Cisco Policy Suite 18.0.0 Release Notes

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Introduction

This release note identifies new features and enhancements, limitations and restrictions, and open and resolved CDETS in Cisco Policy Suite (CPS) software version 18.0.0. Use this release note in combination with documentation listed in Related Documentation.

This release note includes the following sections:

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

New and Changed Feature Information

This section identifies features that are new or modified in this release.

ANDSF

No new features or changes introduced in this release.

ATS

Support for Load Testing Using Pause Grammars

PATS is now enhanced to support load testing in controlled traffic flow using Pause grammars.

For more information, contact your Cisco Account representative.

Support for Exporting Test Execution Reports

You can now export test execution reports in a portable Excel and PDF format.

PATS generates the test execution report in Excel format by default and no additional configuration is required. The Excel report is generated for each suite execution and is saved in a report folder (report is available in html, pdf, and excel formats in the workspace) under PATS_Automation, which is archived by Jenkins.

For more information, contact your Cisco Account representative.

Behavior Change

CSCvg31172 – CPS12.1: ChangeCredentialUsername API is failing for multiple SPR/Balance for IMSI or MSISDN

Old Behavior: Currently, API Router is not designed for multi-credential management.

New Behavior: To support multi-credential management, two new check boxes (Enable Multi-Credential Management and Enable Backup Cache Lookup For Primary Key) have been added under API Router configuration in Policy Builder.

For more information, see *API Router Configuration* section in *CPS Geographic Redundancy Guide*.

Cisco eSCEF

You can now install Cisco enhanced Service Capability Exposure Function (eSCEF) on CPS platform.

eSCEF provides core 3rd Generation Partnership Project (3GPP) services and capabilities such as:

- 3GPP Service Capability Exposure Function (SCEF)

- Machine-type Communication-Interworking (MTC-IWK) to provide connectivity to the short message service center (SMSC)

- Service Capability Server (SCS)

This initial release of Cisco eSCEF is lab-quality release. Contact your Cisco Technical Representative for more information about eSCEF.

Mobile

Blacklisting LDAP Parameters for Selective Policy Evaluation

CPS now supports selective processing of LDAP attributes for policy evaluation. To provide this support, a new check box Discard If Empty has been added in Profile Mappings under Domain. When this checkbox is selected, CPS discards deletes from session) any LDAP attribute if it does not match with its corresponding Regex Expression configured in Profile Mappings.

For more information, see *Setting Up Additional Profile Data* in *CPS Mobile Configuration Guide.*

Delay Bearer Creation/Service and Reconciliation Management/Tear Down of Bearers

CPS now has the ability to delay the creation of a default bearer (SOS or any other APN) and/or dedicated bearer in order to allow for other events to complete in parallel to increase the probability of the call to be successfully established.

For more information, see the following sections in CPS Mobile Configuration Guide.

- *An APN Bearer Details* exists under *Use Case Initiators*
- *An APN Bearer Details does not exists* under *Use Case Initiators*
- *ADTMAttributeStagePriority* under *Gx Service Configuration Objects*
- *ADTMIMSServiceAction* under *Gx Service Configuration Objects*
- *ADTMMogServiceAction* under *Gx Service Configuration Objects*
- *ADTMSDServiceAction* under *Gx Service Configuration Objects*
- *ADTMSPRBearerAction* under *Gx Service Configuration Objects*
- *ADTMAttribute* under *UDC Client Service Configuration Objects*
- *DelayBearerCreation* under *Gx Service Configuration Objects*
- *ReleaseBearerDelayMessage* under *Gx Service Configuration Objects*
- *Retrieving Subscriber Profile from an UDC Server* under *Defining the Location Attributes of the Domain*
- *SupressRxMessage* under *Gx Service Configuration Objects*

For *Stage* and *DeletionPriorityLevel* related information, see *Configuring Attribute Encoding Tables* in *CPS UDC Guide.*

Gx/Rx Binding based on Framed IP Address and IMSI

CPS now supports loading of the sessions based on IMSI and IP Address or IMSI and IPv6-Prefix combination. For this, a new session binding attribute IMSI and IP Address is added.

For more information, see *Session Binding Attribute Values* table in *CPS Mobile Configuration Guide.*

LDAP Counter Enhancements

CPS now supports counters such as add and modify for both successful/un-successful scenarios. If configured, counters are created for an attribute based on whether it was successfully added or modified. If the add/modify fails, then the error counters are created or incremented.

To support this, a new Statistic Name field has been added under the LdapSynchAttribute in LdapAddEntries and LdapSynchProfile. If this is configured with a name value, then the counter is generated with this name. If this value is not provided, counters are not generated for the attribute.

Since this is available under both LdapAddEntries and LdapSynchProfile, the statistic name is available for both modify and add operations with similar handling.

Note: If the LDAP attribute under LdapAddEntries is not present in the retrieve attributes list (under Additional Profile Data), it is skipped and not included in external write operation.

New Statistics:

- If the statistic name is provided, the counters for add/modify are created with the following syntax:

  <LdapServerName>_ldap_<operation>_<statisticName>_rc_<resultCodeInteger>

  where,

  <LdapServerName>: Name of the LDAP server as configured in LDAP server set.

  <operation>: add or modify depending on the operation.

  <statisticName>: Name of the statistic as provided under the LdapSynchAttribute configuration.

  <resultCodeInteger>: Integer result code value as received in the write response.

- Internal Counter - In addition to the attribute specific counters listed above, the following internal counters are also created based on the modify phase:

  <LdapServerName>_ldap_modify_phase<phase>

  where,

  <LdapServerName>: Name of the LDAP server as configured in LDAP server set.

  <phase>: Phase of the modify operation.

Note: Internal statistics are subject to change. For example, Cisco may decide to change or remove them at a later date. Cisco makes no guarantee that internal statistics will be available in a future release. Use at your own risk.

For more information, see *LdapAddEntries* and *LdapSynchProfile* sections in *CPS Mobile Configuration Guide.*

LDAP Parameter Processing

If Virtual Services are enabled, then CPS evaluates the LDAP virtual services in the order in which the corresponding LDAP parameters are received.

For more information, contact your Cisco Technical Representative.

Policy for Codec Matching on Audio/Video Media Component

CPS now allows a configurable policy option to check Codec-Data based on Media Type (Audio/Video) in any Media component AVP and is not restricted only to the first AVP. Also, multiple codec patterns are checked for matching.

To support this, a new configuration Media Comp Rtpmap Payload Type Index has been added.

For more information, see *RxSTGConfiguration* section in *CPS Mobile Configuration Guide.*

Service Configuration on demand for Sy

CPS can now avoid the extra service calculation before sending out a message while still being able to perform CRD/Service calculation on demand and use its results to reject a message request.

To support this, a new policy action Evaluate CRD and Service Configuration - On Demand has been added under Custom Policies. This action triggers the re-calculation of CRD and resolution of services.

Once the CRD/services have been calculated on demand, in order to improve performance, CPS has the ability to skip the default CRD/service calculation before sending the outbound message. To support this ability, another policy action Skip next CRD or Service evaluation has been added under Custom Policies.

This action contains two flags:

- Skip Next CRD Evaluation – When set to true, skips the next CRD evaluation.
- Skip Next Service Evaluation – When set to true, skips the next service resolution.

Session Database to Store Custom AVPs

CPS now has the ability to store and update certain AVPs in the session database.

To support this, a new table Avp Persists has been added to the Policy Builder under Custom Reference Data Configuration in Plugin Configuration.

This table needs to be configured with the AVPs that need to be persisted in the session. AVPs that are not configured as part of this table are not persisted.

To retrieve these stored AVPs from the session, a new retriever Customer Reference Data Debug AVPs has been added. This retriever can be used in the PolicyState/Session data to Custom AVP Mapping under Custom AVP Profiles to send these stored AVPs in any diameter message.

For more information, see *Custom Reference Data Configuration* in *CPS Mobile Configuration Guide.*

Subscriber SPR Profile-based DPI Selection and Routing

CPS now supports configuring TDF server information based on Gx APN, Gx MCCMNC and LDAP attributes. For this a new service configuration TDFServerInformation has been added under gx.

Based on the service configuration, a CRD lookup is done to obtain the TDF-Server-Information and TSR is initiated towards Sd interface.

For more information, see the *TDFServerInformation* section in CPS Mobile Configuration Guide.

Support for Accepting SSNR

CPS now has the ability to process a request message even if the Destination-Host in the message does not match the cluster's FQDN. To support this, the following two new parameters have been added in `/etc/broadhop/qns.conf` file:

- `jdiameter.accept.unknown_desthost`
- `jdiameter.replace.unknown_desthost`

If the above mentioned parameters are not enabled, CPS rejects a message due to unknown Destination-Host. Also CPS does not insert the Session-Id in the reject response since it is rejected from jdiameter itself. In such a scenario, CPS now inserts the session-id in the reject response.

For more information, contact Cisco Technical Representative.

Support for QCI/ARP Atomicity

CPS now supports ACI and ARP atomicity. For this a new checkbox, Atomic update of QCI and ARP has been added under Rx Based QoS Upgrade of Default Bearer.

For more information, see *Rx Based QoS Upgrade of Default Bearer* section in *CPS Mobile Configuration Guide.*

Support for Gx/Rx Synch Mode

CPS is enhanced to send AAA to IMS only after applying Gx RAR with dedicated bearers and receiving RAA success from the PGW.

If Gx RAR for dedicated bearers fail, CPS responds with AAA failure to IMS. This enhancement covers all Gx RAR failure result codes and sends appropriate AAA failures to IMS.

For more information, see *CPS Mobile Configuration Guide*.

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For more information, see *CPS Mobile Configuration Guide*.

MOG

APN based CRD Calculation

In MOG, Called-Station-Id has been added as an input variable for API Param in RxParamEnforceSTGConfiguration and RxParamSTGConfiguration service configuration.

For more information, see *RxParamEnforceSTGConfiguration* and *RxParamSTGConfiguration* sections in *CPS MOG Guide.*

Extended QCI Support for Request from MOG

CPS now supports Mission Critical QCI values 65, 69 and 70, and the Non-mission Critical QCI value 66 within the QoS Class-Identifier AVP. QCI 65 and 66 are GBR bearers while 69 and 70 are Non-GBR bearers.

CPS asserts the Supported-Features AVP in the CCR-I /CCA message when the IP-CAN session is established.

Restriction: If MissionCriticalQCIs feature is not negotiated between PCRF and PCEF, but mission critical QCIs are configured for dedicated bearer in CPS, this is considered as misconfiguration.

Operations

API Additions or Changes

No changes introduced in this release.

MIB Additions or Changes

No changes introduced in this release.

KPI Additions or Changes

No changes introduced in this release.

Log Additions or Changes

Trap Log Script

CPS now supports display of active or open alarms as a part of diagnostics.sh script. To support this, following changes have been done:

- For application alarms: An OSGi command, listalarms has been added, which lists all the open/active application alarms since last restart of policy server (QNS) process on pcrfclient01/02 VM
- For component alarms: A script, component_alarm_reports.py has been added, which stores/retrieves the open/active component alarms in CPS.
- For all alarms (application and component): A new flag --get_active_alarms has been added under diagnostics.sh script which lists active/open application and component alarms.

For more information, refer to the following sections in *CPS Operations Guide*:

- component_alarm_reports.py
- diagnostics.sh
- OSGi Console

SNMP Alarm Additions or Changes

No changes introduced in this release.

Statistics Additions or Changes

LDAP Counter Enhancements

New Statistics:

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  where,

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- Internal Counter – In addition to the attribute specific counters listed above, the following internal counters are also created based on the modify phase:

  <LdapServerName>_ldap_modify_phase<phase>

  where,

  <LdapServerName>: Name of the LDAP server as configured in LDAP server set.

  <phase>: Phase of the modify operation.

  Note: Internal statistics are subject to change. For example, Cisco may decide to change or remove them at a later date. Cisco makes no guarantee that internal statistics will be available in a future release. Use at your own risk.

For more information, see *LdapAddEntries* and *LdapSynchProfile* sections in *CPS Mobile Configuration Guide.*

MongoDB Sharding Verification Details in diagnostics.sh Command

The diagnostics.sh command is enhanced to provide sharding verification details.

For more information, see *CPS Operations Guide.*

Platform

Automated LDAP Activation and Configuration

CPS now supports LDAP based authentication so that the users can get validated over LDAP and not locally. This support has been added for both VMware and OpenStack based installations.

All the inputs need to be provided by the customer to enable this feature.

Restriction: LDAP SSSD configuration must only be done once all the VMs are deployed.

For more information, see the following sections:

- *LDAP SSSD Configuration* in *CPS Installation Guide for VMware*
- Configuration Parameters - HA System in *CPS Installation Guide for OpenStack*
- *Sample YAML Configuration File - HA Setup* in *CPS Installation Guide for OpenStack*

Mercury Integration

In 18.0.0 release, CPS can be installed on Cisco distributed platforms: Mercury 2.2.8 and Ultra B1.0.

For more information on platform documentation, see the following links:

- Ultra B1.0 – https://www.cisco.com/c/en/us/solutions/service-provider/virtualized-packet-core/index.html
- Mercury 2.2.8 – https://www.cisco.com/c/en/us/support/cloud-systems-management/nfv-infrastructure/tsd-products-support-series-home.html

Monitoring of Arbiter Alarms

Prior to CPS 18.0.0 releases, CPS only supported generation of arbiter process down and arbiter process up traps.

In CPS 18.0.0, monitoring support has been added for arbiter VMs that are on third site in Geo-HA deployment.

Restriction:

- All arbiters that are on the secondary or redundant site are not monitored.
- In a Geo-HA deployment, there can be scenarios where both sites monitor the third common site arbiters and report alarms for that if the concerned arbiters are not reachable from both sites. Since the source of these alarms is different, these alarms and their corresponding clear alarms are different and not duplicates.

Performance Improvement

With this feature implementation, full cluster/HA upgrade using option#2 (Upgrade to different build within same release (eg: 1.0 build 310 to 1.0 build 311)) is supported. Also the time required to complete upgrade per cluster has been reduced to within 1 hour.

In-Service Upgrade Time Improvement

No new features or changes introduced in this release.

Product Security

No new features or changes introduced in this release.

Security Enhancements

This section lists enhancements introduced to support Cisco Product Security Requirements and the Product Security Baseline (PSB). For more information about Cisco Product Security Requirements, refer to: https://www.cisco.com/c/en/us/about/security-center/security-programs/secure-development-lifecycle/sdl-process.html

UDC

Upgrading UDC

UDC now provides an upgrade option to upgrade from Release 13.0.2 to Release 18.0.0.

You can perform an in-service software upgrade of UDC deployments to ensure that software upgrades are seamless with running traffic.

For more information, see *CPS UDC Guide*.

vDRA

Support for IPv6 in SCTP

SCTP peer connectivity, multi-streaming, and multi-homing now supports both IPv4 and IPv6 IP addresses. Both short and long format of IPv6 is supported in vDRA endpoint configuration.

For more information, see the *CPS vDRA Configuration Guide.*

Manual Disconnection of Peer Connections Using REST API

CPS vDRA provides a REST API that you can use to manually disconnect peer connections from vDRA. You need to provide the information about the peer connection key in the API method to disconnect the connection.

For more information, see the *CPS vDRA Configuration Guide.*

Enhanced Diameter Error Checking

Error checking for Diameter requests is enhanced. Diameter requests are checked for any non-compliance in routing of AVP and P-bits. New error messages and error codes are included that indicate errors in the requests.

For more information, see the *CPS vDRA Troubleshooting Guide.*

REST API to Identify Relay Connections to Remote vDRA

A new REST API is provided to identify relay connections to remote vDRAs. You can use these to monitor the relay connections from a GUI.

Enhanced MongoDB Failover Timing

MongoDB failover timing is enhanced for vDRA in geographic redundancy so that the number of dropped VoLTE calls and new sessions failing.

UI Enhancements

Support to View and Edit Multiple CRD Tables in PB2

You can now view and edit multiple CRD tables in CPS Central and CPS DRA interfaces.

For more information, see *CPS Central Administration Guide* and *CPS vDRA Administration Guide.*

Enhanced CPS vDRA Interface

CPS DRA interface is enhanced to provide an improved display of information in Peer Monitoring screens.

For more information, see *CPS vDRA Administration Guide.*

Installation Notes

Download ISO Image

Download the 18.0.0 software package (ISO image) from:

https://software.cisco.com/download/release.html?i=!y&mdfid=284883882&softwareid=284979976&release=18.0.0&os

Md5sum Details

be6d97866b8ed11bbc83d333e226f7e6	CPS_18.0.0_Base.qcow2.release.tar.gz
1fcc356ed889662752f5aa91d5ebdc26	CPS_18.0.0_Base.vmdk.release.tar.gz
3e4912c67268f306c79ef3f0882e4dc1	CPS_18.0.0.release.iso
e087e6ce07b002dbcf39fa955cef2842	CPS_Microservices_18.0.0_Base.release.qcow2
13b71ae8df2cff83df6013e4919ce4f4	CPS_Microservices_18.0.0_Base.release.vmdk
bd983606817c46f66608877d6872b38f	CPS_Microservices_18.0.0_Deployer.release.vmdk
c8c61afb6be6cbde49e3e547fedff3e6	CPS_Microservices_18.0.0_Deployer.release.qcow2
bd983606817c46f66608877d6872b38f	CPS_Microservices_18.0.0_Deployer.release.vmdk
149561484ac2a1121d3f75828bd7df2a	CPS_Microservices_DRA_18.0.0.release.iso
fe219da3dbf31b994a60841b992f9183	CPS_Microservices_DRA_Binding_18.0.0.release.iso

Component Versions

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

Table 1 Component Versions

Component	Version
ANDSF	18.0.0.release
API router	18.0.0.release
Audit	18.0.0.release
Balance	18.0.0.release
Cisco API	18.0.0.release

Component	Version
Cisco CPAR	18.0.0.release
Congestion Reference Data	18.0.0.release
Control Center	18.0.0.release
Core	18.0.0.release
CSB	18.0.0.release
Custom Reference Data	18.0.0.release
DHCP	18.0.0.release
Diameter2	18.0.0.release
DRA	18.0.0.release
Entitlement	18.0.0.release
Fault Management	18.0.0.release
ISG Prepaid	18.0.0.release
LDAP	18.0.0.release
LDAP Server	18.0.0.release
Microservices Enablement	18.0.0.release
Notification	18.0.0.release
NSLB	18.0.0.release
Policy Intel	18.0.0.release
POP-3 Authentication	18.0.0.release
Recharge Wallet	18.0.0.release
SCEF	18.0.0.release
Scheduled Events	18.0.0.release
SPR	18.0.0.release
Unified API	18.0.0.release
UDC	18.0.0.release
UDSC Interface	18.0.0.release

New Installations

- VMware Environment
- OpenStack Environment

VMware Environment

To perform a new installation of CPS 18.0.0 in a VMware environment, see *CPS Installation Guide for VMware*, Release 18.0.0.

OpenStack Environment

To perform a new installation of CPS 18.0.0 in an OpenStack environment, see *CPS Installation Guide for OpenStack*, Release 18.0.0.

Migrate an Existing CPS Installation

NOTE: In-service software migration to 18.0.0 is not supported from CPS 12.x.x, CPS 13.x.x and CPS 14.x.x.

Upgrade an Existing CPS Installation

To upgrade an existing CPS installation, see *CPS Migration and Upgrade Guide*, Release 18.0.0. CPS upgrade is supported from CPS 12.x.x, CPS 13.x.x and CPS 14.x.x.

Post Migration Steps

Re-apply Configuration Changes

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

NOTE: Use the default values listed below unless otherwise instructed by your Cisco Technical Representative.

NOTE: During the migration 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`

— `DmaxLockAttempts=3`

— `DretryMs=3`

— `DmessageSlaMs=1500`

— `DmemcacheClientTimeout=200`

— `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`

- — `Dzmq.send.hwm=1000`

- — `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.

Additional Notes

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

- CSCvf52617: GR_ST: Grafana stops displaying all mongostats in dashboard when Primary member of one DB goes down

  Issue: In case any member of a replica-set is not reachable, you will not be able to see Mongo statistics in grafana. Not reachable can happen due to network problems or blade going down or member is intentionally stopped.

  Workaround: Make non-reachable member reachable. For example:

- — If the member is intentionally stopped then one has to start using /etc/init.d/sessionmgr-* start script.

- — If there is a network issue, then this issue the network issue needs to be fixed.

- Session Manager Configuration: After a new deployment, session managers are not automatically configured.

a. Edit the /etc/broadhop/mongoConfig.cfg file to ensure all of 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 to disable 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.

- CSCvb74725: Avoid manual steps in API based GR installation

Issue: The fresh install of API based GR installation does not execute set priority properly.

Workaround:

a. The fresh install of API does not execute set priority properly. You need to set the priority manually by executing the following command:

```
set_priority.sh -db all
```

b. You need to delete the default ring configuration present in cache_config database. After fresh install in case Active/Active Geo-HA feature is enabled, default ring configuration needs to be deleted manually. To remove/replace ring config, following two options are available:

— **Delete directly from database. Remove from "cache_config", if "shards" is empty. This may need restart of qns** services.

OR

— Run OSGi command `setSkRingSet <ringId> <setId> <servers>` which replaces existing values.

c. Unused replica-set need to be removed manually.

There is no API support for removing replica-set. So you need to remove the replica-set manually by executing the following command:

```
build_set.sh --<databasename> --remove-replica-set <setname>
```

For example,

```
build_set.sh --spr --remove-replica-set --setname set04
```

d. If someone changes `qns.conf` parameters using API post system is deployed using PATCH method, then `restartall.sh` has to be executed manually so that configuration changes become effective.

e. You need to be set the priority manually for members after adding via addMember API by executing the following command:

```
set_priority.sh -db all
```

- CSCvd30781: set_priority.sh broken ImportError: No module named util when running set_priority.sh on

  pcrfclient01

  Issue: `set_priority.sh` from pcrfclient01 and pcrfclient02 is broken. No module named util is found when running `set_priority.sh`.

  Workaround: Execute `set_priority.sh` from Cluster Manager. If you do not have replication network on the Cluster Manager, you need to copy the util sub-directory from the Cluster Manager to pcrfclient01 and pcrfclient02.

— Source on Cluster Manager: `/var/qps/install/current/scripts/modules/util`

— Destination on pcrfclient01/02: `/var/qps/bin/install/current/scripts/modules/util`

- CSCvc66672: System is crashing when run more than 6k tps

Issue: High response time is observed when system is running with all the default features installed and has Gx traffic with 6K TPS.

Consideration: It is recommended to create session replica-set as per performance requirements for scaling.

Solution:

— Create/update /etc/broadhop/mongoConfig.cfg file on Cluster Manager VM to create session cache shards in criss-cross fashion.

[SESSION-SET1]

SETNAME=set01

OPLOG_SIZE=5120

ARBITER=arbitervip:27717

ARBITER_DATA_PATH=/var/data/sessions.1

MEMBER1=sessionmgr01:27717

MEMBER2=sessionmgr02:27717

DATA_PATH=/var/data/sessions.1/1

[SESSION-SET1-END]

[SESSION-SET2]

SETNAME=set07

OPLOG_SIZE=5120

ARBITER=arbitervip:27727

ARBITER_DATA_PATH=/var/data/sessions.7

MEMBER1=sessionmgr02:27727

MEMBER2=sessionmgr01:27727

DATA_PATH=/var/data/sessions.1/2

[SESSION-SET2-END]

— Refer to *Create Specific Replica-set* and *Session Cache Replica-set* sections in *CPS Installation Guide for VMware* for further information on how to create replica sets.

— Set session database priority so that the PRIMARY members will be on separate VM:

```
cd /var/qps/bin/support/mongo

./set_priority.sh --db session
```

For more information on set_priority.sh script, see *CPS Operations Guide* and *CPS Geographic Redundancy Guide.*

— To create session shards, see the *Create Session Shards* section in *CPS Installation Guide for VMware.*

- CSCve40105: Session databases do not recover on power outage

  Issue: Session databases do not recover after full system outage.

  Condition: Replica configuration is not available after system outage on Arbiter VIP. This is verified using the following command (XXXXX is port number):

  ```
  mongo --host arbitervip:XXXXX --eval "rs.isMaster()['info']" --quiet

  Does not have a valid replica set config
  ```

  Probable Cause: This happens as VIP was up on different pcrfclient (e.g. pcrfclient01) when outage took place and after recovery it is on another pcrfclient (e.g. pcrfclient02). Thus previous mongo configuration is not available with current active pcrfclient and recovery script is not able to recover data.

  Workaround: User has to flip the VIP when the session databases mounted on tmpfs do not recover after full system outage. To force a switchover of the arbiter VIP to the other pcrfclient, you have to execute the following command:

  ```
  ssh arbitervip service corosync stop

  service corosync stop
  ```

- CSCvg28401: CPS diameter dictionary gets corrupted when there is a change in custom AVP list.

  Issue: CPS diameter dictionary gets corrupted when there is a change in custom AVP list.

  Probable Cause: The dictionary corruption happens when Policy Builder is published with custom AVP changes. This results in one thread of execution clearing up the AVP cache and populating the cache with the updated AVPs.

  During this if the thread of call processing uses the AVP cache before it is populated with the AVPs, it pushes NullAvpRepresentation object in the cache for which it did not find any definition. This results in decoding failure of the diameter message. This is a race condition which manifests during high TPS.

  Workaround: After configuring custom AVP list, restart CPS using `restartall.sh` script.

- CSCvh50936: Stage and priority service STG is not evaluated when CCA-I is released on delay timer expiry

  Issue: Stage and priority does not change after releasing CCA-I.

  Workaround: Stage and Priority service can be evaluated when CCA-I is released on delay timer expiry if **"releaseBearerDelaymessage" service can made available on Timer Expiry event for CCA**-I. This can be **achieved by applying UCI on service "releaseBearerDelaymessage"** which becomes true when Timer Expires for CCA-I delay.

Operator Notes

CPS Software Version Numbering System

The output of the about.sh command displays the CPS software version information.

The version information identifies the major and **maintenance, for example "18.0.0" corresponding to the 18.0**.0 FCS release. For subsequent releases of the software, the build number differs specifying the major and maintenance release number. For exa**mple, "18.1.0" corresponding to maintenance release 1 for major releas**e 18.0.0.

Limitations and Restrictions

This section covers the following topics:

- Limitations
- Common Vulnerabilities and Exposures

Limitations

- RADIUS/Wi-Fi configuration is not supported in CPS Release 14.0 and later releases.
- 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 which 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 a large number of QoS Group of Rule Definitions for a single sessions 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 which 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.

- The linux VM message.log files repeatedly report errors similar to:

  `vmsvc [warning] [guestinfo] RecordRoutingInfo: Unable to collect IPv4 routing table.` This is a known issue affecting ESXi 5.x. Currently, there is no workaround. The messages.log file entries are cosmetic and can be safely ignored. For more information, see

  http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2094561

- CSCva02957: Redis instances continues 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.

- CSCvh22887: CPS is not removing APN bearer details on sending Gx_RAR with Session-Release-cause

Common Vulnerabilities and Exposures (CVE)

The following CVEs exist in this release.

- Spectre and Meltdown Vulnerabilities:

  The following CDETs and CVEs exist in this release:

  - CSCvh52225

  - CSCvh52800

  - CVE-2017-5715

  - CVE-2017-5753

  - CVE-2017-5754

  Note: CPS is not exploitable and does not allow arbitrary code execution. However, CPS will be providing fixes as hardening enhancements in future releases. Please refer to the following Cisco Public Advisory for more information:

  https://tools.cisco.com/security/center/content/CiscoSecurityAdvisory/cisco-sa-20180104-cpusidechannel

Open and Resolved CDETS

The following sections list open and resolved CDETS for this release. For your convenience in locating 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

To become a registered cisco.com user, go to the following website:

https://tools.cisco.com/RPF/register/register.do?exit_url=

Open CDETS

The following table lists the open CDETS in this release.

CPS Open CDETS

Table 2 CPS Open CDETS

CDETS ID	Headline
CSCuw16692	No RAR/RAA transaction between CPS and PGW in event of any quota top-up
CSCvf17396	Cisco Policy Suite might be affected by linux kernel vulnerabilities
CSCvh02669	Vulnerable version of Apache in use
CSCvh04350	Vulnerable version of tcpdump in use
CSCvh48001	CPS to return AAA response in sync mode when there is no need to trigger Gx RAR CPS 14.0.3
CSCvh51185	high CPU Spike at Directors after compute blade power off /on
CSCvh53148	CPS is accepting all messages coming with unknown Destination-Host.
CSCvh53895	Rx AARs are not routed via secondary when Mongo DB primaries are down.
CSCvh54020	High CPU for DD VM after Power Off/On
CSCvh54094	TPS error for long time and high e2e response time observed after DB VM power off/on
CSCvh55980	Multiple occurrence of TPS error when PR VM is switched off/on
CSCvh55997	High e2e response Time and high DD CPU during Control VM power off

CDETS ID	Headline
CSCvc92363	CPS GR: Grafana stops displaying mongostats post GR failover
CSCvd25835	GR_ST: Observing TimerExpiry messages in VoLTE and VoWiFi call models during cross site messaging
CSCvd28424	GR_12.0: Observing few CCR-I timeouts consistently on one site during replication VLAN down
CSCve03801	Threshold State is not working for Rollover Quota
CSCve14161	In ISSM 11.1 >12.1, [ERROR] SVN sync failed for pcrfclient01 & pcrfclient02 after enabling set 2 VMs
CSCve87564	ISSM: /mnt/iso/migrate.sh rollback CLI triggers restart for set-2
CSCvf08748	Redis Server Unprotected by Password Authentication
CSCvf54495	unterminated sessions remain in memcache and cause session lookup issues
CSCvf70683	Cisco Policy Suite might be affected by sudo and bash vulnerabilities
CSCvf74053	"Unauthorized User(Redirect to login)" appears suddenly during Contrl center confg on chrome
CSCvg12545	GR_ST: Grafana displaying drops in mongostats
CSCvg14628	Rx RAR is being triggered intermittently for INDICATION_OF_FAILED_RESOURCES_ALLOCATION.
CSCvg23781	Collectd, Logstash and other platform related processes taking up high memory and CPU
CSCvg29460	NAP Request does not work as it is on HA setup without modifying haproxy config on LBs
CSCvg50997	ISO installation New Deployment Initial Installation failed due to puppet failure
CSCvg53784	Performance No's decreased in 13.0.2 after applied Common-2-0 PB
CSCvg91460	NTP are not in sync and TIME_WAIT increases after Sessionmgr VM restart/suspend
CSCvg97729	Importing CRD is not matching the column header name
CSCvh02307	External Code for Profile mapping without "Empty Value AVP" config results in a policy error
CSCvh06134	Mongodb has no authentication configured
CSCvh07104	NPE in rebalance CacheRing task
CSCvh12273	Too many connection in ESTABLISHED state when change relay port in PB
CSCvh13287	PB2 Central does not work for IE
CSCvh21186	After doing rollback 18.0->12.0, sessionmgr's init.d scripts are not copied to set-1 pcrfclientXX VM
CSCvh22887	CPS is not removing APN bearer details on sending Gx_RAR with Session-Release-cause
CSCvh23048	build-Set may be failing to add NODE_TYPE port to /etc/broadhop.profile file during execution
CSCvh25616	Incoming request not dropped when no match for host lookup

CDETS ID	Headline
CSCvh29689	Diameter TPS for TDR Traffic abruptly falls while running longevity for two days
CSCvh31779	debugAvp not getting updated after mapped logical avp values get changed
CSCvh32060	Uncontrolled policy event resubmission in case of policy errors for expired session
CSCvh45949	Table created in PB is not reflected in CRD
CSCvh45982	/etc/profile.d/broadhop.sh has incorrect values for path on AIO and HA VMs
CSCvh47797	More than expected Errors are observed in the tet script logs
CSCvh49555	New entry of "network dns host" is not working without diameter-endpoints restart
CSCvh49606	CPS could not send more than one SMS
CSCvh50708	NPE observed while submitting broadcast message
CSCvh51211	CPU Usage and Average Response Time increases for Diameter TPS of 12K on 1 DD
CSCvh51816	Alarms from Notifications are not cleared correctly when configuration changes
CSCvh52225	Centos 6.8 Spectre & meltdown vulnerability
CSCvh53960	PCRF is installing default POST rules even though UDC has got the subscriber profile from LDAP
CSCvh55110	Evaluate [smart_licensing] Java CVE-2014-0107 & CVE-2015-6420 to be rebuilt in this product
CSCvh55454	CPS 18.0 Fresh install fails at postInstall tasks in Openstack deployment
CSCvh56367	CPS needs to send an RAR when PoolID is removed, CPS does that if a CCR-U was sent previously
CSCvh56527	udc exception during ISSU upgrade
CSCvh56817	LDAP is sending SOAP request we send back HTTP 500 Server Error to LDAP
CSCvh57044	Getting VM down trap for non CPS_LOCAL_HOSTS hosts
CSCvg58393	cust_ref_data only gets backed up if it is in 27717
CSCvg58408	env_export.sh script does not backup mongo DBs when set name ends in 2
CSCvg94228	PCRF is stuck in a loop of ccr-u cca-u when both qos-mod-failure and apn-ambr failure occur together
CSCvg99670	SNMP - VM UP trap for pcrfclient01 is not coming when pcrfclient01 is cold started.
CSCvh12120	tacacs lookup failed messages in /var/log/messages
CSCvh05210	set_priority script should throw meaningful messages on misconfig

Microservices Open CDETS

Table 3 Microservices Open CDETS

CDETS ID	Headline
CSCvh56012	Grafana not accessible after DRA Master VM power off/on
CSCvf95063	Deployer container hangs if authentication fails with vSphere
CSCvg74895	VIP and Docker Engine IPs show unavailable randomly
CSCvg91883	SCTP Multihoming: DRA not sending IP details in INIT_ACK when IPv6 is primary and IPv4 is secondary.
CSCvh51156	Engine Names gets changed after Non-Control Blade Power off/on
CSCvh51963	Mongo Shard-Members go into STARTUP2 after reaching MAX Memory capacity
CSCvh54941	18.0 DRA Security Testing- Vulnerability Scan Security Issue in Central/PB/grafana
CSCvh52800	18.0 Sprint 6 DRA ubuntu Vulnerabilities
CSCvf71072	14.0 DRA SSH Vulnerabilities

Resolved CDETS

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

CPS Resolved CDETS

Table 4 CPS Resolved CDETS

CDETS ID	Headline
CSCva12736	gen-db-traps.sh script causing continuous stream of false SNMP alerts
CSCvc05609	LINEAR_INTERVAL backoff logic does not work as stated in the documentation
CSCvc42265	Not able to send TDF-Application-ID as Custom AVP on Target Interface
CSCve29299	Receiving: WARNING Please run build_set.sh --all --create-scripts; after running re-init in upgrade
CSCve33634	Exception errors against LicenseManagerProxy in consolidated-diag.log for CPS 13.0
CSCve55200	session creation time for sy prime at qns went very high with multiple sy prime realms configured
CSCve65911	CPS: CPS does not send notification after quota consumed for shared bucket feature
CSCve97974	Load Balance for Email Notification is not working as expected when one of the email server is down
CSCvf14428	Change the QCI & ARP of default bearer based on the MPS-Id & Reservation-Priority received in AAR

CDETS ID	Headline
CSCvf24376	isMcdDisabled condition does not work with policy blueprint config
CSCvf28224	Misleading log message while Rx STA message sending out
CSCvf32260	Ability to set flow-status, RG, Service-Id in CCA-U when retry interval is not immediate
CSCvf60700	PATS upgrade issue with IPv4 address in /etc/hosts file
CSCvf68311	CPS does not send Rx_STA with unknown_session_id result-code in case AF direct initiates Rx_STR
CSCvf69993	Central Changes saved and published are not seen in Legacy PB, Call Flow Effected.
CSCvf78650	CRD downstream stgs load process gets into stack overflow error
CSCvf86865	NAP Notification Response Time is High with Traffic
CSCvf88631	MOG sending volume in the AAR for calls even though https response say "volume is ignored"
CSCvf95380	CPU spikes, PB timeout, and KPI drops on PB Publish
CSCvf97203	False Gx drop traps due to time needed to aggregate/average stats over 30+ qnsXX nodes
CSCvf97390	DIAMETER_ALL_PEERS_DOWN trap is not sent
CSCvf97724	multiple rule get installed when Input List provided in TableDriven does not contain any value
CSCvf98089	Qns CPU degradation observed, when upgraded setup from 14.0 sprint-3 to sprint-4 build.
CSCvf98907	Stats for notification failures.
CSCvg00924	ApplyTimer attributes should be deactivated if no timer attribute from mind
CSCvg01628	PCRF is installing ded brr rule even after getting failure report on RAT-Change
CSCvg02292	in-service upgrade fails during mongo re-configuration
CSCvg03092	Keep-alive Gx_RAR is not triggered after stale session timer expiry
CSCvg04150	UDC Openstack Installer missing jrole.py
CSCvg04692	QoS reversal not working in case of Charging-Rule-Report received with rule Inactive
CSCvg04715	unable to rebalance and migrate after shards recreation
CSCvg04769	Need one single patch which has fixes for all the issues mentioned in summary
CSCvg05902	Single Sy functional change - result code based actions
CSCvg06191	Single Sh feature - Fix production Sanity_CPS_10_0_0_US9892_Tyw183455c_US10246_TC05 failure
CSCvg06313	Incorrect time-offset in GetSubscriber response for balance information
CSCvg06966	PCRF triggers Rx-RAR with duplicate RAT Type and specific action AVPs

CDETS ID	Headline
CSCvg07106	Diameter Stack Not Started alarm is not reported on PD02 and is not getting clear.
CSCvg07758	Parallel Search on all shards for full DB scan
CSCvg08315	Event-Trigger is not sent in Sd-RAR with SdDefaultBearerQosADCRuleConfiguration
CSCvg10378	CCR-I/CCR-U/CCR-T SNMP alarms have same key in gen-gx-drop-trap.sh
CSCvg10450	No default heap size for whisper java-agent (missing -Xmx parameter)
CSCvg11156	CRD _query API enhancement to support pagination for control center for SVN CRD tables
CSCvg12894	Upgrade to 18.0 fails
CSCvg14018	UDC API Unsubscribe API not working and make AM/UM Bearer QCIs configurable
CSCvg14808	qps-process-trap sends invalid eve str if there are multiple entries found for same VM in /etc/hosts
CSCvg15372	Not able to export specific CRD tables (export in csv format)
CSCvg16992	Configurable behavior required for removing Rx rules on getting RULE_INACTIVE
CSCvg19343	Virtual Service statistics need to be disabled by default
CSCvg20003	DRA should support sending Auth-Application-ID = 0 in CER messages
CSCvg21687	Message UDC unsubscribe request timeout
CSCvg22850	PCRF is uplifting existing dedicated bearer
CSCvg25231	Support for QCI and ARP atomicity while boosting default bearer
CSCvg25396	Upgrade is failed on 18.0 AIO and HA Production setup
CSCvg25452	udc admin db should be automatically populated with license information
CSCvg25520	NPE observed while sending Delayed ASR message
CSCvg28401	CPS diameter dictionary gets corrupted when there is a change in custom AVP list.
CSCvg28794	CPS is not logging CDR in mog-cdr.log file when 301 result code is received in HTTP response
CSCvg28841	PCRF is uplifting the session in Gx-CCA-I even though acwqpptmpdt format is misconfigured
CSCvg29434	BEMS: NPE on receiving Sd CCR-U with just TDF-App-Id
CSCvg30683	Issue with THROTTLING of AMBR UL/DL and ARP
CSCvg32489	PCRF is sending REDIRECTION_DISABLED in CCA-I which leads GWY to send FAILURE
CSCvg32841	CPS sets the mandatory M-bit for the optional parameter -Netloc-Access-Support in Rx-AAA
CSCvg37306	top_qps.sh is not showing UDC hosts
CSCvg37663	Observations in CDR callback messages and MOG guide

CDETS ID	Headline
CSCvg38092	resync_db_trap script has multiple issues
CSCvg39063	CPS 13.1.0 PCRF sending POST rule for a unknown subscriber if it re-attaches within hold time
CSCvg40124	Cisco Policy Suite Radius Authentication Bypass Vulnerability
CSCvg42556	Proxy-Info avp in the incoming message is not sent in case of error scenario on Gx interface.
CSCvg45975	Seeing D4 error in callback if there is no STA from PCRF
CSCvg49456	CPS PCRF, 13.1, Custom Result Code not working Result Code 5143/5144
CSCvg49519	admin DB hosts collection can't hold duplicate IP entries for different site ids
CSCvg49630	BEMS695199 PCRF is not installing intermediate rules in CCA-U.
CSCvg52295	case insensitive DN for notification request and common FrontEnd Id per cluster
CSCvg52636	UDC Common Policy 2.1 Integration Issues
CSCvg53412	Memcache latency check results in too many TIME_WAIT sockets on scale setup
CSCvg53472	Support and use database specific timeout and connection parameters
CSCvg54777	Single Sy null pointer on Secondary Keys in GR environment
CSCvg55026	APN Table Import fails in Control Center
CSCvg55256	Policy Builder crashes very frequently
CSCvg56279	BEMS696112 PCRF is not sending redirect-support=disabled in the rule retry RAR
CSCvg56288	BEMS695440 PCRF is ignoring the ARP if QCI is same in MOG boost req
CSCvg56368	warning messages flooded with "AVP with code 530 and Vendor-Id 10415 not present in dictionary"
CSCvg56795	With "Retry Count" as "0" under Ldap Server Configuration CPS does not send original request only
CSCvg56892	SingleSy - cached data "out of date" exception in qns logs
CSCvg57125	Api Router does not handle error strings/codes correctly
CSCvg57836	BEMS696113 Profile Based on Failure Code not working as expected. It is ignoring sy_realm
CSCvg57913	Quotas not retrieved correctly for subscriber in DST overlap on transition from DST to Standard Time
CSCvg58260	Issue with dedicated bearer removal upon receiving non-2001 Rx response for inactive rules
CSCvg58882	haproxy binding is failing - IPv6 name resolution issue
CSCvg59840	BEMS698915 PCRF is sending Rx ASR on receiving rule status = ACTIVE_WITHOUT_CREDIT_CONTROL
CSCvg61516	Need to skip full scan while retrieving session with unique secondary key

CDETS ID	Headline
CSCvg61539	Need proper exception handling while processing ldapserver messages.
CSCvg61683	High response time observed in Gx_RAR for TMO call model.
CSCvg62252	Interface type session counts are not updated when one complete session replica set goes down
CSCvg63764	BEMS700307 Duplicate Sy Result Code retriever and Sy Request Type retriever
CSCvg64532	PCRF is not enforcing the AMBR as per SdDetectedApp on acwbdpolicy change
CSCvg65031	Deploy_all was able to redeploy only 5 vms in case of Single Datastore
CSCvg68242	Stale Sessions kept increasing during a Performance run of 500 TPS
CSCvg68296	PCRF is not sending GBR values for QCI 65,66 for MOG dedicated bearers
CSCvg69927	PCRF is not sending event triggers in Gx RAR on receiving Rx AAR from MOG with specific-actions
CSCvg70349	Sy messages intermittently not going out from remote endpoint in case of multiple stack configuration
CSCvg70722	unable to complete jvalidate.py with non-root ESXi account
CSCvg71922	CPS is not initiating Rx_AAA/Rx_STA after enabling feature F1886: Gx-Rx Sync
CSCvg72165	Call is getting dropped when PCRF downgrades already uplifted dedicated bearer
CSCvg75566	build_all failing if patch repositories file contain single commented entry
CSCvg75609	Number of " Diameter Peer Down" alarm and clear traps are not matching
CSCvg76042	Incorrect timestamp in puppet logs
CSCvg76310	PCRF is removing manifest based Sd dynamic rule on receiving custom Gy failure
CSCvg76496	Result Code Based Action not working with UDC, Invalid attribute in modify req with replace operation
CSCvg76731	CPS should avoid re-installing Rx dedicated bearer that were reported inactive by PGW
CSCvg76959	In GR Environment - SyCacheEntry returns null for getInitialSecondaryKeys() when delete is called
CSCvg80420	Unable to find peer for host pcef-gx-server and realm pcef.cisco.com
CSCvg83184	LDAP subscriber query not responded
CSCvg83386	MOG does not set value for Proxiable bit in Command Code AAR request
CSCvg83478	Codec Data is not getting parse by QPS, coming in Rx_AAR
CSCvg84444	Provisioning with existing Key is not detected using create subscriber
CSCvg86145	notifications are sometimes not being sent
CSCvg86993	no RAR in case of quota removed while session is up
CSCvg87112	Defined status send in ended callback on session expiry from MOG

CDETS ID	Headline
CSCvg87396	sync RAR button on gui is visible (though functionality is not there)
CSCvg88669	F1946:failed to fetch active component alarms when mongo authentication is enabled.
CSCvg89616	Sometime, CPS sends wrong format of GetSubscriberResponse API
CSCvg91140	F1946: file component_alarm_reports.log isn't rotating automatically.
CSCvg91170	Investigate issue faced during enable VM's in Cluster Set 2. Failure to add members
CSCvg91179	F1946: In GR, diagnostics command when run on a site displays the alarm status for all sites
CSCvg91231	PCRF not sending QoS in CCA-U if the decision didn't change since the last communication with GW
CSCvg91366	CNS Notification not working with standard mute
CSCvg92104	The output of about.sh shows incorrect port numbers in MOG API URLs
CSCvg92434	Expose CCR-I requested QOS Attributes and Rx AF-ID and sponsor Id as initiator conditions
CSCvg93154	PCRF is sending CNS OFF notification twice
CSCvg93177	Suspended subscribers causing udc session size to grow
CSCvg93300	UDC is not sending a expected Contention event
CSCvg95942	F1946:Diagnostics --get_alarms is showing false alram"5002:lb03:All SMSC servers not reachable"
CSCvg96717	MOG 12.1 When MOG queries to vPAS on API interface, it is querying as POST instead of GET
CSCvg96962	syncconfig.sh --help simply executes without showing help or error
CSCvg97876	ipv6 support for checking lbvip01 availability
CSCvh02307	External Code for Profile mapping without "Empty Value AVP" config results in a policy error
CSCvh02983	Multiple SMS NOT being sent at same time.
CSCvh03267	CPS is picking incorrect DRA while sending Sy messages
CSCvh03427	Alarm Application status is coming in diagnostics output after upgrade to 14.0.3 ISO
CSCvh04911	Make CRD exported archive name backward compatible to support default and system id prefix formats
CSCvh06964	For PUT duration increase observing callback defined sent before RAR and RAA
CSCvh07134	Pb refresh is not happening for attribute encoding tables on any modification
CSCvh10729	Replica-set status display different in different cluster
CSCvh13362	Deployment of the VM is failing if the VM clone prefix matches
CSCvh13437	CPS reorders rows from source xls that is uploaded.

CDETS ID	Headline
CSCvh13708	Apirouter Thread is eating up CPU when system is Idle.
CSCvh15149	Sh peer down/disabled -'No Sh policy' should be implemented without any timeout/delay
CSCvh16694	Duplicate Target in Calea Db
CSCvh18087	root user's private key files inadequately protected
CSCvh19703	Log only valid usernames for failed login attempts
CSCvh19986	PCRF is not ignoring the boost req from MOG if QCI is same but ARP is lower priority
CSCvh20423	Disabled Sh peer timeout issue
CSCvh20462	CNS OFF notification is not sent when dedicated bearer rule is removed in case of DSCP based ADTM
CSCvh21980	UDC plugins failed to load configuration after restart
CSCvh27368	SSSD.conf file contains the wrong templates path for cluman
CSCvh27380	ldap_utility.jar file missing for AIO
CSCvh27454	VIP is not up during fresh installation when deploying OSP using Sprint 5 on 18.0 ISO
CSCvh27644	PCRF is sending an Gx-RAR to PGW installing the Video rules with flow status set to (4)
CSCvh30586	NPE observed while evaluating Rx charging rules
CSCvh31899	Check for aio/arbiter for enable_ldap script
CSCvh32008	diagnostics.sh get active alarm status during ISSU throws osgi help output
CSCvh47999	PATCH is not running for ldap configuration YAML
CSCvh49180	SPR is down after ISSU upgrade from 13.0.1 to 18.0.0
CSCvh49614	Null Pointer Exception on UDC MIND refresh while sending update request to qns
CSCvh50919	Multiple/Simultaenous UDC_MODIFY Requests for the same subscriber leading to data corruption
CSCvh52903	c.b.policy.impl.RulesPolicyService - action. java.util.ConcurrentModificationException: null
CSCvh53386	F1900: MoG BOOST is not getting applied while service un-pause after emergency service end.
CSCvh54824	httpd service is not running when fresh install is done with ldap parameters on pcrfclient01/02

Microservices Resolved CDETS

Table 5 Microservices Resolved CDETS

CDETS ID	Headline
CSCvf69993	Central Changes saved and published are not seen in Legacy PB, Call Flow Effected.
CSCvf69996	Read-Only user created is able to modify PB2 tables.
CSCvf70024	Copied Tables in PB2, Renamed - still show old names while save.
CSCvf74053	Pb2-GUI:"Unauthorized User(Redirect to login)" appears suddenly during Control center confg on chrome
CSCvf82070	Diameter Peers InActive After Upgrade
CSCvf88033	Peer Status Event Logs not displaying correctly.
CSCvg02339	Central PB : On token expiry is not redirected to log-in page.
CSCvg02352	Central-PB : Tables ->Data Modified causing duplicate entries.
CSCvg04506	After Blade power off/om, DRA VNF control VM/DD not coming up
CSCvg05106	Delete binding and "Binding storage" in same Retry CCR-I causing "Session DB Error"
CSCvg12206	unable to deliver (3002) result code received from DRA for S6a call model
CSCvg15368	central PB shows the tables/parameters editable while in the backend PB they are greyed out
CSCvg15372	DRA: not able to export specific CRD tables (export in csv format)
CSCvg16057	DRA: errors shown for msisdnApnbinding and imsiApnbinding
CSCvg19995	SCTP INIT is being sent by DRA with extra IP's (including docker internal IP's)
CSCvg19998	DRA is not sending multihome IP's in CEA back to the Peer
CSCvg19999	DRA - NO SCTP INIT if multihome IP are specified in outbound endpoint configuration
CSCvg25116	Fallback to table driven routing for Rx doesn't work if no binding found
CSCvg25410	show docker engine/show runingconfig docker show incorrect DRA Master VM information
CSCvg25431	Error occurred logging in DRA Central GUI via Control VM when Master DRA VM is down
CSCvg28602	SLF Bulk Provisioning Stats Mismatch
CSCvg29285	DRA: CRD export filename convention should have system-id or hostname and proper timestamp
CSCvg29740	DRA: CPS 13.1.1 System-ID or hostname on the central homepage
CSCvg29748	DRA: In the CRD GUI the show row # doesn't persist once you hit back button in the browser
CSCvg30988	DRA: PB export api to support the export of PB>systems>PluginConfig > DRAConfiguration
CSCvg32525	MSISDN and IMSI validation_SLF Bulk Provisioning
CSCvg34026	java application not starting cleanly on endpoint container after upgrade.

CDETS ID	Headline
CSCvg34153	Master vm with data disk storage is not connecting with other vm's containers after redeploy.
CSCvg38630	DRA: GUI redirecting to incorrect central url
CSCvg39847	Retry to alternate peer on error code doesn't work
CSCvg41168	DRA: Relay port 4868 comes up only after killing the java process on the diameter container
CSCvg41989	Loop detection does not happen for all of DRA's fqdn
CSCvg42368	Enhancement to broadhopComponentName for SNMP Alarms
CSCvg44760	Support traceroute for ipv6
CSCvg48106	DRA:For Gx session tied to the 5065 binding key,DRA is not sending Gx-RAR with Session-Release-Cause
CSCvg48285	DRA: Message Retry feature is not working properly
CSCvg48977	DRA: Central CRD throwing error while adding a row in table
CSCvg51237	debug packet-capture gather directory cmd gathering all the users of tcpdump process
CSCvg54121	DRA throwing incorrect error for number of retries exceeded
CSCvg55256	Policy Builder crashes very frequently
CSCvg56724	DRA installer stuck after vm boot strap
CSCvg56785	bulkstats file needs be generated in every 5 mins boundary
CSCvg57613	Graceful shutdown of peer connection
CSCvg57911	DRA: Message Retry Config. is not working When realm_pattern is configured
CSCvg61481	Session-ID in AIA message from DRA to MME not getting unaliased, returning 3002 error code
CSCvg62930	Error code changes
CSCvg64463	Messages not load balanced when PCEF & PCRF and connected across different directors
CSCvg64794	Grafana upgrade to 4.6
CSCvg66284	UPDATE TIME in alert !
CSCvg67797	DRA: Relay endpoints are not coming up when physical interfaces are configured
CSCvg67814	DRA: Iptable entry is not created for relay endpoint on AIO
CSCvg68775	cannot access or monitor logs from the orchestrator cli of containers
CSCvg69238	DRA: editing a column in a table in embedded PB is effecting other configurations
CSCvg70579	Duplicate SVN containers in DRA

CDETS ID	Headline
CSCvg70911	Some files in /etc are owned by cps
CSCvg72654	Add Message Type and Error Code to Ingress and Egress Message Rates
CSCvg73316	Restart of redis container is completly shutting down system traffic
CSCvg74264	Relay messages failing with 3003
CSCvg74895	VIP and Docker Engine IPs show unavailable randomly
CSCvg75951	Custom Tables have inconsistent table structures in the PB/CRD BEMS686190
CSCvg76047	Change mongo socket timeout to 1000ms by default
CSCvg76352	Build breaks because perl 5.22.1-9 does not exist
CSCvg77430	DRA: SRK with label type matching are failing
CSCvg78284	Broken build due to cloud-init 0.7.9-233-ge586fe35-0ubuntu1~16.04.2
CSCvg79373	Make 'P' bit validation configurable from PB
CSCvg79402	CRD Caching Issue
CSCvg81039	DRA: The dsTest nodes created using DRA are stopping automatically after start
CSCvg86522	Docker: Configuration to move IPv6 physical interfaces from VM to container is not working
CSCvg87936	Retry on error code on destination host routing goes through multiple hops before retrying
CSCvg89456	DOCKER: DRA stack not coming up with IPv6
CSCvg90498	SNMP alarms not received if delete and then add same alarm again.
CSCvg92550	SCTP - DRA not able to connect as a client in IPV6 multihoming mode
CSCvg96456	CPS vDRA, 13.1.1, when db control 01 is down - grafana is not reachable
CSCvg97729	DRA: Importing CRD is not matching the column header name
CSCvg99976	Multiple dra control plane threads for the same control plane seen in thread dump
CSCvh01770	Change default request timeout value to 1700ms
CSCvh02148	CPS vDRA,13.1.1,CCA-I not routed back to GW, no err response sent to GW
CSCvh04911	Make CRD exported archive name backward compatible to support default and system id prefix formats
CSCvh05194	Exceptions seen in DRA application during upgrade
CSCvh12307	DRA: Not able to resolve the peer groups even if the PG is active and SRK determined
CSCvh12781	deleted_stale_session_count not being incremented for Stale RAR : UNKNOWN_SESSION_ID[5002]

CDETS ID	Headline
CSCvh13437	CPS reorders rows from source xls that is uploaded.
CSCvh14795	Diameter Rx STR message should not be routed via bindings
CSCvh16265	Set default umask to 027
CSCvh16515	Remove hard coded cloud-init version to stop build breakages
CSCvh19703	Log only valid usernames for failed login attempts
CSCvh24609	Rest API "activePeerEndpoints" should show PB configured port as own port
CSCvh24965	DRA: All Calls failing with P-Bit no set after upgrade to CPS 13.1 US17700 Drop
CSCvh25835	Grafana is not accepting credential(username/pwd), after upgrading to 18.0 sprint-5 iso.
CSCvh26074	SL_Request_Type not handled by PAS.

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 ANDSF Configuration Guide*
- *CPS ANDSF SNMP and Alarms Guide*
- *CPS Backup and Restore Guide*
- *CPS Central Administration Guide*
- *CPS Geographic Redundancy Guide*
- *CPS Installation Guide - OpenStack*
- *CPS Installation Guide - VMware*
- *CPS Migration and Upgrade Guide*
- *CPS Mobile Configuration Guide*
- *CPS MOG API Reference*
- *CPS MOG Guide*
- *CPS MOG Installation Guide - OpenStack*
- *CPS MOG SNMP, Alarms, and Clearing Procedures Guide*
- *CPS MOG Troubleshooting Guide*

- *CPS Operations Guide*

- *CPS Policy Reporting Guide*

- *CPS SNMP, Alarms and Clearing Procedures Guide*

- *CPS Troubleshooting Guide*

- *CPS Unified API Reference Guide*

- *CPS UDC API Reference*

- *CPS UDC Guide*

- *CPS UDC MoP for Session Migration*

- *CPS UDC SNMP and Alarms Guide*

- *CPS vDRA Administration Guide*

- *CPS vDRA Configuration Guide*

- *CPS vDRA Installation Guide - OpenStack*

- *CPS vDRA Operations Guide*

- *CPS vDRA SNMP and Alarms Guide*

- *CPS vDRA Troubleshooting Guide*

These documents can be downloaded from the following links:

- All Guides:

  https://www.cisco.com/c/en/us/support/wireless/quantum-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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