Understanding Interface Numbering and Cisco IOS Software Basics

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About the Voice Gateways

Cisco VG202, Cisco VG202XM, Cisco VG204, and Cisco VG204XM voice gateways deliver analog voice gateways for the service provider as well as commercial and enterprise unified communication markets. These voice gateways provide voice connectivity to devices such as analog phones, fax machines, and modems.

Cisco VG202, Cisco VG202XM, Cisco VG204, and Cisco VG204XM voice gateways provide support for 2-FXS (Cisco VG202 and Cisco VG202XM) and 4-FXS (Cisco VG204 and Cisco VG204XM) ports, each supporting independent telephone numbers giving you two or four separate lines, and parity with Cisco IOS fax/modem, security, and Session Initiation Protocol (SIP) features. Both voice gateways are configurable with Cisco Unified Communications Manager (CUCM) & Cisco Unified Communications Manager Express (CUCME).

Note

Cisco VG202, Cisco VG202XM, Cisco VG204, and Cisco VG204XM voice gateways are fixed voice gateways and do not support interface cards.

Port Numbering Conventions

The Cisco VG202 voice gateway supports two RJ-11 ports and supports two FXS voice ports with two 10/100 Fast Ethernet ports. Figure 1-1 shows the interfaces and ports on the Cisco VG202 voice gateway. All interface ports are on the back of the chassis.
The Cisco VG202 and the Cisco VG202XM chassis are identical. The only difference is the model number on the top center. On the Cisco VG202 chassis, the faceplate label says VG202. On the Cisco VG202XM chassis, the faceplate label says VG202XM.

**Figure 1-1**  Back Panel Feature Locations on the Cisco VG202 Chassis

<table>
<thead>
<tr>
<th>1</th>
<th>Fast Ethernet port 1, Fast Ethernet port 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Serial port—console or auxiliary</td>
</tr>
<tr>
<td>3</td>
<td>FXS ports</td>
</tr>
<tr>
<td>4</td>
<td>Power connector</td>
</tr>
<tr>
<td>5</td>
<td>Chassis ground connection</td>
</tr>
<tr>
<td>6</td>
<td>Kensington security slot</td>
</tr>
</tbody>
</table>

The Cisco VG204 voice gateway supports four RJ-11 ports and supports four FXS voice ports with two 10/100 Fast Ethernet ports. **Figure 1-2** shows the interfaces and ports on the Cisco VG204 voice gateway. All interface ports are on the back of the chassis.

**Note**

The Cisco VG204 and the Cisco VG204XM chassis are identical. The only difference is the model number on the top center. On the Cisco VG204 chassis, the faceplate label says VG204. On the Cisco VG204XM chassis, the faceplate label says VG204XM.

**Figure 1-2**  Back Panel Feature Locations on the Cisco VG204 Chassis
Port numbering conventions for the Cisco VG202, Cisco VG202XM, Cisco VG204, and Cisco VG204XM voice gateways are as follows:

- Foreign Exchange Station (FXS) voice port numbering begins at 0/0 and extends to 0/1 for the Cisco VG202 and Cisco VG202XM, and extends to 0/3 for the Cisco VG204 and Cisco VG204XM.
- 10/100BASE-T Fast Ethernet ports are numbered Fast Ethernet 0/0 and Fast Ethernet 0/1, from right to left.

### Understanding Cisco IOS Software Basics

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### About Cisco IOS Software

Understanding these concepts about the Cisco IOS software will save time as you begin to use the CLI. If you have never used Cisco IOS software or if you need a refresher, take a few minutes to read this chapter before you proceed to the next chapter.

If you are already familiar with Cisco IOS software, proceed to Chapter 2, “Configuring Your Voice Gateway Using the setup Command.”

For a comprehensive view of Cisco IOS configuration fundamentals, see the *Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.4.*

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**Note**

- Your Cisco IOS software release may not support all of the features documented in this document. For the latest feature information and caveats, see the release notes for your platform and software release.
- Use the Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access the Cisco Feature Navigator, go to [http://www.cisco.com/go/cfn](http://www.cisco.com/go/cfn). You do not need an account on Cisco.com to access the Cisco Feature Navigator.
The VG202 and VG204 devices support IOS software releases 15.0(1)M or earlier* due to memory limitations. The VG202XM and VG204XM devices will support the latest IOS software release 15.3(2)T and beyond. Earlier releases are not supported on the VG202XM and VG204XM.

*Deployments requiring support for secure SCCP based call control are supported using 15.1(4)M IOS release.

### Getting Help

Use the question mark (?) and arrow keys to help you enter commands:

- For a list of available commands, enter a question mark:
  \[
  \text{VG> ?}
  \]

- To complete a command, enter a few known characters followed by a question mark (with no space):
  \[
  \text{VG> s?}
  \]

- For a list of command variables, enter the command followed by a space and a question mark:
  \[
  \text{VG> show ?}
  \]

- To redisplay a command you previously entered, press the up arrow key. You can continue to press the up arrow key for more commands.

### Command Modes

The Cisco IOS user interface involves different modes. Each command mode permits you to configure different components on your voice gateway. The commands available at any given time depend on which mode you are currently in. Entering a question mark (?) at the prompt displays a list of commands available for each command mode. Table 1-1 lists the most common command modes.

**Table 1-1  Common Command Modes**

<table>
<thead>
<tr>
<th>Command Mode</th>
<th>Access Method</th>
<th>VG Prompt Displayed</th>
<th>Exit Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>User EXEC</td>
<td>Log in.</td>
<td>\text{VG&gt;}</td>
<td>Use the \text{logout} command.</td>
</tr>
<tr>
<td>Privileged EXEC</td>
<td>From user EXEC mode, enter the \text{enable} command.</td>
<td>\text{VG#}</td>
<td>To exit to user EXEC mode, use the \text{disable, exit, or logout} command.</td>
</tr>
</tbody>
</table>
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Understanding Cisco IOS Software Basics

Timesaver

Each command mode restricts you to a subset of commands. If you are having trouble entering a command, check the prompt, and enter the question mark (?) for a list of available commands. You might be in the wrong command mode or using the wrong syntax.

In the following example, notice how the prompt changes after each command to indicate a new command mode:

VG> enable
Password: <enable password>
VG# configure terminal
VG(config)# interface fastEthernet 0/0
VG(config-if)# line 0
VG(config)# exit
VG#
%SYS-5-CONFIG_I: Configured from console by console

The last message is normal and does not indicate an error. Press Return to get the VG# prompt.

Note

You can press Ctrl-Z in any mode to immediately return to enable mode (VG#), instead of entering exit, which returns you to the previous mode.

Undoing a Command or Feature

If you want to undo a command you entered or disable a feature, enter the keyword no before most commands; for example, no ip routing.

Saving Configuration Changes

You need to enter the copy running-config startup-config command to save your configuration changes to NVRAM, so the changes are not lost if there is a system reload or power outage. For example:

VG# copy running-config startup-config
Building configuration...
It might take a minute or two to save the configuration to NVRAM. After the configuration has been saved, the following appears:

```
[OK]
VG#
```

### Upgrading to a New Cisco IOS Release

To install or upgrade to a new Cisco IOS release, see Maintaining System Memory in the Cisco IOS Configuration Fundamentals Configuration Guide, Release 12.2.

**Note**

To simplify network operations and management of Cisco IOS software migration, see the Basics of a Successful Cisco IOS Software Migration.

### Typical Voice Gateway Deployment Scenario

**Figure 1-3** shows a typical deployment scenario for a Cisco VG202, Cisco VG202XM, Cisco VG204, or Cisco VG204XM voice gateway.

**Figure 1-3  Analog FXS User Interfaces**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ethernet</td>
</tr>
<tr>
<td>2</td>
<td>Cisco VG204/Cisco VG204XM voice gateway</td>
</tr>
<tr>
<td>3</td>
<td>RJ-11 cables</td>
</tr>
<tr>
<td>4</td>
<td>Analog telephones</td>
</tr>
</tbody>
</table>

**Where to Go Next**

Now that you have learned some Cisco IOS software basics and seen a typical deployment scenario, you can begin to configure your voice gateway by using the CLI.

Remember that:

- You can use the question mark (?) and arrow keys to help you enter commands.
- Each command mode restricts you to a set of commands. If you have difficulty entering a command, check the prompt and then enter the question mark (?) for a list of available commands. You might be in the wrong command mode or be using the wrong syntax.
• To disable a feature, generally enter the keyword **no** before the command; for example, **no ip routing**.

• You need to save your configuration changes to NVRAM so that the changes are not lost if there is a system reload or power outage.

Go to **Chapter 2, “Configuring Your Voice Gateway Using the setup Command,”** to begin configuring your voice gateway.