



# LAN CTE Configuration Guide

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BCM

Business Communications Manager

Document Status: **Standard**

Document Version: **05.02**

Document Number: **NN40010-601**

Date: **December 2009**

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# Chapter 1

## Getting started

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This section contains information on the following topics:

- [“About LAN CTE” on page 7](#)
- [“Audience” on page 9](#)
- [“Acronyms” on page 10](#)
- [“Related publications” on page 10](#)
- [“How to get Help” on page 11](#)

### About LAN CTE

Business Communications Manager (BCM) Computer Telephony Integration (CTI) products provide an interface between your personal computer and your BCM system. With these products, you can use telephony applications via the Windows operating system to control your telephone.

One of the software components of BCM CTI is LAN CTE. LAN CTE provides an interface between your personal computer, your telephone and the BCM system. With LAN CTE installed on your computer, you can run LAN CTE telephony applications to communicate with and control your telephone.

A second component of BCM CTI is the BCM TAPI Service Provider (TSP). With the BCM TSP installed on your computer, you can run telephony applications written to work with Microsoft TAPI. To run TAPI applications, both components of BCM CTI must be installed on your computer.

BCM allows the user to run LAN CTE applications and Microsoft TAPI applications.

The elements needed to run the LAN CTE applications are:

- operating system on the client computer
- LAN CTE on the client computer
- operating system on the BCM
- LAN CTE server on the BCM

The elements needed to run TAPI applications are the same as LAN CTE applications plus:

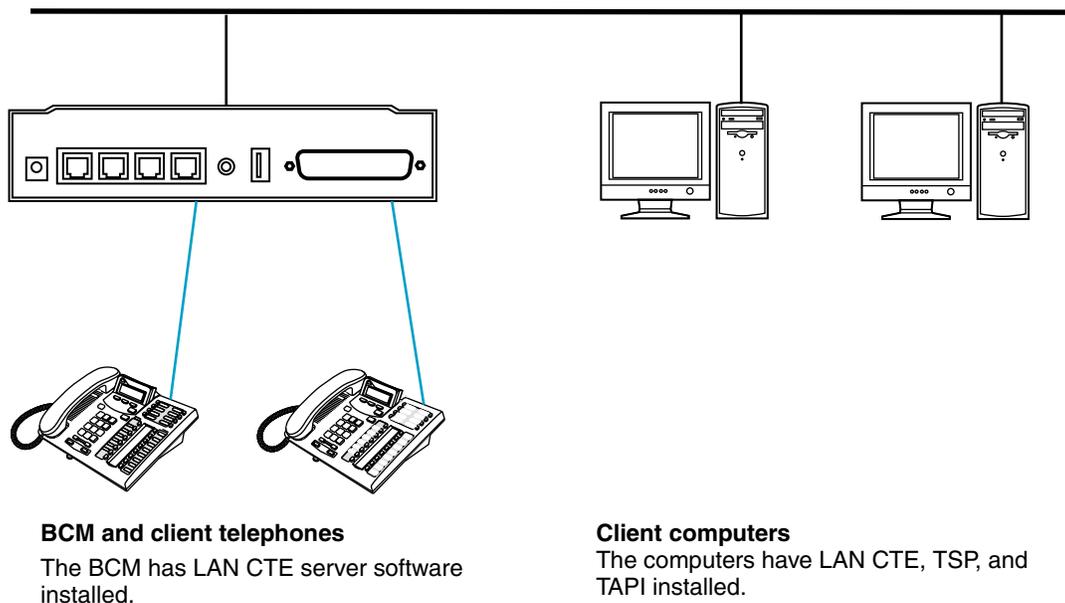
- BCM TAPI Service Provider (TSP) on the client computer
- TAPI on the client computer

**Table 1** How LAN CTE works

Element	Description
<b>Telephony applications</b>	Telephony applications are installed on client computers. BCM users run telephony applications to control their telephones. Using these applications, LAN CTE users give commands, such as <code>answer telephone</code> , to the BCM system. The telephony application also displays messages, such as telephone ringing, which are received from the BCM system. An example of a telephony application is Personal Call Manager.
<b>Microsoft Telephony Application Programming Interface (TAPI)</b>	TAPI is installed on the client computers and provides a set of industry-standard interfaces for performing call control. The BCM TAPI Service Provider (TSP) receives the TAPI commands and converts them into LAN CTE commands before they are sent to the BCM. The TSP also converts LAN CTE events received from the BCM into TAPI-equivalent events that are then passed to the application.
<b>TAPI Service Provider (TSP)</b>	TSP is installed on the client computer if you are operating TAPI applications. It acts as an interface between the LAN CTE communications software and TAPI.
<b>LAN CTE</b>	LAN CTE receives commands from TSP and applications and converts them into a format that is understood by the BCM. It also receives messages from the BCM and converts them into a format that is understood by TSP and applications.

This diagram shows how messages and commands are passed between the client computers and the BCM system.

**Figure 1** LAN CTE server and client configuration overview



## Operating system requirements

LAN CTE supports client computers with these operating systems:

- Windows XP Professional SP3
- Windows Vista Business, Windows Vista Ultimate or Windows Vista Enterprise SP2 (32-bit or 64-bit versions, TAPI option is not available in Windows Vista 64-bit)
- Windows Server 2003 Standard and Enterprise SP2
- Windows Small Business Server R2
- Windows Server 2008 Standard and Enterprise SP2



**Note:** All BCM client-supported operating systems come pre-loaded with Microsoft TAPI 2.1 or greater. TAPI does not support 64-bit versions of Windows XP or Vista.

## Audience

This guide is for network administrators who use Windows-based computers, Business Communications Manager (BCM) Local Area Network Computer Telephony Engine (LAN CTE), and Telephone Application Programming Interface (TAPI) (in the case where this is a requirement of the Computer Telephony Integration (CTI) application). This guide assumes that you have:

- working knowledge of the Windows operating system

- understanding of the transmission and management protocols used on your network
- familiarity with the network management platform (for example, Domain Manager) on your system

## Acronyms

The following is a list of acronyms used in this guide.

**Table 1**

<b>Acronym</b>	<b>Description</b>
API	Application Programming Interface
CTE	Computer Telephony Engine
CTI	Computer Telephony Integration
IP	Internet Protocol
O/S	operating system
TAPI	Telephony Application Programming Interface
TSP	TAPI Service Provider

## Related publications

Related publications are listed below. To locate specific information, you can refer to the *Master Index of the Library*.

*Keycode Installation Guide* (NN40010-301)

*Personal Call Manager User Guide*

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## How to get Help

This section explains how to get help for Nortel products and services.

### Getting Help from the Nortel Web site

The best way to get technical support for Nortel products is from the Nortel Technical Support Web site:

<http://www.nortel.com/support>

This site provides quick access to software, documentation, bulletins, and tools to address issues with Nortel products. More specifically, the site enables you to:

- download software, documentation, and product bulletins
- search the Technical Support Web site and the Nortel Knowledge Base for answers to technical issues
- sign up for automatic notification of new software and documentation for Nortel equipment
- open and manage technical support cases

### Getting Help over the phone from a Nortel Solutions Center

If you don't find the information you require on the Nortel Technical Support Web site, and have a Nortel support contract, you can also get help over the phone from a Nortel Solutions Center.

In North America, call 1-800-4NORTEL (1-800-466-7835).

Outside North America, go to the following Web site to obtain the phone number for your region:

<http://www.nortel.com/callus>

### Getting Help from a specialist by using an Express Routing Code

To access some Nortel Technical Solutions Centers, you can use an Express Routing Code (ERC) to quickly route your call to a specialist in your Nortel product or service. To locate the ERC for your product or service, go to:

<http://www.nortel.com/erc>

### Getting Help through a Nortel distributor or reseller

If you purchased a service contract for your Nortel product from a distributor or authorized reseller, contact the technical support staff for that distributor or reseller.



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## Chapter 2

# Configuring the BCM system and clients

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You must configure the LAN CTE software on your BCM system if you are using Telephony Application Programming Interface (TAPI) applications.

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**Note:** You may not need to configure the LAN CTE software on BCM if you are using only CTE applications. This is an application-dependent requirement. Some applications rely on the configuration to restrict access to certain telephones and others do not. Refer to the application documentation for its specific requirements.

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You must install the LAN CTE software on the client computers connecting to the BCM system to run CTE applications. To run TAPI applications, you must install both LAN CTE and BCM TAPI Service Provider (TSP) on the client computers.

LAN CTE and TSP do not require a Microsoft domain to function.

## Entering the LAN CTE authorization code

Before you install the LAN CTE software on the client computers, you must enable the authorization code for the application on the BCM. Refer to the *Keycode Installation Guide (NN40010-301)* for more details.

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**Note:** Only one keycode is required for one or multiple applications on the system. However, each application requires its own authorization code.

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**Note:** Each computer that uses LAN CTE and TAPI software is counted as a LAN CTE Desktop. Therefore, you need one license per computer.

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## Configuring BCM to support TAPI applications

If you intend to install TAPI applications on your BCM system, you must complete a full configuration (of both the BCM and client computers).

### To enable LAN CTE software for TAPI

- 1 From Element Manager, select the **Task Navigation Panel** and click the **Configuration** tab. The Configuration folders appear.
- 2 Click the **Applications** folder and click the **LAN CTE** task.
- 3 Click the **Status and clients** tab.
- 4 Check the **Allow LAN CTE Desktop Clients** check box.

### Adding LAN CTE clients

To use applications such as Personal Call Manager that are installed on your computer, you must associate the computer with a telephone connected to the BCM system. You do this by mapping the telephone extension number to a network identifier. You must assign an extension number to the network identifier of each client computer. Assign extension numbers from the Client Privileges page in Element Manager. The BCM system uses this information to make sure the correct telephone is controlled by a particular LAN CTE client.

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**Note:** If the LAN CTE configuration on the BCM is set using Domain name/User name, a LAN CTE client user can log on from any computer on the network. However, extension numbers associated with the LAN CTE client do not change unless you change them from the Client Privileges page. This allows LAN CTE clients to receive TAPI messages for their telephone from any computer they log on to. This also means that the TAPI messages LAN CTE clients receive are always for the telephones assigned to them, which is not necessarily the telephone beside the computer they are using.

If users are moving around and need use the phone beside the computer they are logged into, then the LAN CTE configuration can be done using either the IP address or machine name of the computers being used.

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## Mapping network identity to telephone extension numbers

You can map any of the following network identifiers to associate a computer with a telephone:

- domain/user name
- IP address
- machine (computer) name

Any of the network identifiers can be used, but only one is needed. For example, if the IP address is configured for a DN, that computer does not have to use the other two identifiers.

The network identifier you select depends on your network configuration. If you want to associate a telephone extension number with a particular user (for example, someone traveling with their laptop who wants to check their phone messages), you choose the user name. The phone the user is assigned to may not be physically located next to the computer. More

commonly, extension numbers are associated with the computer; for example, if there are multiple users using the computer. In this case you map the IP address or machine name to the extension number. If your network uses dynamic IP addresses, enter the machine name as the network identifier. For more detail, refer to Table 2.

**Table 2** Selecting Network user IDs

Network user ID	When to use an ID
Domain name/User name	For assigning a telephone extension number to a particular user
IP address	To allow multiple users to control and access an extension number through the same computer; for example at Call Centers. Works with static IP addresses
Machine (computer) name	To allow multiple users to control and access an extension number through the same computer; for example at Call Centers. Works with dynamic IP addresses

## To associate a network identifier to the BCM

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and click the **LAN CTE** task.
- 3 Click the **Client Privileges** tab.
- 4 Click the **Add** button.  
The **Add Client** dialog box appears.
- 5 From the **Identifier Type** list box, select either **Domain/User Account** or **Machine name** or **IP address**.  
You can use any of the three identifier types, but only one type is required.
- 6 In the **Identifier** box, type the domain/user account or machine name or IP address.
- 7 Click the **OK** button.  
The client is added to the **Clients** list in the **LAN CTE** panel.

## To associate an extension number with the network identifier

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and click the **LAN CTE** task.
- 3 Click the **Client Privileges** tab.
- 4 From the **Clients** list, select a client.  
The details about the client appear in the lower panel, and the **Delete** and **Modify** buttons become available.
- 5 In the **Details for client:** panel, click the **Add** button.  
The **Add Controlled DN** dialog box appears.
- 6 In the **DN** dialog box, enter a DN.

- 7 Click the **OK** button.

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**Note:** To add multiple DNs at the same time, enter the DNs separated by commas or spaces in the **DN** field.

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## To remove LAN CTE clients

If there is a LAN CTE client that no longer uses LAN CTE, you can delete that client. To delete a LAN CTE client and its associated extension number:

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and click the **LAN CTE** task.
- 3 Click the **Client Privileges** tab.
- 4 Select the client you want to remove and click the **Delete** button.  
A message appears that asks you to confirm the deletion.
- 5 Click the **OK** button.  
The client you selected is deleted.

## To delete a DN

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and click the **LAN CTE** task.
- 3 Click the **Client Privileges** tab.
- 4 From the **Clients** list, select a client.  
The details about the client appear in the lower panel.
- 5 In the lower panel, select the DN you want to delete.
- 6 Click the **Delete** button.  
A message appears that asks you to confirm the deletion.
- 7 Click the **OK** button.  
The DN you selected is deleted.

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## Installing LAN CTE software on the client computer

The steps you perform to install the LAN CTE software on the client computer are the same whether you are installing LAN CTE for CTE applications or installing LAN CTE and TSP for CTE and TAPI applications.

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**Note:** You need to know the computer name or BCM IP address to complete the LAN CTE client installation.

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### Installing LAN CTE for CTE and TAPI applications

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**Note:** Remove any previous versions of LAN CTE before you install the new version.

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#### To install LAN CTE on the client computer

- 1 Exit any Windows programs that are running.
- 2 Start a browser session and connect to the BCM Web page.  
The **BCM Login** dialog box appears.

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**Note:** The system Administrator provides the BCM website address.

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- 3 Enter your user name and password and click the **OK** button.  
The **Welcome to BCM Web** page appears.
- 4 Click the **User Applications** link.  
The **User Applications** page appears.
- 5 Click the **LAN CTE Client** link.  
The **LAN CTE Client** download page appears.
- 6 Click the **Download LAN CTE Client** link.  
The **File Download** dialog box appears.
- 7 Click the **Save** button and save the application to where you want to install it.
- 8 After the application downloads, double-click it to launch the installation, and follow the instructions in the Installation Wizard.

Repeat steps 1 to 8 for each client computer that uses LAN CTE software.

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**Note:** During LAN CTE installation, you are asked to select the features you want to install. CTE is selected by default. You must select TSP if you are going to use TAPI applications. You must be logged onto the client PC with an account that has administrator privileges for TSP to be installed correctly.

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## Installing CTE and TAPI applications

You are now ready to install CTE applications and TAPI applications. An example of a TAPI application is Personal Call Manager, which allows users to manage their telephone calls using their computer. Follow the install instructions for the applications.

### Setting the dialing properties

Some telephony applications use the dialing properties on the client computer to define how calls are dialed. Refer to the documentation that came with the telephony application to determine if the dialing properties are required for the client computer.

## Verifying that LAN CTE and BCM TSP are installed correctly

To verify that LAN CTE and BCM TSP are installed correctly, complete the following steps.

### To verify that LAN CTE and BCM TSP are installed correctly

- 1 Install Personal Call Manager on a computer that is a client of the BCM system. Refer to the *Personal Call Manager User Guide* for information on how to install this TAPI application.
- 2 Launch BCM Personal Call Manager.
- 3 Test the BCM system by using Personal Call Manager to make and receive calls, and to establish one conference call.

If the calls are successful, BCM is properly installed and configured for TAPI.

If the calls are not successful, follow the troubleshooting procedures (see [“Troubleshooting” on page 25](#)).

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**Note:** This does not work if only LAN CTE is installed. You must have TSP installed as well.

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## Connecting to a different BCM

If you want the client computer to connect to a different BCM than the one to which it is currently connected, you must change the IP address for the BCM at the command prompt of the computer.

### To change the client computer connection

- 1 On the computer, click the **Start** button and select **Run**.  
The Run dialog box opens.
- 2 In the Run dialog box, type **cmd** and click **Ok**.  
The command prompt window opens.
- 3 At the command prompt, type **ctebcmid** and press **Enter**.  
The response shows the current BCM IP address.
- 4 To change the current IP address, type the command **ctebcmid <New IP address>** and press **Enter**.

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**Note:** If you use TAPI applications, the change does not take effect until you reboot the PC.

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# Chapter 3

## Viewing LAN CTE information

After LAN CTE is installed and configured, you can view information about LAN CTE and how it is operating. This section also covers how to install Clients Privileges.

### Using Element Manager to view LAN CTE information

From the BCM Configuration screen in Element Manager, you can view:

- the active number of LAN CTE licenses (from the keycode section)
- the LAN CTE registered clients
- the Client Privileges registered with LAN CTE
- the Virtual Terminals (starting with BCM 5.0)

### Viewing LAN CTE Status and Clients

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and select **LAN CTE**.
- 3 Click the **Status and Clients** tab to view the attributes.

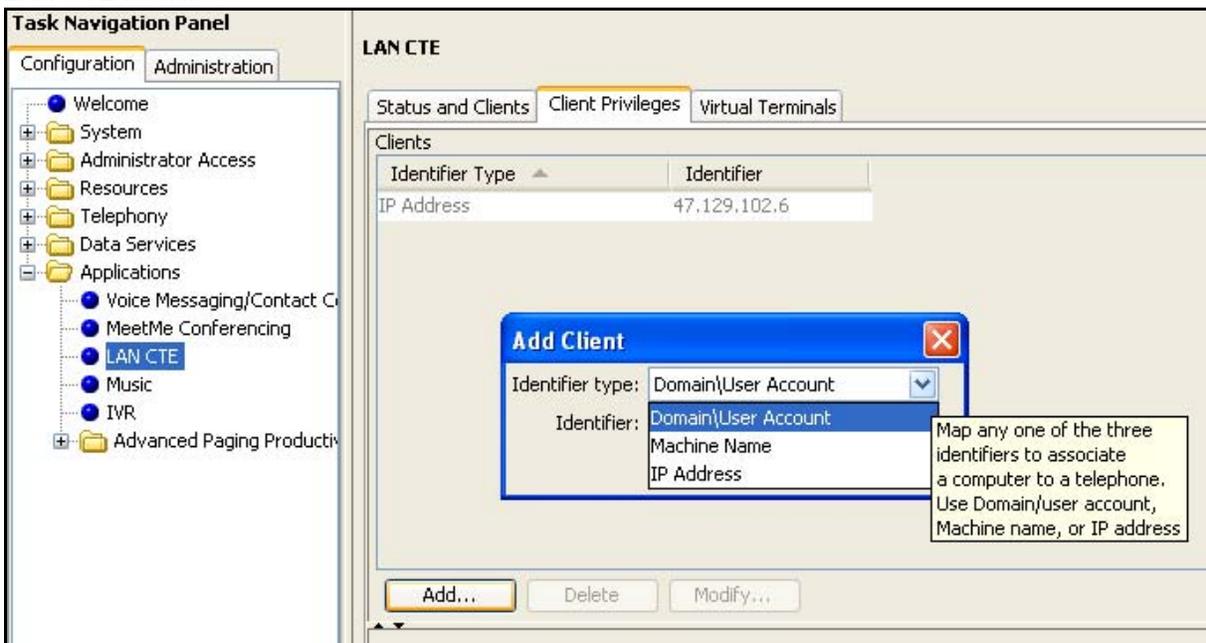
Attribute	Description
Number of active LAN CTE desktops	Shows the number of users currently connected to your BCM system
Allow LAN CTE Desktop Client	You can choose to allow or deny LAN CTE Desktop Clients with the check box. <b>If checked</b> , LAN CTE Desktop Clients are allowed <b>If not checked</b> , LAN CTE Desktop Clients are not allowed
Registered clients	IP Address: Clients IP address DNS Name: Clients domain server License start time: The date and time when the first application on the client started.
Details for applications in use	Shows the name of the application and time the user started using it.

## Populating the LAN CTE Client Privileges

You must map any one of the three identifiers to associate a computer to a telephone. See [Figure 2 "LAN CTE Identifiers"](#) and [Figure 3 "Adding telephone DNs"](#).

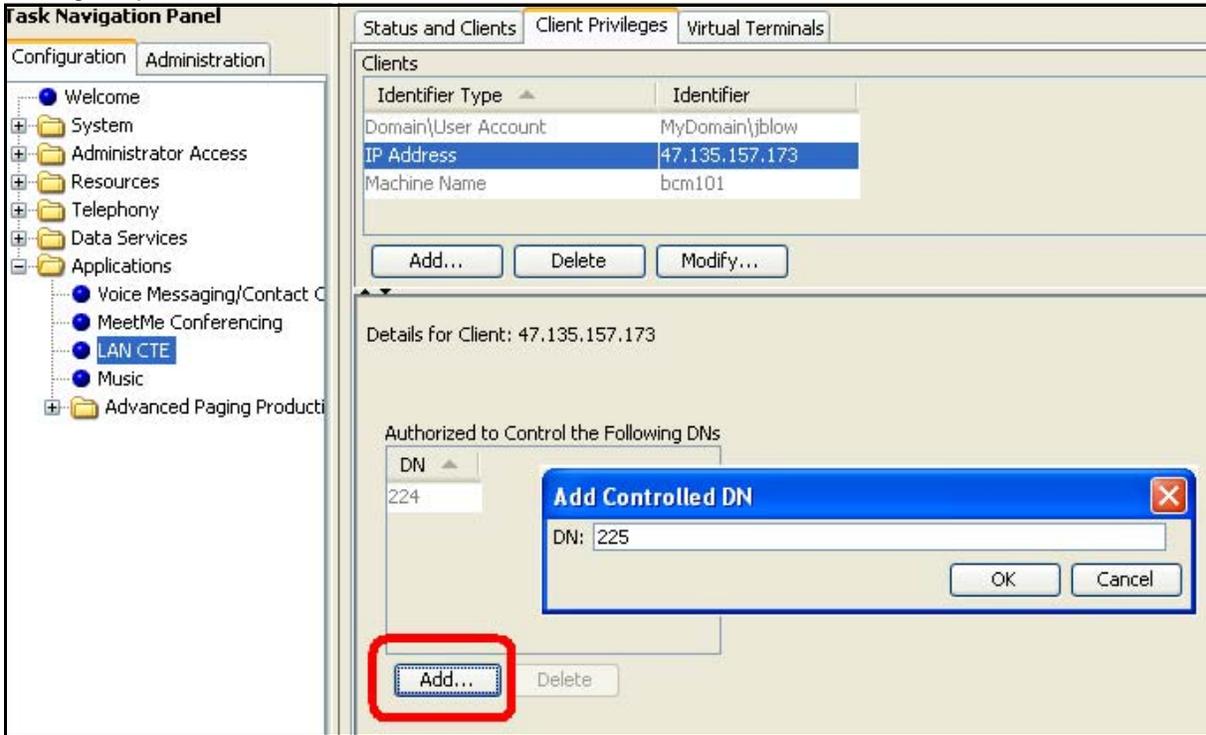
- 1 From the **Client Privileges** tab, click the **Add** button.
- 2 Choose the identifier type:
  - a Domain\User Account: enter the Windows network domain associated with the user for the PC account where the LAN CTE client is installed. For example, NetworkDomain\JohnDoe.
  - b Machine Name: enter the machine name for the PC where the LAN CTE client is installed.. Use the WINS version of the name, do not include the Active Directory (AD) suffix. For example, JohnPC
  - c IP Address: Enter the IP address of the PC where the LAN CTE client is installed.

**Figure 2**  
LAN CTE Identifiers



- 3 To map any LAN CTE Client PC to a telephone, using any of the Client Privileges identifier:
  - a Click to select a Client identifier. A new section will appear below showing the details for this identifier.
  - b Click the Add button to add a valid DN to be controlled by the LAN CTE Client.

**Figure 3**  
Adding telephone DNS



## Viewing LAN CTE Virtual Terminal information

LAN CTE Virtual Terminals (VT) provide the ability to create a virtual phone device on the system. With VT you may perform telephony control, as well as stream audio media to and from the virtual phone devices in order to interact with both call flow and voice media.

A VT is a phone endpoint within the BCM system that is initiated and controlled by the LAN CTE application. Instead of a physical set, all call control is done via LAN CTE and audio media can be handled by the LAN CTE application that created it.

For information on configuring Virtual Terminals for Find Me/Follow Me, see *Nortel Business Communications Manager Find Me/Follow Me User Guide* (NN40010-118) and *Nortel Business Communications Manager Find Me/Follow Me Administration* (NN40010-678)

### To access Virtual Terminal information

- 1 From the **Task Navigation Panel**, click the **Configuration** tab. The configuration folders appear.
- 2 Select the **Applications** folder and select **LAN CTE**.
- 3 Click the **Virtual Terminals** tab to view the attributes.

Attribute	Description
DN	The registered DN of the Virtual Terminal.
State	The current state of the Virtual Terminal

Attribute	Description
Persistent Terminal ID	The unique ID for the VT registration. This ID is unique until it is deregistered; it is maintained across power cycles, and reboots of the BCM..
Application Name	The name of the application using the Virtual Terminal.
Registration Date	The Virtual Terminal registration date.
Last Used Date	The date the Virtual Terminal was last used.

## To deregister a Virtual Terminal

- 1 From the **Task Navigation Panel**, click the **Configuration** tab.  
The configuration folders appear.
- 2 Select the **Applications** folder and select **LAN CTE**.
- 3 Click the **Virtual Terminals** tab.
- 4 Select the Virtual Terminal you want to deregister.
- 5 Click **Deregister**.  
A confirmation dialogue box appears.
- 6 Click **OK**.

# Chapter 4

## Troubleshooting

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This chapter describes problems you may encounter when using LAN CTE and provides possible resolutions:

- [“LAN CTE is not operating” on page 25](#)

### LAN CTE is not operating

Check that the service is still running:

- 1** From the **Task Navigation Panel**, click the **Administration** tab.  
The administration folders appear.
- 2** From the **General** folder, select the **Service Manager** task.
- 3** In the **Service Name** list in the **Service Manager** pane, find the **CTE** application.  
The **Status** column indicates whether the application is running or stopped.
- 4** If it has stopped, click the **Restart** button.



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