-worker`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Configuration to apply nodeSelector to SCP-Worker pods.

heapoverloadcontrol:						SCP memory overload control configuration

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	refresh_interval: seconds: 0 nanos: 250000000	NA	N/A	O	N	Refresh Interval (250 milliseconds) to check memory Overload condition
	resource_monitors: max_heap_size_bytes: 4294967296	NA	N/A	O	N	Maximum configured heap size for scp-worker micro-service (4GB)

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	actions: stop_accepting_requests: <%age in decimal value>	Min: 0 Max: 1	0.70	O	Y	Option to configure threshold percentage at which SCP will stop accepting new requests.
	stop_accepting_connections: <%age in decimal value>	Min: 0 Max: 1	0.75	O	Y	Option to configure threshold percentage at which SCP will stop accepting new connections. This percentage should be always greater than the percentage configured for stop_accepting_requests

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`shrink_heap:<%age in decimal value>`	Min: 0 Max: 1	0.70	O	Y	Option to configure threshold percentage at which SCP will start freeing unused memory blocks. This percentage should be always minimum of threshold configured for stop_accepting_requests and stop_accepting_connections
downstream				O	Y	Options for downstream peers
	`idleTimeout`		3600 (in seconds)	O	Y	The idle timeout is defined as the period in which there are no active requests. When the idle timeout is reached the connection is closed. Refer to the scenarios/ recommendations mentioned in `systemOptions` under **scpc-soothsayer** for more details. **Note**: The request based timeouts mean that HTTP/2 PINGs will not keep the connection alive.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description

	`tcpKepalive:`
	
	`probes: <integer>`
	
	`time: <integer>`
	
	`interval: <integer>`
		tcpKeepalive: Enables TCP keep alive. *tcpKeepalive.probes* - Maximum number of keepalive probes to send without response before deciding the connection is dead
		tcpKeepalive.time - The time duration that a connection must be idle before keep-alive probes start being sent.
		tcpKeepalive.interval- The time duration between keep-alive probes.
			tcpKeepalive.probes -9 # linux default
			tcpKeepalive.time - 180 (in seconds)
			tcpKeepalive.interval- 60 (in seconds)
				tcpKeepalive- O
				tcpKeepalive.probes- M. if tcpKeepalive is set.
				tcpKeepalive.time - M. if tcpKeepalive is set.
				tcpKeepalive.interval- M. if tcpKeepalive is set.
					Y	Set *tcpKeepalive* attribute to enable TCP Keepalives.

scpc-pilot: Configuration specific to Pilot Micro Service						
image						docker image details for scpc-pilot micro service

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`image: <docker repository>/scpc-pilot`	image: 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	N/A	M	Y	docker repository that contains scpc-pilot micro service image
	`tag: <string>`	Tag: 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	N/A	M	Y	Image Tag to be used for scpc-pilot micro service
enableTracing	`<Boolean>`	true/false	True	O	Y	Option to enable/ disable tracing request.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
minreplicas	`<integer>`	NA	1	M	N	Minimum replica count of scp-pilot micro-service.
maxreplicas	`<integer>`	Min: 1 Max: 1	1	M	Y	Maximum replica count of scp-pilot micro-service.

nodeSelector	`nodeSelector:`
	`nodeKey: ocscp`
	`nodeValue:`
	`scpc-pilot`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Configuration to apply nodeSelector to SCP-pilot pods.

resources						
	`memory: 6Gi`	NA	6Gi	M	N	Requested memory (RAM) for scp-pilot micro-service in Mega Bytes.

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	cpu: 4	NA	4	M	N	Requested CPU for scp-pilot micro-service in milliCPU.
logOutputLevel	"<Module:level>,<Module:level>,...."	Supported Modules: ads, default, mcp, model, rbac Supported Level: debug, info, warn, error, fatal, none	"default: info"	O	Y	Option to increase/decrease scpc-pilot log level.
logStacktraceLevel	"<Module:level>,<Module:level>,...."	Supported Modules: ads, default, mcp, model, rbac Supported Level: debug, info, warn, error, fatal, none	"default: none"	O	Y	Option to increase/decrease scpc-pilot Stack Trace level.
traceSampling	<integer>	1 to 100	1	O	Y	Option to set the sampling rate for Jaeger traces (e.g 1 means 1% of traffic passing through scp-w will get traced.) If traceSampling is omitted, it will be taken as 1.
scp-apps: Configuration specific to SDS Database Micro Service						

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
imageDetails	`image: <docker repository>/scp-db-app`	image: 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	N/A	M	Y	docker repository that contains scp-db-app micro service image.
	`tag: <string>`	Tag: valid ASCII and 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	N/A	M	Y	Image Tag to be used for scpc-pilot micro service

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
dbServiceEndpoint	primary: host: <String>, can be <IPv4 Address> or Fqdn (MYSQL Primary DB Service Endpoint host) port: <String>, can be port value (MYSQL Secondary DB Service Endpo	primary: EndPoint details for primary DB host: Valid IPV4 address as per RFC 791 or Valid FQDN port: valid port value	host: 127.0.0.0 port: 3306	O	Y	Mysql database server Endpoint information for Primary DB

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`int port)`					

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	secondary: host: <String>, can be <IPv4 Address> or Fqdn (MYSQL Secondary DB Service Endpoint host) port: <String>, can be port value (MYSQL Secondary DB Service Endpo	secondary: EndPoint details for secondary DB host: Valid IPV4 address as per RFC 791 or Valid FQDN port: valid port value	host: 127.0.0.0 port: 3306	O	Y	Mysql database server Endpoint information for Secondary DB

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	int port)					
dbSecretName	<String>	N/A	cred	M	Y	Mysql database secret name information
poolSize	<integer>	N/A	10	M	Y	Defines number of concurrent connections to Mysql database
logLevel	<String>	TRACE/ DEBUG/ INFO/ WARNING	INFO	O	Y	Option to increase/decrease Logging level of scp-sds micro-service.
resources						
	memory: 2048Mi	N/A	2Gi	M	N	Requested memory (RAM) for scp-sds micro-service in Mega Bytes
	cpu: 3	N/A	3	M	N	Requested CPU for scp-sds micro-service in milliCPU
minreplicas	<integer>	Min: 2	1	M	Y	Minimum replica count of scp-worker micro-service

Table 4-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
maxreplicas	`<integer>`	Max: 32	32	M	Y	Maximum replica count of scp-worker micro-service

nodeSelector	`nodeSelector:`
	`nodeKey: ocscp`
	`nodeValue:`
	`scpc-apps`
		nodeSelector: Use this configuration to apply nodeSelector to Configuration service pods
		nodeKey: Key of the node label
		nodeValue: Value of the node label
			N/A	O	Y	Configuration to apply nodeSelector to SCP-Apps pods

targetcpuutilpercent	`<integer>`	Min:50 Max:100	50	M	Y	Defines Auto Scalar for pod. If CPU utilization increase above configured value, kubernetes increase replica count

Note:

By default, the sampling rate of jaeger tracing is 1%. If the user wants to increase it then use the below tag at same level as 'resources' under 'scpc-pilot' section.
traceSampling: <% user wants sampling rate to be>

Example: `traceSampling: 10`

Logging level

The description of each logging level is as mentioned below:

Table 4-2 Logging level

Logging Level	Description
ALL	All levels including custom levels.
DEBUG	Designates fine-grained informational events that are most useful to debug an application.
INFO	Designates informational messages that highlight the progress of the application at coarse-grained level.
WARN	Designates potentially harmful situations.
ERROR	Designates error events that might still allow the application to continue running.
FATAL	Designates very severe error events that will presumably lead the application to abort.
OFF	The highest possible rank and is intended to turn off logging.
TRACE	Designates finer-grained informational events than the DEBUG.

5
SCP with Ingress Gateway Configuration Parameters

This section describes the parameters that are configured while installing SCP with Ingress Gateway.

> **Note:**
>
> configmap name, addRequestHeader, and loadbalancer IPs need to be changed if more than one ingress gateways are being deployed for SCP.

Table 5-1 SCP with Ingress Gateway

Attribute Name	Description	Mandatory	Default Value	Notes
global.dockerRegistry	Update local registry details	No	<local docker registry >/ocscp	
global.metalLbIpAllocationEnabled	Enable or disable IP Address allocation from Metallb Pool	No	true	
global.staticIpAddressEnabled	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	No	false	
global.staticIpAddress	StaticIp		10.75.212.60	Static IP to be requested from metalLb
routesConfig[0].id	id of the route	Yes		
routesConfig[0].uri	Service name of the internal microservice of this NF	Yes		It should be same as SCP fqdn and signaling port defined in SCP deployment file.
routesConfig[0].path	Provide the path to be matched.	Yes		
routesConfig[0].order	Provide the order of the execution of this route.	Yes		

Table 5-1 (Cont.) SCP with Ingress Gateway

Attribute Name	Description	Mandatory	Default Value	Notes
routesConfig[0].filters.addRequestHeader[0].name	This field is used for adding a request header at route level.	No	x-scp-Igw-Authority	The value of "name" attribute denotes the name of the request header which must be added at route level. Header to pass ingress gateway authority to SCP. **Note**: Do not change the Default value.
routesConfig[0].filters.addRequestHeader[0].value	Ingress Gateway Static loadbalancer IP requested above with ingress gateway signaling port.	No		Ingress gateway Static loadbalancer IP requested above with ingress gateway signaling port.
minAvailable	Number of Pods must always be available, even during a disruption	Yes	2	Set minimum number of replicas available at a time.
minReplicas	Min replicas to scale to maintain an average CPU utilization	Yes	2	Set to min replicas required.
maxReplicas	Max replicas to scale to maintain an average CPU utilization	Yes	5	Set to max replicas required.
nodeselector.nodekey	node selector key specific to chart (note this will be looked first and then if not present global node key will be picked)			Comment node selector section if not required.
nodeselector.nodevalue	node selector value specific to chart (note this will be looked first and then if not present global node value will be picked)			

6
OCSCP YAML File

Following is the sample OCSCP YAML file:

The OCSCP YAML file can also be downloaded from OHC.

```
global:
  domain: svc.cluster.local
  clusterDomain: cluster.local
  # If ingress gateway is available then set ingressGWAvailable flag to
true
  # and provide ingress gateway IP and Port in publicSignalingIP and
publicSignalingPort respectively.
  # If ingressGWAvailable flag is true then service type for scp-worker
will be ClusterIP
  # otherwise it will be LoadBalancer.
  # We can not set ingressGWAvailable flag true and at the same time
publicSignalingIPSpecified flag as false.
  # If you want to assign a load balancer IP,set loadbalanceripenbled
flag to true and
  # provide value for flag loadbalancerip
  # else a random IP will be assigned if loadbalanceripenbled is false
  # and it will not use loadbalancerip flag
  ingressGWAvailable: false
  publicSignalingIPSpecified: false
  publicSignalingIP: 10.75.203.76
  publicSignalingPort: 8000
  adminport: 8001
  #user need to set imageRepository to the repository where the images
are kept.
  imageRepository: ocspf-registry.us.oracle.com:5000/ocscp

  scpInfo:
    fqdn: scp-worker.scpsvc.svc.cluster.local
    nfType: CUSTOM_ORACLE_SCP
    locality: Loc7 # Locality of SCP where its deployed.
    mediation_status: DISABLED
    customInfo:
      mateScpInfo:
        capacity: 500
        priority: 1
        mateSCPLocalities:
        - Loc10
      servingLocalities:
      - Loc7
      - Loc8
      - Loc9
      - USEast
      remainingLocalities:
      - Loc1
```

```
      - Loc2
      - Loc3
      - Loc4
      - Loc5
      - Loc6
      servingScope:
      - Reg1
      - Reg2
    nfInstanceId: 6faf1bbc-6e4a-4454-a507-a14ef8e1bc5e # Sample value.
User needs to update this nfInstanceId per his network
    # Services provided with SCP profile are optional.
    # If provided SCP will get registered with these services only if
nfServiceStatus is REGISTERED and
    # allows user to configure mediation/sds app (irrespective of
nfServiceStatus) is deployed to use DB tier.
    # If omitted SCP will get registered without these services and
mediation will not be allowed to be configured/sds will not be deployed.
    nfServices:
    - serviceInstanceId: f86b54b7-aef9-4c78-b346-3bfb7f380812
      serviceName: nmediation-http
      fqdn: mediation-server.scpsvc.svc.cluster.local
      port: '80' # Default value is 80
      scheme: http
      priority: 0 # Default value is 0
      capacity: 100 # Default value is 100
      load: 0
      nfServiceStatus: REGISTERED
      ipEndPoints:
      - ipv4Address: 10.104.121.240
        port: '80'
      apiPrefix:
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1
    - serviceInstanceId: f86b54b7-aef9-4c78-b346-3bfb7f380813
      serviceName: ocscp-sds
      fqdn: ocscp-sds.scpsvc.svc.cluster.local # FQDN must be same as
serviceName
      port: '80' # Default value is 80
      scheme: http
      nfServiceStatus: REGISTERED
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1

# NRF profiles for primary(Priority=0) and secondry(Priority=1) NRF.
Note that these NRFs needs to be backend DB Synced.
# For Secondary NRF profile always make it priority lesser than First
priority NRF, currently we set secondary NRF priority to 1.
# In case of no secondry NRF user can comment the secondary NRF Profile
  nrfProfiles:
  - capacity: 10000
    locality: USEast
    nfInstanceId: 6faf1bbc-6e4a-4454-a507-a14ef8e1bc5a
    nfStatus: REGISTERED
```

```
    nfType: NRF
    priority: '0'
    servingScope: 'Reg1'
    nfServices:
    - capacity: 5000
      #apiPrefix: USEast
      fqdn: ocnrf-endpoint.ocnrf.svc.cluster.local
      ipEndPoints: [{"ipv4Address": "10.75.213.56", "port": "31014"}]
      load: 0
      nfServiceStatus: REGISTERED
      scheme: http
      serviceInstanceId: fe137ab7-740a-46ee-aa5c-951806d77b01
      serviceName: nnrf-nfm
      priority: 0
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1

    - capacity: 5000
      #apiPrefix: USEast
      fqdn: ocnrf-endpoint.ocnrf.svc.cluster.local
      ipEndPoints: [{"ipv4Address": "10.75.213.56", "port": "31014"}]
      load: 0
      nfServiceStatus: REGISTERED
      scheme: http
      serviceInstanceId: fe137ab7-740a-46ee-aa5c-951806d77b02
      serviceName: nnrf-disc
      priority: 0
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1

  - capacity: 10000
    locality: USEast
    nfInstanceId: 6faf1bbc-6e4a-4454-a507-a14ef8e1bc5b
    nfStatus: REGISTERED
    nfType: NRF
    priority: '1'
    servingScope: 'Reg1'
    nfServices:
    - capacity: 5000
      #apiPrefix: USEast
      fqdn: nrf2svc.default.svc.cluster.local
      ipEndPoints: [{"ipv4Address": "10.75.213.56", "port": "30002"}]
      load: 0
      nfServiceStatus: REGISTERED
      scheme: http
      serviceInstanceId: fe137ab7-740a-46ee-aa5c-951806d77b01
      serviceName: nnrf-nfm
      priority: 1
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1

    - capacity: 5000
```

```
      #apiPrefix: USEast
      fqdn: nrf2svc.default.svc.cluster.local
      ipEndPoints: [{"ipv4Address": "10.75.213.56", "port": "30002"}]
      load: 0
      nfServiceStatus: REGISTERED
      scheme: http
      serviceInstanceId: fe137ab7-740a-46ee-aa5c-951806d77b02
      serviceName: nnrf-disc
      priority: 1
      versions:
      - apiFullVersion: 1.0.0
        apiVersionInUri: v1



  # SCP locality info, required for updating IP endpoint and fqdn
  # in nf-profile received in response from NRF
  scplocalityconfig:
    mapping_param: LOCALITY # can be one of [LOCALITY, NFINSTANCEID,
FQDN]
    mapping_info:
    - id_value: "USWest"
      ip_v4_address: "1.2.3.4"
      fqdn: "udm1.com"
      port: 8080
    - id_value: "USEast"
      ip_v4_address: "0.0.0.0"
      fqdn: "udm2.com"
      port: "8080"

  # This port will be used for scp-worker listening for
probing.
  PROBING_LISTENER_PORT: 8002

  # This port will be used for scp-worker listening for signalling
  SIGNALLING_LISTENER_PORT: 8080

  # Service Account name to be provided. If not provided then a default
will be used by SCP.
  #- apiGroups: ["config.ocscp.oracle.io"],  ["rbac.ocscp.oracle.io"]
["networking.ocscp.oracle.io"]  ["authentication.ocscp.oracle.io"] for
resources: ["*"]  verbs: ["*"]
  #apiGroups: ["apiextensions.k8s.io"]
  #resources: ["customresourcedefinitions"]
  #verbs: ["*"]
  #apiGroups: ["extensions"]
  #resources: ["thirdpartyresources", "thirdpartyresources.extensions",
"ingresses", "ingresses/status"]
  #verbs: ["*"]
  #apiGroups: [""]
  #resources: ["configmaps"]
  #verbs: ["create", "get", "list", "watch", "update"]
  #apiGroups: [""]
  #resources: ["endpoints", "pods", "services", "namespaces", "nodes",
"secrets"]
```

```
  #verbs: ["get", "list", "watch"]
  ########
  # Role is needed as following
  # rules.apiGroups soothsayer.ocscp.oracle.io with resources as
"  - ocscp-nrfdetails - ocscp-ruleprofiles - ocscp-routingoptions
- ocscp-canaryreleases - ocscp-nfprofilehashes - ocscp-scpprofiles
- ocscp-discoveryconfigurations - ocscp-portconfigurations - ocscp-
nfsubscriptions - ocscp-systemoptions - ocscp-resourcemappings
- ocscp-nfservicegroups - ocscp-applicationconfigurations - ocscp-
mediationconfigurations   with verbs: ["*"]
  # - apiGroups: - networking.ocscp.oracle.io with  resources:
- virtualservices - serviceentries - gateways - envoyfilters -
destinationrules with verbs: ["*"]
  # - apiGroups: [""] with resources: - pods - services with verbs:
["*"]
  #- apiGroups: - "" with resources: - secrets with verbs: - get -
watch - list

  scpServiceAccountName:

scpc-soothsayer:

  # Provide MySQL database details here for Soothsayer to connect to
  soothsayerDatabase:
    dbHost: "127.0.0.0"
    dbPort: "3306"
    poolSize: "10"
    dbSecretName: "cred"

# HTTP Idletimeout and TCP keep alive settings for Upstream
connections.
  systemOptions:
    trafficPolicy:
      connectionPool:
# HTTP Idle timeout for upstream connections.
        http:
          idleTimeout: 3600s
# TCP keep alive settings for upstream connections. All 3 (probe, time
and interval) are required if tcpkeepalive is enabled.
        tcp:
          tcpKeepalive:
            probes: 9
            time: 180s
            interval: 60s

  subscription:
    imageDetails:
      image: soothsayer-subscription
      tag: 1.6.0
    resources:
      memory: 1Gi
      cpu: 0.5
    serviceName: scpc-subscription
    # Configure guardTime in SECONDS. This is the buffer time at which
we start subscription update. The time value prior to validity time
```

```
expiry at which we need to trigger subscription update.
    guardTime: 10
    # Configure subscriptionValidityPeriod is in HOURS. This is the
period after which a subscription gets expired.NRF may or may not
accept honor this. Defaulted to 7 days i.e. 168 hours
    subscriptionValidityPeriod: 168
    logLevel: INFO

    # Set scpToRegisterWithNrfRegions empty to disable registration,
Example - scpToRegisterWithNrfRegions: []
    # Set scpToRegisterWithNrfRegions with regions, to register
the high priority NRFs in specified regions, Example -
scpToRegisterWithNrfRegions: ["reg1","reg2"]

    # Set scpToRegisterWithNrfRegions empty to disable registration,
Example - scpToRegisterWithNrfRegions: [ ]
    # Set scpToRegisterWithNrfRegions with regions. Registration will
happen with Highest priority NRF in specified regions.
    # Example - scpToRegisterWithNrfRegions: ["reg1","reg2"]
    # Or can be set in below format. Example -
    #   scpToRegisterWithNrfRegions:
    #       -reg1
    #       -reg2
    scpToRegisterWithNrfRegions: []

    # Uncomment the below block to use node selector
    #nodeSelector:
    #  nodeKey: ocscp
    #  nodeValue: scpc-subscription

  notification:
    imageDetails:
      image: soothsayer-notification
      tag: 1.6.0
    resources:
      memory: 4Gi
      cpu: 3
    serviceName: scpc-notification
    logLevel: INFO
    # Uncomment the below block to use node selector
    #nodeSelector:
    #  nodeKey: ocscp
    #  nodeValue: scpc-notification

  audit:
    imageDetails:
      image: soothsayer-audit
      tag: 1.6.0
    resources:
      memory: 1Gi
      cpu: 1
    serviceName: scpc-audit
    # Configure time interval in seconds to run Audit. Value should be
valid integer
    auditInterval: 3600
```

```
    # Configure audit initial delay interval, values are given in
seconds. Audit will keep on retrying for provided interval till success
received from NRF.
    auditInitialRetryInterval: 2
    logLevel: INFO
    # Uncomment the below block to use node selector
    #nodeSelector:
    #  nodeKey: ocscp
    #  nodeValue: scpc-audit

  configuration:
    imageDetails:
      image: soothsayer-configuration
      tag: 1.6.0
    resources:
      memory: 1Gi
      cpu: 0.5
    serviceName: scpc-configuration
    logLevel: INFO
    defaultTopologySource: NRF
    # Uncomment the below block to use node selector
    #nodeSelector:
    #  nodeKey: ocscp
    #  nodeValue: scpc-configuration

# This flag when set to True will consider NFs in SCP's locality if no
locality information is present during their NF registration.
  defaultLocalityToScp: true

# Configure Serviceto get profile from NRF. Possible values are 1.
nnrf-nfm 2. nnrf-disc . User must have to use nnrf-nfm if interplmnfqdn
is part of profile
  nrfServiceForAudit: nnrf-nfm

# Configure reverseProxyEnabled at soothsayer level. Possible values
can be either true or false.
  reverseProxyEnabled: true

  configService:
    # If you want to assign a load balancer IP,set loadbalanceripenbled
flag to true and
    # provide value for flag loadbalancerip
    # else a random IP will be assigned if loadbalanceripenbled is false
    # and it will not use loadbalancerip flag
    publicConfigIPSpecified: false
    publicConfigIP: 10.75.212.88

    # If you want to provide a static nodePort, make
staticnodeportenabled flag to true and
    # provide value for flag nodeport ,
    # else a random nodePort will be assigned if staticnodeportenabled
is false
    # and it will not use nodeport flag
    staticnodeportenabled: false
    # Port value should lie in between 30000-32767.
```

```
    nodeport: 31612

    # IP Address Pool from which should K8s config Service pick the IP
Address
    configServiceNetworkNameEnabled: false
    configServiceNetworkName: "metallb.universe.tf/address-pool: oam"

  # merge NFServices within a NFProfile based on equivalence criteria of
  # 'apiRoot' i.e. scheme, fqdn, apiPrefix, serviceName, apiVersion and
  # other routing parameters like 'capacity' and 'priority' must be
same.
  mergeNFServices:
    # status of feature, possible values can be 'true' or 'false'.
    status: false
    # supported list of NFServices.
    supportedNFServices: ["nudm-uecm", "nudm-sdm", "nudm-ueau", "nudm-
ee", "nudm-pp"]

scp-worker:
  imageDetails:
    image: scp-worker
    tag: 1.6.0
  jaeger:
    address: occne-tracer-jaeger-collector.occne-infra.svc.cluster.local
    port_value: 9411
  # This flag tracingenable is used to enable or disable jaeger tracing
  tracingenable: true
  admin:
    enablejaegerbody: false
    retrytimeoutvalue: 5
  service:
    port:
      # If you want to provide a static nodePort, make
staticnodeportenabled flag to true and
      # provide value for flag nodeport ,
      # else a random nodePort will be assigned if
staticnodeportenabled is false
      # and it will not use nodeport flag
      staticnodeportenabled: false
      nodeport: 30075
    # IP Address Pool from which should K8s scp-worker Service pick the
IP Address
    networkNameEnabled: false
    networkName: "metallb.universe.tf/address-pool: signaling"
  loglevel: warning
  logformat: '{"messagetimestamp": "%Y-%m-%d %T.%e%z", "threadid":
"%t", "severity": "%l", "logger_name": "%n", "messagebody": "%v",
"procid": "%P"}'
  ignoreSdsDbError: false
  prometheus:
    scrape: true
  resources:
    memory: 8Gi # also update
'heapoverloadcontrol.resource_monitors.max_heap_size_bytes'
    cpu: 4
```

```
  minreplicas: 2
  maxreplicas: 32
  # Uncomment the below block to use node selector
  #nodeSelector:
  #  nodeKey: ocscp
  #  nodeValue: scp-worker
  heapoverloadcontrol:
    refresh_interval:
      seconds: 0
      nanos: 250000000
    resource_monitors:
      max_heap_size_bytes: 8589934592 #8192Mi
      #Max heap size is 8GB. The values below are expressed as a
fraction of the Max Heap Size
    actions:
      stop_accepting_requests: 0.70 #as fraction of max heap size
      stop_accepting_connections: 0.75 #as fraction of max heap size
      shrink_heap: 0.50 # as fraction of max heap size (min of all
other threshold values)
  # HTTP Idletimeout and TCP keep alive settings for Downstream
connections.
  downstream:
  #   HTTP Idle timeout for downstream connections.
    idleTimeout: 3600 # seconds
  #   TCP keep alive settings for downstream connections. All 3 (probe,
time and interval) are required if tcpkeepalive is enabled.
    tcpKeepalive:
      probes: 9 # linux default
      time: 180 # seconds
      interval: 60 # seconds

scpc-pilot:
  imageDetails:
    image: scpc-pilot
    tag: 1.6.0
  enableTracing: true
  resources:
      memory: 6Gi
      cpu: 4
  minreplicas: 1
  maxreplicas: 1
  targetcpuutilpercent: 50
  # To set Pilot Log level, by default it is set to info
  logOutputLevel: "default:info"
  # To set Pilot Log Stack Trace Level,by default is set to none
  logStacktraceLevel: "default:none"
  #Set the sampling rate for Istio to use for tracing.
  traceSampling: 1
  # Uncomment the below block to use node selector
  #nodeSelector:
  #  nodeKey: ocscp
  #  nodeValue: scpc-pilot

scp-apps:
  dbApp:
```

```
imageDetails:
  image: scp-db-app
  tag: 1.6.0
dbServiceEndpoint:
  primary:
    host: "127.0.0.0"
    port: "3306"
  secondary:
    host: "127.0.0.0"
    port: "3306"
dbSecretName: "cred"
poolSize: "10"
logLevel: "INFO"
resources:
  memory: 2Gi
  cpu: 4
minreplicas: 2
maxreplicas: 32
targetcpuutilpercent: 75
# Uncomment the below block to use node selector
#nodeSelector:
#  nodeKey: ocscp
#  nodeValue: scp-apps
```