



Cisco Policy Suite 22.1.0 Release Notes

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Introduction

This Release Note identifies installation notes, limitations, and restrictions, and open and resolved CDETS in Cisco Policy Suite (CPS) software version 22.1.0. Use this Release Note in combination with the documentation listed in the *Related Documentation* section.

NOTE: The PATS/ATS, ANDSF, and MOG products have reached end of life and are not supported in this release. Any references to these products (specific or implied), their components or functions in this document are coincidental and are not supported. Full details on the end of life for these products are available at:

<https://www.cisco.com/c/en/us/products/wireless/policy-suite-mobile/eos-eol-notice-listing.html>.

This Release Note includes the following sections:

- New and Changed Feature Information
- Installation Notes
- Limitations
- Open and Resolved CDETS
- Related Documentation
- Obtaining Documentation and Submitting a Service Request

New and Changed Feature Information

For information about a complete list of features and behavior changes associated with this release, see the *CPS Release Change Reference*.

Installation Notes

Download ISO Image

Download the 22.1.0 software package (ISO image) from:

<https://software.cisco.com/download/home/284883882/type/284979976/release/22.1.0>

Md5sum Details

PCRF

f01a3871440091a44534595e13c5558e CPS_22.1.0.release.iso_signed.tar.gz

8461691af235e24491d10b7836c079be CPS_22.1.0_Base.release.qcow2_signed.tar.gz

701a3df0d79ede5a48676fd34b8b8be0 CPS_22.1.0_Base.release.vmdk_signed.tar.gz

DRA

8461691af235e24491d10b7836c079be CPS_22.1.0_Base.release.qcow2_signed.tar.gz
701a3df0d79ede5a48676fd34b8b8be0 CPS_22.1.0_Base.release.vmdk_signed.tar.gz
f01a3871440091a44534595e13c5558e CPS_22.1.0.release.iso_signed.tar.gz
d421d8b30589cf943847c30136c23e40 CPS_Microservices_DRA_22.1.0_Base.release.vmdk_signed.tar.gz
3b2044066f714e25f918696834a04260 CPS_Microservices_DRA_22.1.0_Deployer.release.vmdk_signed.tar.gz
2d00337a2c06dd023b6754089b36db99 CPS_Microservices_DRA_22.1.0.release.iso_signed.tar.gz
c75a023bb315ab8b4c32171813a7d201 CPS_Microservices_DRA_Binding_22.1.0.release.iso_signed.tar.gz

Component Versions

The following table lists the component version details for this release.

Table 1 - Component Versions

Component	Version
API Router	22.1.0.release
Audit	22.1.0.release
Balance	22.1.0.release
Cisco API	22.1.0.release
Cisco CPAR	22.1.0.release
Congestion Reference Data	22.1.0.release
Control Center	22.1.0.release
Core	22.1.0.release
CSB	22.1.0.release
Custom Reference Data	22.1.0.release
DHCP	22.1.0.release
Diameter2	22.1.0.release
DRA	22.1.0.release
Fault Management	22.1.0.release
IPAM	22.1.0.release
ISG Prepaid	22.1.0.release
LDAP	22.1.0.release
LDAP Server	22.1.0.release
LWR	22.1.0.release

Component	Version
Microservices Enablement	22.1.0.release
Notification	22.1.0.release
Policy Intel	22.1.0.release
POP-3 Authentication	22.1.0.release
Recharge Wallet	22.1.0.release
SCE	22.1.0.release
Scheduled Events	22.1.0.release
SPR	22.1.0.release
UDC	22.1.0.release
UDSN Interface	22.1.0.release
Unified API	22.1.0.release

Additional security has been added in CPS to verify the downloaded images.

Image Signing

Image signing allows for the following:

- **Authenticity and Integrity:** Image or software has not been modified and originated from a trusted source.
- **Content Assurance:** Image or software contains code from a trusted source, like Cisco.

Software Integrity Verification

To verify the integrity of the software image you have from Cisco, you can validate the md5sum checksum information against the checksum identified by Cisco for the software.

Image checksum information is available through **cisco.com Software Download Details**. To find the checksum, hover the mouse pointer over the software image on cisco.com.

If md5sum is correct, run `tar -zxvf` command to extract the downloaded file.

The files are extracted to a new directory with the same name as the downloaded file name without extension (.tar.gz).

The extracted directory contains the certificate files (.cer), python file (cisco_x509_verify_release.py), digital certificate file (.der), readme files (*.README), signature files (.signature) and installation files (.iso .vmdk, .qcow2 and .tar.gz).

Certificate Validation

To verify whether the installation files are released by Cisco System Pvt. Ltd and are not tampered/modified or infected by virus, malware, spyware, or ransomware, follow the instruction given in corresponding *.README file.

NOTE: Every installation file has its own signature and README file. Before following the instructions in the README file, make sure that cisco.com is accessible from verification server/host/machine/computer. In every README file, a Python command is provided which when executed connects you to cisco.com to verify that all the installation files are released by cisco.com or not. Python 2.7.4 and OpenSSL is required to execute cisco_x509_verify_release.py script.

New Installations

- VMware Environment
- OpenStack Environment

VMware Environment

To perform a new installation of CPS 22.1.0 in a VMware environment, see the *CPS Installation Guide for VMware*.

NOTE: After installation is complete, you need to configure at least one Graphite/Grafana user. Grafana supports Graphite data source credential configuration capability. Graphite data source requires common data source credential to be configured using Grafana for Grafana user. Data source credential must be configured after fresh installation. If you fail to add the user, then Grafana will not have access to Graphite database, and you will get continuous prompts for Graphite/Grafana credentials.

All Grafana users configured will be available after fresh installation. However, you need to configure the Graphite data source in Grafana UI.

For more information on updating graphite data source, see *Configuring Graphite User Credentials in Grafana* in CPS Operations Guide.

OpenStack Environment

To perform a new installation of CPS 22.1.0 in an OpenStack environment, see the *CPS Installation Guide for OpenStack*.

NOTE: After installation is complete, you need to configure at least one Graphite/Grafana user. Grafana supports Graphite data source credential configuration capability. Graphite data source requires common data source credential to be configured using Grafana for Grafana user. Data source credential must be configured after fresh installation. If you fail to add the user, then Grafana will not have access to Graphite database, and you will get continuous prompts for Graphite/Grafana credentials.

All Grafana users configured will be available after fresh installation. However, you need to configure the graphite data source in Grafana UI.

For more information on updating graphite data source, see *Configuring Graphite User Credentials in Grafana* in CPS Operations Guide.

Migrate an Existing CPS Installation

To migrate an existing CPS installation, see the *CPS Migration and Upgrade Guide*. CPS migration is supported from CPS 21.1.0/CPS 21.2.0 to CPS 22.1.0.

NOTE: Before migration, you need to configure at least one Graphite/Grafana user. Grafana supports Graphite data source credential configuration capability. Graphite data source requires common data source credential to be configured using Grafana for Grafana user. Data source credential must be configured before migration. If you fail to add the user, then Grafana will not have access to Graphite database, and you will get continuous prompts for Graphite/Grafana credentials.

All Grafana users configured will be available after migration. However, you need to configure the graphite data source in Grafana UI.

For more information on updating graphite data source, see *Configuring Graphite User Credentials in Grafana* in CPS Operations Guide.

NOTE: As CPS 22.1.0 supports ESXi 6.7/7.0, make sure OVF tool version 4.3.0 is installed in CPS 21.1.0 from where you are migrating.

Version 4.3.0 for VMware 6.7/7.0: VMware-ovftool-4.3.0-13981069-lin.x86_64.bundle

You can download the OVF tool version 4.3.0 from <https://code.vmware.com/web/tool/4.3.0/ovf>.

NOTE: In CPS 22.1.0, MongoDB version is upgraded to 4.0.27. MongoDB v4.0.27 requires mandatory Java driver upgrade. In CPS 21.2.0 and earlier releases, CPS runs with 3.7.2 version of Mongo Driver. Patch should be applied with updated driver 3.12.x as a prerequisite before moving to CPS 22.1.0.

For more information, consult your Cisco Technical Representative.

Upgrade an Existing CPS Installation

In-Service Software Upgrade (ISSU) is not supported when migrating from CPS 21.1.0/CPS 21.2.0 to CPS22.1.0.

Post Migration/Upgrade Steps

Re-Apply Configuration Changes

After the migration/upgrade is complete, compare your modified configuration files that you backed up earlier with the newly installed versions. Re-apply any modifications to the configuration files.

Verify Configuration Settings

After the migration/upgrade is finished, verify the following configuration settings.

NOTE: Use the default values listed below unless otherwise instructed by your Cisco Account representative.

NOTE: During the migration/upgrade process, these configuration files are not overwritten. Only during a new install will these settings be applied.

- `/etc/broadhop/qns.conf`
 - `-Dmongo.client.thread.maxWaitTime.balance=1200`
 - `-Dmongo.connections.per.host.balance=10`
 - `-Dmongo.threads.allowed.to.wait.for.connection.balance=10`
 - `-Dmongo.client.thread.maxWaitTime=1200`
 - `-Dmongo.connections.per.host=5`
 - `-Dmongo.threads.allowed.to.wait.for.connection=10`
 - `-Dcom.mongodb.updaterIntervalMS=400`
 - `-Dcom.mongodb.updaterConnectTimeoutMS=600`
 - `-Dcom.mongodb.updaterSocketTimeoutMS=600`
 - `-DdbSocketTimeout.balance=1000`
 - `-DdbSocketTimeout=1000`
 - `-DdbConnectTimeout.balance=1200`
 - `-DdbConnectTimeout=1200`
 - `-Dcontrolcenter.disableAndsf=true`
 - `-DnodeHeartBeatInterval=9000`
 - `-DdbConnectTimeout.balance=1200`
 - `-Dstatistics.step.interval=1`
 - `-DshardPingLoopLength=3`
 - `-DshardPingCycle=200`
 - `-DshardPingerTimeoutMs=75`
 - `-Ddiameter.default.timeout.ms=2000`

- o -DmaxLockAttempts=3
- o -DretryMs=3
- o -DmessageSlaMs=1500
- o -DmemcacheClientTimeout=200
- o -Dlocking.disable=true

NOTE: The following setting should be present only for GR (multi-cluster) CPS deployments:

```
-DclusterFailureDetectionMS=1000
```

NOTE: In an HA or GR deployment with local chassis redundancy, the following setting should be set to true. By default, it is set to false.

- ```
-Dremote.locking.off
```
- /etc/broadhop/diameter\_endpoint/qns.conf
    - o -Dzmq.send.hwm=1000
    - o -Dzmq.recv.hwm=1000

## Reconfigure Service Option

After upgrading from previous release to the current CPS release, Service option configured with Subscriber-Id becomes invalid and you need to reconfigure multiple Subscriber Id in SpendingLimitReport under Service Configurations.

## Verify logback.xml Configuration

Make sure the following line exists in the logback.xml file being used. If not, then add the line:

```
<property scope="context" name="HOSTNAME" value="${HOSTNAME}" />
```

To ensure logback.xml file changes are reflected at runtime, the scanPeriod must be explicitly specified:

```
<configuration scan="true" scanPeriod="1 minute">
```

**NOTE:** In case scanPeriod is missing from already deployed logback.xml file, the application needs to be restarted for the updated scanPeriod configuration to be applicable.

After completing the updates in logback.xml, execute the following command to copy the file to all the VMs:

```
SSHUSER_PREFERROOT=true copytoall.sh /etc/broadhop/logback.xml /etc/broadhop/logback.xml
```

## Additional Notes

This section provides additional notes necessary for proper installation/working of CPS.

- Session Manager Configuration: After a new deployment, session managers are not automatically configured.
  - a. Edit the `/etc/broadhop/mongoConfig.cfg` file to ensure all the data paths are set to `/var/data` and not `/data`.
  - b. Then execute the following command from `pcrfclient01` to configure all the replication sets:
 

```
/var/qps/bin/support/mongo/build_set.sh --all --create
```
- Default gateway in lb01/lb02: After the installation, the default gateway might not be set to the management LAN. If this is the case, change the default gateway to the management LAN gateway

- By default, pending transaction feature is enabled. If you are not using it, Cisco recommends disabling pending transaction feature post deployment.

To disable pending transaction, the following parameter can be configured in `/etc/broadhop/qns.conf` file:

```
com.broadhop.diameter.gx.pending_txn.attempts=0
```

After adding the parameter in `qns.conf` file, restart all VMs using `stopall.sh/startall.sh` or `restartall.sh` command.

- Add support to disable syncing carbon database and bulk stats files (ISSM)

Add the following flags in `/var/install.cfg` file:

```
SKIP_BLKSTATS
```

```
SKIP_CARBONDB
```

**Example to disable syncing:**

```
SKIP_BLKSTATS=1
```

```
SKIP_CARBONDB=1
```

- Add the following parameters in `/var/install.cfg` file to skip installation type selection and initialization steps during ISSU/ISSM:

```
INSTALL_TYPE
```

```
INITIALIZE_ENVIRONMENT
```

**Example:**

```
INSTALL_TYPE=mobile
```

```
INITIALIZE_ENVIRONMENT=yes
```

- Inconsistency in DPR sent by CPS on executing `monit stop` command

**Issue:** When `monit stop all` is executed on Policy Director (LB) VMs with active VIP, DPR is not sent to all the diameter peers.

**Conditions:** `monit stop all` executed on Policy Director (LB) VMs with active VIP

**Cause:** DPR is sent to all the connected diameter peers. However, since `monit stop all` is executed, all the processes on the Policy Director (LB) go down including `corosync/haproxy`. As a result, some of the DPR messages go out and some are not delivered based on the order of the services going down.

**Workaround:** Instead of `monit stop all`, you can stop all the `qns` process on Policy Director (LB) VMs by executing `monit stop qns-2/3/4` and then issue a `monit stop all` command.

With this workaround, processes such as, `haproxy/corosync` are up when DPR messages are generated, CPS makes sure that all DPR messages generated by the Policy Directors are delivered.

## CSCvq51622: AAA-5065 due to missing RemoteGeoSiteName in `/etc/broadhop/qns.conf`

This is known issue due to missing `RemoteGeoSiteName` parameter configuration in `qns.conf` file or parameter is available but is not added in the SK database shards for the remote sites. You will observe the Null Pointer exception.

If the parameter is configured and remote SK database shards are available, you will not observe the Null Pointer exception.

This CDET is to avoid Null Pointer exception issue which is mentioned above.

## CSCvq27866: DRA - Distributor VM not distributing connections in perfect round robin fashion

As vDRA does not support connection rebalancing, sometimes due to improper distribution, a single Policy Director (lb) having more connections than other Policy Directors crosses its rated capacity and results in a call failure.

## CSCvr34614: Prometheus Containers stuck in started state after recovering from site failover

Prometheus is the third-party code, used in DRA and Binding VNFs.

For more information related to the issue, see <https://github.com/prometheus/prometheus/issues/4058>

**Issue:** Prometheus database blocks contain corrupted data and does not have *meta.json* file to initialize the database when Prometheus comes up.

**Solution:** Prometheus doesn't have enough capability to repair the corrupted database blocks. Currently, the solution is to manually delete the corrupted block and start the Prometheus process manually.

**NOTE:** If the Prometheus containers having issue are from Master VM, then some data will not be available and Grafana displays some gap in the data. It is expected behavior as corrupted folders have been deleted. One can access the missing data by adding the data source with another Prometheus container present on control-0 and control-1 VMs (HA for master Prometheus).

The following steps must be performed to delete the corrupted block and start the Prometheus process manually:

**NOTE:** If there are more than one failed Prometheus containers, the steps need to be repeated for each corrupted block.

1. Connect to the container which has failed to come up.

```
docker connect prometheus-hi-res-s101
```

2. From container, check whether Prometheus process is in FATAL state or not.

```
supervisorctl status prometheus
```

3. If the process is in "FATAL" state, remove the data folder from container.

```
rm -rf /data-2/*
```

**NOTE:** The command deletes the data folder. As Prometheus data is available between master/control-0/control-1 VMs, data can be restored.

4. Inside container, start the Prometheus process again.

```
supervisorctl start prometheus
```

5. From inside container, check again whether Prometheus process is in RUNNING state or not.

```
supervisorctl status Prometheus
```

## CSCvr21943: After site resiliency the consul gets struck in STARTED state

**Issue:** Consul containers remain in STARTED state when a site failure scenario is executed. After the failure scenario is executed, the system does not come up again in the expected state.

**Condition:** After multiple VM (or) site power off/on cycle, consul containers are stuck in STARTED/STARTING (non-HEALTHY) state.

```
admin@orchestrator[an-master]# show scheduling status | tab | include consul
```

```
consul 1 50 infrastructure SCHEDULING false
```

```
admin@orchestrator[an-master]# show docker service | tab | include consul
```

```
consul 1 consul-1 19.4.5-2019-10-01.8115.4fb2b4a an-master consul-1 STARTED true Pending health check
```

```
consul 1 consul-2 19.4.5-2019-10-01.8115.4fb2b4a an-control-0 consul-2 STARTED true Pending health check
```



```
consul 1 consul-3 19.4.5-2019-10-01.8115.4fb2b4a an-control-1 consul-3 STARTED true Pending health check
```

**Solution:**

- Prepare **peers.json** file: Connect to the consul-1 container.

```
root@consul-1:~# consul info
```

Get the "latest\_configuration" value under **raft**:

Sample output of consul info:

```
....
```

**raft:**

```
...
```

```
 last_snapshot_term = 1083
```

```
 latest_configuration = [{Suffrage:Voter ID:bb7e19b5-e709-3c8c-686f-e839e941773f Address:10.42.0.1:8300}
{Suffrage:Voter ID:66a6756f-49ac-b2a7-74c6-07922e8c2f81 Address:10.40.0.3:8300} {Suffrage:Voter ID:7b62389e-
af67-d0f3-79d9-95bb356ea52c Address:10.47.128.3:8300} {Suffrage:Voter ID:b753a43f-4278-6f45-27f1-
d2f88081b6d3 Address:10.38.0.30:8300} {Suffrage:Voter ID:ad423368-98bd-d87a-4d73-99520091321b
Address:10.45.0.26:8300} {Suffrage:Voter ID:b916b8d1-b2dd-4799-db95-09a1e1144380 Address:10.37.0.11:8300}
{Suffrage:Voter ID:543ba9f7-110a-7559-3607-ea6d5d1ef83b Address:10.37.192.2:8300}]
```

```
 latest_configuration_index = 2503803
```

```
 num_peers = 6
```

```
...
```

- **latest\_configuration**: This is a list of dictionaries. The number of dictionaries is equal to the **num\_peers** field. Each dictionary has 2 keys, which are **Voter ID** and **Address**.

In the sample output above, the number of dictionaries is 7 (num\_peers + self) corresponding to num\_peers=6.

Each dictionary represents the **Voter ID** and **Address** corresponding to each Consul Node (consul-1, consul-2, consul-3, and so on) not in any particular order.

So, fetch the **Voter ID/Address** corresponding to consul-1, consul-2 and consul-3 from the latest\_configuration as mentioned below.

```
root@consul-1:~# ifconfig
```

Get the inet addr: value (IP address) corresponding to ethwe: interface.

Compare this IP address from ifconfig command against the **Address** field in **latest\_configuration**. Make a note of the corresponding **Voter ID** field of the matching **Address** field.

Identify the values of **Voter ID** and **Address** fields corresponding to consul-1 that need to be populated into peers.json file

**NOTE:** Mapping between latest\_configuration and peers.json.

**Table 2 - Mapping Table**

latest_configuration	peers.json
Address (should be same as IP address got from Consul container's ifconfig command)	address
Voter ID	id

Similarly, connect to consul-2 and consul-3 containers and get the **Voter ID** for the matching **Address**.

Identify the details of **Address** and **Voter ID** corresponding to consul-2 and consul-3 containers, they must be populated into peers.json file.

Now peers.json file should be populated with details corresponding to consul-1, consul-2 and consul-3 containers as identified above.

- Create peers.json file on Master VM.

**NOTE:** The sample peers.json file should not be used. The file is for reference purposes only. Add "id" and "address" fields based on your deployment.

*Sample peers.json*

```

[
 {
 "id": "bb7e19b5-e709-3c8c-686f-e839e941773f",
 "address": "10.42.0.1:8300",
 "non_voter": false
 },
 {
 "id": "66a6756f-49ac-b2a7-74c6-07922e8c2f81",
 "address": "10.40.0.3:8300",
 "non_voter": false
 },
 {
 "id": "7b62389e-af67-d0f3-79d9-95bb356ea52c",
 "address": "10.47.128.3:8300",
 "non_voter": false
 }
]
```

- Restart the service after copying peers.json file:

peers.json is created on the Master VM.

Copy peers.json file from Master VM to the Control VM's.

- Stop the services:

Stop all the services on all the consul containers of Master and Control VM's.

From Orchestrator CLI:

```
admin@orchestrator[an-master]# docker connect consul-1
```

```
root@consul-1:/# supervisorctl stop all
```

```
admin@orchestrator[an-master]# docker connect consul-2
```

```
root@consul-2:/# supervisorctl stop all
```

```
admin@orchestrator[an-master]# docker connect consul-3
```

```
root@consul-3:/# supervisorctl stop all
```

- Copy peers.json file:

On Master VM, copy peers.json file onto "/data/raft" of the consul-1 container.

```
sudo cp peers.json /data/consul-1/data/raft/
```

On Control-0 VM, copy peers.json file onto "/data/raft" of the consul-2 container.

```
sudo cp peers.json /data/consul-2/data/raft/
```

On Control-1 VM, copy peers.json file onto "/data/raft" of the consul-3 container.

```
sudo cp peers.json /data/consul-3/data/raft/
```

- Start the services:

Start all the services on all the consul containers of Master and Control VM's.

From Orchestrator CLI:

```
admin@orchestrator[an-master]# docker connect consul-1
```

```
root@consul-1:/# supervisorctl start all
```

```
admin@orchestrator[an-master]# docker connect consul-2
```

```
root@consul-2:/# supervisorctl start all
```

```
admin@orchestrator[an-master]# docker connect consul-3
```

```
root@consul-3:/# supervisorctl start all
```

All the consul containers will be restored to HEALTHY state.

```
admin@orchestrator[an-master]# show docker service | tab | include consul
```

```
consul 1 consul-1 19.4.5-2019-10-01.8115.4fb2b4a an-master consul-1 HEALTHY false -
```

```
consul 1 consul-2 19.4.5-2019-10-01.8115.4fb2b4a an-control-0 consul-2 HEALTHY false -
```

```
consul 1 consul-3 19.4.5-2019-10-01.8115.4fb2b4a an-control-1 consul-3 HEALTHY false -
```

```
admin@orchestrator[an-master]# show scheduling status | tab | include consul
```

```
consul 1 50 infrastructure RUNNING false
```

## CSCv46487: snmpwalk alternatives for CPS 20.2 running on Centos 8

As CPS 21.2.0 is built on CentOS 8.1, *snmpwalk* command has limitations and hence cannot perform a direct *snmpwalk* on the OID such as .1.3.6.1.4.1.26878.200.3.2.70. Instead of *snmpwalk*, you need to use *snmpget* command along with the complete OID such as .1.3.6.1.4.1.26878.200.3.2.70.1.1. The list of OIDs for the individual machines are available in /etc/snmp/snmpd.conf file. The OIDs are part of the line containing the word proxy.

Here is an example:

```
proxy -e 0x0102030405060708 -v 3 -u cisco_snmpv3 -a SHA -m 0x71d8d544a7447e377fa5fc355d8f08f81f1a901c -x AES -m 0x71d8d544a7447e377fa5fc355d8f08f8 -l authPriv localhost .1.3.6.1.4.1.26878.200.3.2.70.1.1.0 .1.3.6.1.4.1.2021.11.9.0
```

Here **.1.3.6.1.4.1.26878.200.3.2.70.1.1.0** is the OID and hence the *snmpget* must be triggered as follows:

```
snmpget -e 0x0102030405060708 -v 3 -u cisco_snmpv3 -a SHA -A cisco_12345 -x AES -l authNoPriv -m +/etc/snmp/mibs/BROADHOP-MIB.txt:/etc/snmp/mibs/CISCO-QNS-MIB.txt lb01 ".1.3.6.1.4.1.26878.200.3.3.70.11.2.0" CISCO-QNS-MIB::kpiLBPCRFPProxyInternalCurrentSessions.0 = STRING: 0
```

For more information, see *Configuration for SNMP Gets and Walks* section in the *CPS SNMP, Alarms, and Clearing Procedures Guide*.

## CSCvy72547: Help content is not correct for getting tag padded session count

Help content displays *listShardsTagPadding* instead of *getTagSessionCount* in OSGi console.

**Current Display:** listShardsTagPadding 0/1 newConnection This command will list the no of Sessions for Tag Padding. 0 for without Tag Padding, 1 for with Tag Padding. newConnection is to get data with new Mongo Connection

**Correct Display:** getTagSessionCount 0/1 newConnection This command will list the no of Sessions for Tag Padding. 0 for without Tag Padding, 1 for with Tag Padding. newConnection is to get data with new Mongo Connection

**NOTE:** You must use *getTagSessionCount* command in OSGi console.

## Limitations

This section lists the limitations of this release:

- Solicited Application Reporting

The following are some restrictions on configuration for the new service options:

- The pre-configured ADC rule generated by CRD lookup has ADC-Rule-Install AVP definition with support for only three AVPs ADC-Rule-Name, TDF-Application-Identifier, Mute-Notification.
  - For AVPs that are multi-valued, CRD tables are expected to have multiple records - each giving the same output.
  - Comma(,) is not a valid character to be used in values for referenced CRD column in SdToggleConfiguration.
  - AVP Table currently only supports OctetStringAvp value for AVP Data-type.
- During performance testing, it has been found that defining many QoS Group of Rule Definitions for a single session results in degraded CPU performance. Testing with 50 QoS Group of Rule Definitions resulted in a 2x increase in CPU consumption. The relationship appears to be a linear relationship to the number of defined QoS Group of Rule Definitions on a service.
  - Hour Boundary Enhancement

**Change in cell congestion level when look-ahead rule is already installed:**

If a cell congestion value changes for current hour or any of the look-ahead hours, there will be no change in rule sent for the rules that are already installed.

**No applicability to QoS Rules:**

The look-ahead works for PCC rules only where we have rule activation/deactivation capabilities and can install upcoming changes in advance. However, if the RAN Congestion use case is changed to use the QoS-Info AVP instead of using PCC rules, we need to fall back to the current RAR on the hour boundary implementation for that use case since the standard do not let us install QoS-info changes ahead of time like we can with PCC rules.

- The Cluster Manager's internal (private) network IP address must be assigned to the host name "installer" in the `/etc/hosts` file. If not, backup/restore scripts (`env_import.sh`, `env_export.sh`) will have access issues to OAM (pcrfclient01/pcrfclient02) VMs.
- CSCva02957: Redis instances continue to run, even after Redis is disabled using the parameter `-DenableQueueSystem=false` in `qns.conf` (`/etc/broadhop/`) file and `/etc/broadhop/redisTopology.ini` file.
- CSCva16388: A split-brain scenario (that is, VIPs are up on both nodes) can still occur when there is connectivity loss between lb01 and lb02 and not with other hosts.

## Open and Resolved CDETS

The following sections list open and resolved CDETS for this release. For your convenience in location CDETS in Cisco's Bug Toolkit, the caveat titles listed in this section are drawn directly from the Bug Toolkit database. These caveat titles are not intended to be read as complete sentences because the title field length is limited. In the caveat titles, some truncation of wording or punctuation might be necessary to provide the most complete and concise description.

**NOTE:** If you are a registered cisco.com user, view Bug Toolkit on cisco.com at the following website:

<https://tools.cisco.com/bugsearch>

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## Open CDETS

The following table lists the open CDETS in this release.

### CPS Open CDETS

**Table 3 - CPS Open CDETS**

CDETS ID	Headline
CSCvx56049	PCRF is not sending SLR-Intermediate after all re-initiate retries exhaust when clusterB LB are down
CSCvx56096	Extraction of session id does not work on getting UPDATE_REQ from UDC
CSCwa98900	When enabled both ASPR 117 and ASPR 144, cpsadmin user created doesn't have SSH keys

### vDRA Open CDETS

**Table 4 - vDRA Open CDETS**

CDETS ID	Headline
CSCvx14701	Gx / Rx Timeout dashboard shows incorrect message processing time
CSCwa01913	Message type label not updated for 3002 error message KPI in some scenarios
CSCwa59461	DB VM on/off scenario causing timeouts for some interval
CSCwa80670	Observing 3002 timeouts with mongo timeout exception in logs during fPAS longevity

## Resolved CDETS

This section lists the resolved/verified CDETS in this release.

### CPS Resolved CDETS

**Table 5 - CPS Resolved CDETS**

CDETS ID	Headline
CSCvy28797	PCRF is not storing the AVP in the session
CSCvz46094	Support for IMS Gx-RAR in RED channel for QCI/ARP upliftment due to MOG, when WPS Call is on
CSCvz54505	linkup SNMP clear alarm is not getting triggered on the primary SM
CSCvz79721	After enabling mongo auth in multi-Cluster, Timer Expiry not working in set-2 qns VMs
CSCvz86914	Sy Per PDN is not working as expected on receiving failure in Sy SLA
CSCvz87699	Large timeout spike is seen while mongo auth is enabled on diameter endpoint db
CSCvz93633	/var/tmp/stopped-27757 file wasn't removed when executing mongo_auth_upgrade.py
CSCwa55073	VM Deployment is failing after upgrading vCenter to 7.0.2
CSCwa72575	PCRF/QNS is not deleting the lwrwps and lwrwps3b on getting ASA-5002

## vDRA Resolved CDETS

**Table 6 - vDRA Resolved CDETS**

CDETS ID	Headline
CSCvw73327	CIAM: mongodb go pcre Vulnerabilities
CSCvz12235	Ubuntu 16.04 LTS: Unix Operating System Unsupported Version Detection, and other vulnerabilities
CSCvz50974	Log message required to print the IPV6 prefix querying the default zone
CSCvz54043	VIP not assigned properly, affects orchestrator and keepalived on DBM01 node
CSCwa01010	Ability to persist the space out configurations to optimize CRD initialization
CSCwa25252	IPC thread improvement for Diameter Routing
CSCwa30698	DRA failed to trace AAR/RAR/STR messages using message trace in DRA Subscriber Monitoring page
CSCwa33995	Change the query to exclude all 3/4/5/xxx counters from "Errors By Director" panel.
CSCwa34842	18.04 LTS: Linux kernel vulnerabilities
CSCwa38450	[vDRA]: vip-failover: Command exited due to failure in Director check
CSCwa39365	Bulk stats application stopped generating Prometheus statistics files when file size is large
CSCwa39447	vDRA : Application restart not sending DPR and not closed peer connection gracefully
CSCwa46463	Remove authentication from audit CLI for dra distributor rebalancing
CSCwa51180	ifconfig, netstat & route command not found after ubuntu 18.04 upgrade
CSCwa57212	vPAS- Rx interface getting down after distributor network restart
CSCwa60810	journalctl logs are not archived for more than one day & audit rules are not configured in 18.04LTS
CSCwa75155	Different states of Replica Sets are seen in mongo 3.6 & 4.0 versions after DB Power ON & OFF
CSCwa76979	vPAS - Some of the regex expression search not working in peer monitoring & CRD GUI
CSCwa85192	SSH cipher / MAC weak algorithm compliance
CSCwa93964	Addition of mount point to VM for custom pem key addition

## Related Documentation

This section contains information about the documentation available for Cisco Policy Suite.

## Release-Specific Documents

Refer to the following documents for better understanding of Cisco Policy Suite.

- *CPS Advanced Tuning Guide*
- *CPS Backup and Restore Guide*
- *CPS CCI Guide for Full Privilege Administrators*
- *CPS CCI Guide for View Only Administrators*
- *CPS Central Administration Guide*

- *CPS Documentation Map*
- *CPS Geographic Redundancy Guide*
- *CPS Installation Guide - OpenStack*
- *CPS Installation Guide – VMware*
- *CPS Migration and Upgrade Guide*
- *CPS Mobile Configuration Guide*
- *CPS Operations Guide*
- *CPS Policy Reporting Guide*
- *CPS Release Change Reference*
- *CPS Release Notes*
- *CPS SNMP, Alarms, and Clearing Procedures Guide*
- *CPS Troubleshooting Guide*
- *CPS Unified API Reference Guide*
- *CPS vDRA Administration Guide*
- *CPS vDRA Advanced Tuning Guide*
- *CPS vDRA Configuration Guide*
- *CPS vDRA Installation Guide for VMware*
- *CPS vDRA Operations Guide*
- *CPS vDRA SNMP and Alarms Guide*
- *CPS vDRA Troubleshooting Guide*

These documents can be downloaded from <https://www.cisco.com/c/en/us/support/wireless/policy-suite-mobile/products-installation-and-configuration-guides-list.html>.

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see What's New in Cisco Product Documentation, at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

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