

# Configuring a Cisco UC500 to Operate with a Cisco VG224 Voice Gateway

This document provides information on how to configure a Cisco UC500 voice device to operate with a Cisco VG224 Voice Gateway.

The Cisco VG224 is a high-density 24-port gateway for analog phones, fax machines, modems, and speakerphones. It is housed in a compact, 19-inch rack-mount chassis and combines a high-density RJ21 analog interface with Cisco IOS software manageability to deliver a cost-effective platform that maximizes the functionality of existing analog phone equipment in a Cisco Unified Communications system deployment.

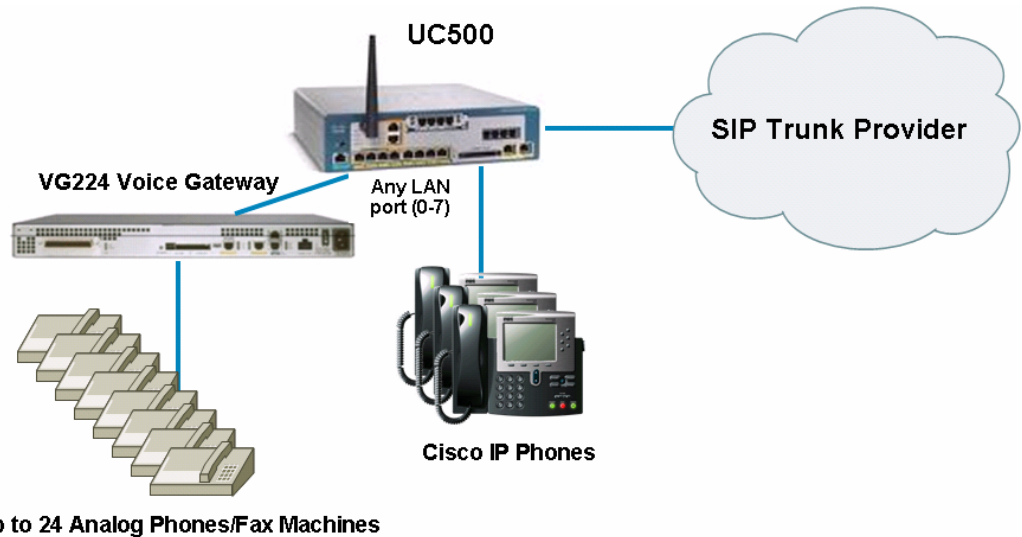
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## Basic Topology

The basic topology used for testing this configuration is shown in Figure 1. In addition to the connection shown, the VG224 Voice Gateway can also be connected to a Cisco CE520 switch or similar device behind the UC500.

**Figure 1** Basic Topology for VG224/UC500 Integration



## Scope and Assumptions

The procedures and guidelines in this Application Note assume that the Cisco UC500 system has been set up using Cisco Configuration Assistant (CCA) and that the VAR user is familiar with the Cisco IOS Command Line Interface (CLI).

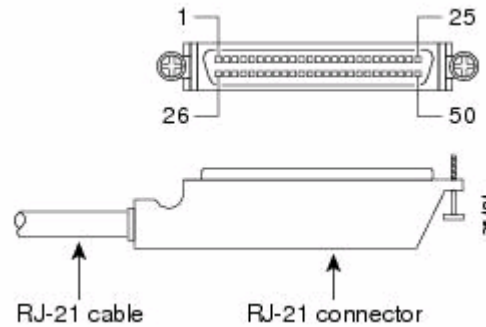
Each port on the Cisco VG224 uses one license slot on the UC500, just as an IP phone does (via SCCP). The installer must ensure that enough licenses are available to register the desired number of analog ports. Not all ports on the Cisco VG224 must be used as SCCP endpoints. Some can be used as SIP/H.323 endpoints, for example, for fax applications.

Fax configuration is not covered in this document, although it has been tested and it is known to work (both T.38 and Fax Passthrough). More information available at the following URL:

[http://www.cisco.com/en/US/docs/ios/12\\_3/vvf\\_c/cisco\\_ios\\_fax\\_services\\_over\\_ip\\_application\\_guide/faxapp.html](http://www.cisco.com/en/US/docs/ios/12_3/vvf_c/cisco_ios_fax_services_over_ip_application_guide/faxapp.html)

Not all tested features are explained in this App Note. Please consult the VG224 documentation available on Cisco.com, for details on how to enable advanced options for this voice gateway.

The VG224 has a RJ-21 connector for connecting the 24 FXS ports. The following diagram details the pinouts that can be used to wire the necessary ports.



| Port Number | Connector Pin Number | Signal      | Port Number | Connector Pin Number | Signal      |
|-------------|----------------------|-------------|-------------|----------------------|-------------|
| 1           | 1<br>26              | Ring<br>Tip | 13          | 13<br>38             | Ring<br>Tip |
| 2           | 2<br>27              | Ring<br>Tip | 14          | 14<br>39             | Ring<br>Tip |
| 3           | 3<br>28              | Ring<br>Tip | 15          | 15<br>40             | Ring<br>Tip |
| 4           | 4<br>29              | Ring<br>Tip | 16          | 16<br>41             | Ring<br>Tip |
| 5           | 5<br>30              | Ring<br>Tip | 17          | 17<br>42             | Ring<br>Tip |
| 6           | 6<br>31              | Ring<br>Tip | 18          | 18<br>43             | Ring<br>Tip |
| 7           | 7<br>32              | Ring<br>Tip | 19          | 19<br>44             | Ring<br>Tip |
| 8           | 8<br>33              | Ring<br>Tip | 20          | 20<br>45             | Ring<br>Tip |
| 9           | 9<br>34              | Ring<br>Tip | 21          | 21<br>46             | Ring<br>Tip |
| 10          | 10<br>35             | Ring<br>Tip | 22          | 22<br>47             | Ring<br>Tip |
| 11          | 11<br>36             | Ring<br>Tip | 23          | 23<br>48             | Ring<br>Tip |
| 12          | 12<br>37             | Ring<br>Tip | 24          | 24<br>49             | Ring<br>Tip |
| —           | —                    | —           | —           | 25, 50, 51, 52       | GND         |

The Cisco Smart Business Communications System (SBCS) version used for integration testing is 4.2.7. The Cisco IOS Software version on the VG224 Voice Gateway is 12.4(20)T.

## Cisco VGA224 Configuration

The administration and configuration of the Cisco VG224 Voice Gateway requires Cisco IOS CLI access.

For this basic integration, a static IP address, 192.168.10.9/24 is used for the Cisco VG224 when connecting to the UC500.

Only 8 ports are configured to register to the UC500. The remaining ports are not used.

Only the relevant commands are displayed in this example:

```
hostname VG224
!
enable password Cisco
!
stcapp
stcapp feature access-code
stcapp feature speed-dial
!
username cisco password 0 cisco
!
interface FastEthernet0/0
 ip address 192.168.10.9 255.255.255.0 <-- Static IP address of VG224
 duplex auto
 speed auto
!
ip route 0.0.0.0 0.0.0.0 192.168.10.1
!
# Only 8 ports are being configured in this example
!
voice-port 2/0
 timeouts ringing infinity
!
voice-port 2/1
 timeouts ringing infinity
!
voice-port 2/2
 timeouts ringing infinity
!
voice-port 2/3
 timeouts ringing infinity
!
voice-port 2/4
 timeouts ringing infinity
!
voice-port 2/5
 timeouts ringing infinity
!
```

```
voice-port 2/6
  timeouts ringing infinity
!
voice-port 2/7
  timeouts ringing infinity
!
!
sccp local FastEthernet0/0
sccp ccm 192.168.10.1 identifier 1 <--- IP address of UC500
sccp
!
sccp ccm group 1
  associate ccm 1 priority 1
  registration retries 1
  registration timeout 1
  keepalive retries 1
  keepalive timeout 3
  connect retries 1
  connect interval 3
!
# The following dial-peers correspond to the 8 active ports
!
dial-peer voice 24 pots
  service stcapp
  port 2/0
!
dial-peer voice 2 pots
  service stcapp
  port 2/1
!
dial-peer voice 3 pots
  service stcapp
  port 2/2
!
dial-peer voice 4 pots
  service stcapp
  port 2/3
!
dial-peer voice 5 pots
  service stcapp
  port 2/4
!
dial-peer voice 6 pots
  service stcapp
  port 2/5
!
dial-peer voice 7 pots
```

```

service stcapp
port 2/6
!
dial-peer voice 8 pots
service stcapp
port 2/7
!
!
end

```

### UC500, Analog Phone Port, and SBCS System Configuration

There are no specific configuration requirements for the UC500. If auto registration has not been manually disabled and there are enough license slots for the desired analog devices, Cisco Configuration Assistant (CCA) can be used to set up these ports.

The initial CCA login screen shows the VG224 as “unsupported” in the Topology map. Ignore this warning and move through the tabs under the Voice configuration menu to modify settings, as you would for any other IP phone.

The following CCA example screen shows how the system auto-assigns extensions 201 through 208 to the eight configured FXS ports.

| Mac Addr       | Phone T... | Primary ... | LastName | FirstName | UserID |
|----------------|------------|-------------|----------|-----------|--------|
| C863.B199.3406 | anl        | 301         | Analog   | PhoneA    |        |
| C863.B199.3407 | anl        | 302         | Analog   | PhoneB    |        |
| C863.B199.3401 | anl        | 303         | Analog   | PhoneC    |        |
| C863.B199.3403 | anl        | 304         | Analog   | PhoneD    |        |
| C863.B199.3402 | anl        | 201         |          |           |        |
| C863.B199.3404 | anl        | 202         |          |           |        |
| B8FA.8436.0000 | anl        | 203         |          |           |        |
| B8FA.8436.0001 | anl        | 204         |          |           |        |
| B8FA.8436.0002 | anl        | 205         |          |           |        |
| B8FA.8436.0003 | anl        | 206         |          |           |        |
| C863.B199.3405 | anl        | 207         |          |           |        |
| C863.B199.3400 | anl        | 208         |          |           |        |

You can use CCA to assign a directory name, configure call forward options, and so on, without restrictions.

## Supported Features

For a list of the features that are supported in this integration, refer to the Cisco VG224 Voice Gateway data sheet, available on Cisco.com at the following URL

[http://www.cisco.com/en/US/prod/collateral/voicesw/ps6790/gatecont/ps2250/ps5516/product\\_data\\_sheet09186a00801d87f6.html](http://www.cisco.com/en/US/prod/collateral/voicesw/ps6790/gatecont/ps2250/ps5516/product_data_sheet09186a00801d87f6.html)

All features listed under "CME/SCCP" also apply to the UC500.

## Limitations and Caveats

Depending on the number of available licenses on your system, you may not be able to use all 24 ports on the VG224.

By default, a voicemail box is created for each of the FXS ports registered to the system. In some circumstances, this may not be desirable.

Deployment of a Cisco VG224 Voice Gateway at a remote teleworker site has not been tested for this integration.

Fax configuration (which requires SIP or H.323) must be performed via CLI on the Cisco VG224 Voice Gateway.

## For More Information

For more information, visit the SBCS Support Wiki at

<http://supportwiki.cisco.com/sbcs/>



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