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 1.2

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1

Installation Overview

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

Installation Procedures

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.

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 1-1 SCP Installation Procedures

Procedure	Phase
1 ☐	Installation Preparation
2 ☐	SCP Deployment

References

1. Cloud Native Environment (CNE) 1.2 Installation Guide
2. Service Communication Proxy (SCP) Cloud Native User's Guide
3. Network Repository Function (NRF) Cloud Native Installation Guide

Acronyms

Table 1-2 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

Table 1-2 (Cont.) Acronyms

Acronym	Meaning
SVC	Services

How to use this document

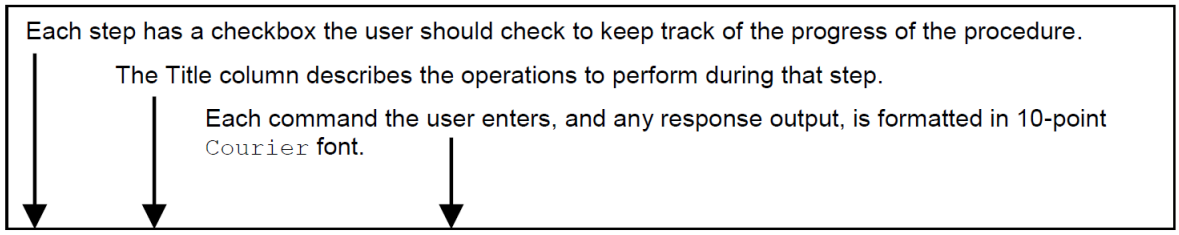
Although this document is primarily to be used as an initial installation guide, its secondary purpose is to be used as a reference for Disaster Recovery procedures.

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 1-1 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 1-3 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.

2
SCP Installation

Prerequisites

Following are the prerequisites to install and configure the SCP:

SCP Software

Following software are required as must to deploy the SCP:

Table 2-1 SCP Software

Software	Version
Kubernetes	v1.12.5
HELM	v2.9.1

> **Note:**
>
> If any of the above services are needed and the respective software is not already installed in the CNE, then install the specified software items before proceeding.

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 (i.e., 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 2-2 SCP Images

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

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 1.2 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 NF Installation in the cluster chapter

Table 2-3 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-1.2.0.0.0.tgz** **Note**: Move the package from local repository to the docker repository in the Bastion host of OCCNE.

Table 2-3 (Cont.) Download Images and Helm files

2 ☐	Untar the SCP Package File	Untar the SCP package: `tar -xvf <<nfname>-pkg-<marketing-release-number>>.tgz` The directory consists of following: 1. SCP Docker Images File: tarball contains images of SCP `ocscp-images-1.2.0.tar` 2. Helm File: tarball contains Helm charts and templates `ocscp-1.2.0.tgz` 3. 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-1.2.0.tar`

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` Refer to Table 2-2 table for the list of images.
7 ☐	Untar Helm Files	Execute the following command to push the helm files to helm repository: `tar -xvzf ocscp-1.2.0.tgz`
8 ☐	Download Service Communication Proxy (SCP) Custom Template	The Service Communication Proxy (SCP) Custom Template are 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.

Snippet of NRF details from custom_values.yaml is shown below:

> **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.

```
# NRF details for primary(Priority=0) and secondry(Priority=1) NRF. Note that
these NRFs needs to be backend DB Synced.

# In case of no secondry NRF user can comment the secondary NRF details

  nrfDetails:

    - nfType: []

      nrfManagement:

        fqdn: ocnrf1-ambassador.k1-nrf.svc.cluster.local

        port: '80'

        scheme: HTTP2

        priority: 0 # Default value is 0

        capacity: 100 # Default value is 100

        apiPrefix: USEast

        ipEndPoints:

          - ipv4Address: 10.104.121.231

            transport: TCP # Default value is TCP

            port: 80 # Default value is 80
```

```
  nrfDiscovery:
    fqdn: ocnrf1-ambassador.k1-nrf.svc.cluster.local
    port: '80'
    scheme: HTTP2
    priority: 0 # Default value is 0
    capacity: 100 # Default value is 100
    apiPrefix: USEast
    ipEndPoints:
      - ipv4Address: 10.104.121.231
        transport: TCP # Default value is TCP
        port: 80 # Default value is 80
- nfType: []
  nrfManagement:
    fqdn: ocnrf2-ambassador.k1-nrf.svc.cluster.local
    port: '80'
    scheme: HTTP2
    priority: 1 # Default value is 0
    capacity: 100 # Default value is 100
    apiPrefix: USEast
    ipEndPoints:
      - ipv4Address: 10.106.232.232
        transport: TCP # Default value is TCP
        port: 80 # Default value is 80
  nrfDiscovery:
    fqdn: ocnrf2-ambassador.k1-nrf.svc.cluster.local
    port: '80'
    scheme: HTTP2
    priority: 0 # Default value is 0
    capacity: 100 # Default value is 100
    apiPrefix: USEast
    ipEndPoints:
```

```
- ipv4Address: 10.106.232.232

  transport: TCP # Default value is TCP

  port: 80 # Default value is 80
```

> **Note:**
>
> The user need to update the FQDN, ipv4Address and Port of NRF to point to NRF's FQDN/IP and Port.

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 2-4 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 2-3 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.

Table 2-4 (Cont.) SCP Deployment

Step #	Procedure	Description

3 ☐	Deploy SCP using HELM repository	Execute the following command:
		`helm install <helm-repo> -f <custom_values.yaml> --name <deployment_name> --namespace <namespace_name> --version <helm_version>`
		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
		For example:
		`helm install ocscp-helm-repo/ocscp -f <custom values.yaml> --name ocscp --namespace scpsvc --version <helm version>`

4 ☐	Deploy SCP using HELM tgz	Execute the following command: `helm install -f <custom values.yaml> --name ocscp --namespace <namespace> <chartpath>./<chart>.tgz`
5 ☐	Check repo status	Execute `helm status <deployment_name>` to check the deployment status.
6 ☐	Check svc status	Check if all the services are deployed and running: `kubectl -n <namespace_name> get services`
7 ☐	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.

Configure SCP as HTTP Proxy

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

Also, all NFs are required to register with NRF so that SCP can create rules based on the notifications from NRF.

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

Table 2-5 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 and 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 deployment can be uninstalled as follows. The steps below need to be executed from a server that has access to Kubectl and helm commands.

Table 2-6 SCP Uninstall

Step #	Procedure	Description
1 ☐	Undeploy SCP	Execute the following command to uninstall SCP: `$ helm delete <deployment_name> --purge`
2 ☐	Remove SCP custom resources definitions	Execute the following command to remove SCP custom resources definitions: `$ kubectl get crds -o name | grep <deployment_name>.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 <deployment_name>` **Note**: Deleting the namespace deletes all the other Kubernates objects in that namespace.

A
SCP Configuration Parameters

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

Table A-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.
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."
publicSignalingIPSpecified	<boolean>	true/false	false	O	Y	Option to enable/ disable Loadbalancer IP configuration statically for Signaling interface.

Table A-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)
scpInfo	SCP Profile that will be used while Registering current SCP instance with NRF					
	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	
	nfStatus: <string>	NA	REGISTERED	M	N	Status of current SCP Instance

Table A-1 (Cont.) SCP Configuration Parameters

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

	`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
			N/A	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.
						mateSCPLocalities: List of serving localities of the Mate SCP(s)
						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 A-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 A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
auditNFList	List of strings. (example in description)	Valid 5g NF Type as per 3GPP TS 29.510.	1. Only subset of nfType present in nrfDetails will be considered for audit. 2. [] i.e. Blank, which means consider all supported NF Types. 3. If not provided, all supported NF Types will be considered for audit.	O	Y	List of NF's for which audit is triggered. (Applicable when nrfServiceForAudit it is set to nnrf-disc) Format Example: auditNFList: - UDM - PCF - UDR
nrfDetails	List of NRFs to which the current SCP instance will subscribe for notifications					
	`nfType: [<string>, <string>]`	Valid 5g NF Type as per 3GPP TS 29.510.	[] i.e. Blank, which means subscribe for all supported NF Types.	M	Y	List of NF Types for which the current SCP instance will subscribe for notifications

Table A-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> capacity: <integer> apiPrefix: <string> ipEndPoints: - ipv4Address: <IPv4 Address> transport: TCP port: <integer>	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	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 A-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 priority: <integer> capacity: <integer> apiPrefix: <string> ipEndPoints: - ipv4Address: <IPv4 Address> transport: TCP port: <integer>	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	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
nfServiceGroup	This table is used to hold the information needed when deploymentModel is set to 'Regional'.					
	nfType: <string>	Name of the NF (ex: CHF)	CHF	M	Y	Name of the 5G NF (ex: CHF) for which information is provided. It should be same as 5G NF for which deploymentModel is set to 'Regional'.

Table A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`serviceName: <string>`	Name of the service (ex: nchf-convergedcharging)		M	Y	Name of the service for which information is provided. Service should be of 5G NF for which deploymentModel is set to 'Regional'.
	`primaryLocalities: (List of localities) - <string> - <string>`	List of primary localities that this NF and service support	nchf-convergedcharging / nchf-spendinglimitcontrol	M	Y	List of primary localities that this NF and service supports.
	`secondaryLocalities: (List of localities) - <string> - <string>`	List of secondary localities that this NF and service support		O	Y	List of secondary localities that this NF and service supports.
	`subsequentRequestRoutePolicy: routePolicy: <Routepolicy> reroutePolicy: rerouteOptions: <ReroutOptions>`		routePolicy: Forward_Proxy reroutePolicy: RerouteWithinRegion	M	Y	It is used to provide the information on route policy for Subsequent requests.
scpc-soothsayer: Configuration specific to Soothsayer Micro Service						

Table A-1 (Cont.) SCP Configuration Parameters

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

	`imageDetails:`
	
	`image: <docker repository>/soothsayer-configuration`
	
	`tag: <string>`
	
	`pullPolicy: Always`
		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	repository: docker repository that contains Configuration container
						imagetag: Image Tag to be used for Configuration container pullPolicy: Image pull policy.
						resources: Used to provide the memory and cpu details
						serviceName: tags the service details.

Table A-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 configuration container in soothsayer micro-service in Giga Bytes.
						cpu: Max allocated vCPU for configuration container in soothsayer micro-service

	`serviceName: scpc-configuration`	NA	scpc-configuration	M	Y	
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service
defaultLocalityToScp	`<boolean>`	true/false	true	O	Y	Flag used 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

Table A-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	M	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
subscription	docker Image details for Subscription container of scpc-soothsayer					

Table A-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>/soothsayer-subscription`
	
	`tag: <string>`
	
	`pullPolicy: Always`
		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	repository: docker repository that contains Subscription container image tag: Image Tag to be used for Subscription container
						pullPolicy: Image pull policy.

Table A-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 configuration container in soothsayer micro-service in Giga Bytes.
						cpu: Max allocated vCPU for configuration container in soothsayer micro-service

	`serviceName: scpc-subscription`	NA	scpc-subscription	M	Y	
	`retryInterval: 120Min: 1 Max: 2147483647 (in Seconds)`	Min: 1 Max: 2147483647 (in Seconds)	120	O	Y	Parameter used to set subscription interval and registration interval retry in case first registration and subscriptions are unsuccessful.
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service
	`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.
notification	docker Image details for Notification container of scpc-soothsayer					

Table A-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>/soothsayer-notification`
	
	`tag: <string>`
	
	`pullPolicy: Always`
		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	repository: docker repository that contains Notification container image tag: Image Tag to be used for Notification container
						pullPolicy: Image pull policy.

Table A-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: Max allocated vCPU for notification container in soothsayer micro-service

	`serviceName: scpc-notification`	NA	scpc-notification	M	Y	
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service
audit	docker Image details for Audit container of scpc-soothsayer					

Table A-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>/soothsayer-audit`
	
	`tag: <string>`
	
	`pullPolicy: Always`
		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	repository: docker repository that contains Audit container image tag: Image Tag to be used for Audit container
						pullPolicy: Image pull policy.
						resources: Used to provide the memory and cpu details
						serviceName: tags the service details.

Table A-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: Max allocated vCPU for audit container in soothsayer micro-service

	`serviceName: scpc-audit`	NA	scpc-audit	M	Y	
	`auditInterval: 120`	Min: 1 Max: 2147483647	120	M	Y	auditInterval: Time interval in seconds that user want to configure
	`logLevel: INFO`	{TRACE, DEBUG, INFO, WARN, ERROR}	INFO	O	Y	Enable desired level of logging for the service
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 will be used only if oamloadbalancerienabled is configured as "true"
	`staticnodeportenabled: <boolean>`	true/false	false	O	Y	Option to enable/ disable configuring static Node Port for OAM interface

Table A-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	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.

	`configServiceNetworkName:`
	
	`metallb.universe.tf/address-pool:<string>`
		alpha-numeric	oam	C	Y	Annotation to notify metalLB to allocate a IP for OAM interface of SCP. The annotation will be added only if configServiceNetworkName is configured as "true". <TODO> Need few more updates after testing.

Table A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
reverseProxy Enabled	<boolean>	true/false	true	M	Y	If enabled then for all the NFs which support reverseProxy, Reverse proxy (reverseProxySupport = true) 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
scp-worker: Configuration specific to Worker Micro Service						
image	docker image details for scp-worker micro service					
	image: <docker repository>/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	docker repository that contains scp-worker micro service image

Table A-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 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 scp-worker micro service
	`pullPolicy : Always`		Always	O	Y	Image pull policy.
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 A-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 for 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 a 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
	`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 configured as "true"

Table A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
	`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 a IP for Signaling interface of SCP. The annotation will be added only if networkNameEnabled is configured as "true". <TODO> Need few more updates after testing.

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: 4096Mi`	NA	4096Mi	M	N	Requested memory (RAM) for scp-worker micro-service in Mega Bytes
	`cpu: 4000m`	NA	4000m	M	N	Requested CPU for scp-worker micro-service in milliCPU

Table A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
limits						Max allocated Resource quota for scp-worker micro-service
	memory: 4Gi	NA	4Gi	M	N	Max allocated memory (RAM) for scp-worker micro-service in Mega Bytes
	cpu: 4	NA	4	M	N	Max 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
heapoverloadcontrol:						SCP memory overload control configuration
	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	Max Configured Heap Size for scp-worker micro-service (4GB)

Table A-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 %age 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 %age at which SCP will stop accepting new connections. This %age should be always greater than the %age configured for stop_accepting_requests
	shrink_heap:<%age in decimal value>	Min: 0 Max: 1	0.70	O	Y	Option to configure threshold %age at which SCP will start freeing unused memory blocks. This %age should be always minimum of threshold configured for stop_accepting_requests and stop_accepting_connections
scpc-pilot: Configuration specific to Pilot Micro Service						
image						docker image details for scpc-pilot micro service

Table A-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 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
	`pullPolicy : Always`		Always	M	Y	Image pull policy.
enableTracing	`<Boolean>`	true/false	True	O	Y	Option to enable/ disable request .tracing

Table A-1 (Cont.) SCP Configuration Parameters

Attribute Name	DataType	Range	Default Value	Mandatory(M)/ Optional(O)/ Conditional(C)	User can change?	Description
minreplicas	`<integer>`	NA	2	M	N	Minimum replica count of scp-pilot micro-service
maxreplicas	`<integer>`	Min: 2 Max: 32	32	M	Y	Maximum replica count of scp-pilot micro-service
resources						
	`memory: 6Gi`	NA	6Gi	M	N	Requested memory (RAM) for scp-pilot micro-service in Mega Bytes
	`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

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`

B
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 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
  publicSignalingIPSpecified: false
  publicSignalingIP: 10.75.212.88
  publicSignalingPort: 8000
  adminport: 8001

  scpInfo:
     fqdn: scp-worker.scpsvc.svc.cluster.local
     nfType: CUSTOM_ORACLE_SCP
     nfStatus: REGISTERED
     locality: Loc7 # Locality of SCP where its deployed.
     customInfo:
       mateScpInfo:
         capacity: 500
         priority: 1
         mateSCPLocalities:
         - Loc10
       servingLocalities:
       - Loc7
       - Loc8
       - Loc9
       - USEast
       remainingLocalities:
       - Loc1
       - Loc2
       - Loc3
       - Loc4
       - Loc5
       - Loc6
     nfInstanceId: 6faf1bbc-6e4a-4454-a507-a14ef8e1bc5e # Sample value. User
needs to update this nfInstanceId per his network

# NRF details for primary(Priority=0) and secondry(Priority=1) NRF. Note that
these NRFs needs to be backend DB Synced.
# In case of no secondry NRF user can comment the secondary NRF details
  nrfDetails:
    - nfType: []
      nrfManagement:
        fqdn: ocnrf-endpoint.ocnrf.svc.cluster.local
        port: '80'
        scheme: HTTP2
```

```
          priority: 0 # Default value is 0
          capacity: 100 # Default value is 100
          apiPrefix: USEast
          ipEndPoints:
            - ipv4Address: 10.104.121.231
              transport: TCP # Default value is TCP
              port: 80 # Default value is 80
        nrfDiscovery:
          fqdn: ocnrf-endpoint.ocnrf.svc.cluster.local
          port: '80'
          scheme: HTTP2
          priority: 0 # Default value is 0
          capacity: 100 # Default value is 100
          apiPrefix: USEast
          ipEndPoints:
            - ipv4Address: 10.104.121.231
              transport: TCP # Default value is TCP
              port: 80 # Default value is 80
      - nfType: []
        nrfManagement:
          fqdn: ocnrf2-ambassador.k1-nrf.svc.cluster.local
          port: '80'
          scheme: HTTP2
          priority: 1 # Default value is 0
          capacity: 100 # Default value is 100
          apiPrefix: USEast
          ipEndPoints:
            - ipv4Address: 10.106.232.232
              transport: TCP # Default value is TCP
              port: 80 # Default value is 80
        nrfDiscovery:
          fqdn: ocnrf2-ambassador.k1-nrf.svc.cluster.local
          port: '80'
          scheme: HTTP2
          priority: 0 # Default value is 0
          capacity: 100 # Default value is 100
          apiPrefix: USEast
          ipEndPoints:
            - ipv4Address: 10.106.232.232
              transport: TCP # Default value is TCP
              port: 80 # Default value is 80

scpc-soothsayer:

  subscription:
    image:
      repository: ocspf-registry.us.oracle.com:5000/ocscp/soothsayer-subscription
      tag: 1.1.0
      pullPolicy: Always
    resources:
      memory: 1Gi
      cpu: 0.5
    serviceName: scpc-subscription

  notification:
    image:
      repository: ocspf-registry.us.oracle.com:5000/ocscp/soothsayer-notification
      tag: 1.1.0
      pullPolicy: Always
    resources:
      memory: 4Gi
```

```
      cpu: 3
    serviceName: scpc-notification

  audit:
    image:
      repository: ocspf-registry.us.oracle.com:5000/ocscp/soothsayer-audit
      tag: 1.1.0
      pullPolicy: Always
    resources:
      memory: 1Gi
      cpu: 1
    serviceName: scpc-audit
    # Configure time interval in seconds to run Audit. Value should be valid
integer
    auditInterval: 120


  configuration:
    image:
      repository: ocspf-registry.us.oracle.com:5000/ocscp/soothsayer-
configuration
      tag: 1.1.0
      pullPolicy: Always
    resources:
      memory: 1Gi
      cpu: 0.5
    serviceName: 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

  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: 30002

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

  nfServiceGroup:
    - nfType: CHF
      serviceName: nchf-spendinglimitcontrol
```

```
      primaryLocalities:
      - Loc7
      - USEast
      secondaryLocalities:
      - Loc8
      - Loc9
      subsequentRequestRoutePolicy:
        routePolicy: Forward_Proxy
        reroutePolicy:
          rerouteOptions: RerouteWithinRegion
    - nfType: CHF
      serviceName: nchf-convergedcharging
      primaryRegionLocalities:
      - Loc7
      - USEast
      secondaryRegionLocalities:
      - Loc8
      - Loc9
      subsequentRequestRoutePolicy:
        routePolicy: Forward_Proxy
        reroutePolicy:
          rerouteOptions: RerouteWithinRegion

scp-worker:
  image:
    repository: ocspf-registry.us.oracle.com:5000/ocscp/scp-worker
    tag: 1.1.0
    pullPolicy: Always
  jaeger:
    address: jaeger-collector.cne-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: 30001

    # 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

  prometheus:
    scrape: true

  resources:
    memory: 4Gi # also update
'heapoverloadcontrol.resource_monitors.max_heap_size_bytes'
    cpu: 4
```

```
  minreplicas: 2
  maxreplicas: 32

  heapoverloadcontrol:
    refresh_interval:
      seconds: 0
      nanos: 250000000
    resource_monitors:
      max_heap_size_bytes: 4294967296 #4096Mi
      #Max heap size is 4GB. 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: 0.70 # as fraction of max heap size (min of all other
threshold values)

scpc-pilot:
  image:
    repository: ocspf-registry.us.oracle.com:5000/ocscp/scpc-pilot
    tag: 1.1.0
    pullPolicy: Always
  enableTracing: true
  minreplicas: 1
  maxreplicas: 10
  targetcpuutilpercent: 50
  resources:
    memory: 6Gi
    cpu: 4
  logOutputLevel: "default:info"
  logStacktraceLevel: "default:none"
```