



Release Notes for Cisco Service Control Management Suite Subscriber Manager (SCMS SM) 3.1.0

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Release Notes for Cisco Service Control Management Suite Subscriber Manager (SCMS SM) 3.1.0

Covers: SCMS SM 3.1.0

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These release notes for the Cisco SCMS SM describe the enhancements provided in Cisco Release SCMS SM 3.1.0. These release notes are updated as needed.

For a list of the caveats that apply to Cisco Service Manager (SCMS SM) 3.1.0, see *Open Caveats* (on page [13](#)).



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Introduction

Cisco is proud to release version 3.1.0 of the Subscriber Manager software component.

It includes various fixes of bugs that were identified as part of Cisco's on-going internal testing and during our interaction with our customers.

This document outlines the resolved issues of the SM 3.1.0 release. It assumes the reader already has a good working knowledge of the Cisco solution. For additional information, please refer to the Cisco Service Control Engine documentation.

Release SCMS SM 3.1.0

New Features

Scaling Enhancements

The SM has been enhanced to support a larger number of subscribers, LEGs, and SCEs.

- Support for 20 million subscribers when running on a 64-bit Solaris platform.
- Login/logout rates of 800 per second now supported
- Support for 120 incoming PRPC connections
- Support for 200 SCEs

SM Updates Only the Active SCE

Since SCE 3.1.0 the SCEs in a cascade pair are able to replicate all of the subscriber data between them, so that the SM updates only the active SCE. The SCE configuration in the SM configuration file is changed to provide the SM with the knowledge of which SCEs are interconnected in a cascade pair. See the *Cisco SCMS Subscriber Manager User Guide*.

Enhanced Subscriber ID Character Support

The Subscriber ID is a string representing a subscriber that is a unique identifier for each subscriber from the customer perspective.

In previous versions of the SM, there were a number of limitations of characters that could not be used for the subscriber ID. The subscriber ID can now contain up to 64 characters. All printable

characters with an ASCII code between 32 and 126 (inclusive) can be used; except for 34 ("), 39 ('), and 96 (`).

Virtual Links

The DHCP Lease Query LEG and the SCE-Sniffer DHCP LEG now both allow the user to define multiple policies including the package-Id, monitor flag, and the upstream and downstream virtual links.

The policies are configured in the *dhcp_pkg.cfg* configuration file of the relevant LEGs.

Quota Manager—Quota Change Within Aggregation Period

In previous versions of the Quota Manager, it was not possible to change the quota of a subscriber within an aggregation period. Two new operations have been added to the p3qm CLU to allow setting and adding to a subscriber's quota buckets within an aggregation period: `--set-quota` and `--add-quota`.

Automatic Domain Roaming

The SM API now allows subscribers to be automatically moved between domains by calling the `login()` method of the API for a subscriber with an updated domain parameter.

Support for Solaris 10

The Subscriber Management components can be installed on Solaris 10. See *Supported Operating Systems and Platforms* (on page 6) for further details.

Supported Operating Systems and Platforms



Note From release 3.1.0, Solaris 8 is no longer supported.

The following table details which operating systems and platforms are supported by the SM.

Component	Red-Hat ES\AS 3 On Intel architecture (32-bit)	Red-Hat ES\AS 4 On Intel architecture (32-bit)	Solaris 9 On SPARC architecture (64-bit)	Solaris 10 On SPARC architecture (64-bit)
SM	Supported	Supported	Supported	Supported
VCS agents				
SCE-Sniffer RADIUS LEG				
SCE-Sniffer DHCP LEG				
RADIUS Listener LEG				
DHCP Lease Query LEG				
SM Java API				
SCE Subscriber API				
SOAP LEG				
CNR LEG	Not Supported	Not Supported	Supported	Supported
SM C/C++ API	Supported	Supported	Supported	Supported
MPLS-VPN BGP LEG	Supported	Supported	Not Supported	Not Supported

Resolved Issues

CLU --prefix Option does not Filter Correctly

- Cisco number: CSCsb97704

When using the --prefix option, the CLU correctly recognizes the option. However, when trying to insert --pre, the following error is displayed:

```
unknown option '--pre'  
use '--help' for more information.
```

This issue is fixed in the SM in release 3.1.0.

leaseActiveReplyNoSubId Error does not Exist in the DHCP Lease Query LEG User Log

- Cisco number: CSCsg56778

When the subscriber ID is missing – because the configured attribute for the association is missing – there is no user log message.

This issue is fixed in the SM in release 3.1.0.

RADIUS Listener LEG Activities are not Logged into the User Log

- Cisco number: CSCsg61669

Some of the RADIUS Listener LEG activities are not logged; such as, decoding failures, and the reason for discarding incoming RADIUS packets.

This issue is fixed in the SM in release 3.1.0.

Thread Remains Open after Disconnecting from SM/SCE Java APIs

- Cisco number: CSCsg76248

The `main()` function of an application that uses the SM/SCE API might not return due to the existence of a thread that handles resiliency to time changes during the life of the API.

This issue is fixed in the SM in release 3.1.0.

SCE Subscriber API Readme file Indicates the API can work with Java Version 1.5

- Cisco number: CSCsg89203

The readme file of the SCE Subscriber API states that the API can be installed on any platform that supports Java version 1.4/1.5; however, the API works only with Java 1.4.

This file is fixed in the SM in release 3.1.0.

RADIUS Listener LEG is Limited to a Single CPU

- Cisco number: CSCsh24167

There is a lock between the RADIUS packet handlers that allows only one handler to work at a time. This prevents the LEG from scaling its performance on machines with multiple CPUs.

This issue is fixed in the SM in release 3.1.0 and performance is improved.

SM-SCE Connection Problem may Impact Other SM-SCE Connections

- Cisco number: CSCsh24501

If the PRPC connection to the SCE stays up, but the subscriber logon rate significantly decreases, the output queue from the SM to the SCE fills up and every additional message in the queue is delayed.

The logon process to the SM updates the SM DB and in some cases – depending on logon operations and on the introduction mode – updates one SCE or more.

The ability to automatically quarantine the SCE if a logon message to it fails to execute due to a timeout in putting a message into the queue to the SCE was added to SM 3.1.0.

The following algorithm is implemented:

1. When there is a timeout, the SCE is put into a quarantine state for 60 seconds (quarantine timeout). For the duration of the quarantine time, the connection is forced down.
2. After the quarantine timeout, the SCE enters a post quarantine state for 10 minutes (post-quarantine timeout) during which it is treated as any healthy SCE.
 - If a message fails to be sent to the SCE within the post-quarantine timeframe, the SCE is put in quarantine again (stage 1 above), and the quarantine timeout is doubled.
 - Otherwise, the SCE exits the post-quarantine state into a not-in-quarantine state.



Note Running the `p3net --connect -n <SCE name> CLU` resets the quarantine state.

The Upgrade Script Installs a New Java Without Removing Old Java

- Cisco number: CSCsh24501

When upgrading the SM, the upgrade script installs the new version of the Java Runtime Environment (JRE). However, it does not remove the old version of the JRE.

This issue is fixed in the SM in release 3.1.0.

CLU Error when Extracting Support File with Output File Path

- Cisco number: CSCsh37874

When using the CLU to extract a support file with an absolute path, an error occurs. For example:

- a) When the path uses a user's home directory:

```
-bash-3.00$ p3sm --extract-support-file -o ~/pcube/1.zip
```

```
Error - Operation buildInformationFile failed
```

```
null
```


b) When using the full path:

```
-bash-3.00$ p3sm --extract-support-file -o
/export/home/pcube/3.zip
```

```
Error - Operation buildInformationFile failed
null
```

This issue is fixed in the SM in release 3.1.0.

The p3subsdB --export --prefix CLU is Always Case Sensitive

- Cisco number: CSCsh49464

When using the p3subsdB --export CLU with the --prefix option, the prefix is always case sensitive regardless of the *subscriber_id_case_sensitivity* parameter.

This issue is fixed in the SM in release 3.1.0.

SM Upgrade Causes QM Configuration Loss

- Cisco number: CSCsh74071

The QM configuration file is overridden during the SM upgrade process.

This issue is fixed in the SM in release 3.1.0.

Upgrade Script Might Fail when /etc/motd file is Not Empty

- Cisco number: CSCsh77653

When upgrading the SM with the upgrade script, if the /etc/motd file is not empty, the upgrade may fail.

This issue is fixed in the SM in release 3.1.0.

Executing CLU Commands as User other than pcube Throws Exception

- Cisco number: CSCsh90641

Running any CLU command as a user other than 'pcube' causes an exception instead of printing a suitable error message to the log.

This issue is fixed in the SM in release 3.1.0.

Adding Subscriber with a Domain when `aliases=*` is Configured adds Subscriber with Wrong Domain

- Cisco number: CSCsh90641

When running the CLU

```
p3subs --add -s w --domain=subscribers
```

the subscriber is logged in with the correct domain.

When the domain section of the SM configuration file contains `aliases=*` and running the same command, the subscriber is logged into the wrong domain.

This issue is fixed in the SM in release 3.1.0.

Quota Manager—No User Log for Subscriber Quota Breach

- Cisco number: CSCsi08176

In the case of a subscriber quota breach, there is no user log entry to indicate that this has occurred. These messages are logged under the `log_all` configuration parameter.

This issue is fixed in the SM in release 3.1.0.

p3net CLU Truncates IP Addresses

- Cisco number: CSCsi08188

When using the `p3net --show-all --detail` CLU, if an SCE has an IP address with values larger than 100 in each of the octets, the last octet is truncated.

For example, the IP address 211.183.122.225 is truncated to 211.183.122.22.

This issue is fixed in the SM in release 3.1.0.

p3subs --set CLU Does Not Add a Subscriber if it Does Not Exist

- Cisco number: CSCsi16865

The `p3subs --help` CLU states that the `--set` option can be used to add or update a subscriber. However, `--set` does not add a subscriber and returns an error if the subscriber does not exist. For example:

```
-bash-3.00$ p3subs --set -s s1
```

```
Error - Failed to update the subscriber 's1'
```

```
Subscriber 's1' does not exist in the subscriber database
```

This issue is fixed in the SM in release 3.1.0.

SCE Subscriber API Failover Might Cause Loss of Client Context

- Cisco number: CSCsi48339

After an API client failover, login-pull-requests and quota-events may stop after a few minutes.

This is caused when there is an SCE Subscriber API failover between two clients that use the same client name. If the first client fails and does not disconnect correctly, a context in the server which is used for the APIs with this client name is removed after a timeout and the SCE will stop producing login-pull-requests.

This issue is fixed in the SM in release 3.1.0.

SCE Cascade Pair does not Exchange all Quota Information

- Cisco number: CSCsf97557

The SCE cascade pair exchanged only a portion of the quota information, this caused the failover in the SCE cascade topology to be stateless with regard to quota.

On SCE failover, all of the subscribers went into an immediate breach state, which is the same as the use-case for a first subscriber login. As a result of the subscribers being in a breach state, the external server must provide quota to all active subscribers immediately after the failover.

The first quota notification after failover also contains an incorrect quota report which must be ignored. Ignoring the quota report means that there is quota leakage of the quota used since the last periodic update.

After an SCE failover there may be many breach notifications which can cause performance issues in the quota manager and the APIs.

This issue is fixed in the SCE in release 3.1.0.

QM Cannot Provision More Than 1 GB

- Cisco number: CSCsi55038

When the dosage size is configured to a value greater than 1 GB, the QM does not give any validation error, but it fails to update the SCE.

Also, when the SCE requests more than 1 GB of quota, the QM fails to provide the requested quota.

This issue is fixed in the SM in release 3.1.0.

PRPC Session Hangs on establishConnection

- Cisco number: CSCsi58251

In some cases when the connection is established at the PRPC Server side, the session gets stuck in an infinite loop.

If you run the `p3sm --sm-status` CLU, the following error will be displayed:
Could not connect to SM
Error - The operation cannot be performed

This issue is fixed in the SM in release 3.1.0.

Renaming the Domain Name Causes Subscriber to Lose Domain

- Cisco number: CSCsi58450

If a subscriber has been added to domain X and the name is changed to domain Y, after performing a load-config operation, the subscriber moves to a domain-less domain.

This issue is fixed in the SM in release 3.1.0.

CLU p3sm --load-config Does Not Create a Userlog Message

- Cisco number: CSCsi61346

When running the `p3sm --load-config` CLU, there is no user log message for the command.

This issue is fixed in the SM in release 3.1.0.

PRPC User File is Overwritten on Upgrade

- Cisco number: CSCsi61346

The PRPC user file is overwritten when upgrading the SM. Any users that the SCA BB Console uses are lost.

This issue is fixed in the SM in release 3.1.0.

DHCP Lease Query LEG on the SCE—Auto Logout does not Work After Activation

- Cisco number: CSCsi70860

When the DHCP Lease Query LEG is installed on the SCE, the LEG does not query the DHCP server before logging a subscriber out when the previous lease time has expired. If the subscriber is still active, an anonymous subscriber is created and a lease query is sent to the DHCP Server. The subscriber service might be interrupted during the logout and re-login.

This issue is fixed in the SM in release 3.1.0.

Removed Features

Static Subscriber Support Removed from the SM

- Cisco number: CSCsh24361

The subscriber's SCE persistent support configuration in the SM causes a number of problems when it is used; such as, low performance and large amounts of writing into files on the SCE.

Superior functionality is provided by importing the subscribers directly to the SCE or by disabling this feature.

This feature is removed from the SM in 3.1.0.

Support for Solaris 8

From version 3.1.0 of the SM, Solaris 8 is no longer supported by the SM, LEGs, and APIs.

Open Caveats

SCE-Sniffer RADIUS LEG doesn't work because no RDRs are generated by the SCE application

- Cisco number: CSCse19753

After installing a SCA BB PQI file on the SCE and before applying a service configuration for the first time, the SCE application ignores all open flows. When a service configuration is applied for the first time, the SCE application starts processing new flows. However, older flows that were opened earlier are not processed, and no RDRs are generated for them. RADIUS sniffing is susceptible to this limitation because it is likely that the relevant RADIUS flow would be open before the first time a service configuration is applied.

Workaround:

The flow should be re-opened by restarting the SCE line-card after the service configuration is applied for the first time.

To restart the line-card through the Network Navigator GUI:

1. Select the relevant SCE from the Network Navigator device tree.
2. Stop the SCE line-card: from the NETWORK menu, select STOP TRAFFIC PROCESSING.
3. Start the line-card: from the NETWORK menu, select START TRAFFIC PROCESSING.

After the line-card is restarted, the RADIUS flow is treated by the SCE application as a new flow, and is processed and reported.

Pull-response is Sent for Domain-less Subscribers

- Cisco number: CSCsg97666

If a domain-less subscriber is created on the SM and an anonymous-subscriber is created in the SCE with the same IP address, the SM replies with a pull-response to the SCE.

If the same scenario is performed with a subscriber that is different to the SCE's domain, the SM does not send the pull-response.

SCE Subscriber API—High Rate of quota-state-restore Indications Might Cause Timeouts

- Cisco number: CSCsi89409

In cases where the user code performs subscriber login operations at a very high rate, and most of the subscribers have an external quota policy, the quota-state-restore indication replies might be blocked by the login operations. The login rate needs to remain very high for a significant period of time to cause this behavior.

This can cause:

- Accumulation of RDRs in the quota RDR category.
- Incorrect breach of subscriber's quota

Workaround:

- Limit the rate of login operations.
- Use a separate SCE API connection for login operations that are performed at high rates.

CLU—Deadlock During load-config

- Cisco number: CSCsh53275

In extreme cases of the removal of many SCEs from the SM configuration, the **load-config** CLU might hang and trigger a CLU timeout.

Workaround:

Restart the SM.

SM Upgrade Might Cause SCE Cascade Pair Failover

- Cisco number: CSCsi70273

During the upgrade of the SM from a 3.0.x system to 3.1.0, prior to the SCE upgrade, if the SCEs are part of a cascade setup, the SCEs might do a failover even though the `sm-connection-failure` action is set to `none`.

The reason for the failover is because the SM connection to the standby SCE is up while in the peer SCE the connection is down.

Quota Management—Problem with Remaining Quota RDRs and Quota-Status Indications

- Cisco number: CSCsi70443

The remaining quota RDRs in release 3.0.x of the SM contain an incorrect value for quota buckets that are not controlled by the subscriber's package. In release 3.1.0 it provides zero for these buckets.

The SCE subscriber API exposes the remaining quota RDR in the `quotaStatusIndication` method of the `QuotaListenerEx` interface. Implementers of this interface must ignore the buckets that are not controlled.

The Quota Manager provides configuration for consecutive quota-buckets only, starting with the first bucket. Therefore, if the controlled-buckets for a certain package are not consecutive beginning with the first bucket or are not configured as in the policy applied to the SCE, the QM will attempt to update these buckets for every event received from the SCE.

Workaround:

Configure all of the external-quota packages to use consecutive buckets starting from the first bucket and configure the QM to control these same buckets.

SCE Subscriber API—Zombie Connections After API Disconnect

- Cisco number: CSCsi96559

If the auto-reconnect feature of the SCE subscriber API is used, and the client experiences a physical loss of connection with the SCE for a long time, several zombie connections might be created on the SCE when connectivity is restored.

This can cause the SCE to reject the client's "legal" connections due to too many client connections.

Workaround:

Implement the reconnection in the user's code (do not use the auto-reconnect feature.)

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

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Technical Assistance Center

The Cisco Technical Assistance Center (TAC) website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website <http://www.cisco.com/tac>.

P3 and P4 level problems are defined as follows:

- P3—Your network is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions. To register for *Cisco.com* (on page 16), go to <http://tools.cisco.com/RPF/register/register.do>. If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at <http://www.cisco.com/tac/caseopen>.

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to <http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

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