



Interactive Voice Response Installation and Configuration Guide

BCM450 1.0

Business Communications Manager

Document Status: **Standard**

Document Number: **NN40070-300**

Document Version: **03.03**

Date: **April 2009**

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Chapter 1

Getting started

About this guide

This guide leads a system administrator through installing and configuring the Interactive Voice Response (IVR) application on a Business Communications Manager (BCM) system.

IVR is an automated telephony application that prompts callers with a combination of recorded menus and prompts, and provides callers with real-time data from databases. Users enter digits from their touchtone keypad that direct the IVR application to access databases and play information back to the caller.

IVR is a call-handling system that allows employees to perform their jobs, and agents to make sales, rather than answer frequently asked questions. IVR can distribute calls, make announcements, and give callers access to relevant information from dynamic databases 24 hours a day, 7 days a week. This chapter contains:

- [About this guide](#)
- [Audience](#)
- [Acronyms](#)
- [Symbols and text conventions](#)
- [Related publications](#)
- [How to get Help](#)

Audience

This guide is intended for use by BCM Administrators and Installers who want to install IVR on their BCM system. This guide is also intended for IVR users.

Acronyms

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

Table 1

Acronym	Description
BCM	Business Communications Manager
BRU	Backup and restore utility
IVR	Interactive Voice Response
JRE	Java Runtime Environment
MMDP	MPS Manager Data Provider

Symbols and text conventions

These symbols are used to Highlight critical information for the BCM system:



Caution: Alerts you to conditions where you can damage the equipment.



Danger: Alerts you to conditions where you can get an electrical shock.



Warning: Alerts you to conditions where you can cause the system to fail or work improperly.



Note: A Note alerts you to important information.



Tip: Alerts you to additional information that can help you perform a task.

Security note: Indicates a point of system security where a default should be changed, or where the administrator needs to make a decision about the level of security required for the system.

Warning: Alerts you to ground yourself with an antistatic grounding strap before performing the maintenance procedure.

Warning: Alerts you to remove the BCM main unit and expansion unit power cords from the ac outlet before performing any maintenance procedure.

These conventions and symbols are used to represent the Business Series Terminal display and.

Convention	Example	Used for
Word in a special font (shown in the top line of the display)	ïïïï	Command line prompts on display telephones.
Underlined word in capital letters (shown in the bottom line of a two line display telephone)	<u>ïïïï</u>	Display option. Available on two line display telephones. Press the button directly below the option on the display to proceed.
Dialpad buttons		Buttons you press on the dialpad to select a particular option.

These text conventions are used in this guide to indicate the information described:

Convention	Description
bold Courier text	Indicates command names and options and text that you need to enter. Example: Use the info command. Example: Enter show ip {alerts routes} .
<i>italic text</i>	Indicates book titles
plain Courier text	Indicates command syntax and system output (for example, prompts and system messages). Example: Set Trap Monitor Filters
FEATURE HOLD RELEASE	Indicates that you press the button with the coordinating icon on whichever set you are using.

Related publications

This document refers to other related publications, which appear in the following list. To locate specific information, you can refer to the *Master Index of BCM Library*.

Nortel Business Communications Manager 450 1.0 Administration and Security (NN40160-601)

Nortel Business Communications Manager 450 1.0 Configuration—System (NN40160-501)

Nortel Business Communications Manager 450 1.0 Configuration—Devices (NN40160-500)

Keycode Installation Guide (NN40010-301)

CallPilot Manager Set Up and Operation Guide BCM450 1.0 (NN40160-304)

Media Processor Server Series COMMGR Reference Manual

BCM -IVR Integration Supplement

PeriReporter User's Guide

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.

Chapter 2

Installing Interactive Voice Response

This chapter contains the information and procedures shown in this list:

- [Overview of installing IVR](#)
 - [Hardware and software requirements](#)
 - [IVR capacities](#)
- [Enabling IVR](#)
- [Administering several IVR systems](#)
- [Installing PeriView](#)
 - [Before you install PeriView](#)
 - [PeriView 2.1 and PeriView 2.1 Consolidator installation](#)
- [Adjusting the number of voice ports](#)
- [Uploading IVR prompts](#)
- [Installing the client database software](#)
- [Configuring host access](#)
 - [Enabling the Host Communication Access keycode](#)
- [Launching an application in PeriView](#)
- [Dialing the IVR extension](#)
- [Assigning lines to IVR](#)
- [Viewing or changing the system fax name](#)

Overview of installing IVR

To install IVR you must know how to:

- log on to Element Manager and use the Element Manager interface

Refer to the *Nortel BCM450 Administration and Security* (NN40160-601) for more information.

- log on to CallPilot Manager and use the CallPilot Manager interface

Refer to the *CallPilot Manager Set Up and Operation Guide BCM450 1.0* (NN40160-304) for more information.

- use PeriView

Refer to your PeriView system documentation for more information.

Hardware and software requirements

To install PeriView you must have:

- a computer that runs Windows 2000

IVR capacities

Maximum number of simultaneous calls	24 (24 voice ports)
Maximum number of voice ports	63
Maximum number of voice ports that can be allocated to voicemail	63
Maximum number of IVR fax calls	8
Maximum number of fax ports	8
Recording time available on Business Communications Manager for all applications (IVR, CallPilot, and Contact Center)	400 hours



Note: There are other restrictions that can alter the real number of voice ports available on a BCM. For more information, refer to the *Nortel Business Communications Manager 450 1.0 Configuration—System* (NN40160-501). Voice ports cannot be shared between voicemail, Contact Center, and IVR.

To install IVR

- 1 Enable the IVR software authorization code.
Refer to [“Enabling IVR” on page 11](#).
- 2 If you are going to use IVR in a multinode environment, refer to [“Administering several IVR systems” on page 11](#).
- 3 Install PeriView on a Windows 2000 client PC.
Refer to [“Installing PeriView” on page 13](#).
- 4 Assign voice ports to IVR.
Refer to [“Adjusting the number of voice ports” on page 22](#).
- 5 Upload IVR prompts to the BCM.
Refer to [“Uploading IVR prompts” on page 24](#).
- 6 Configure host access if your IVR scripts use host access.
Refer to [“Configuring host access” on page 26](#).

- 7** Use the PeriView Application Manager to load and configure the scripts.
Refer to [“Launching an application in PeriView” on page 41](#) and see the *PeriView User’s Guide* for more details.
- 8** Verify that IVR is working by dialing the IVR extension.
Refer to [“Dialing the IVR extension” on page 49](#).
- 9** Use CallPilot Manager to assign the lines you want the IVR scripts to answer.
Refer to [“Assigning lines to IVR” on page 49](#).
- 10** Back up IVR.
For information on how to perform backup and restore activities, refer to the *Nortel BCM450 Administration and Security* (NN40160-601).

Enabling IVR

To enable IVR, load a BCM keycode file and IVR-specific authorization code on the BCM Element Manager. The IVR-specific authorization code enables the number of voice ports to be used by the IVR application to service scripts. This authorization code also enables fax resources that can be used by IVR scripts.

For more information and procedures on installing the BCM keycode and IVR authorization code, refer to the *Keycode Installation Guide* (NN40010-301).

Administering several IVR systems

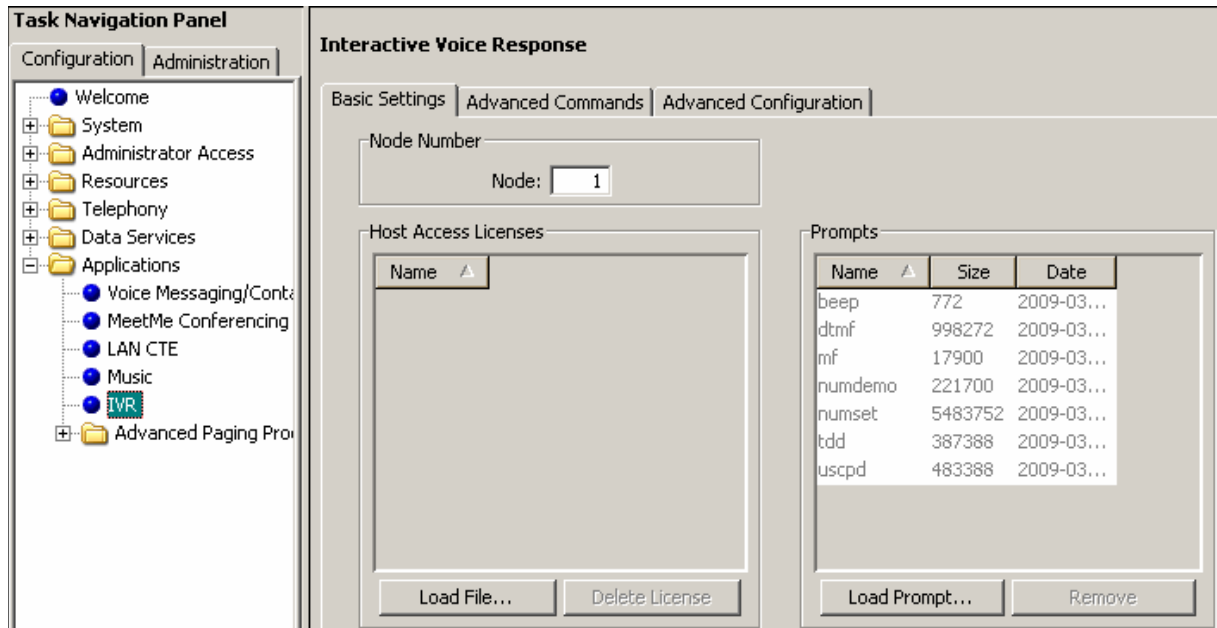
If you want to use PeriView to administer several IVR systems on different BCMs, you must assign a different node number to each IVR system.

To change the node number

- 1** Launch and log on to Element Manager.
The Element Manager opens with the Task Navigation Panel showing.
- 2** From the **Configuration** tab, open the **Applications** folder.

3 Click **IVR**.

The Interactive Voice Response panel opens with the Basic Settings tab showing.



- 4 In the **Node** field, enter a node number.

The node number is 1 by default. The node number can be between 1 and 5000.

Interactive Voice Response

Basic Settings | Advanced Commands | Advanced Configuration

Node Number

Node: 100

Host Access Licenses

Name	Size	Date
beep	772	2009-03...
dtmf	998272	2009-03...
mf	17900	2009-03...
numdemo	221700	2009-03...
numset	5483752	2009-03...
tdd	387388	2009-03...
uscpcd	483388	2009-03...

Load File... Delete License Load Prompt... Remove



Note: IVR restarts when you change the node number.

- 5 You must next install PeriView. Go to [“To install BCM/IVR 2.x PeriView Consolidator”](#).

Installing PeriView

PeriView is the IVR administrative client. Use PeriView to administer IVR scripts on your BCM. Before you can use PeriView, you must install it on a client computer.

Before you install PeriView

Ensure the following before you install PeriView:

- Order the BCM IVR 2.1 Management and IVR Tools CD Kit
- Make sure you install PeriView on a Windows 2000 PC. PeriView can be installed on Windows 2000 only.

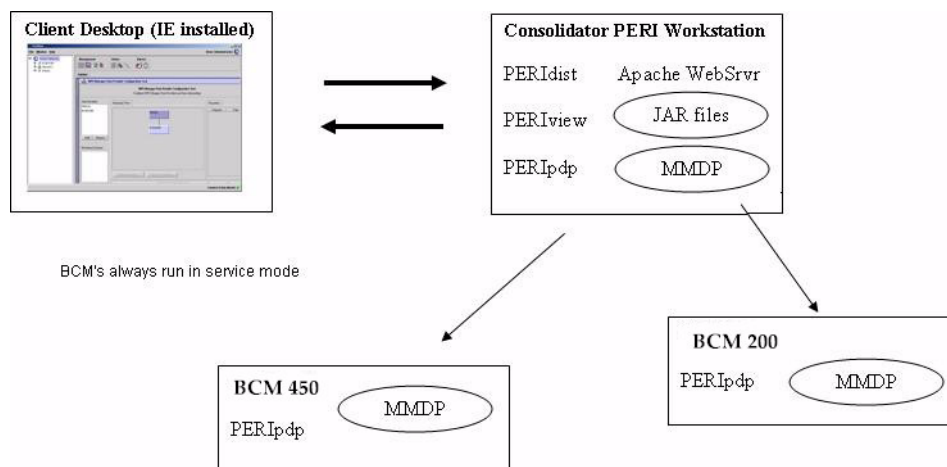
- Make sure you have administrative privileges, so that you can install services and update environment settings.
- Remove any versions of Perl currently installed on the workstation. PeriView uses a version of Perl specifically designed to work with PeriView. You must remove any other versions of Perl due to potential incompatibility with PeriView.
- Quit all active applications and Nortel or Periphonics services.
- If Windows 2000 is already installed on your system and you are running the Windows Desktop Update option (Active Desktop), deactivate this option. See the Windows 2000 online Help for instructions. Active Desktop affects color renditions in PeriView.

PeriView 2.1 and PeriView 2.1 Consolidator installation

PeriView 2.1 is an integrated systems management application suite that provides full administration and control over BCM self-service platforms. It is used by BCM/IVR 2.1 System Administrators to manipulate and view network activity and to deploy and maintain applications in the networked environment.

PeriView Consolidator is the communications hub for BCM/IVR system administration. The System Administrator remotely manages the BCM/IVR system by pointing any User PC web browser to the PeriView Consolidator workstation. The PeriView Consolidator workstation communicates with and collects data from the BCMs. The System Administrator also administers the BCM/IVR 2.1 system directly from the PeriView Consolidator workstation.

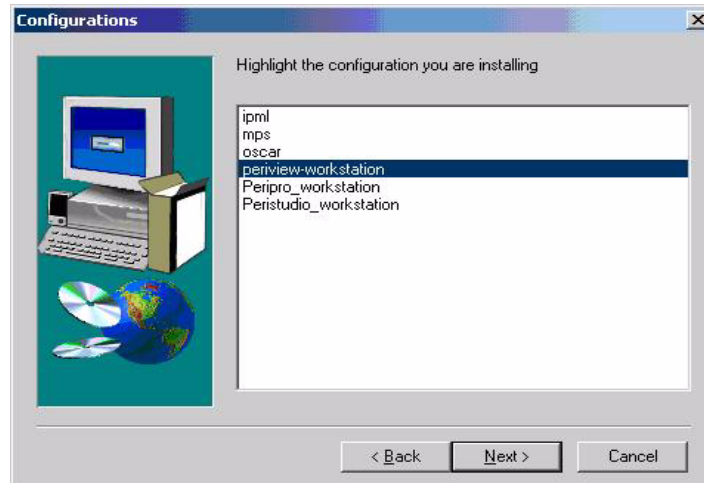
The PeriView Consolidator Workstation runs both the Apache Web Server and MPS Manager Data Provider (MMDP). The PeriView Consolidator MMDP communicates with MMDPs running on the BCMs and collects information.



The BCM MMDPs always run in service mode. An MMDP process in service mode will allow another, higher level MMDP process (for example, the PeriView Consolidator) to establish a constant and persistent connection.

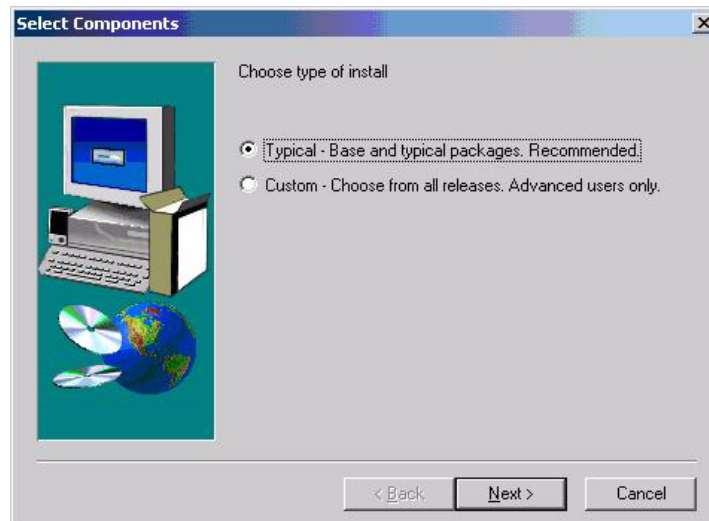
To install BCM/IVR 2.x PeriView Consolidator

- 1 From the *MPS 2.1 Software, Documentation and Update CD*, go to **Preinstall** and install the JAVA runtime or SDK.
- 2 From the *MPS 2.1 Software, Documentation and Update CD*, go to **PERInstaller/setup.exe**.
- 3 Select **PeriView-workstation**.



You are prompted to select an installation type.

- 4 Select **Typical**.



5 Click **Yes**.



During a Typical PeriView Consolidator installation, packages are installed in the following order:

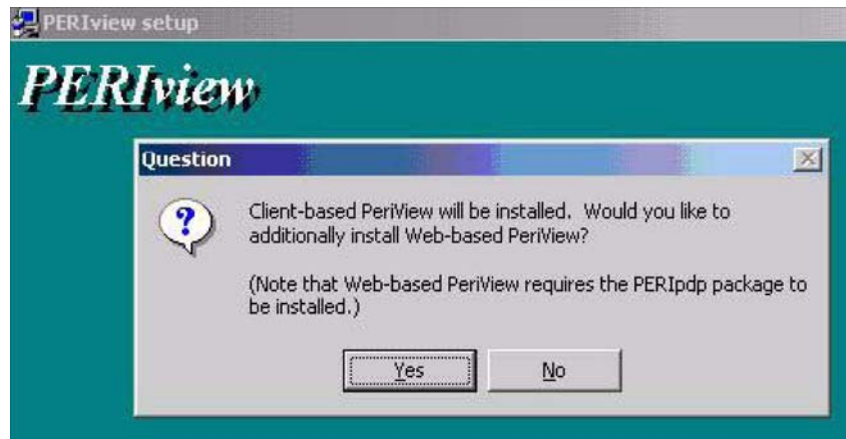
```
PERIperl > Auto Reboot > PERIfw > PERIglobl > PERIgrs > PERIppro > PERIpstu > PERIplic  
> PERIrdp > PERIpdp > PeriView > Auto Reboot
```

If you are installing PeriView Consolidator on the BCM/IVR 2.1 Developer Workstation, you only need to install PERIpdp and PeriView, because the other packages will have been installed in the Periproducer and PeriStudio upgrade steps.

6 If prompted, click **Yes** to install the Apache Web Server during the PeriDist installation.



- 7 Click Yes when you are prompted to install web-based PeriView during the PeriView installation.



Note: You may be required to stop Microsoft Internet Information Server during the installation of web-based PeriView.

- 8 Install any PERI service patches in the mps210 patches directory on the *MPS 2.1 Software, Documentation and Update CD*, for example, *MPS2.1Patch_Bundle_9.exe*.

When this window appears, patches have been successfully installed:



- 9 Confirm installation of PeriView and PERIpdp 2.1 from the command line by entering:

```
C:\>perl -S perireiv.plx outfile=STDOUT
```

```
C:\>perl -S perireiv.plx outfile=STDOUT
```

```
PERIpdp          2.10      MP S2.1Patch_Bundle_9  BundleCutDate=20050223
                   PkgCutDate=20030623
PERIview         2.10      MP S2.1Patch_Bundle_9  BundleCutDate=20050223
                   PkgCutDate=20021002
```

- 10 In C:\Program Files\Nortel\PERIpdp\etc, back up the userdb.xml file.
- 11 From the BCM/IVR Toolkit CD, copy the file userdb.xml.BCM to overwrite C:\Program Files\Nortel\PERIpdp\etc\userdb.xml.

The userdb.xml.BCM file contains the administrative plugins required for BCM/IVR management.

12 Restart Apache and PDP services.

13 Ensure PeriView Consolidator host name appears in C:\Program Files\Nortel\PERIdp\etc\mmdp.cfg.



14 If you are managing the BCM/IVR system from a browser located outside the local host, change permissions in:

C:\ProgramFiles\Nortel\PERIdist\apache\conf\httpd.conf

```
allow from all
#
# deny from all
-
```

15 From Services, restart the Apache web browser.

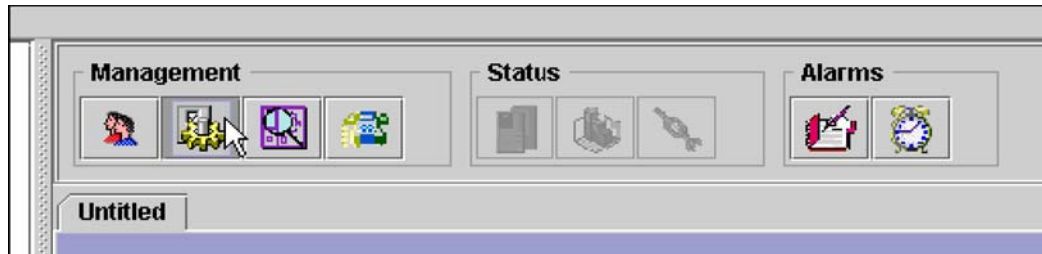
16 Ensure PeriView Consolidator is running by pointing the Apache web browser to the PeriView URL <http://<Consolidator IP>/PeriView/PeriView.html>.



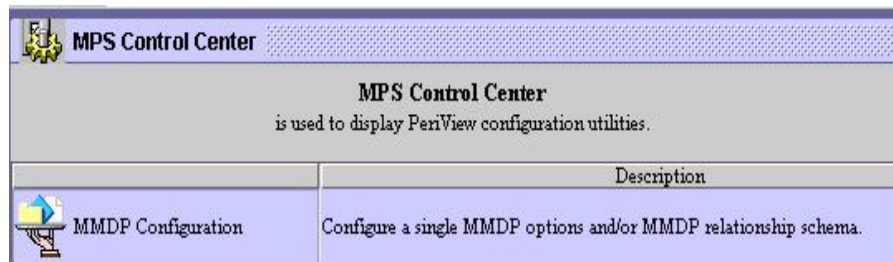
- In the **UserID** field, enter “Administrator”.
- In the **Password** field, enter “root;”.
- Verify that the **Host** field contains the PeriView Consolidator IP address.
- Verify that the **Port** field contains “9191”.
- Click **OK**.

You are logged on and ready to add the BCM nodes to the system.

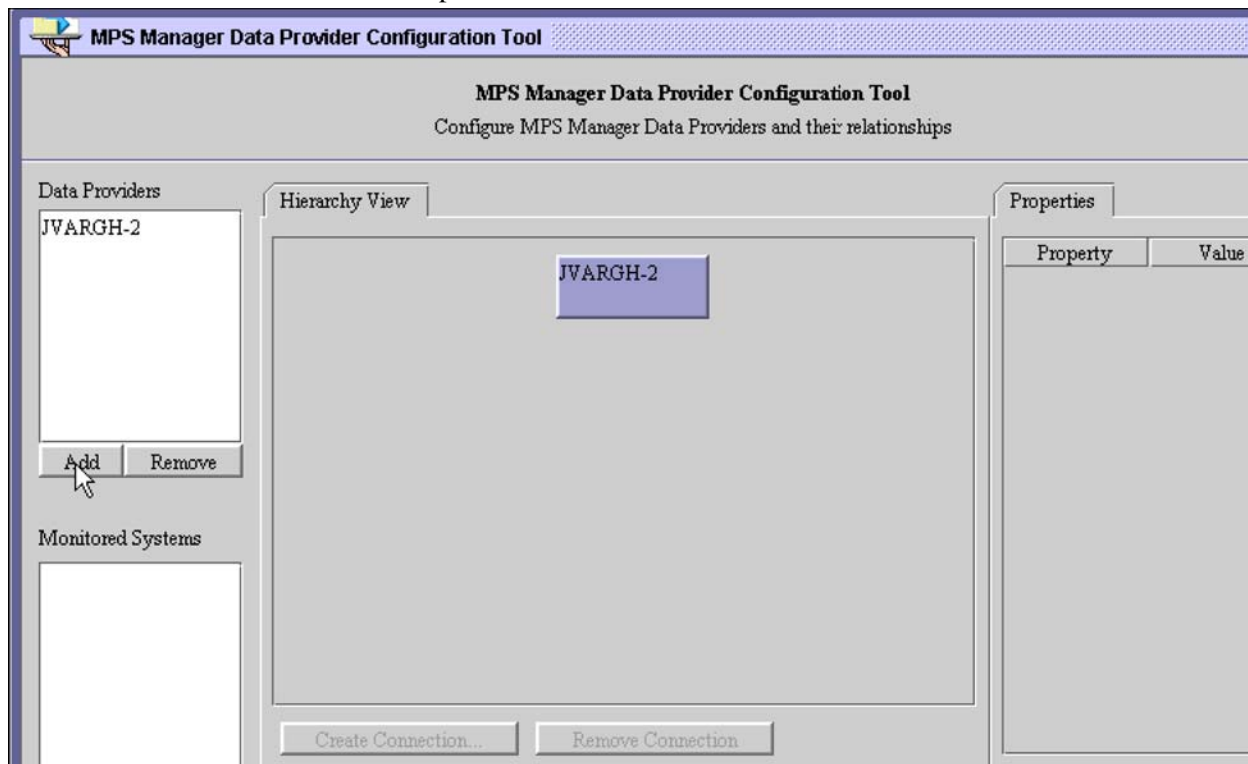
17 Click **Control Center** (the button located on the far right of the Management toolbar).



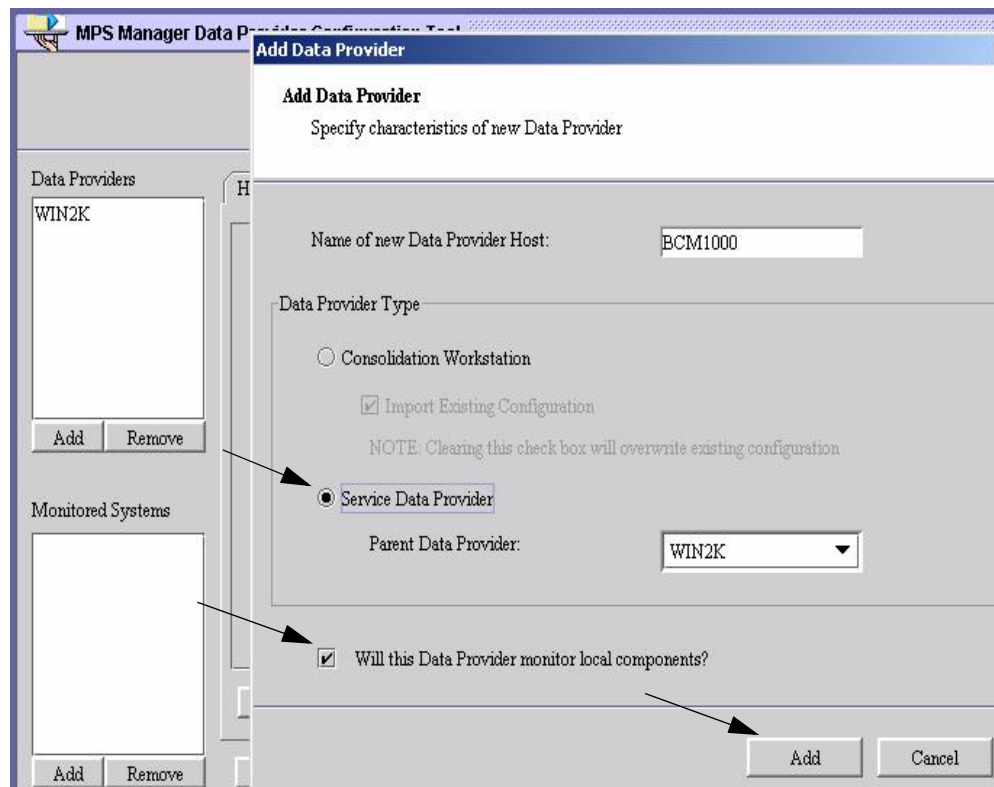
18 From the **MPS Control Center** window, select **MMDP Configuration**.



19 Click **Add** to add a data provider.



- 20** In the **Add Data Provider** window, enter the host name, for example, BCM1000, in the **Data Provider Name** field.



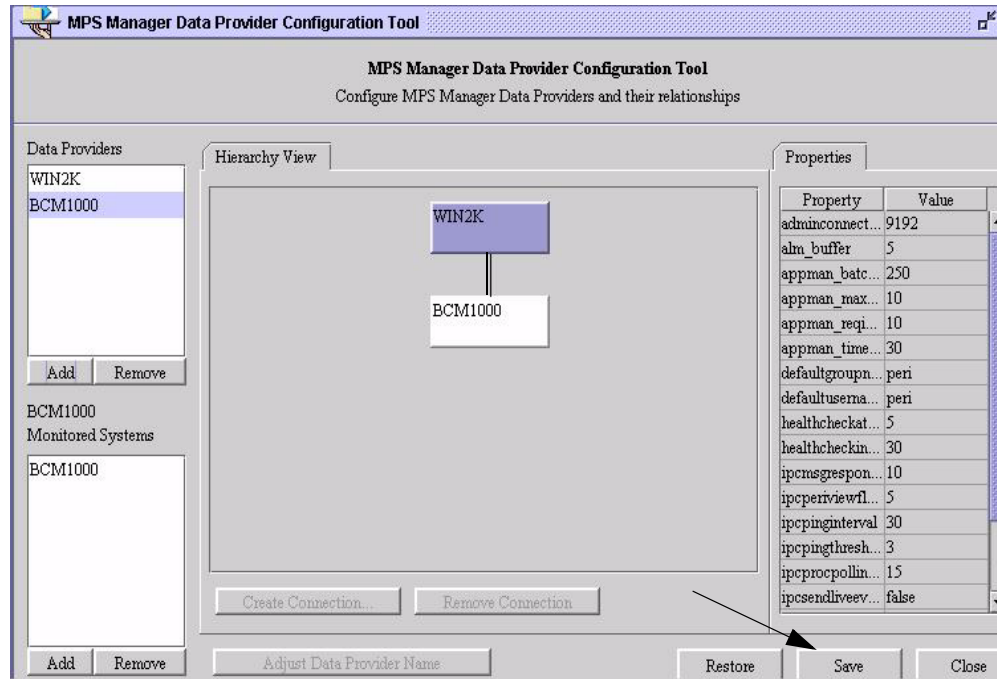
Note: To ensure the Data Provider host name translates to its corresponding IP address, make a DNS entry or place an entry in the consolidators host file:

```
C:\winnt\system32\drivers\etc\hosts
```

- 21** Select the BCM1000 as the Service Data Provider by checking the Service Data Provider option.
- 22** Select the PerView Consolidator workstation as the Parent Data Provider.
- 23** At the bottom of the window, ensure that the box next to **Will the Data Provider monitor local components** field is checked.
- This triggers the BCM1000 MMDP process to connect to the local srp to get state information.

24 Click Add.

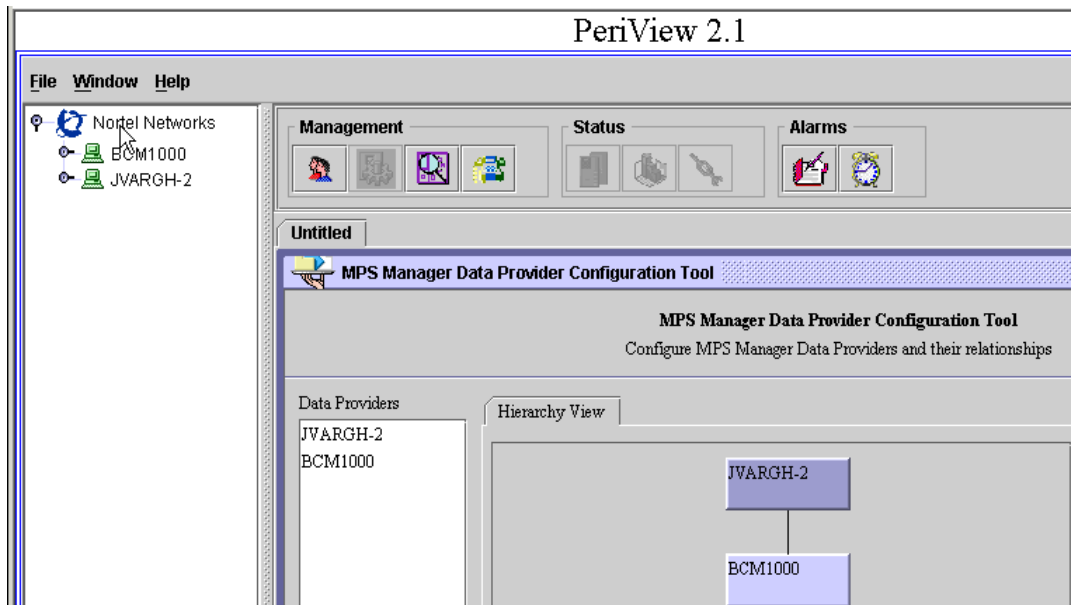
The MPS Manager Data Provider Configuration Tool window appears, showing a hierarchy of two MMDPs. The Periview Consolidator MMDP (for example, Windows 2000 MMDP) appears above the BCM1000 MMDP, indicating that it is the parent service provider.

**25 Select BCM1000 from the Data Providers pull-down list in the upper left of the window or in the hierarchy.**

The BCM1000 is listed as a monitored system.

26 Click Save.

If the information from the preceding steps has been entered correctly, the BCM1000 IP address and node are contacted. The icons representing the BCM/IVR Service Data Providers (for example, BCM1000) turn green when a connection is established.



Adjusting the number of voice ports

You can adjust the minimum and maximum number of IVR ports. For more information about voice ports, refer to the *Nortel Business Communications Manager 450 1.0 Configuration—Telephony* (NN40160-502).

After adjusting the minimum and maximum numbers of IVR ports, note that:

- The maximum number of simultaneous voice calls that IVR can handle is 24 (with 24 voice ports).
- The combined maximum number of voice ports for IVR, voicemail, and Contact Center cannot exceed 63.
- Fax is automatically enabled for IVR and the maximum number of fax ports is set to 8.
- The default values for IVR are the number of ports purchased for the maximum, and 2 for the minimum.

To adjust the number of voice ports

- 1 Launch and log on to Element Manager.

The Element Manager opens with the Task Navigation Panel showing.

- 2 From the **Configuration** tab, open the **Resources** folder.
- 3 Click **Applications Resources**.

The Applications Resources panel opens, showing the Applications Resources Reservations table.

- 4 In the **Applications Resources Reservations** table, select the **IVR Ports** row.
- 5 Click **Modify**.

The Modify Application Resource Reservations dialog box opens.

Application Resources

Total Resources: Signalling channels: 580, VDI channels: 194, Media channels: 1010, DSP resources: 180

Reserved Resources: Signalling channels: 10, VDI channels: 0, Media channels: 12, DSP resources: 12

Application	Minimum	Maximum	Licence	System Max.	Change Pending	Sig. Ch.	VDI Ch.	Media Ch.
IP Sets	0	MAX		480		0	N/A	N/A
IP Trunks				192		N/A	0	N/A
SIP Trunks				192		N/A	0	N/A
Media Gateway				672		N/A	N/A	2
Voice Mail + C				63		8	N/A	8
Fax				8		N/A	N/A	N/A
Conf. Mixers				62		N/A	N/A	0
Conf. Parties	0	MAX	N/A	124		N/A	N/A	0
IVR	2	MAX	4	24		2	N/A	2

Buttons: Modify..., Restore Defaults

- 6 Change the values in the **Minimum** and **Maximum** fields.
- 7 Click **OK**.
- 8 To change the number of fax ports, click the **Fax** line.
- 9 Click **Modify**.
- 10 Change the values in the **Minimum** and **Maximum** boxes.



Note: After you change the minimum or maximum number of IVR ports or fax ports you must reboot your system.

- 11 Log back on to Element Manager.

You are now ready to upload IVR prompts.

Go to [“To upload IVR prompts”](#).

Uploading IVR prompts

The steps for installing IVR prompts are similar to those for installing a keycode. Upload .mmi and .mmd files to your Business Communications Manager (BCM) system, where they are installed in the Voice File System, along with other IVR system prompt files.

When the prompts are installed, IVR restarts.

To upload IVR prompts

- 1 Ensure the prompts (.mmi and .mmd files) that have been created for your IVR system are available to be retrieved.
- 2 In Element Manager, open the **Applications** folder.
- 3 Click **IVR**.

The Interactive Voice Response panel opens with the Basic Settings tab showing.

Interactive Voice Response

Basic Settings | Advanced Commands | Advanced Configuration

Node Number
Node: 100

Host Access Licenses

Name ▲

Load File... Delete License

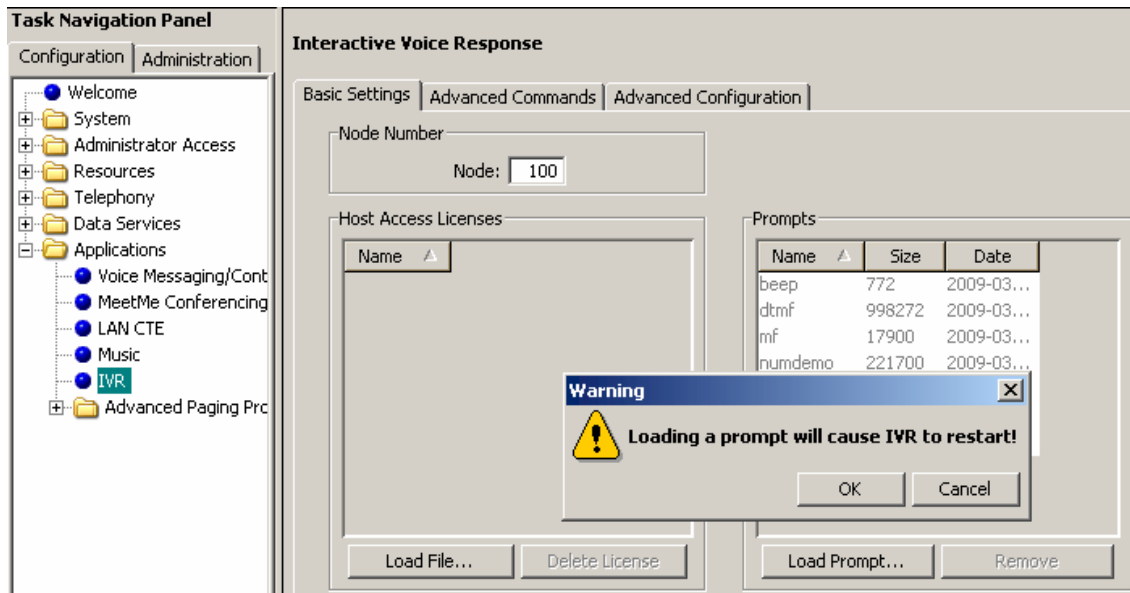
Prompts

Name ▲	Size	Date
beep	772	2009-03...
dtmf	998272	2009-03...
mf	17900	2009-03...
numdemo	221700	2009-03...
numset	5483752	2009-03...
tdd	387388	2009-03...
uscpd	483388	2009-03...

Load Prompt... Remove

4 In the **Prompts** area, click **Load Prompt**.

A message appears warning that IVR will restart after the prompt is loaded.



5 Click **OK** to continue.

A window opens in which you can specify the location of the prompt you want to upload.

6 Use the **Look in**, **File name**, and **File type** fields to navigate to the .mmi file.



Note: You must upload the .mmi first and then the .mmd file.

7 Click **Open**.

A message appears that asks you to confirm your choice.

The .mmi file uploads to the BCM.

8 Click **OK**.

9 Use the **Look in**, **File name**, and **File type** fields to navigate to the .mmd file.

10 Click **Open**.

A message appears that asks you to confirm your choice.

The .mmd file uploads to the BCM.

11 Click OK.

When you have transferred both the .mmi and .mmd files, the IVR service restarts.

Installing the client database software

When you install the client database software, you must configure the host access. There are two phases for configuring the host access.

Configuring host access

To configure host access

- 1 Enable the host communication access keycode.

Refer to [“Enabling the Host Communication Access keycode” on page 26](#).

- 2 Configure host access if your IVR scripts use host access.
Refer to the *Media Processing Server Series COMMGR Reference Manual* and the *BCM-IVR Integration Supplement* for instructions on how to configure host access.

After you complete these two procedures you are ready to use PeriView, the IVR administration tool, to load and configure scripts. Go to [“Launching an application in PeriView” on page 41](#).

For information about host access refer to the *Media Processor Server Series COMMGR Reference Manual* and the *BCM -IVR Integration Supplement*.

Enabling the Host Communication Access keycode

To enable the Host Communication Access keycode, complete the following procedure.

To enable the Host Communication Access keycode

- 1 Retrieve the authorization number for Host Communications from the NTKC0098 documentation kit and the order code of the feature you want to enable (for example: geotel, iex, atte).
- 2 Record the Medial Control Address (MAC address) of the BCM. The MAC address is a hardware address that gives a unique identification to each node of a network.
 - a Log on to Element Manager.
 - b Open the **System** folder.
 - c Click **IP Subsystem**.

The IP Subsystem panel appears with the General Settings tab displayed.

Task Navigation Panel

Configuration Administration

- Welcome
- System
 - Identification
 - Date and Time
 - Keycodes
 - IP Subsystem**
- Administrator Access
- Resources
- Telephony
- Data Services
- Applications
 - Voice Messaging/Contact Center
 - MeetMe Conferencing
 - LAN CTE
 - Music
 - IVR
- Advanced Paging Pro...

IP Subsystem

General Settings OAM Interface Dial-Out Static Routes

System name: bcm450

MAC address: 00:1e:ca:f1:53:b7

IP Settings

Obtain IP address dynamically: ☐

IP address: 192.167.131.40

IP subnet mask: 255.255.255.0

Default gateway: 192.167.131.1

Modify...

DNS Settings

DNS domain name: ca.nortel.com

Primary DNS address:

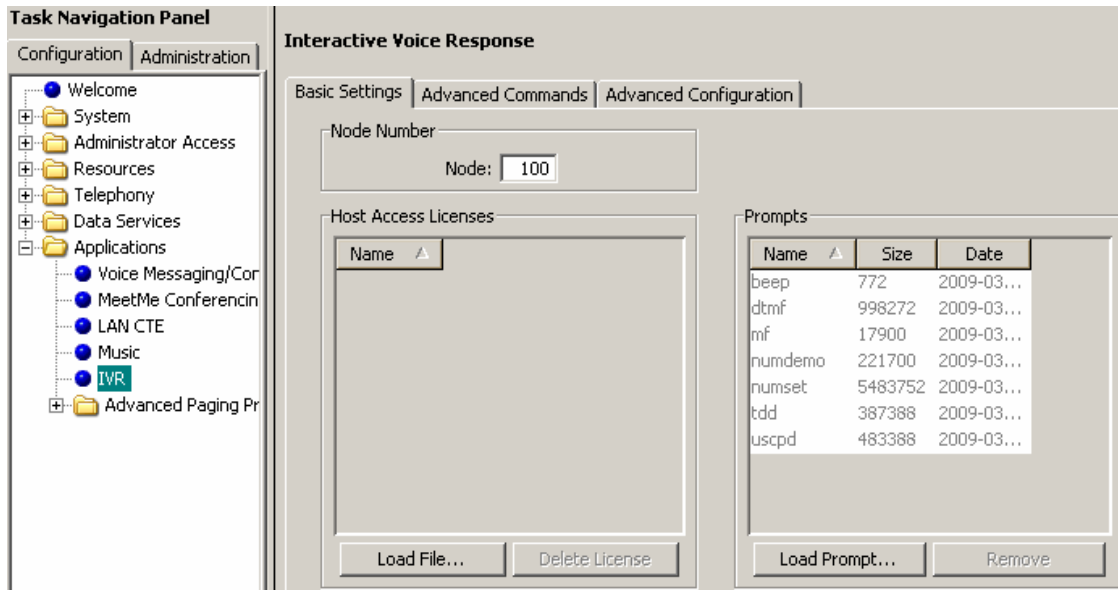
Secondary DNS address:

MTU size: 1500

- d Record the information that appears in the **MAC Address** field. This is the MAC address of your BCM.
- 3** Contact Nortel Support.
- a Call 1-800-4Nortel.
 - b Select option 5.
 - c Select option 1.
 - d Tell the Nortel support prime that you need assistance producing a keycode for Business Communications Manager IVR.
- You are connected to the level 2 Nortel keycode support prime.
- e Tell the support prime that you want to produce a BCM Host Communication keycode (license file).

- f Tell the keycode support prime the MAC address you obtained in step 2 and the Authorization number from the NTKC0098 documentation kit.

The Nortel support prime generates the keycode and sends it to you by e-mail. The file is too long to repeat over the telephone. The name of the file is *plservrc*, with no extension.



- 4 From the **Basics** tab in the **Host Access** area, click **Load File**.

A window opens to allow you to find the keycode that you received.

- 5 In the **Open** window, use the **Look in**, **File Name**, and **File of Type** fields to navigate to the *plservrc* file.

- 6 Click **Open**.

A progress bar appears as the keycode loads and IVR restarts.

To configure the Host Communication Access

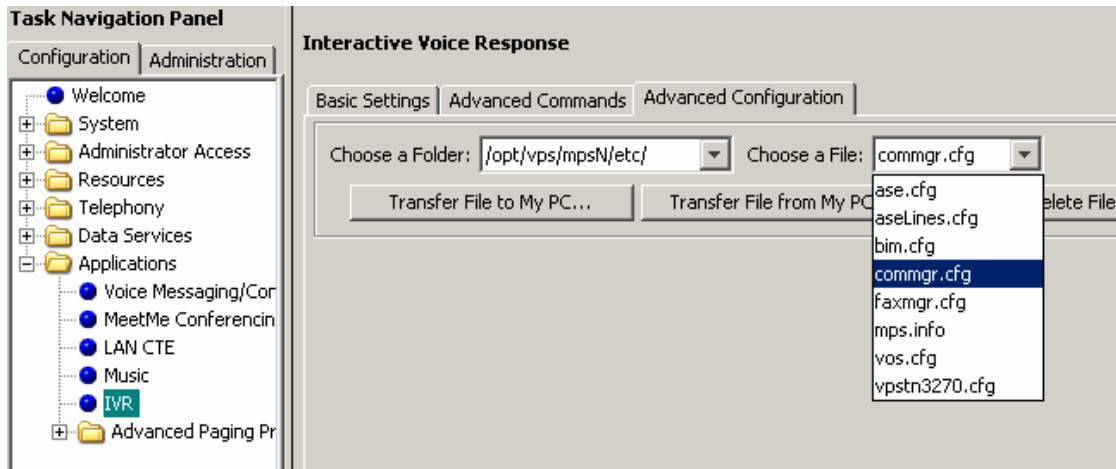
- 1 Use TN3270 (TelNet 3270) to activate the host protocol, which is one of the host protocols IVR supports.

TN3270 is a client program that uses the TCP/IP networking protocol. TN3270 is widely used to connect a desktop computer to a mainframe or main server.

- a From Element Manager **Task Navigation Panel**, open the **Applications** folder.
- b Click **IVR**.

The Interactive Voice Response panel opens with the Basic Settings tab showing.

- c Click the **Advanced Configuration** tab.
The Advanced Configuration tab appears.
- d From the **Choose a Folder** pull-down list, and select the **/opt/vps/mpsN/etc/** folder.
- e From the **Choose a File** pull-down list, verify that these files are present:
 - commgr.cfg
 - vos.cfg
 - vpstn3270.cfg

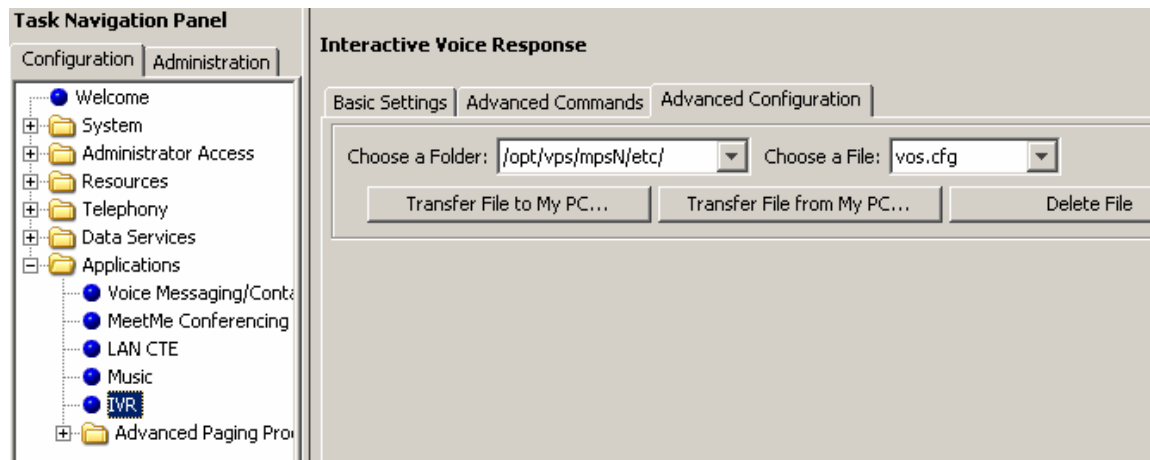


- 2 Use the **Advanced Configuration** tab to add the entries shown in bold to the **vos.cfg** file:

```
#
# Example vos.cfg file.
#
# NAMEHOSTPORTPRICOMMAND LINE
bim - 0 bim
vstat - - 0 vstat
commgr - - 0 commgr
vpstn3270 - - 0 vpstn3270
```

- a In the **Advanced Configuration** tab, select the **/opt/vps/mpsN/etc/** folder from the **Choose a Folder** pull-down list.

- b** From the **Choose a File** pull-down list, select the **vos.cfg** file.



- c** Click **Transfer File to My PC**.

The Save window opens.

- d** In the **Save** window, navigate to where you want to save the **vos.cfg** file on your PC.

- e** In the **File Name** field type the file name you want to download (vos.cfg).

- f** Click **Save**.

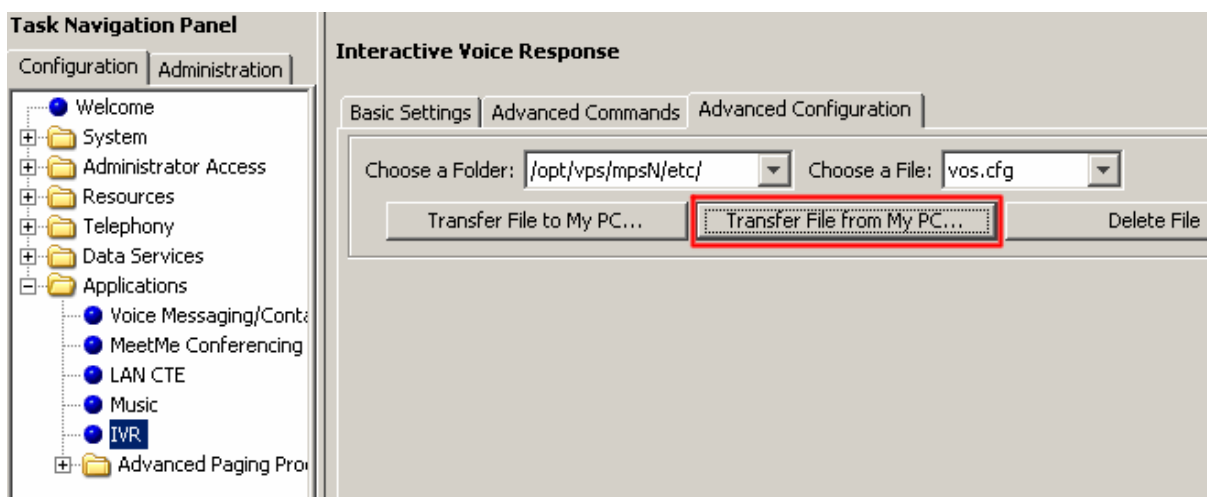
The file saves to the location you specified.

- g** Locate the file on your PC and open it in Wordpad.

- h** Edit the file.

- i** Save your changes and close the file.

From the Element Manager, in the **Advanced Configuration** tab, click **Transfer File From my PC**.



The Save window opens.

- j Navigate to the `vos.cfg` file and click **Load IVR Configuration**.



Note: Ensure that you save your changes in the `/opt/vps/mpsN/etc/` folder.

The edited file uploads to the BCM and appears as `vos.cfg` in the Choose a File pull-down list.

- 3 Use the **Advanced Configuration** tab to add the entries shown in bold to the **`vpstn3270.cfg`** file:

```
#
# vpstn3270 configuration File
#
# Example
#
maxvt 24
hostname falvmx
vt 1-24 ptelnet 1
port 23
init
```



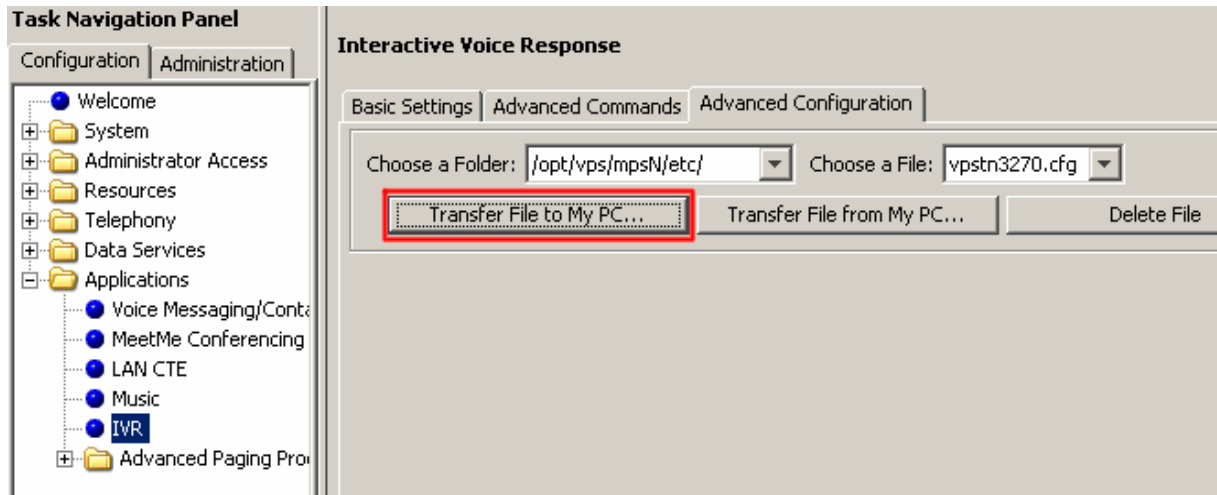
Note: In the `vpstn3270.cfg` file enter the hostname and use default port 23 to connect to the remote TN3270 host. The parameter `maxvt` refers to total licensed Interactive Voice Response lines, which are 24 on Business Communications Manager. If you have Interactive Voice Response licenses for four ports, set your `maxvt` parameter between 1 and 4.



Note: The hostname `falvmx` is an example of a TN2370.

- a In the **Advanced Configuration** tab, select the `/opt/vps/mpsN/etc/` folder from the **Choose a Folder** pull-down list.

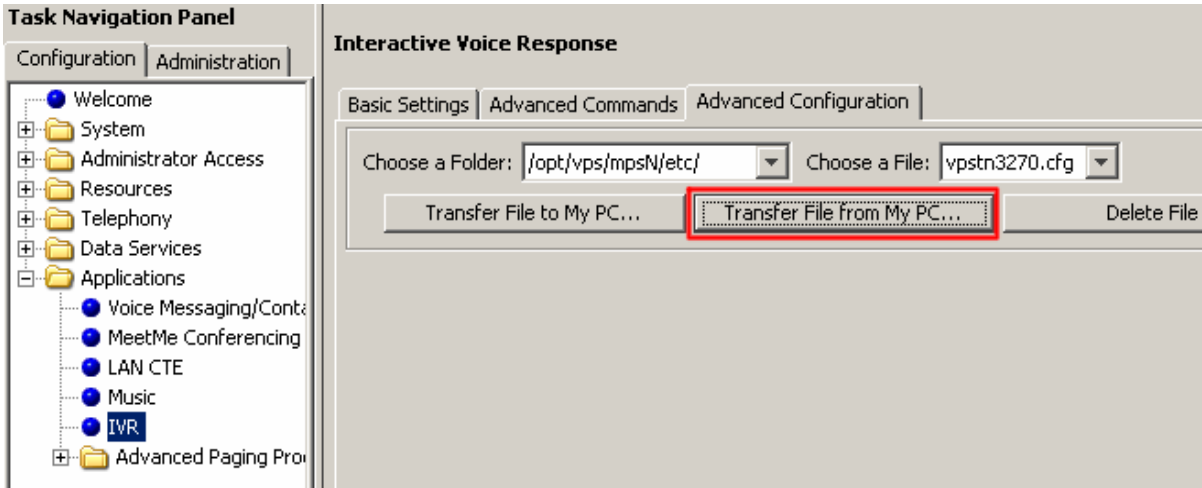
- b** From the **Choose a File** pull-down list, select the **vpstn3270.cfg** file.



- c** Click **Transfer File to My PC**.
The Save window opens.
- d** In the **Save** window, navigate to where you want to save the **vpstn3270.cfg** file on your PC.
- e** In the **File Name** field type the file name you want to download (**vpstn3270.cfg**).
- f** Click **Save**.
The file saves to the location you specified.
- g** Locate the file on your PC and open it in Wordpad.
- h** Edit the **vpstn3270.cfg** file.
- i** Save your changes and close the file.

- j From the Element Manager, in the **Advanced Configuration** tab, click **Transfer File From my PC**.

The Save window opens.



- k Navigate to the **vpstn3270.cfg** file and click **Load IVR Configuration**.



Note: Ensure that you save your changes in the `/opt/vps/mpsN/etc/` folder.

The edited file uploads to the BCM and appears as `vpstn3270.cfg` in the Choose a File pull-down list.

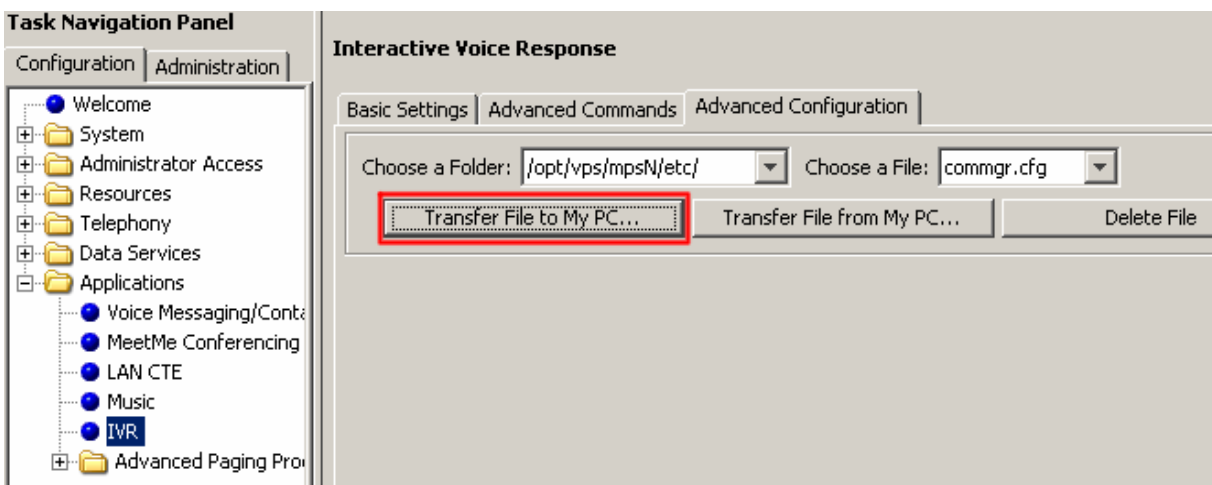
- 4 Use the **Advanced Configuration** tab to edit the **commgr.cfg** file. In the **commgr.cfg** file, uncomment the host protocol entries for TN3270 as shown here:

```
#
# VPS TN3270 Example
#
host 1 protocol vpstn3270
host 1 svcid 1-512 unassign
host 1 svcid 1-24 sess 1
host 1 svcid 1-24 assignvt 1
```

- a In the **Advanced Configuration** tab, select the `/opt/vps/mpsN/etc/` folder from the **Choose a Folder** pull-down list.
- b From the **Choose a File** pull-down list, select the **commgr.cfg** file.

- c Click **Transfer File to My PC**.

The Save window opens.



- d In the **Save** window, navigate to where you want to save the **commgr.cfg** file on your PC.

- e In the **File Name** field type the file name you want to download (**commgr.cfg**).

- f Click **Save**.

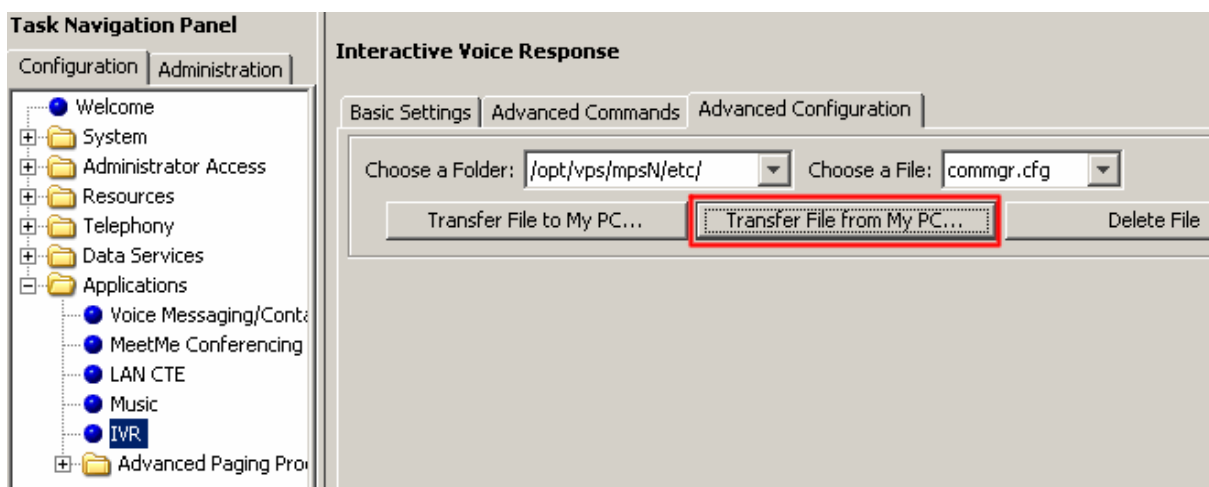
The file saves to the location you specified.

- g Locate the file on your PC and open it in Wordpad.

- h Uncomment the host protocol entries for TN3270

- i Save your changes and close the file.

- j From the Element Manager, in the **Advanced Configuration** tab, click **Transfer File From my PC**.



The Save window opens.

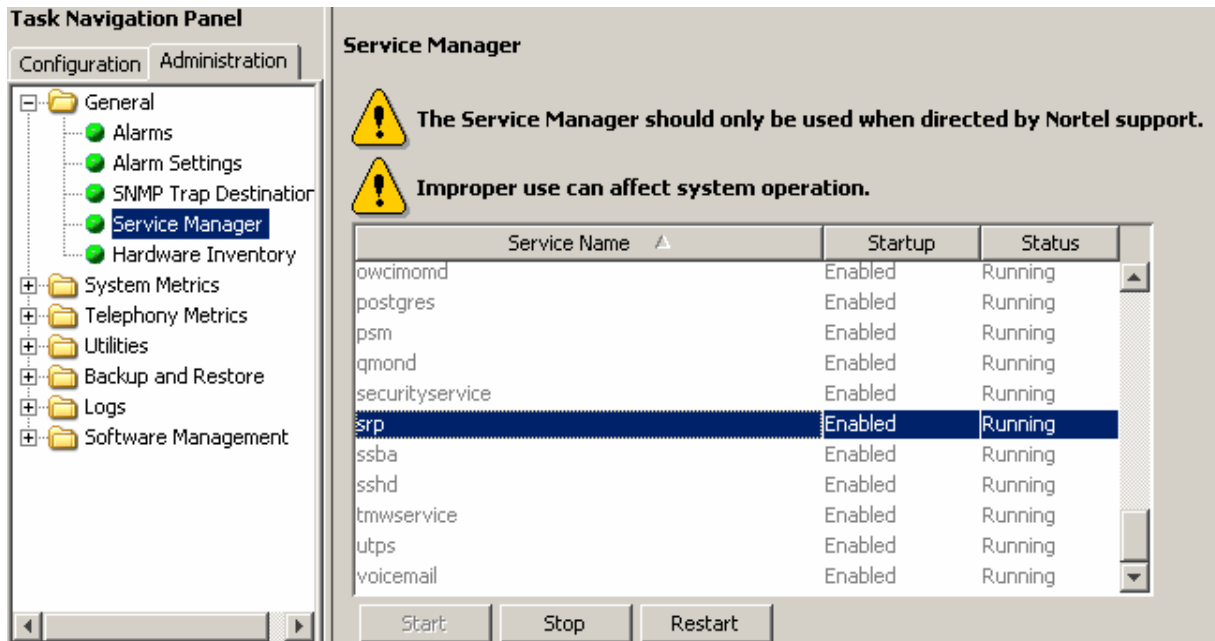
- k** Navigate to the **commgr.cfg** file and click **Load IVR Configuration**.



Note: Ensure that you save your changes in the **/opt/vps/mpsN/etc/** folder.

The edited file uploads to the BCM and appears as **commgr.cfg** in the Choose a File pull-down list.

- 5** In Element Manager, use the Service Manager to stop and start the IVR service.



This activates host communications for TN3270 on Business Communications Manager, according to the protocol configuration files you defined.

Complete the procedure [“To stop, start, or restart IVR service” on page 55](#) to verify that the IVR services are running.

If the services are running, return to the IVR application in the Configuration tab.

For each service that is not running, click Restart.

- 6** Use the IVR **Advanced Commands** to verify that the HOST-specific processes are up and running.

- a** From Element Manager **Task Navigation Panel**, open the **Applications** folder.
- b** Click **IVR**.

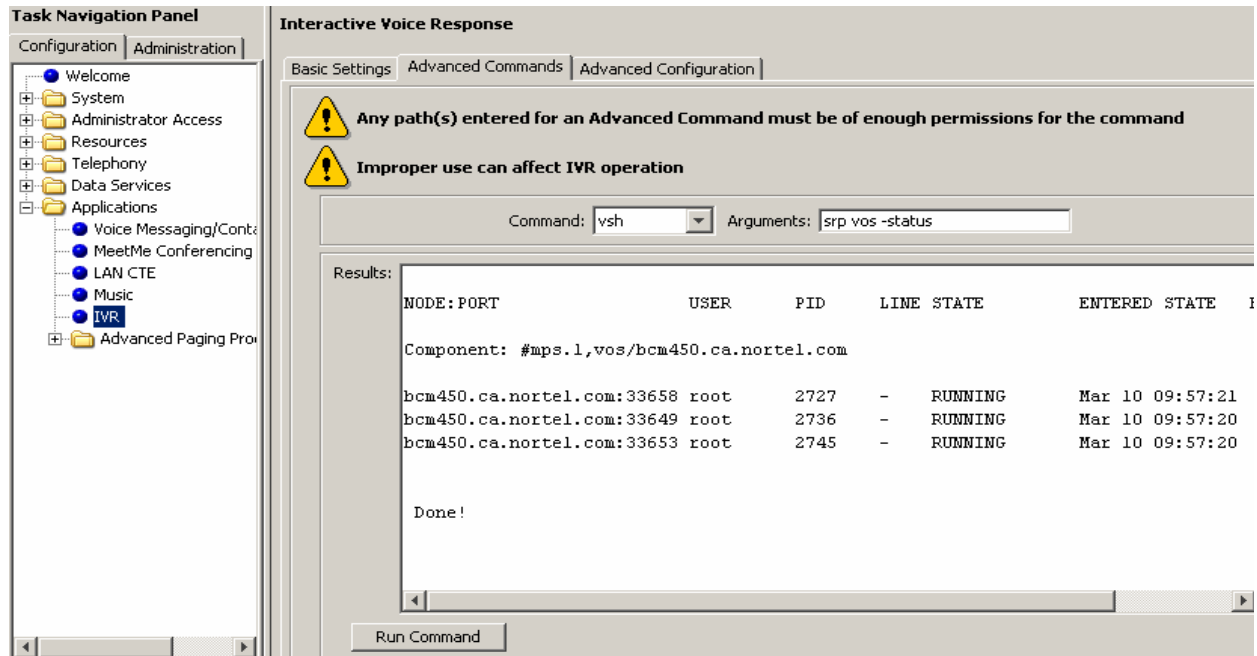
The Interactive Voice Response panel opens with the Basic Settings tab showing.

- c** Click the **Advanced Commands** tab.

The Advanced Commands tab appears.

- d From the **Command** pull-down list, select the **vsh** command. In the **Arguments** field, type the arguments you want to add to the **vsh** command (**srp vos -status**).
- e Click **Run Command**.

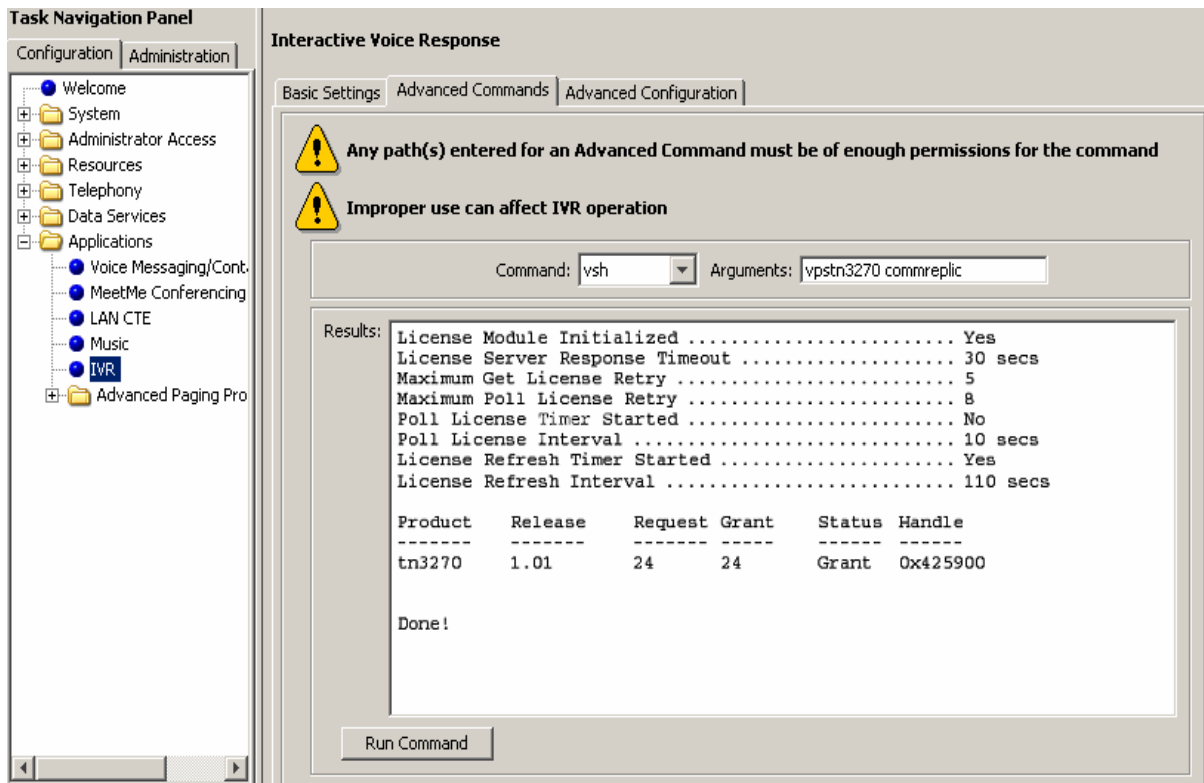
The output appears in the Results panel.



- 7 Ensure that the host lines have been allocated licenses.
 - a From Element Manager **Task Navigation Panel**, open the **Applications** folder.
 - b Click **IVR**.
The Interactive Voice Response panel opens with the Basic Settings tab showing.
 - c Click the **Advanced Commands** tab.
The Advanced Commands tab appears.
 - d From the **Command** pull-down list, select the **vsh** command. In the **Arguments** field, type the arguments you want to add to the **vsh** command (**srp vos -commreplic**).

- e Click **Run Command**.

The output appears in the Results panel.



- 8 From VSH, connect line 1 to Host. Ensure that data can be read from the remote host on the connected line.

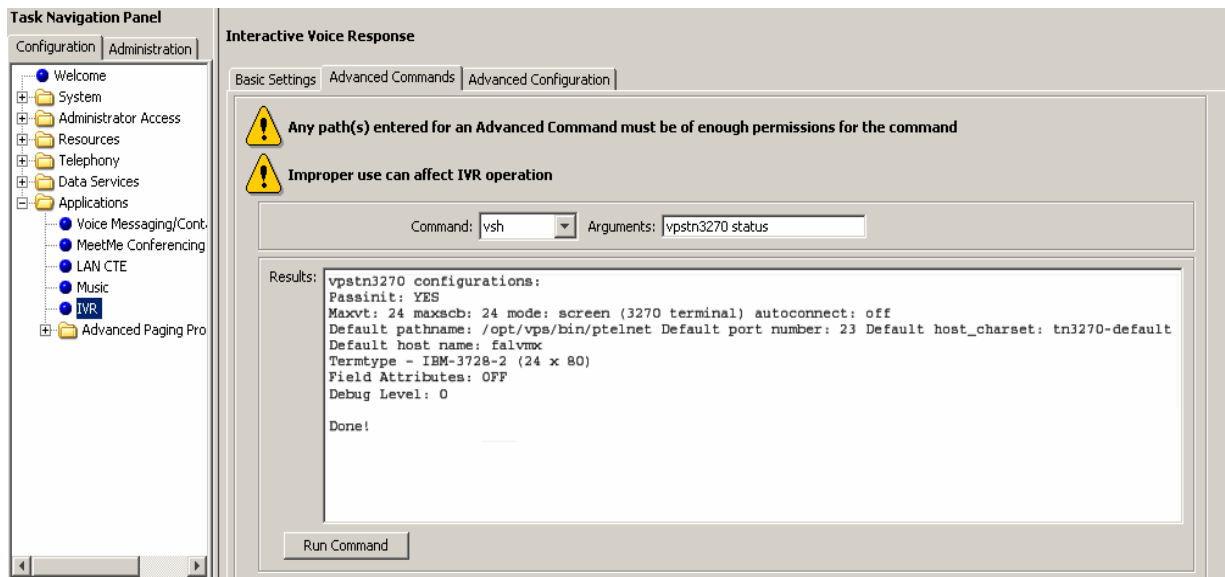
- a From Element Manager **Task Navigation Panel**, open the **Applications** folder.
b Click **IVR**.

The Interactive Voice Response panel opens with the Basic Settings tab showing.

- c Click the **Advanced Commands** tab.

The Advanced Commands tab appears.

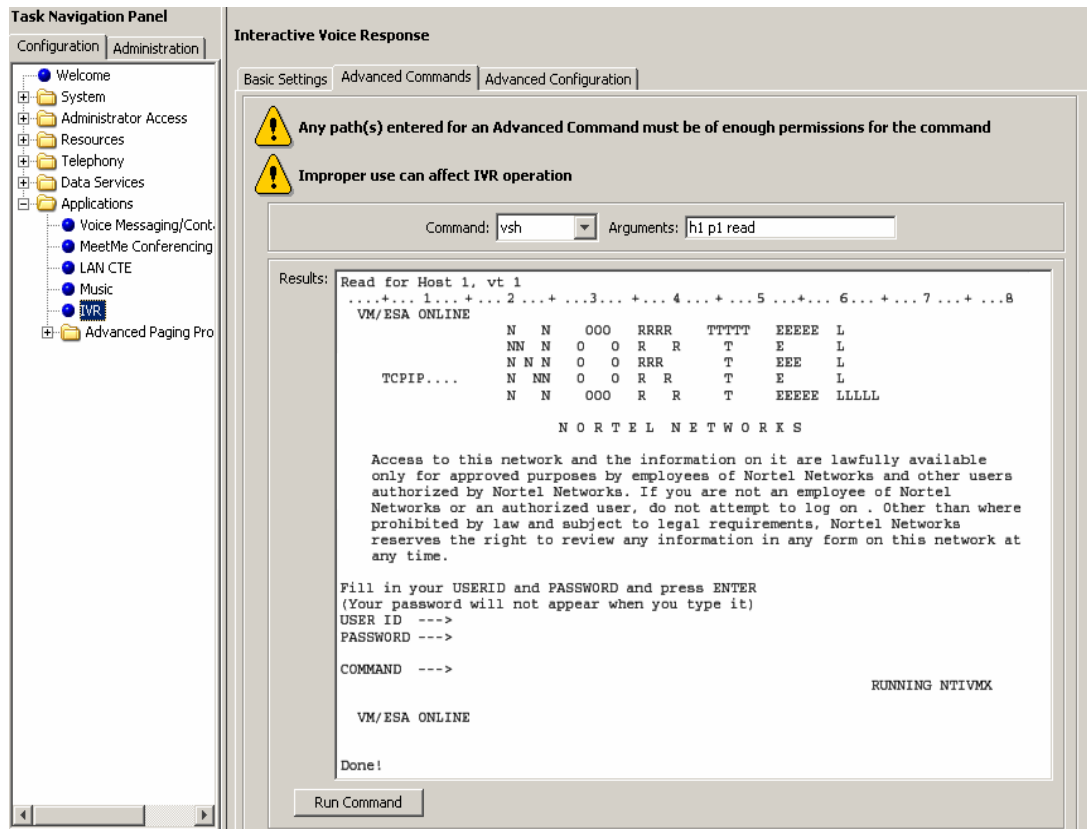
- d From the **Command** pull-down list, select the **vsh** command.



- e In the **Arguments** field, type the arguments you want to add to the **vsh** command (**srp vos -status**).

f Click Run Command.

The output appears in the Results panel.



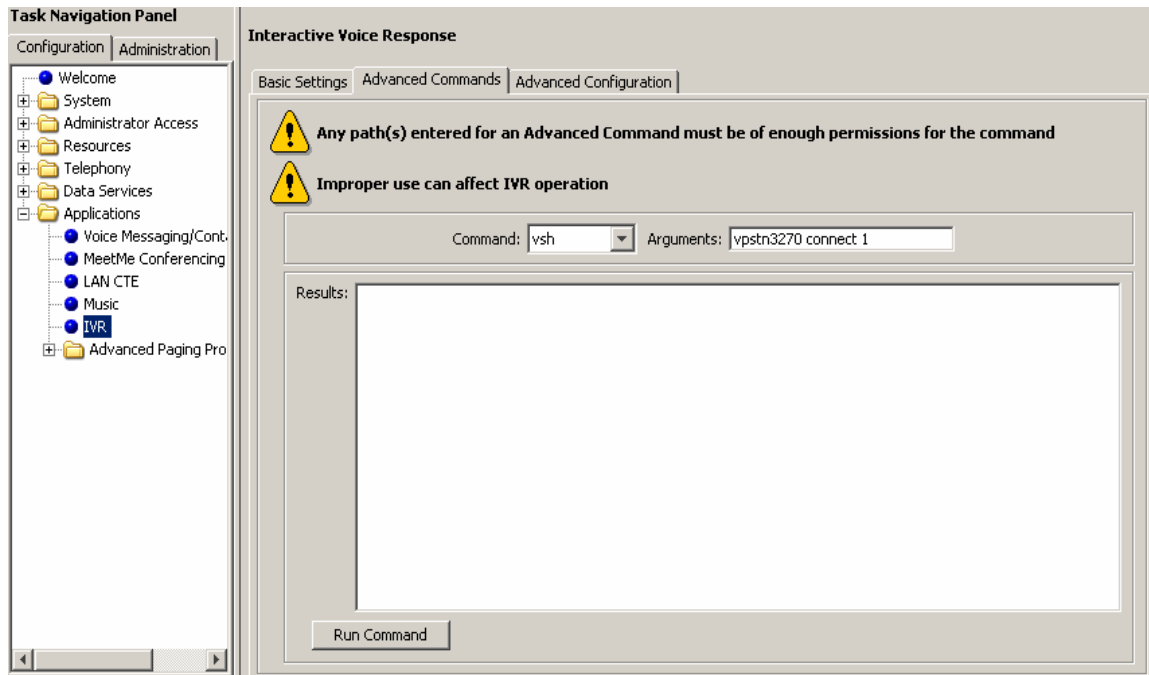
9 Use the IVR Advanced Commands to verify that the Host-specific processes are up and running.

a From the Interactive Voice Response panel, select the Advanced Commands tab.

The Advanced Commands tab appears.

b From the Command pull-down list, select the vsh command.

- c Connect line 1 to the Host and check that data can be read from the remote host on the connected line.



- d In the **Arguments** field, type the arguments you want to add to the **vsh** command (shown in bold in the output in substep e, for example, **vpstn3270 connect 1** [where 1 is the node number of your BCM]).

- e Click **Run Command**.

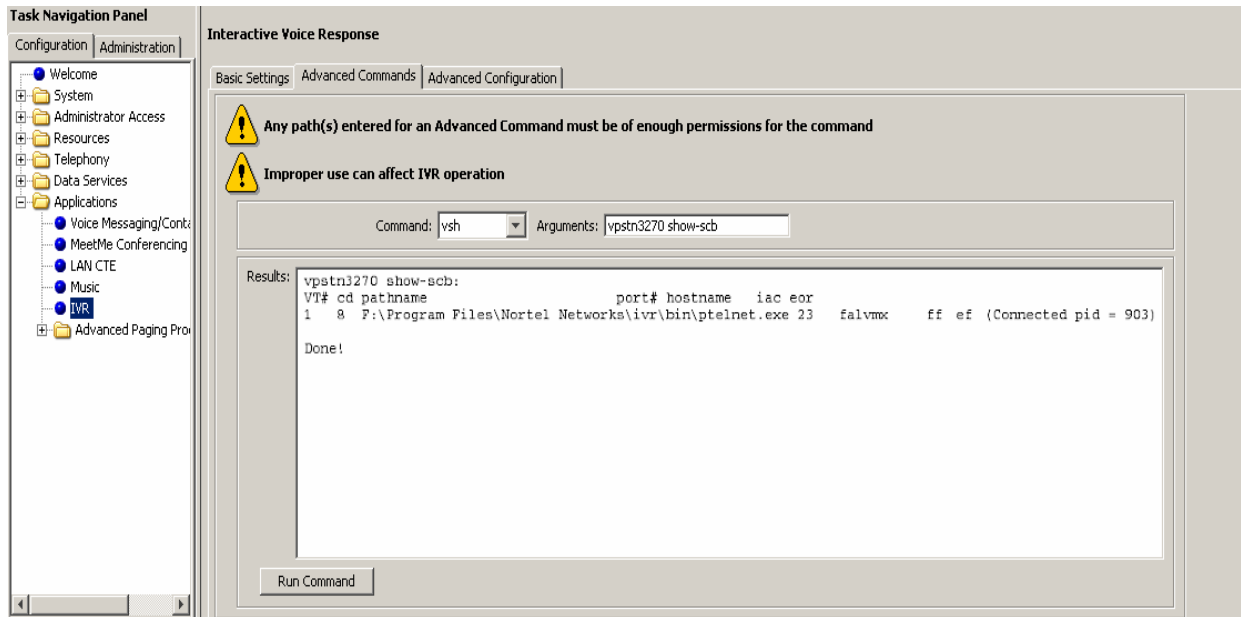
The output appears in the Results panel.

- 10 From the **Advanced Commands** tab, run the **vpstn3270 show-scb** command to check that the Host connection has been made to the physical line:

- a Click the **Advanced Commands** tab.

The Advanced Commands tab appears.

- b From the **Command** pull-down list, select the **vsh** command.



- c In the **Arguments** field, type the arguments you want to add to the **vsh** command (**vpstn3270 show-scb**).

- d Click **Run Command**.

The output appears in the Results panel.

Launching an application in PeriView

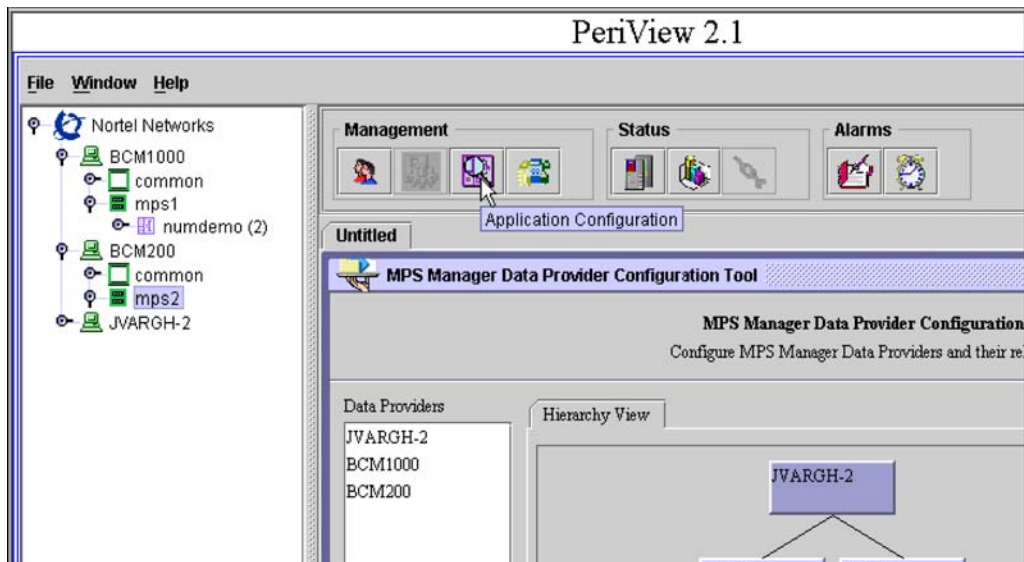
In Internet Explorer, go to <http://<ip of PeriView Consolidator>\periview\periview.html>.

Before you launch an application in PeriView, ensure that all system connections are established and running. All elements of the system, such as BCMs and the Windows host workstation, appear as green icons in the left hand window of the PeriView launch screen.

To launch an application in PeriView

- 1 Ensure Windows host SRP is up using **Settings > Control Panel > Services > Services Startup**.
- 2 Launch PeriView.

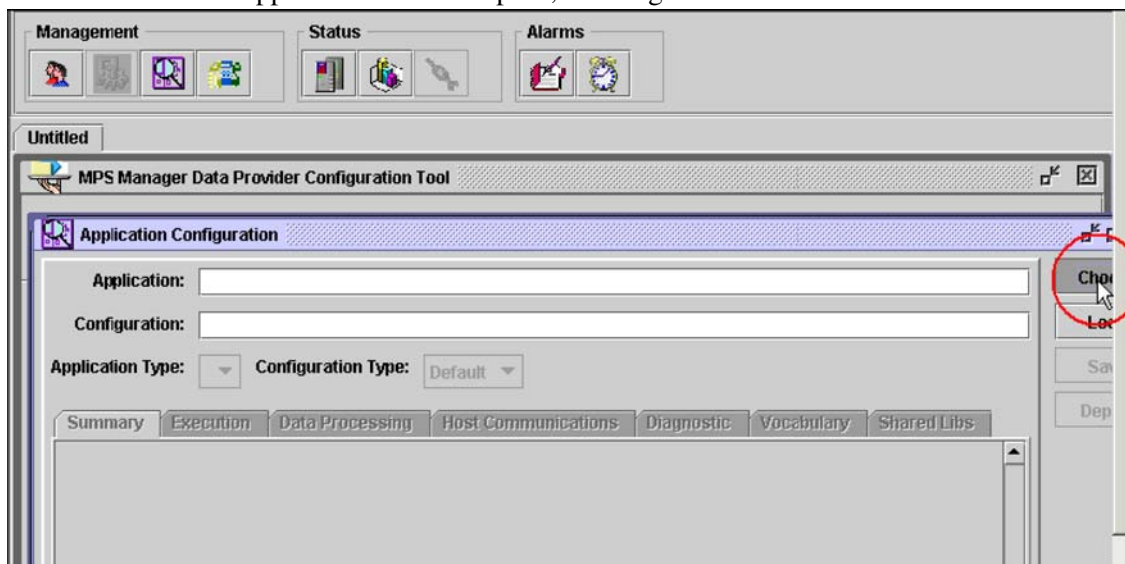
- 3 In the PeriView launch screen, click **Application Configuration** to start the IVR setup.



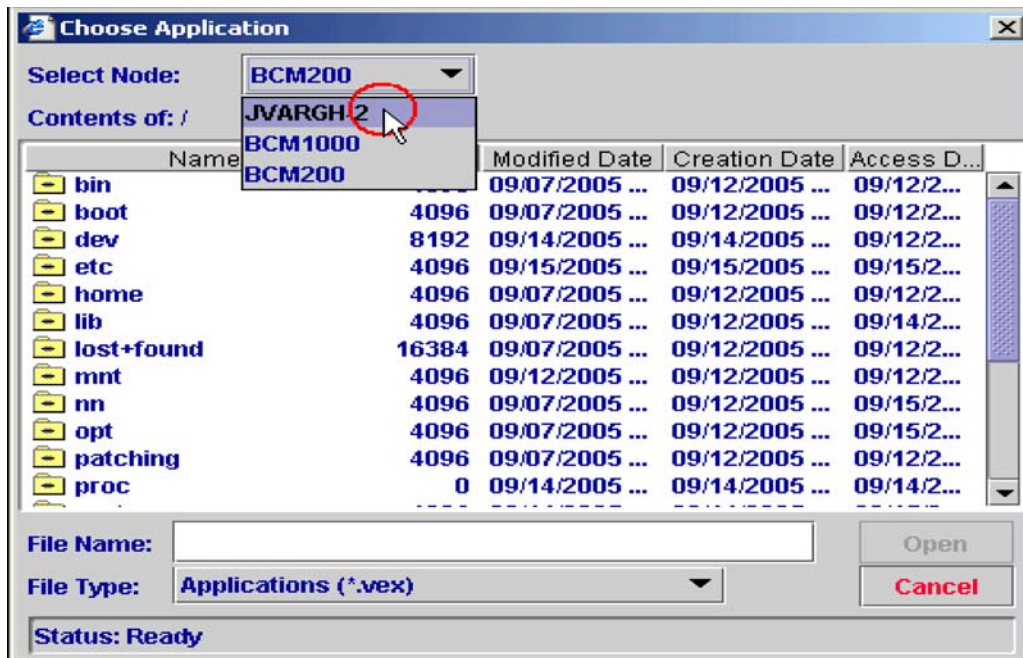
The Windows host workstation is JVARGH. The icon representing the host workstation is green in the left hand window of the PeriView launch screen.

- 4 Click **Choose**.

The Choose Application window opens, showing folders on the selected node.

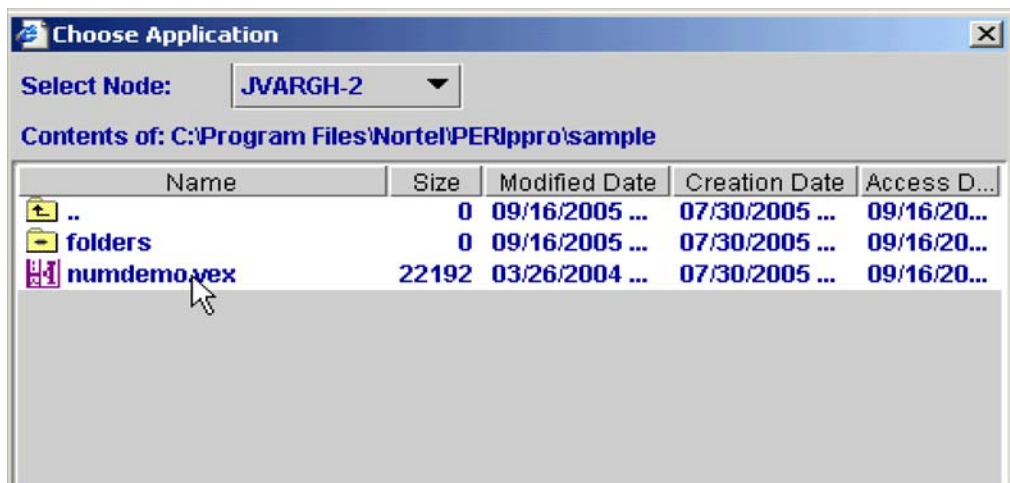


- 5 From the **Select Node** drop-down list, select the Windows host.



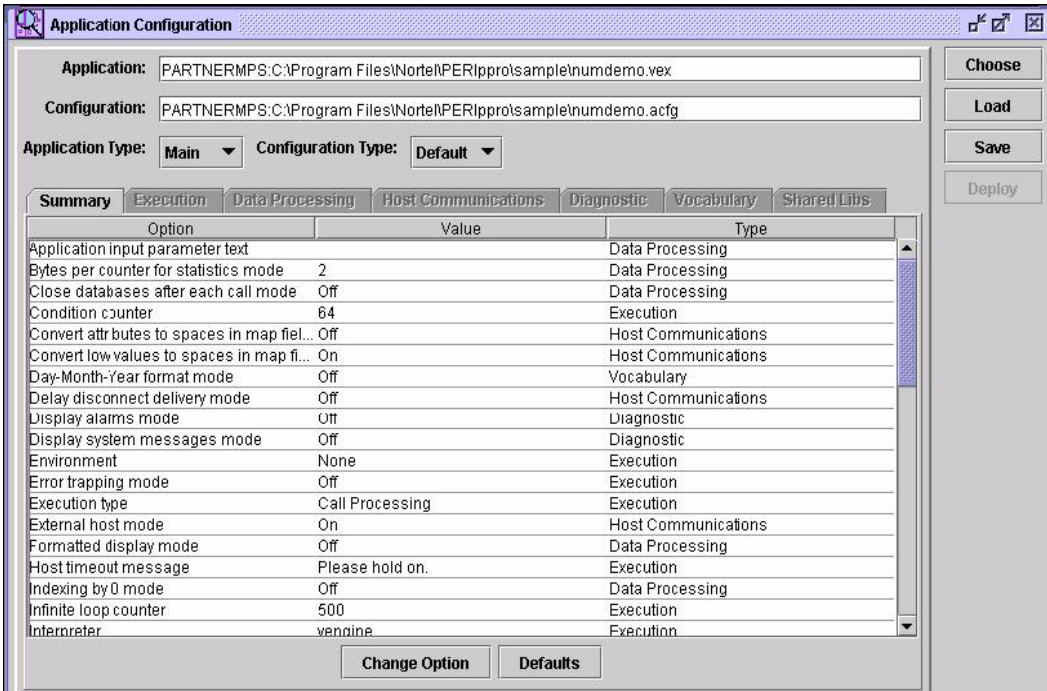
- 6 Browse the .vex folder.

The .vex folder is located in C:\Program Files\Nortel\PERIppro\sample and contains only one application (numdemo.vex). Files with .vex extensions are the compiled output of PERIproducer source files.



- 7 Select the .vex file you want to use.
- 8 Click **Load**.

9 Click Save.



Note: PeriView automatically creates the .acfg file when a .vex file is loaded to the Application Configuration utility.



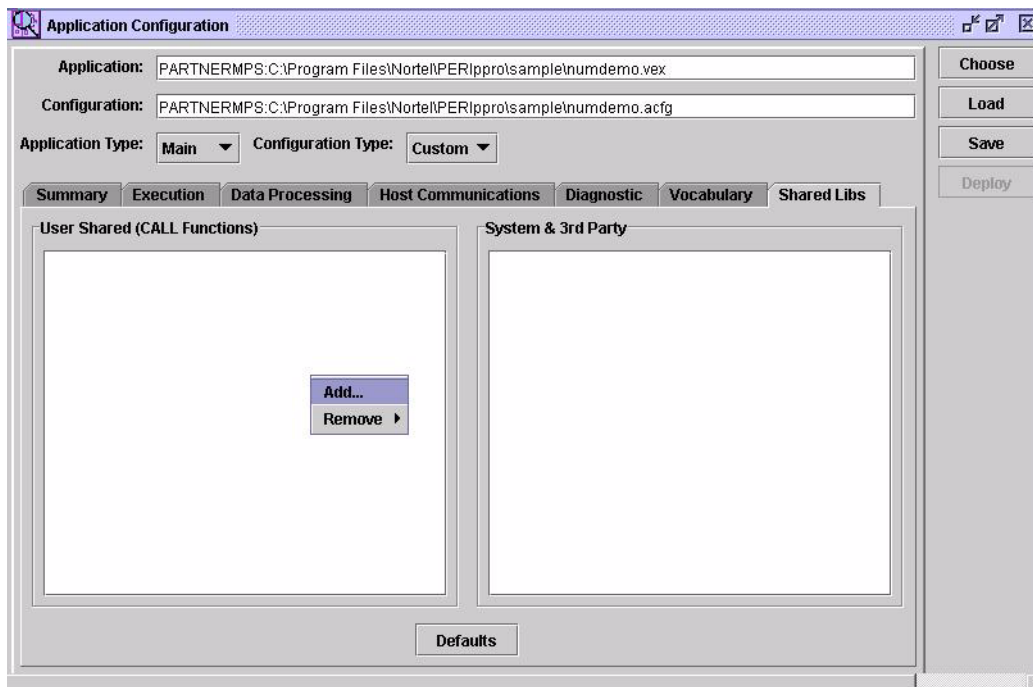
Note: You cannot have two MPS components with the same component number on the same network.

10 To load C/C++ Call Function files (for example, files with .so extensions), click **Change Option**.

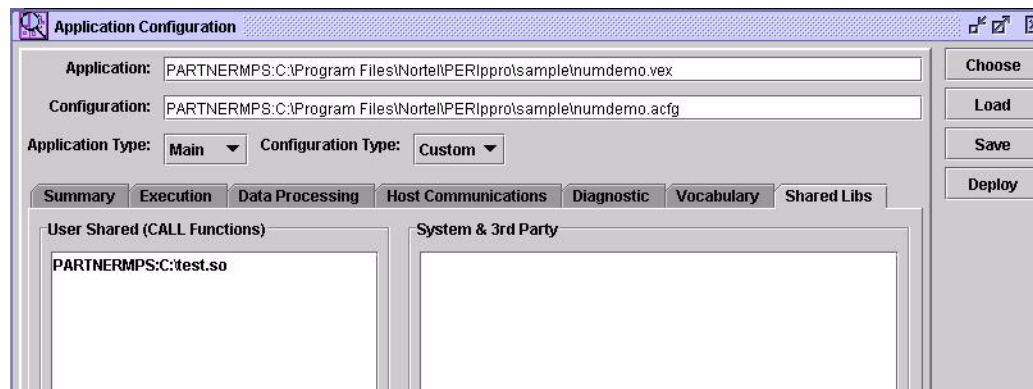
11 Click **Add**.

12 Browse the Windows host folder in which .so files are located and select the .so file you want to use.

The selected .so file is generated on the Fedora NCGL workstation and sent to the Windows host for transfer to the BCM.



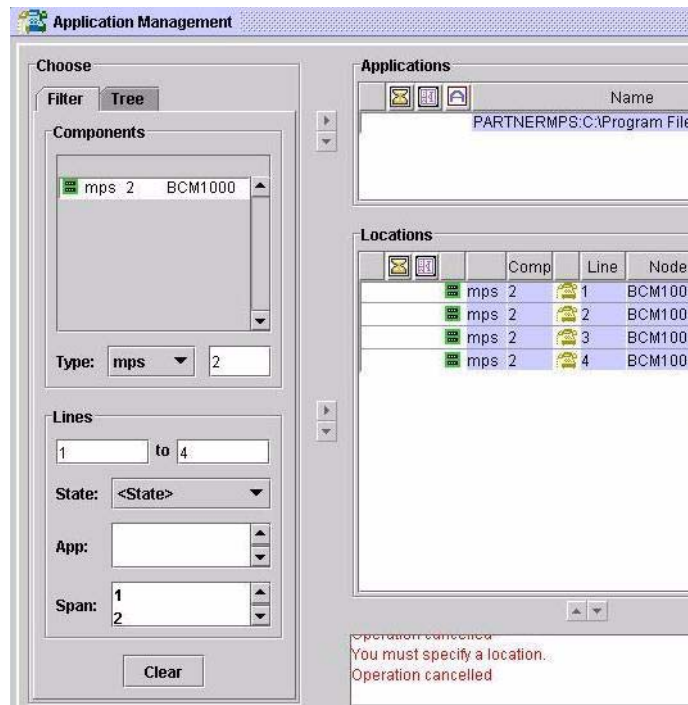
13 Send the .so file to the BCM.



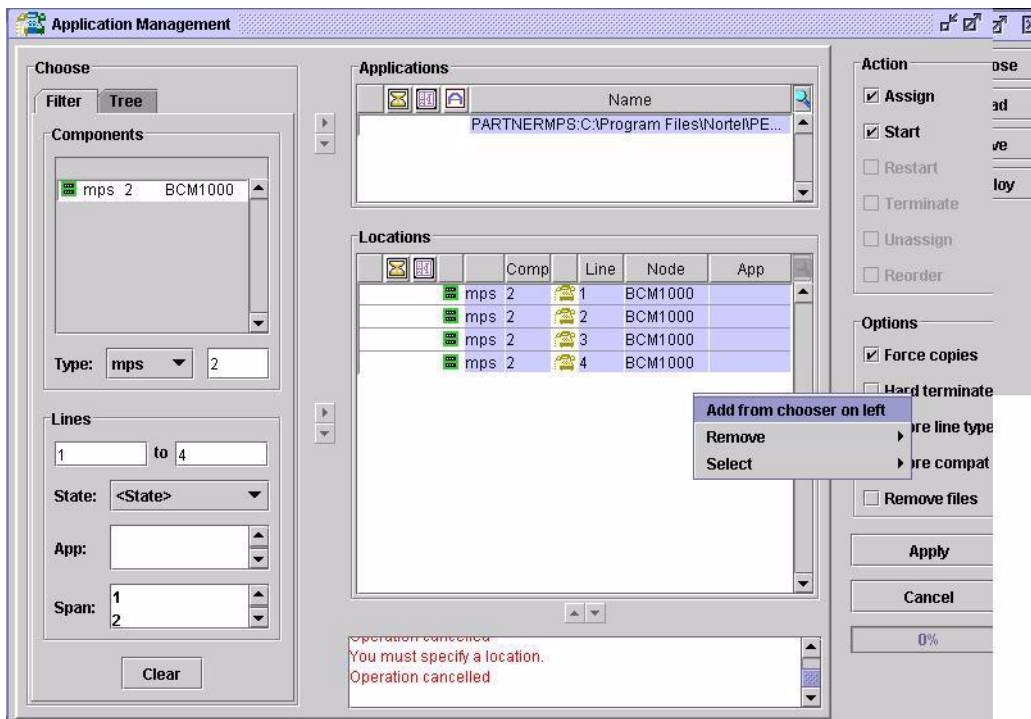
14 Return to the PeriView launch screen and click **Application Management**.

The Application Management window opens.

- 15** In the **Choose** area of the **Application Management** window, select the MPS nodes and line numbers you want to use.



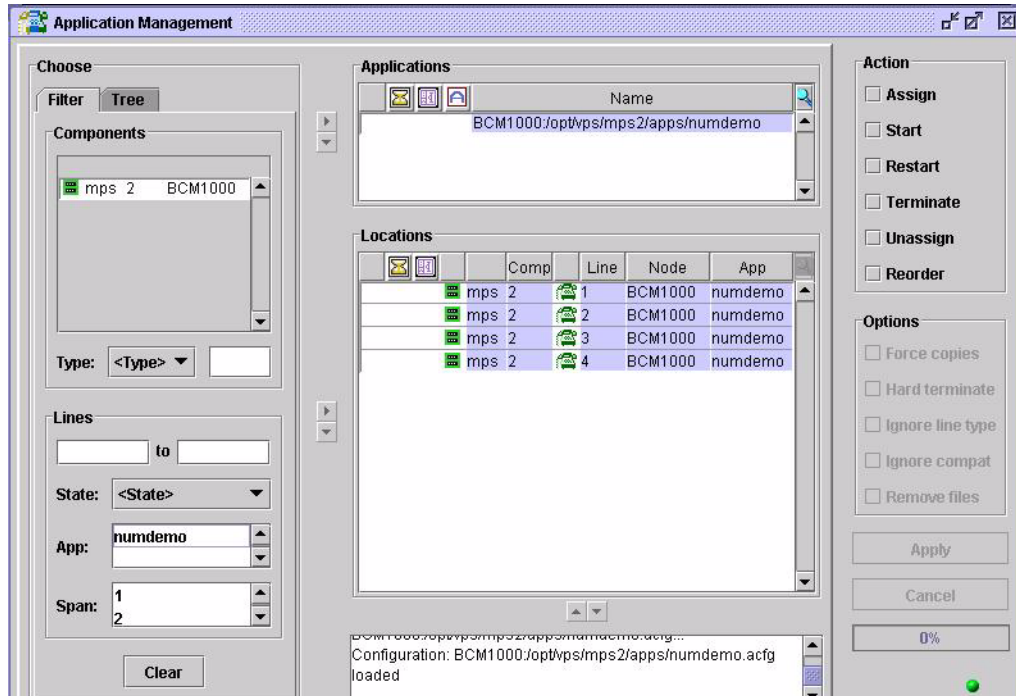
- 16** Right-click anywhere in the **Application Management** window and select **Add from Chooser on left**.



17 In the right panel of the window, select the **Assign** and **Start** check boxes.

18 Click **Apply** to activate the selected application to the desired BCM ports.

In the following example, the numdemo application has been activated on the BCM/IVR ports 1 through 4. When the applications are up and running, the icons are green.



- 19** To validate the IVR application, use any phone connected to your BCM system to call the IVR DN.

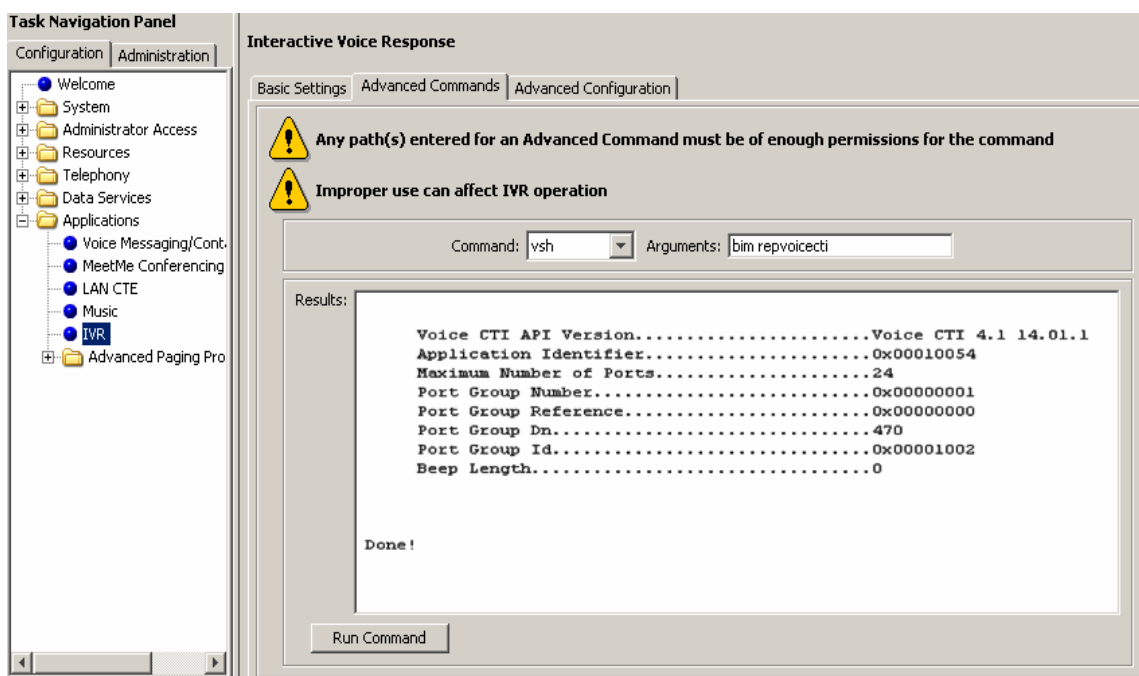


Note: To obtain the IVR DN, use the vsh command (as shown in this example).

- a** From the **Interactive Voice Response** panel, select the **Advanced Commands** tab.

The Advanced Commands tab appears.

- b** From the **Command** pull-down list, select the **vsh** command.
- c** In the **Arguments** field, type the arguments you want to add to the **vsh** command (**bim repvoicecti**).



- d** Click **Run Command**.

The output appears in the Results panel.

The IVR DN appears in the Port Group DN line of the output.

Dialing the IVR extension

You can use Feature 985 to see what the IVR extension is. Dial this extension to confirm that the appropriate IVR script answers the call.

To dial the IVR extension

- 1 On a one-line or two-line display telephone connected to your BCM system, press **FEATURE 985**.

The display shows the Voicemail extension.

- 2 Press the **NEXT** soft key or the pound key (#) to view the IVR extension.

The display shows the IVR extension.

- 3 Dial the IVR extension and check that the script answers the call.



Note: You can program the IVR extension to be any extension on a BCM (for example, the prime is set for trunks, ringing sets for Night Service, or for CFNA sets). For information about changing extensions, see the *Nortel BCM450 Administration and Security* (NN40160-601).

If you change the IVR extension, you must restart IVR. Complete the procedure “[To stop, start, or restart IVR service](#)” on page 55 to restart IVR service .

Assigning lines to IVR

You can assign which lines answer IVR calls. To assign multiple lines, go to “[To assign multiple lines to IVR](#)” on page 50.

To assign lines to IVR

- 1 Launch and log on to the Element Manager.

The Element Manager opens with the Task Navigation Panel open.

- 2 From the **Configuration** tab, open the **Application** folder.

- 3 Click **Voice Messaging/Contact Center**.

The Voice Messaging/Contact Center panel appears.

- 4 Click **Launch CallPilot Manager**.

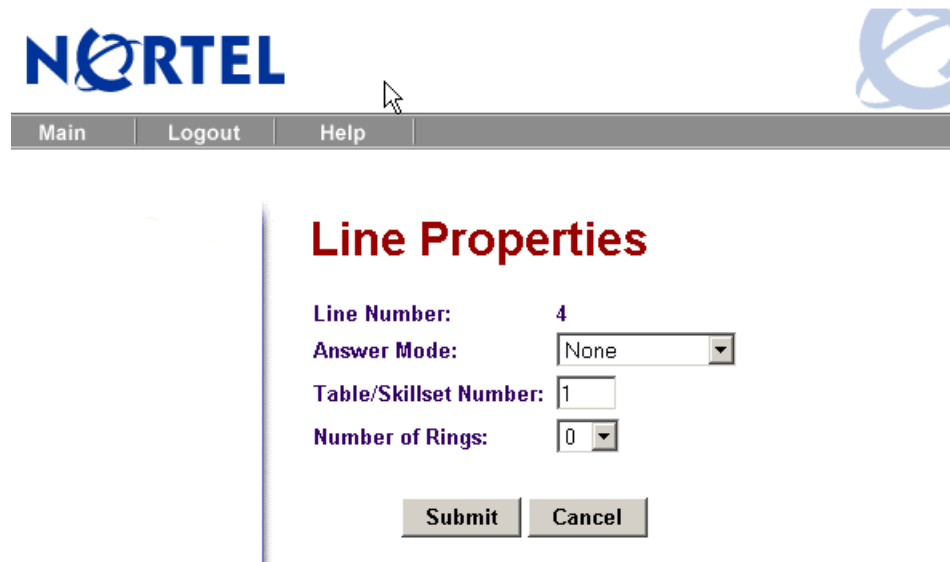
The CallPilot Manager Main Menu opens in your web browser.

- 5 Click **Auto Attendant**.

The Lines Administration page appears.

- 6 Click the **Change** link for the line you want to assign to IVR.

The Line Properties page opens.



NORTEL

Main Logout Help

Line Properties

Line Number: 4

Answer Mode: None

Table/Skillset Number: 1

Number of Rings: 0

Submit Cancel

- 7 From the **Answer Mode** list box, select **IVR**.
- 8 From the **Number of rings** list box select the number of rings you want there to be before IVR answers.

You must select a number from 0 to 12. If you set the number to less than 2, Caller ID information cannot be passed to IVR for analog lines.

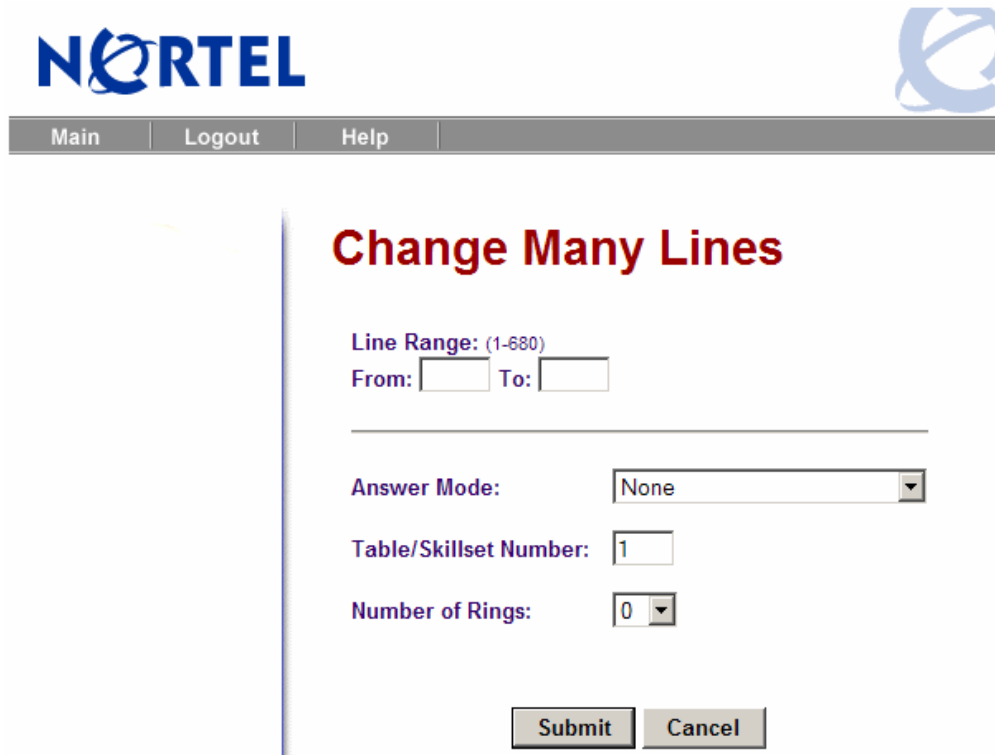
- 9 Click **Submit**.

To assign multiple lines to IVR

- 1 Launch and log on to the Element Manager.
The Element Manager opens with the Task Navigation Panel open.
- 2 From the **Configuration** tab, open the **Applications** folder.
- 3 Click **Voice Messaging/Contact Center**.
The Voice Messaging/Contact Center panel appears.
- 4 Click **Launch CallPilot Manager**.
The CallPilot Manager Main Menu opens in your web browser.
- 5 Click **Auto Attendant**.
The Lines Administration page appears.

6 Click Change Many Lines.

The Change Many Lines page appears.



NORTEL

Main Logout Help

Change Many Lines

Line Range: (1-680)
 From: To:

Answer Mode:

Table/Skillset Number:

Number of Rings:

7 In the **From** field, type the number of the first line to add.

8 In the **To** field, type the number of the last line to add.

9 From the **Answer Mode** list box, select **IVR**.

10 From the **Number of rings** pull-down list, select the number of rings before IVR answers.

You must select a number from 0 to 12. If you set the number to less than 2, Caller ID information cannot be passed to IVR.

11 Click **Submit**.

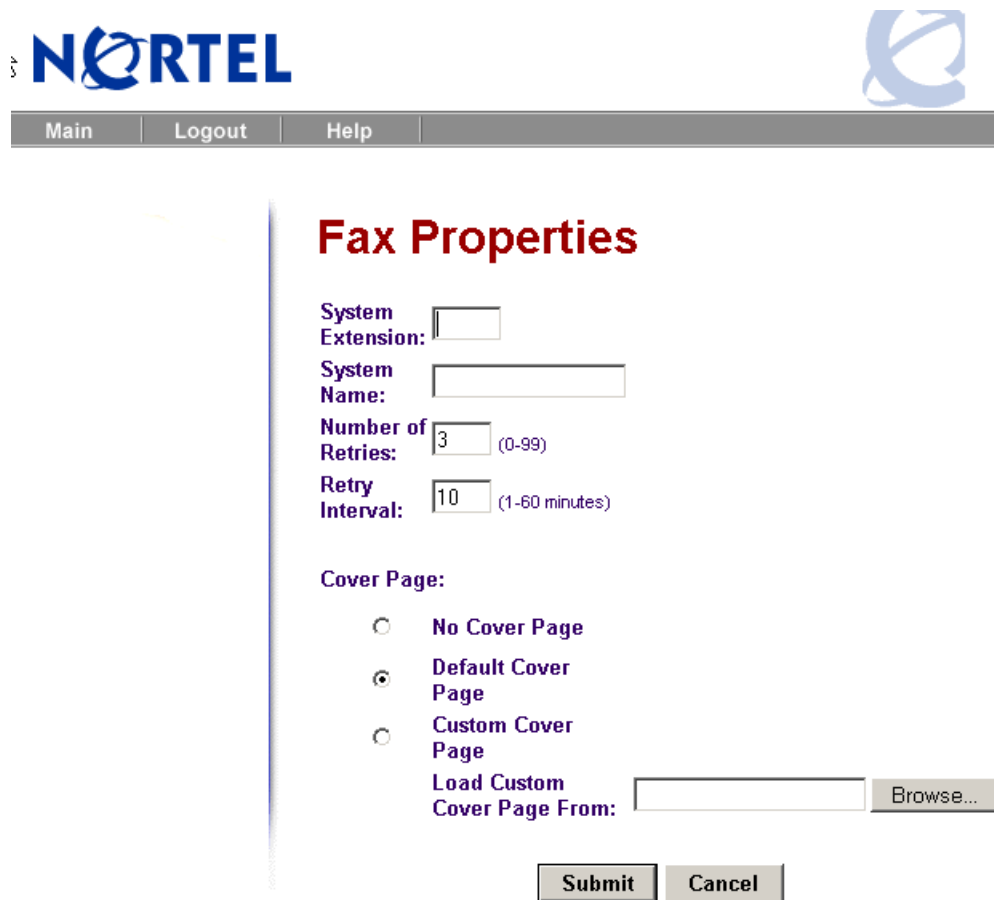
Viewing or changing the system fax name

When IVR sends a fax, it uses the system fax name that is programmed in CallPilot Manager. The system name transmits to external fax machines as the station ID of the site. Many fax machines show this value when transmitting or receiving, and record it in transmission logs. If you have not entered a system name, no station ID is sent.

The system name can be a maximum of 16 characters. You can use your main fax number as the system name.

To view or change the system fax name

- 1 Launch and log on to the Element Manager.
The Element Manager opens with the Task Navigation Panel open.
- 2 From the **Configuration** tab, open the **Application** folder.
- 3 Click **Voice Messaging/Contact Center**.
The Voice Messaging/Contact Center panel appears.
- 4 Click **Launch CallPilot Manager**.
The CallPilot Manager Main Menu opens in your web browser.
- 5 Click **Configuration**.
- 6 Click **Fax Properties**.
The Fax Properties web page opens.



NORTEL

Main Logout Help

Fax Properties

System Extension:

System Name:

Number of Retries: (0-99)

Retry Interval: (1-60 minutes)

Cover Page:

☐ No Cover Page

☒ Default Cover Page

☐ Custom Cover Page

Load Custom Cover Page From: Browse...

Submit Cancel



Note: This page can appear different, depending on your system information.

- 7 To change the system fax name, in the **System Name** field enter a name for your IVR system.
The name can be a maximum of 16 characters.

Chapter 3

Administering Interactive Voice Response

This chapter contains the following information about how to administer the IVR application on your BCM system:

- [Stopping, starting, or restarting IVR service](#)
- [Uninstalling PERI packages for BCM/IVR 1.x automatically](#)
- [Using IVR Basic Settings](#)
- [Using IVR Advanced Commands](#)
- [Using IVR Advanced Configuration](#)
- [Backing up and restoring IVR](#)
- [IVR logs](#)
- [IVR guides](#)
- [IVR group privileges](#)

Stopping, starting, or restarting IVR service

There are three IVR services:

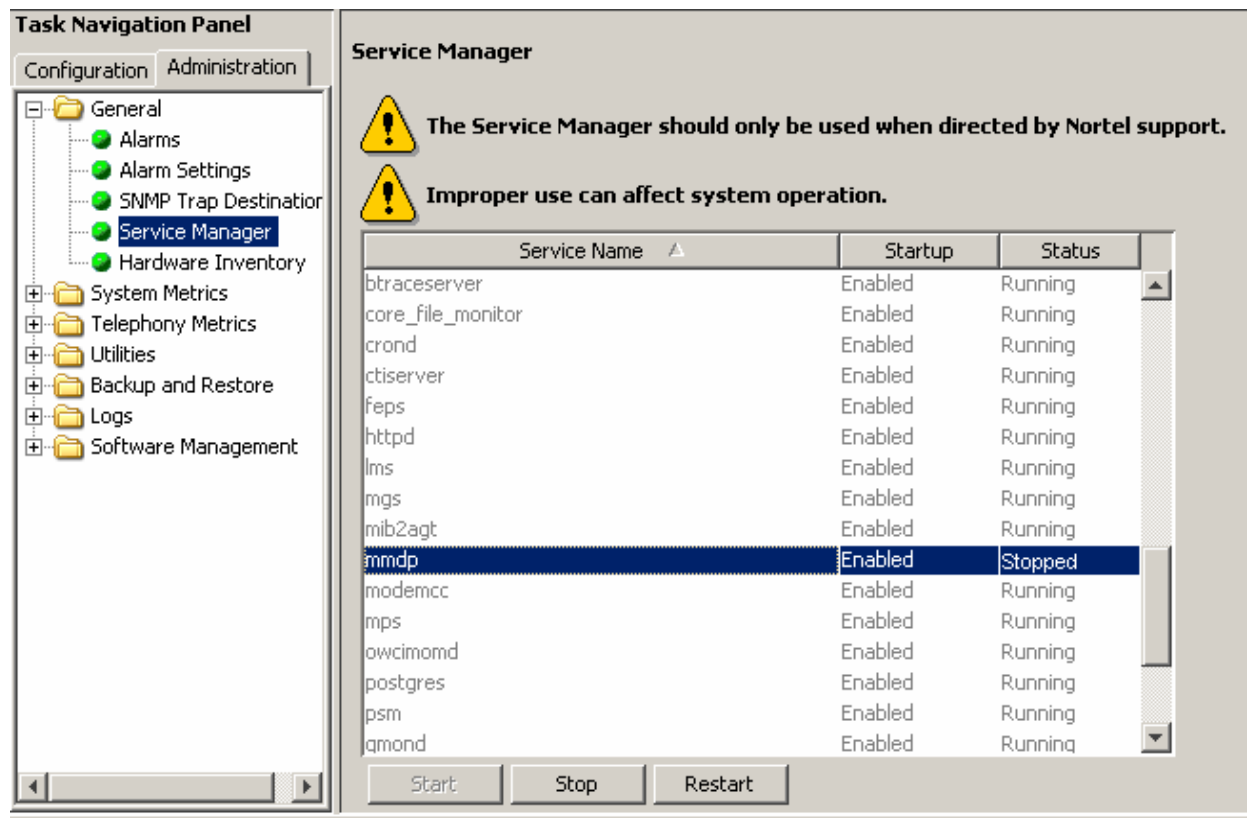
- **plicd**: the IVR license server
The plicd service stops and starts automatically when a backup and restore activity occurs or when a new license is downloaded. The plicd service does not run when there is no license present.
- **mmdp**: the IVR PeriView server
The mmdp service stops and restarts automatically when a backup and restore activity occurs, when IVR prompts are added or removed, or when a node number is changed.
- **srp**: the IVR Runtime engine
The srp service stops and restarts automatically when a backup and restore activity occurs, when IVR prompts are added or removed, or when a node number is changed.

To stop, start, or restart IVR service

- 1 Launch and log on to Element Manager.
The Element Manager opens, showing the Task Navigation Panel.
- 2 From the **Administration** tab, open the **General** folder.

3 Click **Service Manager**.

The Service Manager panel appears.



4 Select one of the following IVR files from the **Service Name** column:

- plicd (only available if a Host Access license was purchased)
- mmdp
- srp

The Start, Stop, and Restart buttons become available.

5 Click the appropriate button to start, stop, or restart the selected service.

Uninstalling PERI packages for BCM/IVR 1.x automatically

If BCM/IVR 1.x is already on the Windows workstation, complete the following procedure to remove the BCM/IVR 1.x PERI packages before you install BCM/IVR 2.1.

To uninstall PERI packages with the MPS 2.1 Software and Document CD

1 Ensure PERI packages are installed on the box by either:

a running the following command:

```
C:\perl -S perirev.plx outfile=STDOUT
```

This command produces an output similar to the following example:

```
PERIase      4.7.1
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20020122
PERIfw       1
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20011214
PERIgase     1.0.0
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20020104
PERIglobl   1.1.1
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20010611
PERIgrs      2.2
               PkgCutDate-20030729
PERIperl     1.0.1
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20020116
PERIplic     1.1.1
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20021004
PERIppro     2.30
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20010427
PERIpstu     2.20
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20010427
PERIrd       1.2
               PERIMPSPatch Bundle 7
               PERIrel5Patch Bundle 27 BundleCutDate-20031007
               PkgCutDate-20020117
PERIview     1.0.0
               PERIMPSPatch Bundle 7
               PkgCutDate-20020516
```

b going to **Start > Settings > Control Panel > Add or Remove Programs**

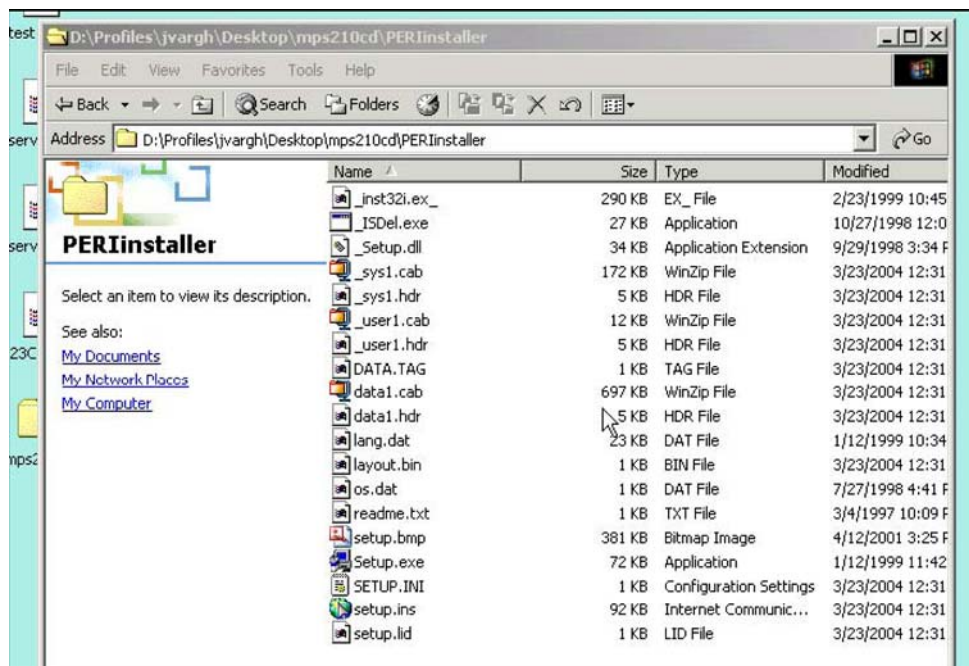
The Currently installed programs list contains the list of all PERI packages to be uninstalled.

- 2** If you are upgrading your operating system from Windows NT to Windows 2000, back up old license files to an external media other than the Windows Workstation.

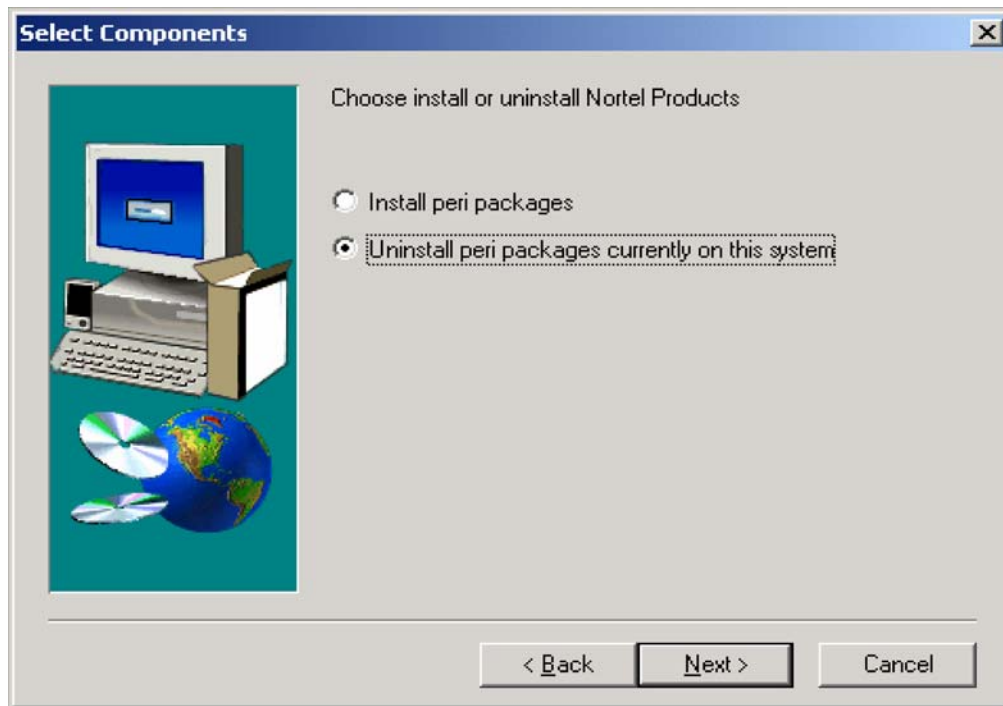


Warning: Back-up old license files by copying C:\Program Files\Nortel\PERIplic\etc\plservc to a safe location.

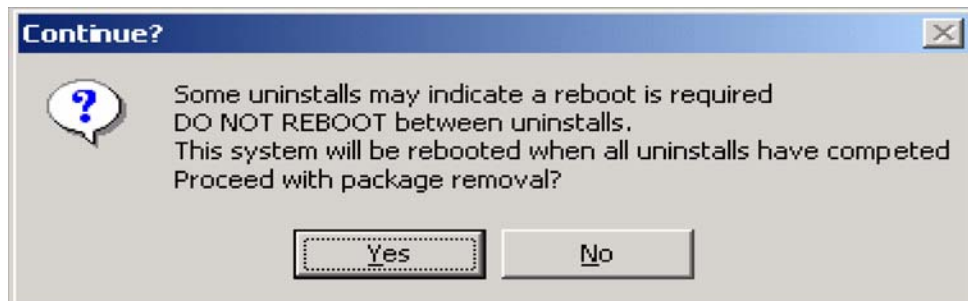
- 3** Insert the MPS 2.1 Software, Documentation and Update CD and run PERInstaller\setup.exe.



- 4 Select Uninstall when the Select Components window opens.



The following message appears:



- 5 Click Yes.
- 6 After the system has rebooted, select Start > Settings > Control Panel > Add or Remove Programs and confirm that all PERI packages have been removed.

Using IVR Basic Settings

You can manage IVR integration using the Element Manager. From the Applications folder in the Task Navigation Panel, you can navigate to the Interactive Voice Response panel. The Interactive Voice Response panel has three tabs:

- Basic Settings
- Advanced Commands
- Advanced Configuration

Use the Basic Settings tab to:

- change a node number (see [“To change the node number” on page 11](#))
- load an IVR keycode file onto the BCM (see [“To enable the Host Communication Access keycode” on page 26](#) and [“To configure the Host Communication Access” on page 28](#))
- load or remove prompts (see [“To upload IVR prompts” on page 24](#))

Using IVR Advanced Commands

Use the Advanced Commands tab on the Interactive Voice Response panel in Element Manager to execute advanced IVR commands.

Outputs from commands appear in the Results area of the Advanced Commands panel.

To execute an advanced IVR command

- 1 Launch and log on to Element Manager.

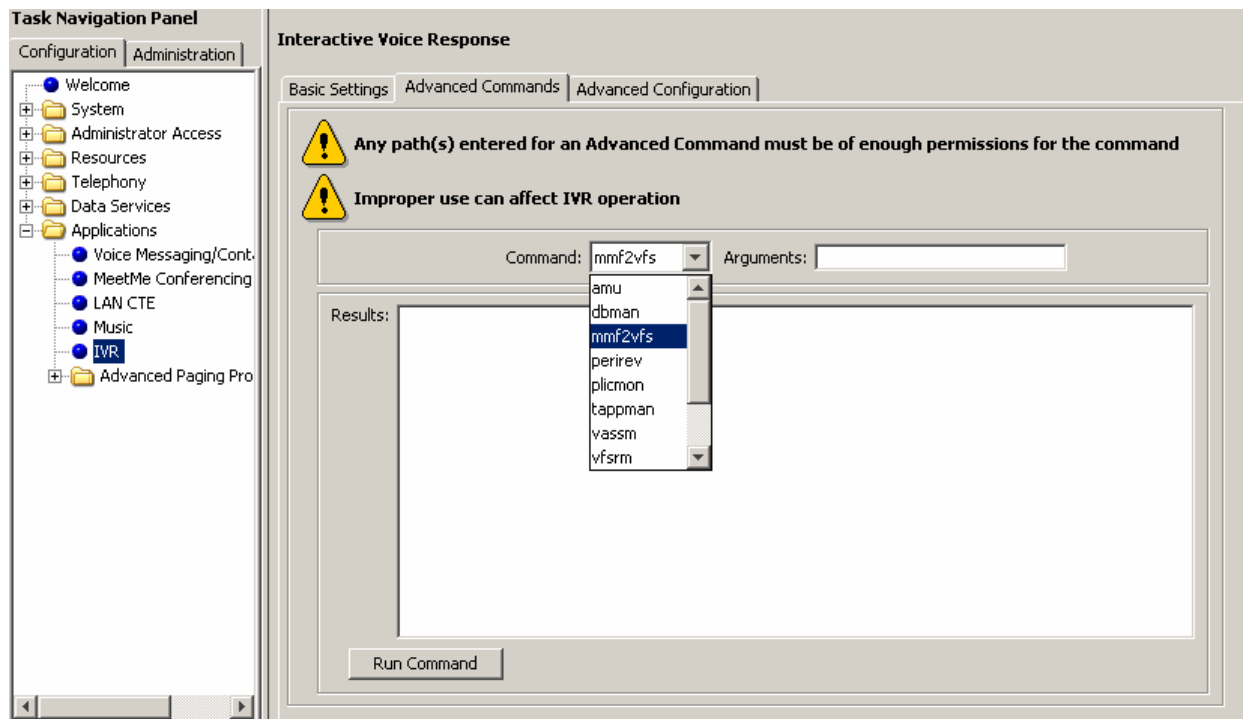
The Element Manager opens, showing the Task Navigation Panel.

- 2 From the **Configuration** tab, open the **Applications** folder.

- 3 Click **IVR**.

The Interactive Voice Response panel appears with the Basic Settings tab showing.

- 4 Select the **Advanced Commands** tab.



- 5 From the **Commands** pull-down list, select the command you want to execute.

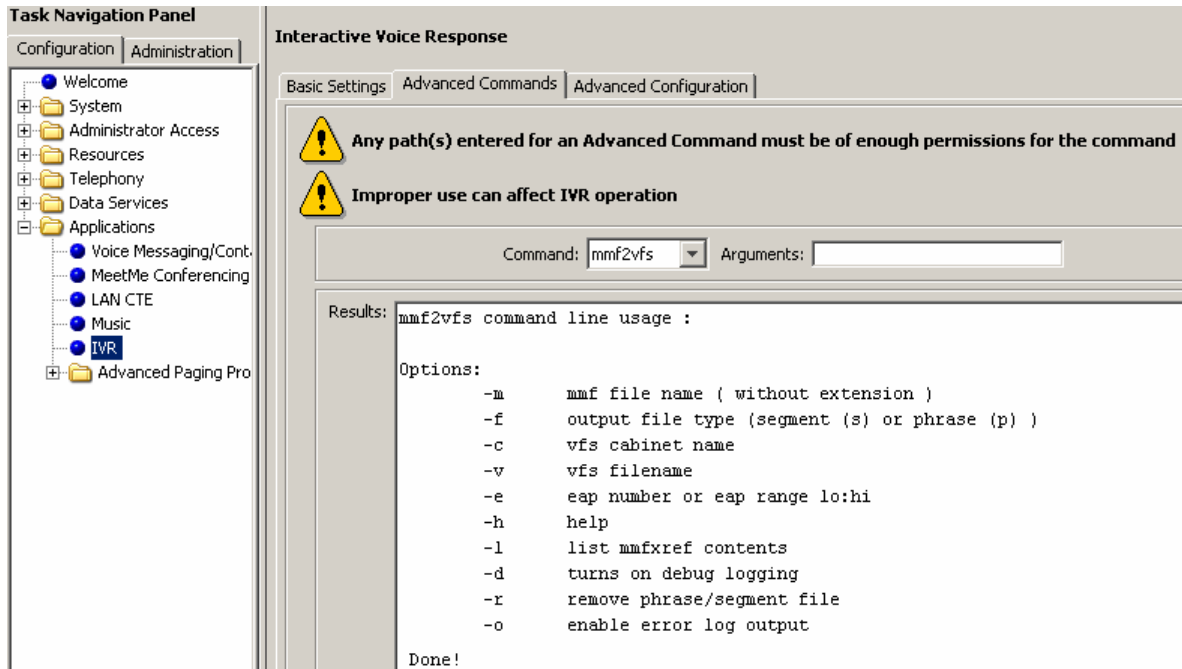
- 6 In the **Arguments** field, enter any arguments required by the command you selected.



Note: If you leave the Arguments field blank and click Run Command, a list of arguments appears in the Results area (for those commands that require arguments).

- 7 Click **Run Command**.

The output appears in the Results area.



Note: The “Done!” string always appears at the end of the Results area.

Using IVR Advanced Configuration

Use the Advanced Configuration tab on the Interactive Voice Response panel in Element Manager to carry advanced IVR configuration actions. From the Advanced Configuration tab you can transfer, from your BCM, files that require configuring, edit the files on a PC, then transfer the files back to the BCM. The files that you can transfer and edit in this manner can be found only in specific IVR folders.

If you must upload new configuration files to the BCM, you can transfer them to these folders only.

To use advanced IVR configuration

- 1 Launch and log on to Element Manager.

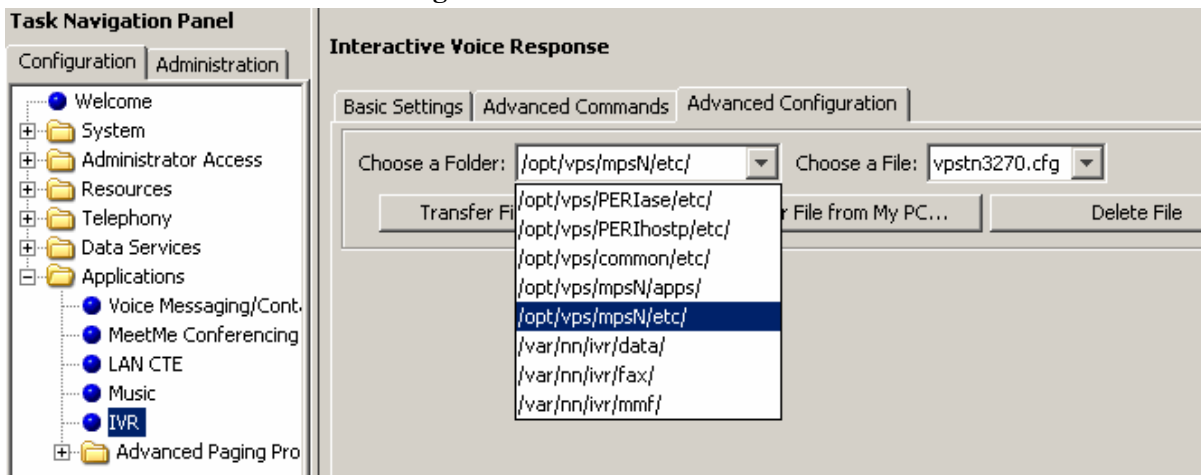
The Element Manager opens, showing the Task Navigation Panel.

- 2 From the **Configuration** tab, open the **Applications** folder.

- 3 Click **IVR**.

The Interactive Voice Response panel appears with the Basic Settings tab showing.

- 4 Select the **Advanced Configuration** tab.



- 5 From the **Choose a Folder** pull-down list, select the folder from which you want to retrieve a file to edit.

The files available in the selected folder appear in the Choose a File pull-down list.

- 6 From the **Choose a File** pull-down list, select a file to edit.

- 7 Click **Transfer File to My PC**.

The file transfers to your PC, where you can now configure it.

- 8 When you finish editing the file, close the file.

- 9 From the **Advanced Configuration** tab in Element Manager, select the folder and file you are replacing.

- 10 Click **Transfer File from My PC**.

A window opens in which you can specify the path to the configured file.

- 11 Use the **Look In**, **File Name**, and **File Type** fields to specify the path on your PC to the configured file.

- 12 Click **Open**.

The file transfers from your PC to the folder you selected in the Choose a Folder pull-down list.

Warning: Removing files could cause IVR to stop running as expected.

- 13 Click **Delete File** to remove the selected file from the BCM.

Backing up and restoring IVR

You can protect your IVR files by backing them up using the Backup and Restore utility (BRU). IVR service stops during a backup and restore.

The IVR configuration maybe backed up separately. If the IVR data needs to be backed up, then Voice Mail data will also be backed up (and vice-versa). When backing up the data, the configuration will also be backed up automatically. The IVR data and configuration maybe restored separately. If the IVR data needs to be restored, then the IVR configuration, Voice Mail configuration and Voice Mail data will also be restored (and vice-versa).

For more information on back up and restore activities, refer to the *Nortel BCM450 Administration and Security* (NN40160-601)

IVR logs

All BCM Logs, including logs for IVR can be captured via the Element Manager. Diagnostic and Sensitive logs need to be collected when an IVR problem needs to be diagnosed. For details and procedures on how to manage, retrieve, and view logs from the BCM, see *Nortel BCM450 Administration and Security* (NN40160-601).

For information about reports, refer to the *PeriReporter User's Guide* and the *BCM -IVR Integration Supplement*.

IVR guides

You can download IVR documentation from the BCM web page.

To find IVR guides

- 1 Open the BCM web page at <http://<bcmip>> where
bcmip is the IP address of your BCM.

The Welcome to BCM web page appears.



2 Click **Administrator Documentation**.

3 From the list, click **IVR**.

The IVR documentation list appears. The technical and User Documentation page appears.

4 Click the title of the IVR document you want to view.

The document opens.

IVR group privileges

The IVR Administration screens have IVR privileges associated with them. You can create a group (IVR Admin in the example below), with IVR group privileges only.

Task Navigation Panel

Configuration | Administration

- Welcome
- System
 - Administrator Access
 - Accounts and Privileges
 - Security Policies
 - SNMP
- Resources
- Telephony
- Data Services
- Applications

Accounts and Privileges

Current Account | View by Accounts | View by Groups

Groups

ID	Description
1012	Guests
1013	Voice Administrator
1014	Power Users
1015	Backup Operators
1016	Security
1017	Admin Download
1018	Guest Download
1019	Remote Monitoring
1020	Software Upgrade
1021	Local Administrator
1022	IVR Admin

Add... Delete

Details for Group: IVR Admin

General | Members

Group History

Group created: 2009-03-13 11:51:33

Created by: nnadmin

Last modified: 1969-12-31 18:00:00

Modified by:

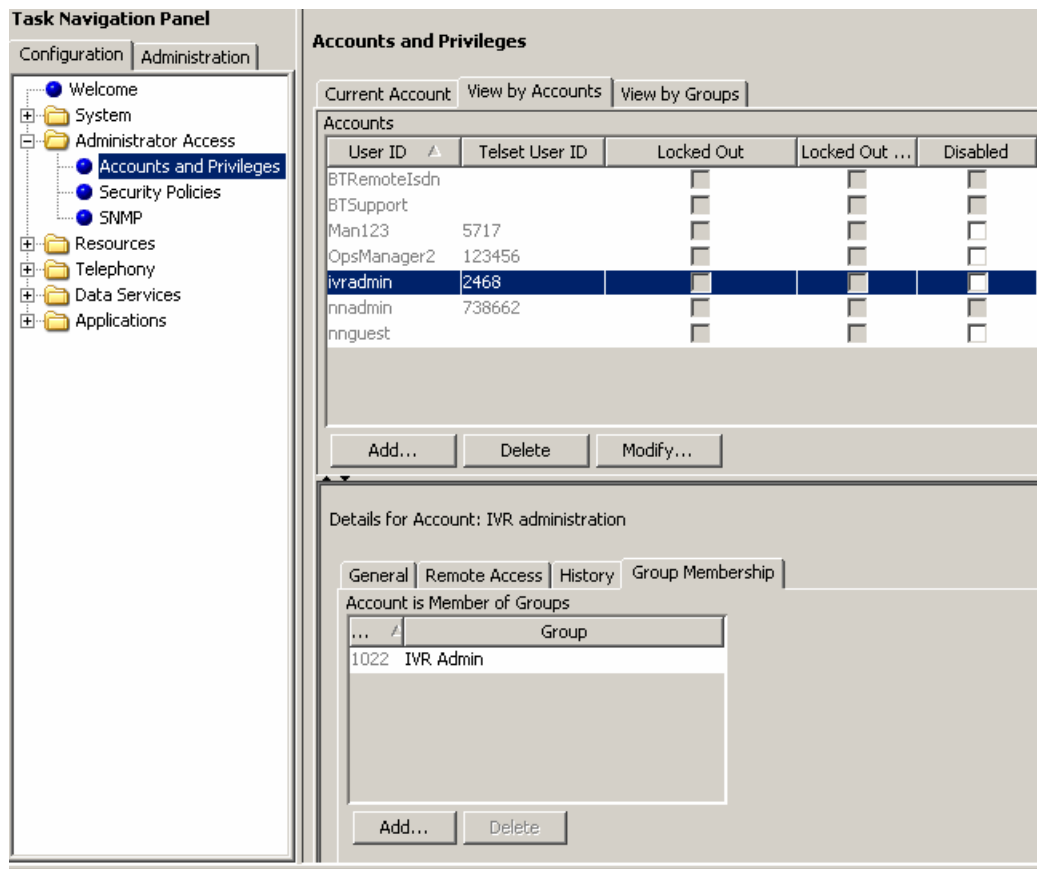
Group Privileges

Privileges

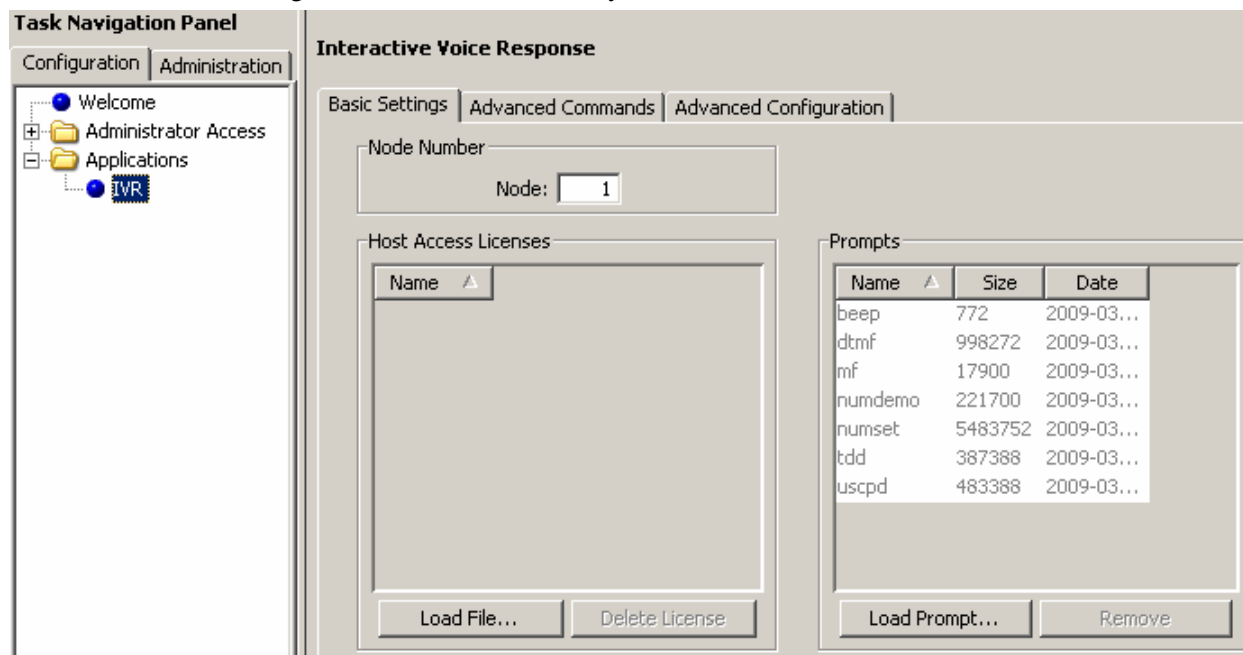
Description
IVR

Add... Delete

This means that an account (ivradmin, for example) belonging to this group only can only perform IVR Administration.



The ivradmin login screen would allow only IVR administration.



Chapter 4

Database Access Configuration

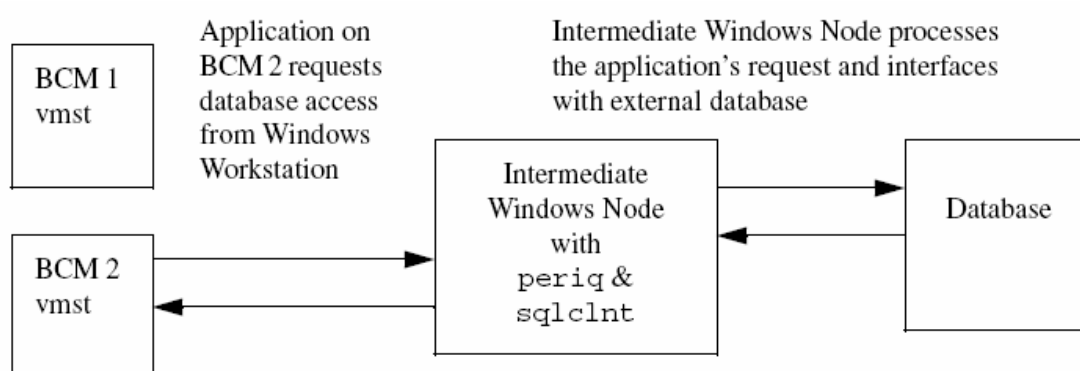
This chapter contains the following information about how to administer the IVR application on your BCM system:

- [Overview](#)
- [Configuring periq on the Windows Node](#)
- [Configuring sqlclnt on the Windows Node](#)

Overview

Some applications require access to external databases. BCM-IVR 2.1 supports Host database access and VTCPD. The system is configured so that database requests from applications running on BCMs are relayed to an intermediate Windows node where `periq` and `sqlclnt` are running. The Windows node retrieves the information and relays it back to the application running on the BCM.

The following graphic shows the interaction between the application on the BCM, the intermediate Windows node, and the external database.



To configure the BCM-IVR 2.1 system for database access, `periq` and `sqlclnt` must run on the Windows node. Both `periq` and `sqlclnt` are installed as components of `perirdb` in a TYPICAL installation on the Windows workstation. The Windows workstation can serve as the intermediate Windows node.

To run the database access configuration, additional components are needed from MPS 2.1 Patch Bundle 9 and additional database patches on the *MPS 2.1 Software, Documentation and Update CD*.

VMST 3 on the BCM Node

Ensure `vmst` is running on the BCM node where the applications requiring database access are running. The following command produces an output showing the list of active `vmst` ports and the attached BCM components:

```
[root@BCM1000 root]#vvpsactive
[root@BCM1000 root]# vvpsactive
Dec 6 21:55:33
Service(Port)  PID      Component(number)  Flags
=====
vmst(1)        26437    BCM1000.2 (#2)
Connected: vastimer(66)

vastimer(66)   26224
Connected: vms(1)
```

Install Patches on the Windows Node

To configure remote database access, you must install all the patches found in the Patches Remote Database folder on the MPS 2.1 Software, Documentation and Update CD. Install the patches (if any) by double clicking on the executable files in the folder.

Configuring `periq` on the Windows Node

To configure `periq` on the Windows Node, you must edit the `gen.cfg` file. The following figure shows a sample `gen.cfg` file:

```
#
# All executables listed in this file should support the NT convention
# for srp-triggered termination.  If you do not know what this means,
# please do not add any entries to this file.
#
# NAME                NODE  PORT  is-VOS-CLASS  PRI  COMMAND LINE
#
alarmd                -    -    1              0    alarmd
configd               -    -    1              0    configd
conout                -    -    1              0    conout
psched                -    -    0              0    "psched -run"
nrtd                  -    -    1              0    nrtd
#vastimer             -    -    0              0    vastimer
#screendaemon         -    -    0              0    screendaemon
pmgr                  -    -    1              0    pmgr
#vsupd                -    -    0              0    vsupd
#periweb              -    -    0              0    periveb
#proxy                -    -    0              0    "proxy -S ccsc -L cons -l info -k 10 -n"
#
#
#periq_bcm1000        -    -    0              0    "periq -s 16 -v bcm1000:1 -a sqlclnt -q odbc1 -mt"
#sqlclnt_bcm1000      -    -    0              0    "sqlclnt -v 1 -N bcm1000 -s 221 -U MG2gojitTV3Rd3X8f"
#
#
#periq_bcmpso         -    -    0              0    "periq -s 17 -v bcmpso:2 -a sqlclnt -q odbc2 -mt"
#sqlclnt_bcmpso       -    -    0              0    "sqlclnt -v 2 -N bcmpso -s 222 -U MG2gojitTV3Rd3X8f"
```

In the `gen.cfg` file, make the following entry for `periq`:

```
periq -v NodeA:3 -s16 -a sqlclnt -q odbcq32
```

The preceding command starts `periq` and connects the Windows node to `vmst` number 3 (running on the host BCM) through port 16. Port 16 is the default port for `periq` and is configured in `$ASEHOME/etc/services`. The preceding command also restarts `sqlclnt` services and sets the queue name as `odbcq32`.

The following table lists `periq` attributes and their descriptions:

Table 2 `periq` Attributes

Attribute	Description
<code>-v[host:]vps</code>	host and vps number
<code>-s #</code>	port number to vms
<code>-P poll</code>	new connection poll (default 15 seconds)
<code>-q [name:]#</code>	[queue name:] number of tellers
<code>-m {glf}</code>	not route GET or FREE to tellers
<code>-m i</code>	free tellers on ISSUE FREE from app
<code>-m r</code>	return undelivered message to tellers
<code>-m t</code>	time message flow
<code>-a {rsc ports}</code>	announce restart to service
<code>-X {als}</code>	debug message flow (full or short form)
<code>-X 1</code>	debug queueing
<code>-r {device file}</code>	redirect output (to <code>/dev/tty#</code> , <code>/dev/console</code>)
<code>-H</code>	help

Configuring `sqlclnt` on the Windows Node

In the `gen.cfg` file, make the following entry for `sqlclnt`:

```
sqlclnt -v 3 -s 230 -N nodeA -u sa/peri@database -m odbc -q odbcq32 -P 16 -Q 5
```

This command specifies the system to start the `sqlclnt` service and connect it to `vmst` 3 on Node A through port 230. Port 230 is one of many available to `sqlclnt` and is configured in `$ASEHOME/etc/services`. The unencrypted connection string to the database is `sa/peri@database`. Database mode is ODBC and `sqlclnt` is part of queue `odbcq32`. The `sqlclnt` service communicates with `periq` through port 16 with a ping rate of 5 seconds.

The following table lists `sqlclnt` attributes and their descriptions:

Table 3 sqlclnt Attributes

Attribute	Description
-v #	vps number
-s port	port number to use
-N host	VMS host machine (default - local)
-P port	PeriQ port (default - any)
-m queue_type	'oracle', 'sybase', 'odbc', 'db2' or 'mssql'
-q name	associated queue name
-u[<usr>[/<passwd>][@<server><odbcdsn%OEM>]]	RDBMS connect string. If connect string contains @ or /, use \\ as escape character.
-U cryptstring	Crypted RDBMS connect string
-l directory	Enable SQL Timing, specify directory path to place log files
-S backup	user/psswd@server backup/fail over server. If connect string contains @ or /, use \\ as escape character
-B cryptstring	Crypted RDBMS connect string for backup/fail over server
-c AUTOCOMMIT	Enable AUTOCOMMIT
-x Transaction Timeout	Transaction Timeout for a database Query (ODBC)
-L Login TimeOut	Login TimeOut (ODBC)
-T poll	new server connection poll (default 20 seconds)
-R #	number of re-cycle attempts (default forever)
-Q ping rate	Set ping rate for retrying connection to vmst (default 60 seconds)
-X {sn}	debugging level
-r {dev file}	redirect output
-H	help

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