



Release Notes for *Cisco Policy Suite* for Release 6.0.1

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Contents

This document describes the new features, feature versions and limitations for the Cisco Policy Suite software. Use this document in combination with documents listed in the [“Related Documentation”](#) section on page 10.

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Introduction

The Cisco Policy Suite is a comprehensive policy, charging, and subscriber data management solution that allows service providers to control and monetize their networks and to profit from personalized services. The Cisco Policy Suite has the following components:

- Policy Server (PS)
- Charging Server (CS)
- Application Gateway (AGW)



- Unified Subscriber Manager (USuM)
- Subscriber Analytics

The Cisco Policy Suite provides an intelligent control plane solution, including southbound interfaces to various policy control enforcement functions (PCEFs) in the network, and northbound interfaces to OSS/BSS and subscriber applications, IMSs, and web applications. The Cisco Policy Suite modules are enabled individually or deployed as an integrated end-to-end policy, charging, and service creation solution.

Competitive Benefits

The new Cisco Policy Suite solution provides these benefits over competitive solutions.

- Cisco Policy Suite architecture allows simultaneous sessions and transactions per second (TPS) capacity to be independently scaled. This allows Cisco Policy Suite to be efficiently sized for both high simultaneous sessions with low TPS or low sessions with high TPS, resulting in lower total cost of ownership when compared to traditional PCRF models. As soon as sessions are bound to a given processing node, the ability to handle traffic spikes is reduced.
- Cisco Policy Suite virtual architecture supports flexible and cost-effective carrier grade strategies. Virtual instances are spread across multiple blade serves for full hardware and software redundancy within a Cisco Policy Suite cluster.
- The flexible nature of the Cisco Policy Suite lets a service provider go beyond standard policy definition to add new, customized functionality. It provides a comprehensive open policy software development kit (SDK) using industry-standard languages and frameworks. Customized or vendor scripting is not needed, which allows service providers to create plug-ins within the existing policy server and automatically exposes the new services to the policy engine.

New and Changed Information

This section describes the new and changed features for the Cisco Policy Suite Release 6.0.1.

New Software Features in Release 6.0.1

Deployment Management Console

The management console feature provide the capabilities for network administrators to deploy and manage CPS using a GUI and CLI console. Specifically, the Deployment Management Console provides the capabilities for network administrators to:

- Inspect current features
- View logs
- Diagnose system state

Geo-Redundancy

The Geo-Redundancy architecture supports two CPS active-standby clusters deployed in an active-active configuration across multiple GGSNs/PCEFs or across two geographically distant sites. Each site contains the active for the local PCEF and the other site contains the standby for the remote PCEF.

For example, Site1 and Site2 sites are mated-pair PCRF:

- Site1 and Site2 two sites, each having own PCRF.
- This solution will have two CPS at each site, CPS-Site1-Active and CPS-Site2-Standby at Site1 and CPS-Site2-Active and CPS-Site1-Standby at Site2.
- For PCEF at Site1, there are two CPS, one is active at Site1 i.e. CPS-Site1-Active and other at Site2, i.e. CPS-Site2-Standby. These are geographically redundant. Same is the case for PCEF at Site2.
- Upon failure of active CPS, standby CPS would seamlessly serve the subscribers sessions.
- The standby CPS is not configured as passive.
- Each PCEF is configured in active-passive mode with active CPS cluster as primary and standby CPS cluster as secondary. As such, the PCEF automatically switches over to the standby CPS cluster if the primary CPS cluster fails. The failure detection is supported in the PCEF.

Service Group QoS

ASR5K supports handling of Service Group QoS and defines new Gx AVPs which are exchanged between PCEF and PCRF. These new vendor-specific AVPs define parameters like Rule Name, specific QoS Information and precedence values. Additionally CPS (PCRF) supports various use cases related to PCC Rules provisioning and usage monitoring control as defined in 3GPP specification 29.212.

Installation Notes

This section describes the installation notes in Release 6.0.1.



Note

Currently, direct upgrading of CPS from version 5.3.5 to 6.0.1 is not supported. Customer first needs to upgrade CPS to 5.5 and then can upgrade the system to 6.0.1.



Note

Customer must download the latest software package available from the link <http://software.cisco.com/download/type.html?mdfid=284883882&catid=null>.

Feature Versions

The following table mentions the component version for CPS 6.0.1 Release:

Component	Version
Core	6.0.1
Audit	1.2.1
Balance	3.2.1
Control Center	3.2.1
Congestion Reference Data	1.0.1
Customer Reference Data	2.2.1
DHCP	1.3.1
Diameter2	3.2.1

Component	Version
ISG Prepaid	1.6.1
LDAP	1.3.0
Notifications	5.6.1
Policy Intel	2.0.1
POP-3 Authentication	1.2.0
Radius	3.1.1
SCE	2.0.7
Scheduled Events	1.1.1
SPR	2.1.1
Unified API	2.1.1
Web Services	1.3.1
Recharge Wallet	1.0.1
Installer	6.0.1

Applying Hotfix

This hot fix can only be installed with 6.0.1 CCO releases. To check the release, the service provider needs to verify the installed features by running `/opt/broadhop/qns-1/bin/features.sh` and confirming that the `policy.feature=6.0.1.release` has a “.release” extension and not a “.r#####”.

If a deployment has a non-released version (.r#####) then the service provider must contact their Cisco technical representative to have a patch created that works with their version.

This hotfix must be installed to ensure that the Policy Builder works properly with the newer versions of Firefox (v29+) and Chrome (v33+).

Step 1 Download `Hotfix_Patch1_6.0.1.tar.gz` from <http://software.cisco.com/download/release.html?i=!y&mdfid=284883882&softwareid=284980034&release=6.0.1&os=> along with your CPS 6.0.1 software or get the hotfix from your Cisco technical representative and extract it in `/var/broadhop/repositories` directory as a root user.

Step 2 After extraction, find directory `Hotfix_Patch1_6.0.1` in `/var/broadhop/repositories` directory.

Step 3 Add entry of extracted directory into `/etc/broadhop/repositories` file.

Entry Name:

```
file:///var/broadhop/repositories/Hotfix_Patch1_6.0.1
```



Note

- Do not delete old entries from `/etc/broadhop/repositories` file.
- `QNS_6.0.1.release` entry in `/var/broadhop/repositories` needs to be left uncommented while applying the patch (updating `qns`).

Step 4 Go to `/opt/broadhop/installer/` directory in `perfcient01` and run the commands:

```
cd /opt/broadhop/installer/
run su qns -c "./update_qns.sh"
```

Step 5 Run `restartall.sh` from `pcrfclient01` to apply the patch.

Removing MySQL JDBC Connectors from Standard Load Line-up

Step 1 Add the following entry to `qns.conf` file on all the CPS boxes.

```
-DmysqlDriver=file:///var/broadhop/jdbc/jdbc_5_1_6.jar
```

Step 2 Download MySQL jdbc 5.1.6 binary jar from <http://ebr.springsource.com> (search for `com.springsource.com.mysql.jdbc` and download version 5.1.6 from the link).

Step 3 Rename the downloaded jar file to `jdbc_5_1_6.jar` and copy the jar file to `/var/broadhop/jdbc/` directory on all CPS boxes.

Step 4 Synchronize all the boxes and then restart CPS.

Deployment Management Console

Deployment Management Console feature is released as patch over 6.0.1 release build. Patch release covers instructions to install the feature in the setup environment.

Step 1 Download `qps_mgmt_console.zip` to `/tmp` directory.

Step 2 Unzip `qps_mgmt_console.zip` to `/tmp` directory.

Step 3 Run `update_console.sh` from `/tmp` directory.

Step 4 Execute the command `qps_management_console` to check management console is installed or not.

RAR Fix for GR Setup

The following configuration changes need to be done:

Step 1 Add `SiteId` and `RemoteSiteId` VM arguments in all `qns.conf` files mentioned below, so that all outbound messages get processed by `RemoteSite` when GGSN link failure occurs on `Site`.

```
-DSiteId=Site1
```

```
-DRemoteSiteId=Site2
```

Files that need to be updated:

```
/etc/broadhop/diameter_endpoint/qns.conf, /etc/broadhop/diameter_endpoint_stby/qns.conf,
```

```
/etc/broadhop/iomanager01/qns.conf,
```

```
/etc/broadhop/iomanager02/qns.conf,
```

/etc/broadhop/iomanager_stby_01/qns.conf,
 /etc/broadhop/iomanager_stby_02/qns.conf,
 /etc/broadhop/pcrf/qns.conf,
 /etc/broadhop/pcrf_stby/qns.conf,
 /etc/broadhop/qns.conf,

Step 2 Similarly, the user needs to configure the following VM arguments in the above mentioned files in other sites.

-DSiteId=Site2 (should be same as RemoteSiteId of other site)
 -DRemoteSiteId=Site1 (should be same as SiteId of other site)



Note

-DSiteId and -DRemoteSiteId values can be custom names. The purpose of the naming conversion is useful in finding out from which site CPS is sending outbound messages.

Limitations and Restrictions

The Cisco Policy Suite has the following limitations and restrictions:

- After database role change for multiple sessionMgrs, CPS is unable to stabilize the calls and timeouts happen constantly.
- On receiving Accounting Stop message, the Radius call is not disconnected and the session is also present in mongo database.

Caveats

The following sections lists Open Caveats and Resolved Caveats for Cisco Policy Suite. For your convenience in locating caveats 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 Caveats

Table 1 lists the open caveats in the CPS 6.0.1 release.

Table 1 Open Caveats

CDET ID	Status	Headline
CSCun77738	A	GR diameter failover for the mid call -- CCRu not processed by QPS
CSCun16682	A	PCRF to use SiteSvnId in GGSN's SN-Transparent-Data AVP as a primary key

A - Assigned

N - New

O - Opened

Resolved/Verified Caveats

Table 2 lists the resolved/verified caveats in the CPS 6.0.1 release.

Table 2 Resolved/Verified Caveats

CDET ID	Status	Headline
CSCun18317	C	FAILURE IN Gx PROXY CALL FLOW
CSCum84102	C	Gy provisioning for SessionWallet fails.
CSCun44542	C	QNS[Opt-Sys]: Getting timeout inSite1 after sesn adm db recove manual
CSCun42783	C	Session removed due to no service associated.
CSCum27188	R	Account Balance Thresholds Trigger on Remaining not working
CSCui55946	R	Diameter adapter hung over time and does not communicate to the PCRF
CSCuj34878	R	GR:Fallback of qps-vip-standby to qps-vip not taking place
CSCuj66185	R	QNS fails to respond to last prepaid re-authorization request from ISG
CSCuj73454	R	QNS[Sys-Test]: Diagnostic should check the reachability of NTP servers
CSCuj91866	R	set_config.sh file discrepancies
CSCul04289	R	QNS[Sys-Test]: Zabbix is consuming more space in GR setup on site's 1 & 2
CSCul44306	R	Missing AVPs under Diameter Gx TGPP Session exists to CDRs
CSCul46341	R	Change port of portal_admin_proxy in haproxy.cfg
CSCul63117	R	QNS[Sys-Test]: mongo metadata not updated in config servers on shutdown
CSCul63344	R	Revalidation-Time AVP added multiple times in CCA/RAR
CSCul63684	R	totalBytes accumulation type is not working under Reporting
CSCul74060	R	Trap issues for RAN_Cong_data_utility
CSCul80673	R	QNS [AIO]: Stale session and session expiry/remove issue
CSCul88292	R	Additional sysconfig directories on template VMs break installation
CSCul95426	R	Expose AvpExtensionIF methods to Policy Engine
CSCul96901	R	QPS uses wrong timezone when configuring balance

Table 2 **Resolved/Verified Caveats**

CDET ID	Status	Headline
CSCum06477	R	Latest Build setup missing notification feature at lb01
CSCum09984	R	ZeroMqNode does not take into account Apple Macintosh Computers
CSCum15744	R	SearchSubsAction - ActionHelper is not up to date with GetSubAction
CSCum16668	R	Sess disc when recurring bucket associated w/ rollover bucket refreshes
CSCum18229	R	Add EndDate to CreateSubscriberAction
CSCum46216	R	Import should not allow duplicate rows
CSCum53694	R	Chart windows not resizing correctly in Monitoring Dashboards
CSCun21967	R	QPS: LAB1-Traffic coming on lb01 is getting distributed
CSCum36787	R	Discrepancies found between files in SVN and Template Environment
CSCum53235	R	QueryBalanceRequest Unified API response is not proper.
CSCum54049	R	ISG Prepaid balance reservation error
CSCum56689	R	upgrade 5.5.1 to 5.5.3 needs system files upgrade process
CSCum63351	R	Some AVPs are missing in Sy STA response
CSCum65042	R	SPR Database encryption step missing in QPS 6.0
CSCum65054	R	Undefined domain created after QPS 6.0 upgrade
CSCum67372	R	TM - EDR Configuration Caused Traffic Issue, Help Configuring needed
CSCum75668	R	Policy Reporting config did not get update post QPS upgrade
CSCum76695	R	haproxy version 1.5 not available in QPS 6.0 lb VMs
CSCum86508	R	add diagnostic for the shardinterface to send traps
CSCum92048	R	QNS[Sys-Test]: getting error message after executing synconfig.sh script
CSCun28674	R	Performance Fix for Multiple Credits
CSCum48296	R	SPR Import-Export Script MSBM handling bug
CSCum55551	R	Update the Policy Builder /welcome URL to automatically redirect to /pb
CSCum25266	R	Package-ID AVP
CSCum72052	R	As a service provider, I need take into account the user's time zone
CSCum35467	R	Request usage report when bandwidth monitoring is removed
CSCum80483	R	Eliminate unnecessary pausing to recompile policy rules
CSCum35454	R	Request usage report when Gx usage monitoring key is disabled
CSCun29928	R	License alarm enhancement with additional detailed requirement
CSCum90472	R	Stale session and session timer expiration RAR not wkg correctly (AIO)
CSCum61845	R	The most recent csv file gets overwritten when report server come up
CSCun11256	R	PCRF requests report for wrong MK on receiving CCR-U
CSCun47094	R	QPS did NOT send RAR in the condition of congestion change
CSCun79941	R	PolicyIntel PostgreSql Integration
CSCun85144	R	Add break; to switch statement that assigns writeConcern to mongo
CSCun98085	R	GR - Need to run qns as root to overcome firewall and network issues

Table 2 **Resolved/Verified Caveats**

CDET ID	Status	Headline
CSCun12088	V	HTTPS wsdl for UnifiedAPI unable to accessed from the SOAP UI
CSCun28019	V	SiteName parameter missing on 6.0.1.r057255
CSCun00316	V	Error 'invalid arithmetic operator' using bulkstat_collection.sh script
CSCum93612	V	PCRF always uses the same RB as it chose first ever for an End User
CSCum74705	V	Gx session is not removed from QPS when the CCRt is received
CSCum60330	V	QPS Upgrade from 5.5.1 to 5.5.3 failed on HA setup
CSCum43607	V	RAN-CONG: retrieve the cell id based on SAC or Cell ID from CGI AVP
CSCum21082	V	Session wallet is not recharging once the quota is less than the dosage
CSCun05662	V	Authorized QoS-Info Fields in EDRs
CSCum88517	V	Unified API 2.1.0 Release Notes ua.version.2.0.compatible prop
CSCum81130	V	need SNMP Trap alarm when configured license threshold is reached
CSCum72882	V	tmpwatch daily job has the potential to delete /tmp/qns-1 class files
CSCun31151	V	CDR/EDRs fields of CCA-t QoS-Info are similar with CCA-i/CCA-u CDR/EDRs
CSCuj30879	V	QNS: US 103 SP-WiFi, Null Pointer Exception thrown for existing session
CSCul60434	V	QNS[Sys-Test]:Site1 chassis down- lots of Time outs seen
CSCul67772	V	QNS[Sys-Test] 6.0:Sync_Time script should include only QPS hosts/VMs
CSCum03189	V	6.0 Sanity - Subscriber Delete throws Exception
CSCum13618	V	Cannot send \$audit-session-id variable in radius template
CSCum16651	V	QPS sending DIAMETER_CREDIT_LIMIT_REACHED instead of success
CSCum37907	V	PMIPv6 call flows not enforcing max concurrent sessions service option
CSCum89078	V	Incorrect realm derivation on QPS when the username contains '/'
CSCum92829	V	create_policy_builder_user.sh updates wrong file in multi policy builder
CSCum96345	V	RADIUS not responding on correct IO Manager
CSCum11776	V	qps_management_console feature is not working in 6.0 release
CSCum17218	V	QNS[Sys-Test]: After GR failover seen sub discrepancy Site1 sub not read
CSCum18212	V	secondary selection of username from avp issue- STC migration 5.1 to 5.3
CSCum18373	V	Gy error when quota is less then defined dosage
CSCum75040	V	CC is showing No Subscribers found exists some times
CSCum58132	V	QPS PCRF does not announce 8164 as a supported vendor in CEA
CSCum23991	V	Using Service Scheduler- Service gets activated incorrectly
CSCun18337	V	Balance TPS is very low and observing errors in tailcon log
CSCun29725	V	Basic GR Site outage GR failure trigger is failing
CSCum14394	V	QNS: After applying the patch we are not able to open the CC
CSCum42709	V	uncontrolled generation of logs in pcrfclient01
CSCum46050	V	QNS[Sys-Test]: Complete Site1+Site2 Arbiter Recovery semaphore issue

Table 2 Resolved/Verified Caveats

CDET ID	Status	Headline
CSCum49651	V	QNS[Sys-Test]: Config migration script logging need update
CSCum56765	V	Copying installer files of /etc/broadhop from general to general_mobile
CSCum76592	V	QNS[Sys-Test]: Process of zabbix db partition include Trouble shoot guide
CSCum77292	V	QPS sending faulty session timeout after voucher authentication
CSCum85557	V	QNS: Cyrillic characters are not decoded for sms at receiver's end.
CSCum91182	V	Diameter Gx Initiator is not working - A Gx charge request exists
CSCum93478	V	Invalid xml generated by QPS, not compatible with SOAP standard
CSCum12792	V	QNS[Sys-Test] 6.0:Sanity:Discrepancy found in Hop by Hop ID in CCA T
CSCum14347	V	GR[Sys-Test]:pcrfclient01 Site 1 recovery issues post overnight outage
CSCum30305	V	Session Wallet Enhancement
CSCun44534	V	QNS[Opt-Sys]: Site1 recovery is failing due to session admin db fail
CSCun61739	V	QNS[Opt-Sys]: Need changes Power ON sequence in MOP during site recovery

R - Resolved
V - Verified
C - Closed

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 the Cisco Policy Suite.

- *Cisco Policy Suite 6.0.1 Alarming and SNMP Guide*
- *Cisco Policy Suite 6.0.1 Backup and Restore Guide*
- *Cisco Policy Suite 6.0.1 Installation Guide*
- *Cisco Policy Suite 6.0.1 Mobile Configuration Guide*
- *Cisco Policy Suite 6.0.1 Operations Guide*
- *Cisco Policy Suite 6.0.1 Policy Reporting Guide*
- *Cisco Policy Suite 6.0.1 Troubleshooting Guide*
- *Cisco Policy Suite 6.0.1 Wi-Fi/BNG Configuration Guide*

The documents can be downloaded from the following links:

- Common Guides:
<http://www.cisco.com/c/en/us/support/wireless/quantum-policy-suite-bng/products-installation-and-configuration-guides-list.html>

- Mobile Configuration Guide + Common Guides:
<http://www.cisco.com/c/en/us/support/wireless/quantum-policy-suite-mobile/products-installation-and-configuration-guides-list.html>
- Wi-Fi Configuration Guide + Common Guides:
<http://www.cisco.com/c/en/us/support/wireless/quantum-policy-suite-wi-fi/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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