Oracle® Communications

Cloud Native Core Console Network Impact Report

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Oracle Communications Cloud Native Core Console Network Impact Report, Release 22.4.1

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Acronyms

The following table provides information about the acronyms and the terminology used in the document:

Table Acronyms

Acronym	Definition
AD	Active Directory
ASM	Aspen Service Mesh
BSF	Binding Support Function
CNCC	Cloud Native Core Console
CNE	Cloud Native Environment
OCCNE	Oracle Communications Cloud Native Environment
CS	Common Service
CRUD Operations	CREATE, READ, UPDATE, DELETE
ECDSA	Elliptic Curve Digital Signature Algorithm
EIR	Equipment Identity Register
HTTPS	Hypertext Transfer Protocol Secure
IAM	Identity Access Management
KPI	Key Performance Indicator
M-CNCC	Manager CNC Console or M-CNCC (also known as mCncc) is a CNCC instance which manages local OCCNE common service(s) and remote Agent CNC Console (s) (A-CNCC). M-CNCC has two components: M-CNCC IAM and M-CNCC Core.
M-CNCC IAM	Manager CNC Console IAM or M-CNCC IAM (also known as mCncc Iam) is an IAM component of M-CNCC. M-CNCC IAM contains M-CNCC IAM Ingress Gateway and M-CNCC IAM back-end microservices.
M-CNCC Core	Manager CNC Console Core or M-CNCC Core (also known as mCncc Core) is a core component of M-CNCC that provides GUI and API access portal for accessing NF and OCCNE common services. M-CNCC Core contains M-CNCC Core Ingress Gateway and M-CNCC Core back-end microservices.
A-CNCC	Agent CNC Console is a CNCC Core instance which manages local NF(s) and local OCCNE common services(s). A-CNCC is managed by M-CNCC. A-CNCC contains A-CNCC Core Ingress Gateway and A-CNCC Core back-end microservices. A-CNCC has no IAM component. A-CNCC is also known as A-CNCC Core or aCncc Core.
A-CNCC Kubernetes cluster	Kubernetes cluster hosting A-CNCC
M-CNCC Kubernetes cluster	Kubernetes cluster hosting M-CNCC
mTLS	Mutual Transport Layer Security
Instance	OCNF or OCCNE common service managed by either M-CNCC Core or A-CNCC Core.

Table (Cont.) Acronyms

Acronym	Definition
Site	Kubernetes Cluster
CS	OCCNE Common Services like Grafana, Kibana, Jaeger, Prometheus, Alertmanager and so on.
MC	Multi Cluster. In multi cluster, a single CNCC can manage NF instances that accessess different Kubernetes clusters.
MO	Mananged Objects
MOS	My Oracle Support
LDAP	Lightweight Directory Access Protocol
LDAPS	Lightweight Directory Access Protocol (Over SSL)
NRF	Network Repository Function
OCNF	Oracle Communications Network Function
OSDC	Oracle Software Delivery Cloud
OSO	Operations Services Overlay
REST API	Representational State Transfer Application Programming Interface
SCP	Service Communication Proxy
SAML	Security Assertion Markup Language
SEPP	Security Edge Protection Proxy
TLS	Transport Layer Security
UDR	Unified Data Repository
UE	User Equipment
URI	Subscriber Location Function

What's New in this Guide

This section introduces the documentation updates for Release 22.4.x in Oracle Communications Cloud Native Core Console Network Impact Report.

Release 22.4.1- F74207-02, January 2023

- Updated the Compatibility Matrix section to provide information on CNC Console compatibility with latest NF versions.
- Updated the Component Load Lineup section to provide compatible versions of components.
- Updated the Upgrade and Rollback Paths section to provide information on upgrade and rollback paths for CNC Console 22.4.1.

Release 22.4.0- F74207-01, November 2022

- Updated the Compatibility Matrix section to provide information on CNC Console compatibility with latest NF versions.
- Updated the Component Load Lineup section to provide compatible versions of components.
- Updated the CNC Console Features section to include newly added features.
- Updated the Helm section to include details of new parameters introduced in the custom-values yaml file for CNC Console 22.4.0.
- Updated the Upgrade and Rollback Paths section to provide information on upgrade and rollback paths for CNC Console 22.4.0.
- Updated the Metrics section.
- Updated the KPIs section.

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1 Introduction

Purpose and Scope

The purpose of this document is to highlight the changes made in CNC Console from Release 22.3.x to Release 22.4.x. These changes may have an impact on the customer network operations and should be considered by the customer while planning the deployment.

CNC Console Compatibility Matrix

The following table provides the list of network functions that are compatible with CNC Console 22.4.x:

Release 22.4.1

Table 1-1 Compatibility Matrix

Network Functions	Compatible Versions
BSF	22.4.x
NRF	22.4.x
NSSF	22.4.x
Policy	22.4.x
SCP	22.4.x
SEPP	22.4.x
UDR	22.4.x

Table 1-2 Compatibility Matrix

Components	Compatible Versions
DD	22.0.0
OCCNE	22.2.x, 22.3.x, 22.4.x
cnDBTier	22.2.x, 22.3.x, 22.4.x
CDCS	22.3.x, 22.4.x
OSO	1.6.x, 1.10.x, 22.3.x
ASM	1.4.6-am9, 1.6.14-am4, 1.9.8-am1

Release 22.4.0

Table 1-3 Compatibility Matrix

Network Functions	Compatible Versions
BSF	22.4.0
NRF	22.4.0
NSSF	22.4.0
Policy	22.4.0
SCP	22.4.0
SEPP	22.4.0
UDR	22.4.0

Table 1-4 Compatibility Matrix

Components	Compatible Versions
DD	22.0.0
OCCNE	22.2.x, 22.3.x, 22.4.x
cnDBTier	22.2.x, 22.3.x, 22.4.x
CDCS	22.3.x, 22.4.x
OSO	1.6.x, 1.10.x, 22.3.x
ASM	1.4.6-am9, 1.5.7-am3, 1.6.14-am4, 1.9.8-am1

Common Services Load Lineup

The following table provides the list of added or updated common services load lineup that is compatible with CNC Console 22.4.x:

Release 22.4.1

Table 1-5 Common Services Load Lineup

Common Service	Version
Debug-tool	22.4.1
Helm Test	22.4.1
Ingress Gateway	22.4.2

Release 22.4.0

Table 1-6 Common Services Load Lineup

Common Service	Version
Debug-tool	22.4.0
Helm Test	22.4.0
Ingress Gateway	22.4.1

Software Requirements

This section lists the minimum software requirements to install Oracle Communications CNC Console.

Release 22.4.1

No updates were made in the software requirements in this release.

Release 22.4.0

Table 1-7 Software Requirements

Software	Version
Kubernetes	1.23
HELM	3.8.0
Podman	3.3.1
Prometheus	1.22.5

Orchestration

This section provides information about orchestration changes for CNC Console from release 22.3.x to 22.4.x.

Table 1-8 Orchestration

Orchestration Changes	Status	Notes
Support for in-service upgrade	Yes	For information about upgrade and roll back, see Supported Upgrade and Rollback Paths section. **Note:** The console microservices are single pod. For information about upgrade and roll back, see Upgrading CNC Console section in *Cloud Native Core Console Installation and Upgrade Guide.*

Table 1-8 (Cont.) Orchestration

Orchestration Changes	Status	Notes

Changes in the custom_values.yaml file	Yes	For information about changes in the `custom_values.yaml` file, see Helm section.
		To use ClusterIP for LoadBalancer(LB) services a flag `useClusterIpForLbServices` is introduced in custom values.
		# Use ClusterIP for LoadBalancer(LB) services.
		# The LB services are assigned LoadBalancer service type in k8s service definition.
		Set this flag to true to assign ClusterIP service type.
		
		`useClusterIpForLbServices: false`
		
		Instance configuration related to Data Director are supported.
		Example:
		
		`instances:`
		`- id : Cluster1-dd-instance1`
		`type: DD-UI`
		`owner: Cluster1`
		`fqdn: ocnaddgui.ocnadd-deploy.svc.cluster.local`
		`port: 80`
		`apiPrefix: /occne-12ipcluster/ocnadd`
		`- id : Cluster1-dd-instance1`
		`type: DD-API`
		`owner: Cluster1`
		`fqdn: ocnaddbackendrouter.ocnadd-deploy.svc.cluster.local`
		`port: 80`
		`apiPrefix: /occne-12ipcluster/ocnaddapi`

Changes in the resource information for custom_values.yaml file	No	No changes in Console Resource Requirement section. For more information about the recommended cnDBTier profile for console supported deployment model, see Supported Deployment Models section in *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide.*
Changes in the CSAR package	Yes	The `toplevel.mib` file is included in Generic CSAR, VZ CSAR and TGZ packages. **Note**: For more information on specific CSAR changes, contact My Oracle Support.

Table 1-8 (Cont.) Orchestration

Orchestration Changes	Status	Notes
Changes in Role-Based Access Control (RBAC) policy	Yes	The RBAC policies DD_READ and DD_WRITE related to Data Director support are added.
Changes in Life Cycle Management (LCM) Operations	No	No new LCM operations are added.
Helm Test Support	Yes	Helm Test is supported. For more information, see Performing Helm Test section in *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide.*

CNC Console Resource Requirement

This section includes information about CNC Console Resource Requirement.

CNC Console Release 22.4.1

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

CNC Console Release 22.4.0

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

2
CNC Console Features

This section provides a high-level overview of the CNC Console 22.4.x features.

Release 22.4.1

There are no new features added in this release.

Release 22..4.0

Support for Data Director

Oracle Communications Data Director (OCDD) is integrated with CNC Console. Features such as authentication, authorization of API/GUI requests, multi cluster deployment, multi instance deployment, metrics, alerts, KPIs are supported. For more information, see *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide* and *Oracle Communications Cloud Native Core Console User Guide.*

Support Latest Version of NFs

CNC Console provides support for existing NFs and DD:

- SCP 22.4.0
- NRF 22.4.0
- UDR 22.4.0
- POLICY 22.4.0
- BSF 22.4.0
- SEPP 22.4.0
- NSSF 22.4.0
- DD 22.0.0

For more information, see *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide* and *Oracle Communications Cloud Native Core Console User Guide.*

Documentation Enhancements

The CNC Console documentation has been updated with the following enhancements:

- **Document Enhancements in CNC Console Supported Deployment Models:** Console supported deployment models are tested and documented in the Installation Guide. For more information, see *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide.*
- **Document Enhancements to Include cnDBTier Profiles for CNC Console Manager and Agent Deployments:**For each supported Console deployment model corresponding DB Resource Profile and Console resource profile details are documented. For more information, see *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide.*

3
Supported Upgrade and Rollback Paths

Supported Upgrade Path

The following table provides information about supported upgrade path for CNC Console Release 22.4.x.

CNC Console Deployment Support Matrix
The following table provides details on support of Console deployment features models for various network functions:

Table 3-1 CNC Console Deployment Support Matrix

Deployment Models	Policy	BSF	SCP	UDR	NRF	SEPP	NSSF	DD
Model 1 - Single Cluster, Single Instance (Dedicated Console for each NF in a cluster)	YES	YES	YES	YES	YES	YES	YES	YES
Model 2 - Single Cluster, Multiple Instances (One Console for many NFs/Instances in a cluster)	YES	YES	YES	YES	YES	NO	NO	YES
Model 3 - Multiple Clusters, Single Instance (Multiple clusters with single NF/ Instance in each cluster, M-CNCC/A-CNCC sitting in same/different clusters)	YES	YES	YES	YES	YES	YES	YES	YES
Model 4 - Multiple Clusters, Multiple Instances (Multiple clusters with multiple NF/Instance in each cluster, M-CNCC/A-CNCC sitting in same/ different clusters)	YES	YES	YES	YES	YES	NO	NO	YES

CNC Console Release 22.4.1

Supported Upgrade Path
The following table provides information about supported upgrade path for CNC Console Release 22.4.1.

Table 3-2 Supported Upgrade Path

Source CNC Console release	Target CNC Console release
22.2.x, 22.3.x, 22.4.0	22.4.1

CNC Console Release 22.4.0

Supported Upgrade Path

The following table provides information about supported upgrade path for CNC Console Release 22.4.0.

Table 3-3 Supported Upgrade Path

Source CNC Console release	Target CNC Console release
22.2.x, 22.3.x	22.4.0

Supported Rollback Path

The following table provides information about supported rollback path for CNC Console Release 22.4.0.

Table 3-4 Supported Rollback Path

Source CNC Console release	Target CNC Console release
22.4.0	22.3.x, 22.2.x

4
Configuration

Helm

The following helm parameters are added or updated in CNC Console Release 22.4.x.

CNC Console Release 22.4.1

There are no updates to the helm parameters in 22.4.1.

CNC Console Release 22.4.0

- Updated the CNC Console Global Configurations section with the following helm parameters:
  - global.iamUserName
  - global.useClusterIpForLbServices

For more information on the parameters, see *Oracle Communications Cloud Native Core Console Installation and Upgrade Guide.*

REST API

There are no updates to REST API parameters in CNC Console Release 22.4.x.

For more information on the REST API parameters, see *Oracle Communications Cloud Native Core Console User Guide*.

5
Observability

Metrics

The following metrics are updated in CNC Console 22.4.x:

CNC Console Release 22.4.1

There are no updates to Metrics in 22.4.1.

CNC Console Release 22.4.0

Added the following metrics in the the CNC Console Metrics section to support the Data Director (DD):

- CNCC Core DD Requests
- CNCC Core DD Responses

For more information on the metrics, see *Oracle Communications Cloud Native Core Console User Guide.*

KPIs

The following KPIs are updated in CNC Console 22.4.x:

CNC Console Release 22.4.1

There are no updated to KPIs for 22.4.1.

CNC Console Release 22.4.0

Updated the following KPIs in the CNC Console KPIs section to support the Data Director (DD):

- CNCC Core Requests
- CNCC Core Responses
- CNCC Core Success Rate
- CNCC Core Error Rate

For more information on the KPIs, see *Oracle Communications Cloud Native Core Console User Guide.*

Alerts

There are no updates to alerts in CNC Console Release 22.4.x.

For more information on the Alerts, see *Oracle Communications Cloud Native Core Console User Guide.*