

Barix Instreamer Live Multicast Audio Source with Call Manager



Introduction

This document explains the requirements and process to configure a Barix Instreamer as a live multicast audio feed to Cisco IP phones.

Requirements

- The Barix Instreamer must be running firmware version VA201 or greater.

Components Used

- Cisco 7940 IP Phone
- Cisco Call Manager version 3.3.x or 4.x
- Cisco 2620 with IOS version 12.3

Network Diagram

This diagram represents the lab environment in which we are testing. The Headquarters location on the left consists of Cisco Call Manager with IP Phones, voice enabled router and a Barix® Instreamer®. The remote location on the right consists of a voice enabled router and IP Phones.

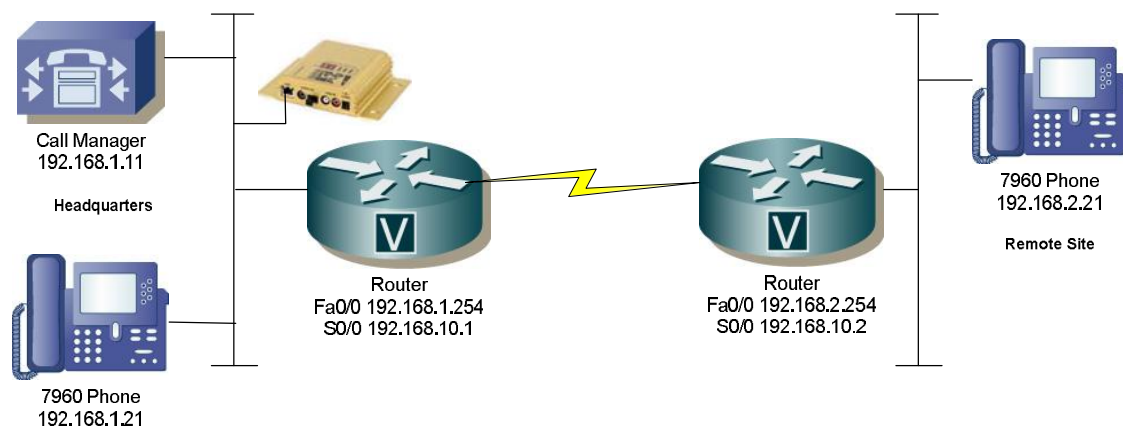


Figure 1

Live Multicast Audio to Cisco IP Phones

Call Manager Configuration

To use multicast a live audio feed onto you network for listening through a Cisco IP Phone you will need an working installation of a Call Manager and registered phones. The premise for this configuration is to have an audio feed (Television, CEO presentation, etc.) available to all users through the existing infrastructure. To configure the Barix Instreamer© and Cisco Call Manager follow this procedure.



This configuration uses Call Manager as web server for demonstration purposes only. It is not recommended to use Call Manager for a web server as it may have performance implications. If you use another web server to host the web pages from this documentation the IIS virtual directory will need read permissions for the scripts to run correctly.

Summary Steps

1. Configure Instreamer IP Settings.
2. Configure Instreamer Audio Settings.
3. Configure Instreamer Streaming Settings.
4. Install Instreamer IP Phone Service
5. Configure Instreamer IP Phone Service

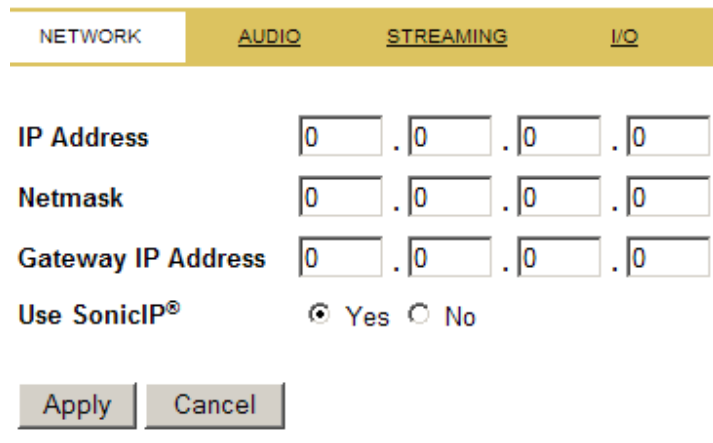
Detail Steps

1. Obtain the IP address from your DHCP server or using IPZator/SonicIP.© See your Instreamer User Guide for more information.
2. Open a web browser and in the address bar enter "http://ipaddress
3. Click on the configuration button to change the Instreamer Settings.

CONFIGURATION

Figure 2

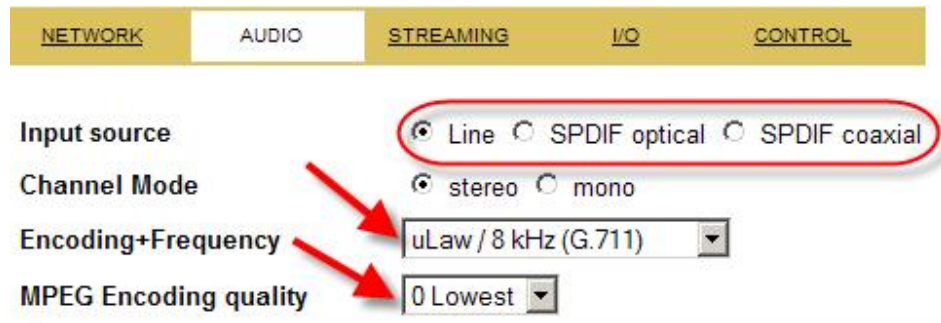
4. To set a static IP address enter the information in the appropriate fields. If you are using DHCP click the **Audio** link



NETWORK	AUDIO	STREAMING	I/O	
IP Address	0	.0	.0	.0
Netmask	0	.0	.0	.0
Gateway IP Address	0	.0	.0	.0
Use SonicIP®	<input checked="" type="radio"/> Yes <input type="radio"/> No			
<input type="button" value="Apply"/> <input type="button" value="Cancel"/>				

Figure 3

5. Click **Apply** when you are finished. Wait for the Instreamer to reload. If you changed the IP address change the IP address in your address bar to reflect the new IP address and click the **Configuration** link and continue with Step 3.
6. Click on the **Audio** Link and configure the audio input and output.
 - Change the Input source to the appropriate source. The default is Line.
 - Change the Encoding+Frequency to “uLaw / 8 kHz (G7.11).”
 - Change the MPEG Encoding quality to “0 Lowest.”
 - Click **Apply** when finished.



NETWORK	AUDIO	STREAMING	I/O	CONTROL
Input source	<input checked="" type="radio"/> Line <input type="radio"/> SPDIF optical <input type="radio"/> SPDIF coaxial			
Channel Mode	<input checked="" type="radio"/> stereo <input type="radio"/> mono			
Encoding+Frequency	uLaw / 8 kHz (G.711)			
MPEG Encoding quality	0 Lowest			

Figure 4

7. Click on the Streaming link.
 - Configure the name of the Instreamer in the “Own Name” field.
 - Configure the Stream Packet Strategy to “**lowest latency**”
 - Click **Apply** when finished.

NETWORK AUDIO **STREAMING** I/O CONTROL
 Own Name: INSTREAMER
 Streaming mode: send always
 Trigger Level: 1000 only for mode "send on Level"
 Pre Trigger Start: 0 msec
 Post Trigger Play: 1024 msec
 Buffer Underrun Mode (TCP): skip
 Stream Packet Strategy: lowest latency

Figure 5

8. Scroll Down and update the "Stream to" destination.
 - Change one of the eight Streams to "RTP".
 - Set the IP address to an available Multicast Address. Make note of the multicast address that you use here as we will use later in the configuration.
 - Click **Apply** when finished.

Stream to

#	Conn. type	IP #	#	#	#	Port #
1	Internet Radio	0	.0	.0	.0	:0
2	RTP	239	.1	.1	.25	:16384
3	Internet Radio	0	.0	.0	.0	:0
4	Internet Radio	0	.0	.0	.0	:0
5	Internet Radio	0	.0	.0	.0	:0
6	Internet Radio	0	.0	.0	.0	:0
7	Internet Radio	0	.0	.0	.0	:0
8	Internet Radio	0	.0	.0	.0	:0

Figure 6

9. Extract the InstreamerService.zip to your local machine.
 10. Copy the files to "C:\CiscoWebs\IPPhoneServices\CCMCIP" on the Call Manager.
 11. Using the Text Editor of your choice (Ex. Notepad.exe) edit AudioGroups.txt
 12. Update the text file with the name of your choice and the multicast IP Address that you configured the Instreamer "Stream to" as in step 8.
- Instreamer:239.1.1.25:16384::Call Manager MoH:239.1.1.1:16384

If you would like to add another Audio source to the phone server add another entry to the end of the existing string. Use the following format. ::"Name":"MulticastIPAddress



The InstreamerService files were based from the Hoot and Holler Service written by Cisco Systems and are available in the IP Phone Service SDK available at www.cisco.com.

13. Log into the Management console of the Call Manager <http://ccmipaddress/ccmadmin>
14. Under the Feature Menu choose the **IP Phone Services** option.



Figure 7

15. Enter the appropriate or desired information.
 - Enter the Name you would like for the phone service. This will be displayed when you press the Services button on the phone.
 - Enter the Description if desired.
 - Enter Service URL. The IP Address should be replaced with the IP Address of your Call Manager. If you used another web server to host the phone service use the IP address of the web server. You can use the hostname but DNS server has to be configured on the phone.
 - Click **Update** when finished.

Status: Ready

Update Delete Update Subscriptions

Service Information

Service Name*	Service Description
Instreamer	Multicast Audio
Service URL*	http://192.168.1.11/ccmcip/audiogroups.asp

Figure 8

16. Under the Device Menu click on the Phone option.



Figure 9

17. Locate the phone in which you need the new IP Phone Service and click it to view the device settings.
18. Click on the Subscribe/Unsubscribe link.



Figure 10

19. From the drop down choose the Service that we just created and click Continue.
20. The Instreamer Phone Service should be available to the phone that you just configured.

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