



# Configuring DC Voltage Based VMWI for SCCP Controlled Analog Ports

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This module describes the DC Voltage Based VMWI for SCCP Controlled Analog Ports feature. This feature is supported for analog endpoints that are connected to Foreign Exchange Station (FXS) ports on a Cisco VG224 Analog Phone Gateway with analog device version V1.2 or V3.1 and controlled by a Cisco call-control system such as Cisco Unified Communications Manager or Cisco Unified Communications Manager Express (Cisco Unified CME).

## **Finding Feature Information in This Module**

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the [“Feature Information for DC Voltage Based VMWI for SCCP Controlled Analog Ports” section on page 59](#).

## **Finding Support Information for Platforms and Cisco IOS Software Images**

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

## Contents

- [Information About DC Voltage Based VMWI for SCCP Controlled Analog Ports, page 54](#)
- [How to Configure DC Voltage Based VMWI for SCCP Controlled Analog Ports, page 56](#)
- [Additional References, page 58](#)
- [Feature Information for DC Voltage Based VMWI for SCCP Controlled Analog Ports, page 59](#)



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# Information About DC Voltage Based VMWI for SCCP Controlled Analog Ports

To enable SCCP supplementary features on analog phones connected to FXS ports on a Cisco voice gateway, you should understand the following concepts:

- [Feature Summary, page 54](#)
- [VMWI for SCCP FXS Ports in Cisco IOS Software, page 55](#)
- [DC Voltage VMWI, page 55](#)

## Feature Summary

[Table 16](#) contains information about the DC Voltage Based VMWI for SCCP Controlled Analog Ports feature, along with information about how to configure support for this feature in your Cisco call-control system.

**Table 16** DC Voltage Based VMWI for SCCP Controlled Analog Ports

Feature	How Phone User Accesses Feature	Configuration on Call-Control System
<p><b>VMWI for SCCP Controlled VG224 Analog Ports</b></p> <p>Allows the phone user to see if there are new voice messages by looking at the message waiting lamp.</p>	<p>If the phone is on hook, the MWI lamp turns on when a new message is received. The lamp turns off after the user has reviewed all messages. If the phone is off hook, the MWI lamp is turned on or off the next time the phone goes on hook.</p>	<p>No configuration tasks required on your Cisco call-control system.</p>
<p><b>DC Voltage Based VMWI for SCCP Controlled Analog Ports</b></p> <p>Allows the phone user to see if there are new voice messages by looking at the message waiting lamp on certain analog phones that support a DC-voltage-controlled message waiting lamp.</p>	<p>When the voice port is in an idle and onhook state, the MWI lamp flashes with a 600 ms on and 1200 ms off cadence to indicate that there are waiting voice messages.</p> <p>When the voice port is not in an idle state or if the port is off hook or ringing, the MWI lamp is turned off.</p> <p>After the operation state of this voice port returns to idle and onhook, the MWI lamp resumes flashing.</p> <p><b>Note</b> This feature is only supported for SCCP endpoints connected to onboard analog FXS ports on a Cisco VG224 with analog device version V1.3 or V2.1. It is not supported on analog FXS ports on a Cisco ISR.</p>	<p>No configuration tasks required on your Cisco call-control system.</p>

## VMWI for SCCP FXS Ports in Cisco IOS Software

This feature provides visual message waiting indication (VMWI) capability on analog FXS ports connected to Cisco voice gateways.

The VMWI on SCCP controlled analog phones feature works with the voice-mail system to send message waiting notification to the user. The SCCP gateway provides VMWI light activation using frequency shift keying (FSK) messaging that is supported on the analog phone with a 24- to 48-volt lamp. If the phone is on hook, the VMWI lamp light turns on when a new message is received. The light turns off after the user has reviewed all messages. If the phone is off hook, the VMWI light is turned on or off the next time the phone goes on hook.

The VMWI feature for analog phones also supports shared-line VMWI in Cisco Unified Communications Manager 4.2 and later versions and Cisco Unified CME 4.0 and later versions. The VMWI LED is turned on or off only when all phones are on hook. Overlay VMWI is supported in Cisco Unified CME, with the VMWI signaled on the first ephone-dn (directory number).

No configuration is required on the SCCP analog gateway to enable this feature.

## DC Voltage VMWI

The DC Voltage VMWI feature is used to flash the message-waiting lamp on an analog phone which requires DC voltage instead of an FSK message. DC voltage VMWI is supported for the SCCP telephony control (STC) application only. For all other applications, such as MGCP, FSK VMWI will be used even if the voice gateway is configured for DC voltage VMWI. The configuration for DC voltage VMWI is supported only for FXS ports on the Cisco VG224 analog voice gateway with analog device version V1.3 and V2.1.

The Cisco VG224 can only support 12 REN for ringing 24 onboard analog FXS voice ports. In order to support ringing and DC Voltage VMWI for 24 analog voice ports, stagger-ringing logic is used to maximize the limited REN resource. When a system runs out of REN because too many voice ports are being rung, the MWI lamp temporarily turns off to free up REN to ring the voice ports.

DC voltage VMWI is also temporarily turned off any time the port's operational state is no longer idle and onhook, such as when one of the following events occur:

- Incoming call on voice port
- Phone goes off hook
- The voice port is shut down or busied out

Once the operational state of the port changes to idle and onhook again, the MWI lamp resumes flashing until the application receives a requests to clear it; for example, if there are no more waiting messages.

For configuration information, see the [“How to Configure DC Voltage Based VMWI for SCCP Controlled Analog Ports”](#) section on page 56.

# How to Configure DC Voltage Based VMWI for SCCP Controlled Analog Ports

**Note**

This document does not contain details about configuring Cisco Unified Communications Manager or Cisco Unified CME. See the documentation for those products for installation and configuration instructions.

To enable DC voltage VMWI on a Cisco VG224 onboard analog FXS voice port, perform the following steps.

## Prerequisites for DC Voltage Based VMWI for SCCP Controlled Analog Ports

**Cisco IOS Gateway**

- Cisco IOS Release 12.4(20)YA or a later version.
- Cisco VG224 Analog Phone Gateway with analog device version V1.3 or V2.1.
- The Cisco voice gateway must be set up and configured for operation. For information, see the appropriate Cisco configuration documentation.
- SCCP and the SCCP telephony control (STC) application are enabled on the Cisco voice gateway. For configuration information, see [“Configuring FXS Ports for Basic Calls” on page 53](#).
- SCCP supplementary features are enabled on the Cisco voice gateway. See [“Configuring Supplementary Features” on page 59](#).

## Restrictions for DC Voltage Based VMWI for SCCP Controlled Analog Ports

- DC voltage VMWI configuration is supported for the SCCP telephony control (STC) application only. For all other applications, such as MGCP, FSK VMWI is used regardless of the DC voltage VMWI configuration.
- DC voltage VMWI is supported only on Cisco VG224 onboard analog FXS ports with loop start signaling type. This feature is not supported on analog FXS ports with ground start.
- DC voltage VMWI is not supported on analog FXS ports on a Cisco integrated service router (ISR) or on a Cisco Unified 500 series platform.
- DC voltage VMWI is not supported on analog phones with neon bulbs.
- DC voltage VMWI is not supported on analog phones that support FSK VMWI.

**SUMMARY STEPS**

1. **enable**
2. **configure terminal**
3. **voice-port** *port*
4. **vmwi dc-voltage**
5. **end**

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>enable</b>  <b>Example:</b> Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"><li>Enter your password if prompted.</li></ul>
Step 2	<b>configure terminal</b>  <b>Example:</b> Router# configure terminal	Enters global configuration mode.
Step 3	<b>voice-port port</b>  <b>Example:</b> Router(config)# voice-port 2/0	Enters voice-port configuration mode. <ul style="list-style-type: none"><li><i>port</i>—Syntax is platform-dependent. Type ? to determine.</li></ul>
Step 4	<b>vmwi dc-voltage</b>  <b>Example:</b> Router(config-voiceport)# vmwi dc-voltage	Enables DC voltage VMWI on the port being configured.
Step 5	<b>end</b>  <b>Example:</b> Router(config-voiceport)# end	Exits voice-port configuration mode and returns to privileged EXEC mode.

## Configuration Examples for DC Voltage Based VMWI for SCCP Controlled Analog Ports

This section contains the following examples:

- [VMWI for SCCP FXS Ports in Cisco IOS Features: Example, page 57](#)

### VMWI for SCCP FXS Ports in Cisco IOS Features: Example

The following example shows VMWI activated on Cisco VG224 port 2/4:

```
Router# show stcapp device voice-port 2/4

Port Identifier: 2/4
Device Type:    ALG
Device Id:     4
Device Name:   AN0C863967C9404
Modem Capability: None
Device State:  IS
Diagnostic:    None
Directory Number: 7204
Dial Peer(s): 4
Dialtone after remote onhook feature: activated
Last Event:    STCAPP_CC_EV_CALL_DISCONNECT_DONE
Line State:    IDLE
```

## Additional References

```

Hook State:      ONHOOK
mwi:            ENABLE
vmwi:          ON
PLAR:          DISABLE
Number of CCBs: 0
!
```

## Additional References

The following sections provide references related to SCCP analog phone support for FXS ports on the Cisco voice gateway.

## Related Documents

Related Topic	Document Title
Cisco Unified Communications Manager	<i>Cisco Unified Communications Manager</i>
Cisco Unified Communications Manager Express	<i>Cisco Unified Communications Manager Express</i>
Cisco IOS debugging	<i>Cisco IOS Debug Command Reference</i>
Cisco IOS voice commands	<i>Cisco IOS Voice Command Reference</i>
Cisco IOS voice configuration	<i>Cisco IOS Voice Configuration Library</i>
Cisco voice gateway	<ul style="list-style-type: none"> <li><i>Cisco VG200 Series</i></li> <li><i>Cisco 1800 Series Integrated Services Routers</i></li> <li><i>Cisco 2800 Integrated Services Routers</i></li> <li><i>Cisco 3800 Series Integrated services Routers</i></li> <li><i>Cisco Unified 500 Series</i></li> </ul>

## Technical Assistance

Description	Link
<p>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies.</p> <p>To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds.</p> <p>Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</p>	<a href="http://www.cisco.com/techsupport">http://www.cisco.com/techsupport</a>

# Feature Information for DC Voltage Based VMWI for SCCP Controlled Analog Ports

Table 17 lists the features in this module and provides links to specific configuration information. Only features that were introduced or modified in Cisco IOS Release 12.4(20)YA or a later release appear in the table.

For information on a feature in this technology that is not documented here, see “[Supplementary Services Features Roadmap](#)” on page 9.

Not all commands may be available in your Cisco IOS software release. For release information about a command, see the command reference documentation. For information about these commands, see the *Cisco IOS Voice Command Reference* at

[http://www.cisco.com/en/US/docs/ios/voice/command/reference/vr\\_book.html](http://www.cisco.com/en/US/docs/ios/voice/command/reference/vr_book.html). For information about all Cisco IOS commands, use the Command Lookup Tool at <http://tools.cisco.com/Support/CLILookup> or the *Cisco IOS Master Command List, All Releases*, at [http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all\\_book.html](http://www.cisco.com/en/US/docs/ios/mcl/allreleasemcl/all_book.html).

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



#### Note

Table 17 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

**Table 17**      **Feature Information**

Feature Name	Releases	Feature Information
DC Voltage Based VMWI for SCCP Controlled Analog Ports	12.4(20)YA	<p>Allows the phone user to see if there are new voice messages by looking at the message waiting lamp on certain analog phones that support a DC voltage-controlled MWI lamp.</p> <p>The following sections provide information about this feature:</p> <ul style="list-style-type: none"> <li>• <a href="#">Information About DC Voltage Based VMWI for SCCP Controlled Analog Ports</a>, page 54</li> <li>• <a href="#">How to Configure DC Voltage Based VMWI for SCCP Controlled Analog Ports</a>, page 56.</li> </ul> <p>The following command was introduced: <b>vmwi dc-voltage</b>.</p>

