Cisco Broadband Access Center 3.7 Release Notes

Revised: April 27, 2012, OL-25686-01

These release notes describe new software features, bug fixes, and documentation for Cisco Broadband Access Center (Cisco BAC), Release 3.7.

Contents

Introduction

Cisco Broadband Access Center (Cisco BAC) automates the tasks of provisioning and managing customer premises equipment (CPE) in a broadband service provider network. The product provides a simple and easy way to deploy high-speed data, voice technology, and home networking devices.

With the high-performance capabilities of Cisco BAC, you can scale the product to suit networks of virtually any size, even those with millions of CPE. It also offers high availability, made possible by the product's distributed architecture and centralized management.

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Cisco BAC enables you to provision and manage CPE by using the Broadband Forum's CPE WAN Management Protocol (CWMP), a standard defined in the TR-069 specification. Cisco BAC integrates the capabilities defined in TR-069 to increase operator efficiency and reduce network-management problems.

Cisco BAC supports devices based on the TR-069, TR-098, TR-104, and TR-106 standards. These devices include Ethernet and ADSL gateway devices, wireless gateways, VoIP ATAs, and other devices that are compliant with CWMP.

This release supports mass scale provisioning and managing of Digital Life Controllers (DLC) devices that function as a mini 3G cell tower in customer premises. It does this, using the customer's internet connection. For details about the features supported in Cisco BAC 3.7, see New Features in Cisco BAC 3.7 section.

System Components

Cisco BAC comprises:

- A Regional Distribution Unit (RDU) that is a software that you install on your server. The RDU is the primary server in a Cisco BAC deployment. Through its extensible architecture, the RDU supports the addition of new technologies and services.
- The Device Provisioning Engine (DPE) that is a software that you install on your server. The DPE server handles all device interactions for the RDU.
- A STUN server that supports a UDP based Connection Request mechanism defined in TR069 Annex G to allow Cisco BAC to initiate a session with a CPE that is operating behind a NAT Gateway.
- The Cisco Access Register (CAR) extensions are the links between Cisco BAC and Cisco Access Registrar. You should install this component on all Cisco Access Registrar servers in your Cisco s environment. If you are deploying Cisco BAC in a fail-over environment, ensure that you also install the extensions on the fail-over servers.
- An administrator user interface through which you can monitor and manage Cisco BAC.
- A Java provisioning application programming interface (API). You can use this to integrate Cisco BAC into an existing operations support-system environment. You can use the provisioning API to register devices in Cisco BAC, assign device configuration policies, run CWMP operations on the device, and configure the entire Cisco BAC provisioning system.
- Cisco Network Registrar extensions (CNR extensions), are the links between Cisco BAC and Cisco Network Registrar. You should install this component on all Cisco Network Registrar servers in your Cisco BAC environment. If you are deploying Cisco BAC in a failover environment, ensure that you install the extensions on the failover servers, as well.

System Requirements

You must have the Solaris 10 and Linux 5 operating system installed on your system to use the Cisco BAC software. For information on installation, see the *Cisco Broadband Access Center Installation Guide 3.7*, which is available at:
http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/prod_installation_guides_list.html.

Licensing Requirements

You require a valid license key to successfully provision devices that use Cisco BAC. These licenses are specific to the:

- CWMP technology
- DPE component
- Feature Pack Licensing

Note If you have not yet received your licenses, contact your Cisco representative.

New Features in Cisco BAC 3.7

The new features of the Cisco BAC 3.7 are as follows:

Connection Request through CMHS

This method allows Cisco BAC to send connection request to CPE devices using the CMHS server, using BAC NB API Interfaces or BAC Admin UI.

When RDU receives the connection request message, it sends the message to the CMHS server that is configured in the BAC properties hierarchy. The CMHS NB API client contacts the CMHS server that the DLC is most likely be connected to.

Auto-discover IMEI

Cisco BAC now provides the capability to discover the International Mobile Equipment Identity (IMEI) number that is unique to every device. The IMEI number is discovered from the device when you configure the device for the first time.

After the IMEI is discovered, it is stored in the device record in the RDU and is used as the secondary Device ID. The auto-discover IMEI feature functions in the same way for both known and unknown devices.

Firmware Download Using Various File Types

Cisco BAC was supporting only one file type "1 Firmware Upgrade Image" but Cisco BAC 3.7 release allows various file type firmware download of CPE devices.

In this release of Cisco BAC, firmware download is enhanced to allow upgrade of CPE devices with different download file types. Now vendors can define file types in both internal and external firmware rule tags.

DPE CMWP Fault Filtering

This feature enables you to ignore and not store the CWMP faults that are reported by the CPE and are being sent to DPE. This feature is helpful when faults from CPE are expected for certain standard operations, such as a reboot or are of the recurring nature.

Large File Support for Firmware Download

Cisco BAC 3.7 supports large firmware file downloads. It has extended the DPE HTTP file service to read the file content from the DPE file system that is not in the DPE cache.

The large firmware files are stored in a predefined location under the files folder in the Data directory of DPE. The file transfer tools such as SCP, FTP, etc. can be used to transfer the files manually to DPE file system.

DPE Feature Pack Licensing Support

This release allows you to license DPE feature packs. The feature pack licenses indicate the count of the devices that can be processed by the DPE feature pack extension. The feature pack licenses can be added to the RDU through Cisco BAC admin UI or API, independently with or without CWMP / DPE licenses.

Linux Support

Cisco BAC 3.7 release supports the Red Hat Enterprise Linux 5 operating system for all components. The functionality of all the components on Linux is the same as running them on a Solaris platform. Data migration from a Solaris RDU to a Linux RDU is also possible in this release.

Connection Request through TR-069 Annex G

Cisco BAC includes a UDP based connection request mechanism defined in TR069 Annex G to initiate a session with a CPE that is operating behind a NAT Gateway. This release of Cisco BAC introduces a STUN service to support UDP connection request feature.

STUN service can be run on Solaris or Linux and can be deployed separately, in a different box from the RDU and DPE. However, it can be co-located with the DPEs.

This is an optional component required only when CPE is operating behind a NAT gateway.

Berkeley DB 5.1.25 Support

The Berkeley DB is upgraded from 4.1.25 to 5.1.25 for Cisco BAC 3.7. This upgrade helps in bug fixes and provides better performance, improved feature support, improved caching efficiency and faster database recovery.

Caveats

This section lists the customer-found issues that are still open in Cisco BAC 3.7. For information on the complete list of Cisco BAC bugs, see the Cisco_Broadband_Access_Center_BugList_37.html file in the Documentation subdirectory under BAC_37_Linux\SolarisK9.

Note To obtain more information about known problems, access the Cisco Software Bug Toolkit at http://www.cisco.com/pcgi-bin/Support/Bugtool/home.pl. (You will be prompted to log into cisco.com).

Resolved Issues

Table 1 lists the resolved bugs in the Cisco BAC 3.7 release.

Table 1 Resolved Bugs

Bug ID	Summary
CSCtz19988	Cisco BAC should extend Custom Discover Param length to 1024 in the User Interface.
CSCtz45989	Cisco BAC does not handle 9003 Fault code from device.
CSCtz55540	Support of ComplexValue tag for TR069 PeriodicUploadTime parameter.
CSCsx65375	RegenConfigs with FQDN search input causes trace errors.
CSCte84562	DPE incorrectly logs immediate-mode GetParameterValue operation.
CSCti28774	Cisco BAC database tools create a lockfile outside Cisco BAC directory structure.
CSCtt01457	Admin UI reports the DPE server as offline.
CSCtt34706	DPE CLI does not take EID with space in between.
CSCtu15614	CNR_EP registration fails when the diagnostic list has more than 50 devices.
CSCtu36249	RDU fails to fall back to local authentication when TACACS is unreachable.
CSCtu70428	DPE re-registration fails as CNR connection notification is blocking.
CSCtx54581	DPE status displayed offline, due to messaging queue being full.
CSCtx79812	Provisioning Group redirection fails when Home PG is down and Auto discovery is enabled.
CSCty00837	DPE Femto Extension throws Null pointer exception on GPS Error.
CSCty48467	DPE status is offline when there are too many device faults.
CSCty50811	FileNotFoundException when the firmware image filename has uppercase.

Table 1 Resolved Bugs

Bug ID	Summary
CSCty50939	FileSize 0 must be supported in Firmware template.
CSCty84748	Cisco BAC does not handle vendor specific fault codes in Transfer complete message.

Known Issues

Table 2 lists the open bugs in the Cisco BAC 3.7 release.

Click on the identifier to view the impact and workaround for the bugs. This information is displayed in the Bug Toolkit. You can track the status of the open bugs, using the Bug Toolkit.

Table 2 Known Software Problems

Bug ID	Description
CSCtx56952	Database migration tool displays incorrect message.
CSCtx64630	Secret key needs to be re-entered if TACACS server IP address is changed.
CSCtx05307	Connection request via STUN (Annex-G) server is not working in real device.
CSCtw96605	FileSize does not display unit in AdminUI when InternalFirmwareFile used.
CSCtw62682	Package check errors in Cisco BAC 3.7.
CSCty21625	Error when searching for device-id with spaces in between.
CSCty58071	Wrong error message returned from proxy operation with wrong data type.

Related Documentation

Note We sometimes update the printed and electronic documentation after original publication. Therefore, you should also review the documentation on http://www.cisco.com for any updates.

Table 3 describes the product documentation that is available.

Table 3 Product Documentation

Document Title	Location
Cisco Broadband Access Center 3.7 Documentation Overview	On Cisco.com at this URL: http://www.cisco.com/en/US/docs/net_mgmt/broadband_access_center/3.7/documentation/overview/Cisco_BAC37_DocOverview.html
Cisco Broadband Access Center 3.7 Installation Guide	On Cisco.com at this URL: http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/prod_installation_guides_list.html

Table 3 Product Documentation (continued)

Document Title	Location
Cisco Broadband Access Center 3.7 Administrator Guide	On Cisco.com at this URL: http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/prod_maintenance_guides_list.html
Cisco Broadband Access Center 3.7 Integration Developer's Guide	On Cisco.com at this URL: http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/prod_command_reference_list.html
Cisco Broadband Access Center 3.7 DPE CLI Reference	On Cisco.com at this URL: http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/prod_command_reference_list.html
Cisco Broadband Access Center 3.7 Third Party and Open Source Copyrights	On Cisco.com at this URL: http://www.cisco.com/en/US/products/sw/netmgtsw/ps529/products_licensing_information_listing.html

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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