



# Release Notes for Cisco Broadband Troubleshooter Release 3.5

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**Published: May 25, 2012**

Multiple Service Operators (MSOs) and cable companies provide a variety of services such as TV, video-on-demand, data, and voice telephony to subscribers. Network administrators and RF technicians need specialized tools to monitor and resolve the RF problems that may arise in a cable plant.

Cisco Broadband Troubleshooter 3.5 (CBT 3.5) is a simple, easy-to-use tool designed to recognize and resolve issues with efficiency and accuracy.

This document describes the new features, configurations, and modifications introduced in CBT 3.5, the open and resolved caveats, and additional references.

## Contents

This document describes the enhancements and feature sets for multiple versions of the CBT under the following sections:

- [New and Changed Information in CBT 3.5, page 1](#)
- [Caveats for Cisco Broadband Troubleshooter Release 3.5, page 4](#)
- [Upgrading to CBT 3.5, page 5](#)
- [Using CBT 3.5, page 8](#)
- [Troubleshooting Tips for CBT 3.5, page 8](#)
- [Additional References, page 11](#)
- [Obtaining Documentation and Submitting a Service Request, page 12](#)

## New and Changed Information in CBT 3.5

CBT 3.5 introduces significant enhancements, while sustaining the features introduced in prior versions (CBT 3.4, CBT 3.3, CBT 3.2, and CBT 3.1).



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**Americas Headquarters:**  
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

## CBT 3.5 Download File Sizes

Table 1 summarizes the approximate download file sizes for CBT 3.5.

**Table 1** CBT 3.5 Download File Sizes

Platform	Filename	File Size <sup>1</sup>
Solaris	CBT35-Solaris.tar.gz	356 MB
Linux	CBT35-Linux.tar.gz	356 MB
Windows	CBT35-Win.exe	211 MB

1. Approximate compressed download file size.

## New Features in CBT 3.5

CBT 3.5 introduces the following categories of enhancements and features:

- [Cisco Cable Modem Termination System Support and Licensing Enhancements, page 2](#)
- [Enhanced Hardware Server and Client Support, page 2](#)
- [SNMP MIBs, page 3](#)

### Cisco Cable Modem Termination System Support and Licensing Enhancements

- CBT 3.5 supports the new Cisco uBR-MC3GX60V cable interface line card for the Cisco uBR10012 router.
- CBT 3.5 supports cable modems configured in logical channel 0 or 1 for its spectrum operation.
- CBT 3.5 supports monitoring of the CMTS RP CPU along with line card CPU utilization during spectrum poll.

### Enhanced Hardware Server and Client Support

- CBT 3.5 supports Windows 7, Red Hat Enterprise Linux Server release 5 (64 bit and 32 bit), and Sybase 10.0.1 for Windows and Solaris versions.

#### UNIX Server Systems with Linux

The following environment supports **10, 50, 100, or 500 Cisco Cable Modem Termination System (CMTS) headend systems**:

- Red Hat Enterprise Edition 5 workstation
- Pentium 4, 3.2 gigahertz (GHz) or higher processor
- 1 GB DRAM
- 20 GB disk space

#### PC Server Systems for Windows

The following environment supports **10, 50, 100, or 500 Cisco CMTS headend systems**:

- Windows 7

- Pentium 4, 3.2 gigahertz (GHz) or higher processor
- 1 GB RAM
- 20 GB disk space

## SNMP MIBs

Following are the SNMP MIBs in CBT 3.5:

- CISCO-DVB-CABLE-SPECTRUM-MIB
- CISCO-DVB-EXT-MIB
- CISCO-TC
- CLAB-DEF-MIB
- CLAB-TOPO-MIB
- DOCS-IETF-BPI2-MIB
- DVB-CABLE-INA-DEVICE-MIB
- DVB-CABLE-INA-IF-MIB
- SNMP-TARGET-MIB
- DOCS-IF3-MIB
- RFC1213-MIB
- IANAifType-MIB
- IF-MIB
- SNMPv2-MIB
- SNMPv2-TC
- CISCO-SMI
- OLD-CISCO-CHASSIS-MIB
- CISCO-PRODUCTS-MIB
  - DOCS-IF-MIB
  - DOCS-IF-EXT-MIB
  - CISCO-CABLE-SPECTRUM-MIB
  - CISCO-DOCS-EXT-MIB
- CISCO-PING-MIB
- INET-ADDRESS-MIB
- SNMP-FRAMEWORK-MIB
  - DOCS-CABLE-DEVICE-MIB
  - CISCO-PROCESS-MIB
  - DOCS-QOS-MIB
  - ENTITY-MIB
  - CISCO-CABLE-QOS-MONITOR-MIB
  - CISCO-DOCS-REMOTE-QUERY-MIB

**Note**

The docsIf3CmtsCmRegStatusTcsId MIB object is not supported on the Cisco uBR-E-28U line card on the Cisco uBR7225 Series Router.

For additional MIBs information for the Cisco CMTS, refer to the following resources on Cisco.com:

- *Cisco CMTS Universal Broadband Router MIB Specifications Guide 12.2SC*  
[http://www.cisco.com/en/US/docs/cable/cmts/mib/12\\_2sc/reference/guide/ubrmibv5.html](http://www.cisco.com/en/US/docs/cable/cmts/mib/12_2sc/reference/guide/ubrmibv5.html)
- *SNMP Object Navigator*  
<http://www.cisco.com/cgi-bin/Support/Mibbrowser/unity.pl>

## Caveats for Cisco Broadband Troubleshooter Release 3.5

Caveats describe the unexpected behavior in Cisco software releases. Severity 1 caveats are the most serious caveats; severity 2 caveats are less serious. Severity 3 caveats are moderate caveats, with only selected severity 3 caveats being included in a caveats document.

The numbers and brief descriptions of caveats pertaining to Cisco Broadband Troubleshooter 3.5 are listed in this section.

### Cisco Bug Search

Cisco Bug Search Tool (BST), the online successor to Bug Toolkit, is designed to improve effectiveness in network risk management and device troubleshooting. You can search for bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. For more details on the tool, see the help page located at <http://www.cisco.com/web/applicat/cbsshelp/help.html>.

## Open Caveats for CBT 3.5

There are no open caveats for CBT 3.5.

## Resolved Caveats for CBT 3.5

- CSCtq66722  
Symptoms: The CPU utilization of the RP or the Supervisor on the Cisco CMTS is not monitored.  
Conditions: This issue occurs on all versions of the CBT.  
Workaround: Use another application to monitor the CPU utilisation via SNMP.

- CSCtx85293  
Symptoms: CBT does not support logical channel sub interface feature.  
Conditions: This issue occurs in CBT 3.4.  
Workaround: There is no workaround.
- CSCtx96908  
Symptoms: CBT shows corrupt or invalid MAC addresses in various parts of the GUI.  
Conditions: This issue occurs when the hexadecimal numbers composing the MAC addresses of the cable modems correspond with the hexadecimal values of valid ASCII characters.  
Workaround: There is no workaround.

## Upgrading to CBT 3.5

This section describes the installation, upgrade, and patch installation procedures for CBT 3.5.

### Using TCP Ports for CBT 3.5 Upgrade and Operation



#### Note

Cisco implements a default TCP port of 8105 on the licensing server for CBT 3.5. This prevents port conflict with other applications. If you require a TCP port other than the default 8105, set the TCP port after the installation of CBT 3.5, but prior to licensing.

We recommend ports other than 8005, 8080, 9080, 9443, or 9082.

Following are the default ports used by CBT 3.5:

- Port 8105: Java Virtual Machine (JVM) server port
- Port 9080: Non-SSL HTTP port
- Port 9443: SSL HTTP port
- Port 9082: Apache JServ Protocol (AJP) 1.3 Connector
- Port 2640: For Sybase database connectivity
- Port 8020: For Poller operation



#### Note

These default ports should not be blocked by Access Control List (ACL), Firewall, and so on for security.

CBT 3.5 uses the following port ranges for spectrum operations. Spectrum events such as Trace Window, Spectrogram, CNR Trending, and Generic Query use a specified range of port numbers.

- For both Trace Window events and Spectrogram events, port numbers range from 2100 to 2500.
- For Spectrum tools, such as CNR Trending, port numbers range from 3100 to 3500.
- For Diagnostic tools, such as Generic Query, port numbers range from 5100 to 5500.

The usage of these port numbers are in increments of 1, that is, for the first trace window that is launched, the port number is 2100, for the next trace window, the port number 2101, for the next Spectrogram window, the port number is 2102, and so forth up to port 2500.

## Downloading and Upgrading CBT 3.5

Use the following steps to download and to install CBT 3.5 on a system with the Linux, Solaris, or Windows operating systems.

### CBT 3.5 Download and Upgrade

- 
- Step 1** Download the CBT 3.5 software for the desired platform from Cisco.com to your local directory `<CBT3.5_DOWNLOAD_DIR>`.
- Cisco.com location from which to download:  
<http://www.cisco.com/cisco/software/type.html?mdfid=268439486&flowid=5016&softwareid=281104848>
  - CBT 3.5 download entails downloading the following files:
    - There is a single file for the Solaris platform—**CBT35-Solaris.tar.gz**
    - There is a single file for the Linux platform—**CBT35-Linux.tar.gz**
    - There is a single file for the Windows platform—**CBT35-Win.exe**
    - CBT 3.5 Release Notes—**CBT35ReleaseNotes.pdf**
- Step 2** Extract the corresponding software. For Solaris and Linux, use the following commands. For Windows 7, Windows XP and Windows 2000, skip this step and move to [Step 3](#).
- Solaris:
    - a. `cd <CBT3.5_DOWNLOAD_DIR>`
    - b. `gunzip CBT35-Solaris.tar.gz`
    - c. `tar xvf CBT35-Solaris.tar`
  - Linux:
    - a. `cd <CBT3.5_DOWNLOAD_DIR>`
    - b. `gunzip CBT35-Linux.tar.gz`
    - c. `tar xvf CBT35-Linux.tar`
- Step 3** If a previous CBT installation (CBT 2.x, CBT 3.0, CBT 3.2, CBT 3.3, or CBT 3.4) exists, uninstall it using the following commands or procedures respectively. Otherwise, skip to [Step 4](#).
- Solaris: `cd <CBT3.x_DOWNLOAD_DIR> ./uninstall`
  - Linux: `cd <CBT3.x_DOWNLOAD_DIR> ./uninstall`
  - Windows:
    - a. Remove the existing CBT installation by clicking **Start, Settings, Control Panel, Add or Remove Programs**, and removing CBT 3.x after the Windows prompts.
    - b. In Windows Explorer, navigate to the uninstalled directory, and verify if it has been removed. If necessary, delete the CBT3x-Win.exe in the `<CBT3.x_DOWNLOAD_DIR>` file, and related files, if applicable.
- Step 4** Install CBT 3.5. Use the following commands or procedure, according to the platform being used:
- Solaris: `cd <CBT3.5_DOWNLOAD_DIR> ./install`
  - Linux: `cd <CBT3.5_DOWNLOAD_DIR> ./install`

- Windows: In Windows Explorer, double-click **CBT35-Win.exe** in `<CBT3.5_DOWNLOAD_DIR>`. Select the default answers to the installation questions.



**Note** A demonstration version of CBT 3.5 will run (a license is not included in the Cisco.com download). To make the software fully functional, obtain a license for CBT 3.5 from Cisco Systems. See [Step 5](#).

**Step 5** Purchased copies of CBT no longer include a software CD, but include a license certificate with a PAK key. This PAK key generates the necessary license file from the following websites, and the software is downloaded from [Cisco.com](#).

- Use this site if you are a registered user of [Cisco.com](#):  
[www.cisco.com/go/license](http://www.cisco.com/go/license)
- Use the following site if you are not a registered user of [Cisco.com](#):  
[www.cisco.com/go/license/public](http://www.cisco.com/go/license/public)

Demonstration copies are available either via the Internet, or as an ordered accessory for a universal broadband router product. The copies supplied with a universal broadband router product include a demo license certificate with a PAK key. The copy available from the Internet uses a registration page, from where the PAK key is sent to your e-mail address.

**Step 6** Save the license file as License.

**Step 7** Use the following commands to copy the license to the license directory and restart CBT 3.5:

- Solaris:
  1. `cp License /opt/CSCOcbt/httpServer/webapps/ROOT/WEB-INF/classes/lic`
  2. `/opt/CSCOcbt/bin/stop_app`
  3. `/opt/CSCOcbt/bin/start_app`
- Linux:
  1. `cp License /opt/CSCOcbt/httpServer/webapps/ROOT/WEB-INF/classes/lic`
  2. `/opt/CSCOcbt/bin/stop_app`
  3. `/opt/CSCOcbt/bin/start_app`
- Windows:
  1. `copy License <CBT3.5_INSTALLATION_DIR>\httpServer\webapps\ROOT\WEB-INF\classes\lic`
  2. Click **Start, Programs, Cisco Broadband Troubleshooter, Stop Troubleshooter**.
  3. Click **Start, Programs, Cisco Broadband Troubleshooter, Start Troubleshooter**.



**Note** When the CBT 3.5 license is installed and active, additional changes to the license are not supported. License changes disable an otherwise valid license.

# Using CBT 3.5

Refer to the [Cisco Broadband Troubleshooter Release 3.5 User Guide](#).

## Troubleshooting Tips for CBT 3.5

This section contains information about the following procedures for verifying and troubleshooting CBT 3.5:

- [Saving System Message Logs for Troubleshooting](#), page 8
- [Verifying the Installation Status of the CBT 3.5 Server](#), page 8
- [Verifying the CBT 3.5 Installation License](#), page 9
- [Troubleshooting the Continuous Sweep Spectrum Operation in CBT 3.5](#), page 9
- [Changing Server Ports in XML Script](#), page 10

## Saving System Message Logs for Troubleshooting

When troubleshooting CBT 3.5, we recommend that message logs be saved and filtered by performing the following steps:

- 
- Step 1** To view the saved message logs, click **Utilities > Message log**.
  - Step 2** Filter the message log entries by severity, user, module, or date.
  - Step 3** To set the logging level, click **Configuration > Message Log**. Setting the logging level helps prevent unnecessary messages taking up space in the fixed-size log file.

In Solaris and Linux, the log file is located in `/opt/CSCOcbt/httpServer/logs/catalina.out`. This file is viewable with viewing utilities such as `vi`, `Cat`, `Tail`, or so on. In Windows, these messages go to the console, and a file is not created.

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## Verifying the Installation Status of the CBT 3.5 Server

Perform the following steps to verify the status of the installed CBT 3.5 server:

- 
- Step 1** Verify that there are no exceptions in the `catalina.out` file in the following locations:
    - Solaris and Linux: `/opt/CSCOcbt/httpServer/logs/`
    - Windows: The CBT 3.5 console
  - Step 2** Verify that the `dbeng10` process is running on the Solaris, Linux, and Windows systems as follows:

- Solaris:

```
ps -ef|grep dbe
root 26449 1 0 Aug 18 ? 0:24 dbeng10 -x tcpip{ServerPort=2640} -q -ud -s local0 -m -c
16M -n cbtdbengine /opt
```

- Linux:



```
ps -ef|grep dbe
root 26449 1 0 Aug 18 ? 0:24 dbeng10 -x tcpip{ServerPort=2640} -q -ud -s local0 -m -c
16M -n cbtdbengine /opt
```

- Windows: A Sybase icon is shown as a running process.

**Step 3** Verify that the following Java processes are running:

- Solaris and Linux:

```
ps -ef|grep java
root 26478 1 0 Aug 18 ? 0:39 /opt/CSCOcbt/jre/bin/java -DCBTpoller -cp
/opt/CSCOcbt/httpServer/webapps/ROOT/
```

```
root 26489 1 0 Aug 18 ? 148:55 /opt/CSCOcbt/jre/bin/java
-Djava.endorsed.dirs=/var/CSCOcbt/httpServer/common/e
```



**Note** Because Linux displays threads, there are many Java entries.

- Windows: Use the command console for Tomcat and the CBT poller to view log messages.

## Verifying the CBT 3.5 Installation License

Perform the following steps to verify the CBT 3.5 installation license:

For Solaris and Linux, perform these steps:

1. Verify that the license is present and the correct file is in the following location:  
/opt/CSCOcbt/httpServer/webapps/ROOT/WEB-INF/classes/lic/License
2. Log in and allow error prompts to identify issues, if any.
3. Scan the catalina.out file in the following location for error messages:  
/opt/CSCOcbt/httpServer/logs/

For Windows, perform these steps:

1. Verify that the license is present and the correct file is in the following location:  
INSTALLATION\_DIR\httpServer\webapps\ROOT\WEB-INF\classes\lic\License
2. Log in and allow error prompts to identify issues, if any.
3. Scan the command console for Tomcat, and see if there are error messages in the console.

## Troubleshooting the Continuous Sweep Spectrum Operation in CBT 3.5

A nonstandard behavior has been observed, in that, the Continuous Sweep Spectrum Operation of CBT 3.5 fails even in circumstances in which the Single Sweep Spectrum Operation is functioning. One example is the proper Trace Window single sweep operation, but with failed continuous sweep behavior in the Trace Window.

CBT 3.5 requires that the following processes and tasks be used for the Continuous Sweep Spectrum Operation.

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**Step 1** Verify if the TCP ports used by CBT 3.5 are as follows because CBT uses these ports by default:

- Port 8105: JVM server port
- Port 9080: Non-SSL HTTP port
- Port 9443: SSL HTTP port
- Port 9082: AJP 1.3 Connector
- Port 2640: For Sybase Database connectivity.
- Port 8020: For Poller operation

For more information, refer to [“Using TCP Ports for CBT 3.5 Upgrade and Operation” section on page 5](#).

**Step 2** Implement the following TCP port ranges for spectrum operations. Spectrum events such as Trace Window, Spectrogram, CNR Trending, and Generic Query use a specified range of port numbers for operation.

- For both Trace Window events and Spectrogram events, port numbers range from 2100 to 2500.
- For Spectrum tools, such as CNR Trending, port numbers range from 3100 to 3500.
- For Diagnostics tools, such as Generic Query, port numbers range from 5100 to 5500.

The usage of these port numbers are in increments of 1, that is, for the first trace window that is launched, the port number is 2100, for the next trace window, the port number 2101, for the next Spectrogram window, the port number is 2102, and so forth up to port 2500.

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## Changing Server Ports in XML Script

The Tomcat server port in the server.xml script is set to 8105. This prevents possible port conflict when multiple Tomcat Web servers are running on the same workstation.

If required, perform the following steps to change the Tomcat server port in the XML script to 8105 and check for additional port conflicts:

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**Step 1** Edit the server.xml script in the following location:

`/opt/CSCObt/httpServer/conf`

**Step 2** Check for ports numbers having conflicts with CBT, and change all such port numbers. Following are the correct ports for the specified functions:

- Port 8105: JVM server port
  - Port 9080: Non-SSL HTTP port
  - Port 9443: SSL HTTP port
  - Port 9082: AJP 1.3 Connector
-

# Additional References

The following sections provide references related to CBT 3.5.

## Related Documents

Related Topic	Document Title
CBT 3.5	<ul style="list-style-type: none"> <li>• <i>Cisco Broadband Troubleshooter Release 3.5 User Guide</i> <a href="http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.5/user/guide/CBT35userguide.html">http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.5/user/guide/CBT35userguide.html</a></li> <li>• <i>Cisco Broadband Troubleshooter Release 3.5 Online Help</i>—available with licensed installation of CBT 3.5</li> </ul>
CBT 3.4	<ul style="list-style-type: none"> <li>• <i>Cisco Broadband Troubleshooter Release 3.4 User Guide</i> <a href="http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.4/user/guide/cbt34userguide.html">http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.4/user/guide/cbt34userguide.html</a></li> <li>• <i>Cisco Broadband Troubleshooter Release 3.4 Online Help</i>—available with licensed installation of CBT 3.4</li> </ul>
CBT 3.3	<ul style="list-style-type: none"> <li>• <i>User Guide for Cisco Broadband Troubleshooter Release 3.3</i> <a href="http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.3/user/guide/cbt33_ug_book.html">http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.3/user/guide/cbt33_ug_book.html</a></li> <li>• Release Notes for Cisco Broadband Troubleshooter Release 3.3 <a href="http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.3/release/notes/cbt33rn.html">http://www.cisco.com/en/US/docs/net_mgmt/cisco_broadband_troubleshooter/3.3/release/notes/cbt33rn.html</a></li> <li>• <i>Cisco Broadband Troubleshooter Release 3.3 Online Help</i>—available with licensed installation of CBT 3.3</li> </ul>
Cisco IOS Release Notes for Cisco Universal Broadband Routers	<ul style="list-style-type: none"> <li>• <i>Cisco uBR10012 Universal Broadband Router Release Notes</i> <a href="http://www.cisco.com/en/US/products/hw/cable/ps2209/prod_release_notes_list.html">http://www.cisco.com/en/US/products/hw/cable/ps2209/prod_release_notes_list.html</a></li> <li>• Cisco uBR7200 Series Universal Broadband Routers Release Notes <a href="http://www.cisco.com/en/US/products/hw/cable/ps2217/prod_release_notes_list.html">http://www.cisco.com/en/US/products/hw/cable/ps2217/prod_release_notes_list.html</a></li> </ul>

## Standards

Standard	Title
DOCSIS	<p>CBT 3.3 conforms to DOCSIS-compliant features and standards supported in Cisco Broadband Cable IOS releases, and CableLabs DOCSIS specifications at the following online location:</p> <ul style="list-style-type: none"> <li>• CableLabs DOCSIS <a href="http://www.cablelabs.com/cablemodem/">http://www.cablelabs.com/cablemodem/</a></li> </ul>

## MIBs

MIB	MIBs Link
SNMP MIBs for the Cisco CMTS	<p>To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use the Cisco MIB Locator in the following URL:</p> <p><a href="http://www.cisco.com/go/mibs">http://www.cisco.com/go/mibs</a></p> <p>Refer to the following document too:</p> <p>Cisco CMTS Universal Broadband Router MIB Specifications Guide 12.2SC</p> <p><a href="http://www.cisco.com/en/US/docs/cable/cmts/mib/12_2sc/reference/guide/ubrmibv5.html">http://www.cisco.com/en/US/docs/cable/cmts/mib/12_2sc/reference/guide/ubrmibv5.html</a></p>

## 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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