



# Cisco Prime Access Registrar 9.0 Release Notes

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Cisco Prime Access Registrar (Prime Access Registrar) is a high performance, carrier class, 3GPP-5G-DNAAA compliant, 64-bit RADIUS/Diameter solution that provides scalable, flexible, intelligent authentication, authorization, and accounting (AAA) services.

Prime Access Registrar comprises a RADIUS/Diameter server designed from the ground up for performance, scalability, and extensibility for deployment in complex service provider environments including integration with external data stores and systems. Session and resource management tools track user sessions and allocate dynamic resources to support new subscriber service introductions.



**Note**

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Prime Access Registrar can be used with Red Hat Enterprise Linux (RHEL) version 6.6 and above and CentOS version 6.5 and above.

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## Contents

This release note contains the following sections:

- [System Requirements, page 1](#)
- [Co-Existence With Other Network Management Applications, page 2](#)
- [New and Enhanced Features in Cisco Prime Access Registrar 9.0, page 2](#)
- [Cisco Prime Access Registrar 9.0 Bugs, page 4](#)
- [Related Documentation, page 7](#)

## System Requirements

This section describes the system requirements to install and use the Prime Access Registrar software.

[Table 1](#) lists the system requirements for Prime Access Registrar 9.0.



**Table 1** Minimum Hardware and Software Requirements for Prime Access Registrar Server

OS version	RHEL 6.6 and above CentOS 6.5 and above
Model	X86
CPU type	Intel Xeon CPU 2.30 GHz
CPU Number	4
CPU speed	2.30 GHz
Memory (RAM)	8 GB
Swap space	10 GB
Disk space	1*146 GB

Prime Access Registrar supports JDK versions 1.7 and 1.8 from release 7.3 onwards.

## Co-Existence With Other Network Management Applications

To achieve optimal performance, Prime Access Registrar should be the only application running on a given server. In certain cases, when you choose to run collaborative applications such as a SNMP agent, you must configure Prime Access Registrar to avoid UDP port conflicts. The most common conflicts occur when other applications also use ports 2785 and 2786. For more information on SNMP configuration, see the “Configuring SNMP” section in the “Configuring Cisco Prime Access Registrar” chapter of the *Cisco Prime Access Registrar 9.0 Administrator Guide*.

## New and Enhanced Features in Cisco Prime Access Registrar 9.0

Cisco Prime Access Registrar 9.0 provides the following features:



### Note

Smart Licensing is not supported in Prime Access Registrar version 9.0 and hence Smart PIDs will not be available for this release (Caveat reference: CSCvq23952).

- [Enhanced IP Allocation in Cisco Prime Access Registrar, page 3](#)
- [5G Data Network-AAA \(DN-AAA\) Compliance, page 3](#)
- [Tracking 5G Packet Flows in Prime Access Registrar, page 3](#)

## Enhanced IP Allocation in Cisco Prime Access Registrar

In the previous versions of Prime Access Registrar, IP allocation happens internally based on a specific range of IPs configured. If there are multiple Prime Access Registrars in a deployment, each Prime Access Registrar server will have different range of IPs configured and can allocate/de-allocate IPs only within that specific range. Prime Access Registrar cannot allocate IPs from a common pool. This is addressed by the enhanced IP allocation feature.

With this feature, IP ranges will be read from the configuration and the common IP pools will be maintained in a centralized Mongo Database (MongoDB). Any Prime Access Registrar server which is connected to the DB can allocate an available IP for a user from the common IP pools. When the user disconnects, the IP is released back to the pool again. Along with the IP pools, the user sessions will also be maintained in centralized MongoDB.

With the enhanced IP allocation feature, IPV6 address allocation is also supported.



**Note**

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This feature is supported only in CLI.

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For more details about the Enhanced IP Allocation feature, see the [Cisco Prime Access Registrar 9.0 Administrator Guide](#). For details about the license slabs included for this feature, see the [Cisco Prime Access Registrar 9.0 Installation Guide](#).

## 5G Data Network-AAA (DN-AAA) Compliance

Prime Access Registrar is 5G Data Network-AAA (DN-AAA) compliant based on the spec 3GPP TS 29.561 V15.1.0. Further enhancements are made to support this functionality as given below:

- DN-AAA server-specific RADIUS and Diameter attributes are added in the dictionary and carried in the corresponding messages.
- N6-specific AVPs and Experimental-Result-Code are added in the corresponding dictionary.
- With respect to accounting traffic, the release of IPv4 address and/or IPv6 prefix is notified to the DN-AAA server by sending RADIUS Accounting-Request Interim-Update without the Framed-IP-Address and/or Framed-IPv6-Prefix attribute.
- Prime Access Registrar checks the 3GPP-Notification AVP and if the first bit of the third octet is set, then IP address is not allocated.
- Accounting ON and OFF is expected from Session Management Function (SMF) to ensure the synchronization of session information.
- Support is provided to trigger Re-Auth-Request (RAR) and Abort-Session-Request (ASR) when there is no integration with HSS for non-SIM based subscribers.
- **3GPP-Teardown-Indicator** is added to the RADIUS Disconnect Request message indicating the SMF that all QoS flows for the particular user and sharing the same user session will be deleted.

## Tracking 5G Packet Flows in Prime Access Registrar

New environment variable and Diameter stats counters are introduced to track the 5G packet flows in Prime Access Registrar. **EnableMatchingServiceSelection5GFlag** variable provides a flexibility to decide if you want to check the Interworking-5GS-Indicator AVP in the APN configuration of matching Service-Selection. The value must be set to 1 in the remote server incoming script to enable this flag.

Table 2 lists the new Diameter stats counters introduced for this feature.

**Table 2** *Diameter Stats Counters to Track 5G Packet Flows*

Stats	Counters	Description
Diameter Peer Stats	cdbpPeerStats5GIndicatorDEAsOut	<p>Number of DEA messages with Interworking-5GS-Indicator AVP that are sent to the peer.</p> <p>The Interworking-5GS-Indicator AVP is present in the DEA packet to differentiate it as a 5G packet.</p> <p>This will help in understanding the 5G DEA message flow in Prime Access Registrar.</p> <p><b>Note</b> If the environment variable <b>EnableMatchingServiceSelection5GFlag</b> is set to 1, the <b>cdbpPeerStats5GIndicatorDEAsOut</b> counter is updated only if the Interworking-5GS-Indicator AVP is present in the APN configuration of matching Service-Selection.</p>
Diameter Remote Server Stats	cDiaRemSvrStats5GIndicatorSAAsIn	<p>Number of Server-Assignment-Answer (SAA) messages with Interworking-5GS-Indicator AVP that are received by the remote server. The Interworking-5GS-Indicator AVP is present in the SAA packet to differentiate it as a 5G packet.</p> <p>This will help in understanding the 5G SAA message flow in Prime Access Registrar.</p> <p><b>Note</b> If the environment variable <b>EnableMatchingServiceSelection5GFlag</b> is set to 1, the <b>cDiaRemSvrStats5GIndicatorSAAsIn</b> counter is updated only if the Interworking-5GS-Indicator AVP is present in the APN configuration of matching Service-Selection.</p>
	cDiaRemSvrStats5GIndicatorFailedSARs	<p>Number of failed Server-Assignment-Request (SAR) messages with Interworking-5GS-Indicator AVP, that are received by the remote server.</p>

## Cisco Prime Access Registrar 9.0 Bugs

For information on a specific bug or to search all bugs in a particular Prime Access Registrar release, see [Using the Bug Search Tool](#).

This section contains the following information:

- [Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.5, page 5](#)
- [Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.4, page 5](#)
- [Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.3, page 5](#)
- [Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.2, page 6](#)
- [Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.1, page 6](#)

## Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.5

Table 3 lists the anomaly fixed in Prime Access Registrar 9.0.0.5 release.

**Table 3** Fixed Anomaly in Prime Access Registrar 9.0.0.5

Bug	Description
CSCvv29527	In reverse flow single request timeout is leading to connection disconnect.

## Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.4

Table 4 lists the anomalies fixed in Prime Access Registrar 9.0.0.4 release.

**Table 4** Fixed Anomalies in Prime Access Registrar 9.0.0.4

Bug	Description
CSCvu64868	Abort-Session-Request (ASR) should not be initiated when Registration-Termination-Request (RTR) is received with de-registration reason as NEW_SERVER_ASSIGNED.
CSCvu70254	Apache Tomcat upgrade from 9.0.31 to 9.0.36.
CSCvu71790	Prime Access Registrar is not reactivating the connection after receiving af_send errors when remote server is down.
CSCvu71868	Additional Server-Assignment-Request (SAR) counters to exclude redirection requests.
CSCvu72062	Diameter stale session timeout configuration enhancement.

## Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.3

Table 5 lists the anomaly fixed in Prime Access Registrar 9.0.0.3 release.

**Table 5** Fixed Anomaly in Prime Access Registrar 9.0.0.3

Bug	Description
CSCvt27777	<p>Evaluation of cnsar for Apache Tomcat Ghostcat vulnerability.</p> <p><b>PSIRT Evaluation</b></p> <p>The Cisco PSIRT has evaluated this issue and does not meet the criteria for PSIRT ownership or involvement. This issue will be addressed via normal resolution channels.</p> <p>If you believe that there is new information that would cause a change in the severity of this issue, please contact psirt@cisco.com for another evaluation.</p> <p>Additional information on Cisco's security vulnerability policy can be found at the following URL:</p> <p><a href="http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html">http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html</a></p>

## Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.2

Table 6 lists the anomalies fixed in Prime Access Registrar 9.0.0.2 release.

**Table 6** Fixed Anomalies in Prime Access Registrar 9.0.0.2

Bug	Description
CSCvr83909	Client throttling is dropping response packets in DRA mode.
CSCvr60466	Tag value is not set properly for vendor specific attributes of type TAG_STRING.
CSCvr25497	Upgrade failed from 6.1.3.2 to higher version.

## Fixed Anomalies in Cisco Prime Access Registrar 9.0.0.1

Table 7 lists the anomalies fixed in Prime Access Registrar 9.0.0.1 release.

**Table 7** Fixed Anomalies in Prime Access Registrar 9.0.0.1

Bug	Description
CSCvr09386	Interworking-5GS-Indicator AVP code to be changed in Prime Access Registrar CLI.
CSCvr25357	Reactivation not happening when the diameter connection is closed for the remote server randomly.

## Using the Bug Search Tool

Use the Bug Search tool (BST) to get the latest information about Cisco Prime Access Registrar bugs. BST allows partners and customers to search for software bugs based on product, release, and keyword, and it aggregates key data such as bug details, product, and version.

BST allows you to:

- Quickly scan bug content
- Configure e-mail notifications for updates on selected bugs
- Start or join community discussions about bugs
- Save your search criteria so you can use it later

When you open the Bug Search page, check the interactive tour to familiarize yourself with these and other Bug Search features.

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- Step 1** Log into the Bug Search Tool.
- Go to <https://tools.cisco.com/bugsearch>.
  - At the Log In screen, enter your registered Cisco.com username and password; then, click **Log In**. The Bug Search page opens.



**Note** If you do not have a Cisco.com username and password, you can register for them at <http://tools.cisco.com/RPF/register/register.do>.

- Step 2** To search for a specific bug, enter the bug ID in the Search For field and press **Return**.
- Step 3** To search for bugs in a particular release:
- a. In the Search For field, enter the product name and the release version, e.g. Cisco Prime Access Registrar 9.0, and press **Return**. (Leave the other fields empty.)
  - b. When the search results are displayed, use the filter and sort tools to find the types of bugs you are looking for. You can search for bugs by severity, by status, how recently they were modified, according to the number of support cases associated with them, and so forth.
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## Related Documentation

For a complete list of Cisco Prime Access Registrar documentation, see the [Cisco Prime Access Registrar 9.0 Documentation Overview](#).



### Note

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We sometimes update the documentation after original publication. Therefore, you should also review the documentation on [Cisco.com](http://Cisco.com) for any updates.

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