

Cable Modem Voice Configuration Using H323

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Introduction

Before You Begin

Conventions

Prerequisites

Components Used

Configure

Network Diagram

Configurations

Verify

Troubleshoot

Related Information

Introduction

This document provides a sample configuration for running Voice over IP (VoIP) end to end from one cable modem to another, never connecting to a real telephone switch or local exchange carrier.

VoIP: A Brief Explanation

VoIP is the ability to carry normal telephony–style voice over an IP–based internet with POTS–like functionality, reliability, and voice quality.

Cisco currently produces two cable modem routers, the uBR904 and the uBR924. Only the uBR924 supports voice. The uBR924 transmits and receives digitized voice packets as specified on H323 or Simple Gateway Control Protocol (SGCP).

For more information on H.323, refer to A Primer on the H.323 Series Standard .

Description of the Softpaq

In the example below, calls can be placed and received without using the local exchange carrier. Two simultaneous voice or fax calls are supported to or from each subscriber site. Multiple telephones and fax devices can be connected to each of the two VoIP telephone lines at a subscriber site in the same way that one can have multiple phone jacks in the home connected to one phone number. A maximum of five such devices may be connected to each port matching the five Ringer Equivalence Number (REN) limit imposed by telco Central Offices (COs).

To achieve acceptable voice quality and reduce network bandwidth usage, several voice processing techniques and services are employed, including echo cancellation, voice compression, Voice Activity Detection (VAD) or silence compression, and Dual Tone Multi–Frequency (DTMF) tone detection and generation.

Static voice configuration is used when there are few sites calling each other. This setup is simple, and does not need a gatekeeper.

Before You Begin

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Prerequisites

There are no specific prerequisites for this document.

Components Used

To implement this configuration, you need the following:

- Cisco IOS® Software Release 12.0(x)T or later for full featured VoIP. You need Cisco IOS Software Release 12.0(5)T1 for a complete list of commands, however, the latest release is recommended.
- A uBR924 and **not** a uBR904.

Configure

Network Diagram



Configurations

These configurations show a sample configuration of two Cisco 924s configured for bridging and VoIP. The Cisco uBR7246 and Cisco uBR7223 above have standard configurations to pass IP traffic for the cable modems. As the voice traffic is passing over IP, no additional configuration changes need to be made in the IP cloud.

924-1
<pre>voice-port 0 input gain -2 ! voice-port 1 input gain -2 ! ! dial-peer voice 1 voip !--- Outgoing. destination-pattern 5552222 !--- Destination number.</pre>

```

session target ipv4192.168.30.67

!--- Destination IP address.
!
dial-peer voice 2 pots

!--- Incoming.

destination-pattern 5551111

!--- Your number.

port 0

!--- Port your phone is on.

!
!
interface Ethernet0
 ip address 192.168.30.231 255.255.255.240
 no ip directed-broadcast
 no ip route-cache
 bridge-group 59
 bridge-group 59 spanning-disabled
!
interface cable-modem0
 ip address negotiated
 no ip directed-broadcast
 no ip route-cache
 cable-modem downstream saved channel 519000000 9 1
 cable-modem mac-timer t2 40000
 bridge-group 59
 bridge-group 59 spanning-disabled
!
ip default-gateway 192.168.30.225
ip classless
no ip http server
!
!
line con 0
 transport input none
line vty 0 4
 password mypassword
 login
!
end

```

924-2

```

voice-port 0
 input gain -2
!
voice-port 1
 input gain -2
!
!
dial-peer voice 1 voip

!--- Outgoing.

destination-pattern 5551111

!--- Destination number.

```

```
session target ipv4192.168.30.231

!--- Destination IP.

!
dial-peer voice 2 pots

!--- Incoming.

destination-pattern 5552222

!--- Your number.

port 0

!--- Port that telephone is on.

!
!
interface Ethernet0
 ip address 192.168.30.67 255.255.255.240
 no ip directed-broadcast
 no ip route-cache
 bridge-group 59
 bridge-group 59 spanning-disabled
!
interface cable-modem0
 ip address negotiated
 no ip directed-broadcast
 no ip route-cache
 cable-modem downstream saved channel 609000000 40 1
 cable-modem mac-timer t2 340000
 bridge-group 59
 bridge-group 59 spanning-disabled
!
ip default-gateway 192.168.30.65
ip classless
no ip http server
!
!
line con 0
 transport input none
line vty 0 4
 password mypassword
 login
!
end
```

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

Related Information

- [Voice, Video, and Home Applications Overview](#)
 - [Configuring the Cisco uBR900 Series Cable Access Routers](#)
 - [Voice over IP Quick Start Guide](#)
 - [Technical Support & Documentation – Cisco Systems](#)
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