

Multi Sources Live Audio Feed for Cisco IP Phone

This solution uses Barix Instreamer as live multicast audio feed to Cisco IP phones. Users can select which source channel to be listened from the phone..



This solution takes advantage of multicast streaming technology which conserves network bandwidth by allowing a single audio stream to be accessed concurrently by thousands of users.

Requirements

- Barix Instreamer with integrated LiveFeed Service (Instreamer firmware vb3.17 or higher)
- Cisco Call Manager (a.k.a Cisco Unified Call Manager or Cisco Unified Communications Manager) version 3.3 or higher.
- Cisco IP Phone (most of the current Cisco's phone models support multicast RTP, to ensure check with Cisco)

Instreamer Configuration

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

4. Check if your Instreamer is using the right firmware (vb3.17 or higher) as seen below.



5. Network Settings

To set a static IP address enter the information in the appropriate fields.

SETTINGS					
NETWORK	AUDI	<u>o</u>	STREAMI	NG	<u>I/O</u>
IP Address		192	. 168	. 1	. 85
Netmask		255	. 255	. 255	. 0
Gateway IP Address		192	. 168	. 1	. 254
Primary DNS		192	. 168	. 1	. 254
Alternative DNS		0	. 0	. 0	. 0
DHCP Host Name					
Use SonicIP®		ΘY	es O No		
Apply 0	Cancel				

6. Audio Settings Set Encoding+Frequency to G.711uLaw/8kHz Mono. A/D amplifier gain can be adjusted to appropriate level depend on your audio source level.

SETTINGS				
NETWORK	AUDIO	STREAMING	<u>I/O</u>	
Input source		C Line mon	o 💿 Line ste	ereo O Mic
Encoding+Fre	quency	G.711 uLaw/	8 kHz mono	<u> </u>
MPEG Encodi	ng quality	0 Lowest 💌	[
	1 0 11			
Advanced End	<u>coder Settings</u>			
Microphone g	ain	21 💌 dB		
A/D amplifier	gain	0 🔽 dB)	
MP3 Frame C	RC	\odot enable \bigcirc	disable	
MP3 Bitreserv	oir Mode	O used ⊙	kept empty	
MP3 Channel	Mode Extensio	n 💿 enable 🤇	disable MS	-Stereo encoding
MP3 Copyrigh	t Protection	💿 enable 🗢	disable	
MP3 Stream T	уре	💿 сору С	original	
MP3 Emphasis	S	none	•	
Apply C	ancel			

7. Streaming Settings

Set Own Name to your audio channel name.

Set **Stream Packet Strategy** to lowest latency. Set **Stream to <u>#5</u>** to **RTP** multicast IP address and port number Port number must be an even port number within the range of 20480 to 32768. For the second Instreamer, you can use different multicast IP address with the same port number or the same multicast IP address with different port number

SETTINGS IN:	SETTINGS Instreamer 2							
NETWORK AUDIO	STREAMING <u>I/O</u> <u>CONTROL</u> <u>SERIAL</u>	SECURITY	NETWORK AUDIO	STREAMING	<u>1/0</u>		SERIAL	SECURITY
Own Name	Channel1		Own Name	Channel2				
Streaming mode	send always 💌		Streaming mode	send alway	's 🔻			
Control GPI	1 💌		Control GPI	1 -				
Active open/closed	closed *		Active open/closed	closed 💌				
Send Contact Closure information	no 🔽		Send Contact Closure information	no 💌				
Trigger Level	- 24 dB. only for mode "send on Level"		Trigger Level	- 24 dB	only for mod	e "send on Le	vel"	
Pre Trigger Start	0 msec		Pre Trigger Start	0 m	sec			
Post Trigger Play	1024 msec		Post Trigger Play	1024 m	sec			
Buffer Underrun Mode (TCP)	skip		Buffer Underrun Mode (TCP	') skip	•			
Stream Packet Strategy	lowest latency		Stream Packet Strategy	lowest later	псу 🔽			
UDP Tx Source Port	0		UDP Tx Source Port	0				
Radio Path	/xstream		Radio Path	/xstream				
icy-url / SIP user			icy-url / SIP user					
icy-genre			icy-genre					
Shoutcast stream	public 💌		Shoutcast stream	public 💌				
Type of Service/DSCP	0		Type of Service/DSCP	0				
Stream to			Stream to					
# Conn. type Enter IP	Address or Domain Name	: Port #	# Conn. type Enter I	IP Address or Do	main Name			: Port #
1 Internet Radio		: 0 .	1 Internet Radio					: 0
2 Internet Radio			2 Internet Radio					:0
Internet Radio			3 Internet Radio					
	# # # Dad#	: 0	4 Internet Radio		щ	Davit #		: 0
5 RTP 239	$\frac{1}{1}$ $\frac{1}{1}$ $\frac{25}{20480}$		5 RTP 239	# # 1 1	# 25 ·	20482		
6 Internet Radio V 0			6 Internet Radio V 0	.0.0	. 0 :	0		
7 Internet Radio 🔽 0			7 Internet Radio 🔽 0	.0.0		0		
8 Internet Radio 💌 0			8 Internet Radio 💌 0	.0.0	. 0 :	0		
List of TCP ar	nd BRTP connections		List of TCP a	and BRTP conr	nections			

Call Manager Settings

- 1. Log in to the CM Administration web interface.
- 2. Under Device > Device Settings> choose Phone Services.
 - 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 Service URL. <u>http://IPaddress/livefeed.xml</u>. The IP Address should be replaced with the IP Address of your Instreamer.

Click Save when finished.

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System 👻	Call Routing 👻	Media Resources 👻	Voice Mail 👻	Device 👻	Application 👻	User Manag	ement 🔻	Bulk Ad	ministra
IP Phone S	Services Cor	nfiguration			Related	Links: Bac	k To Fin	d/List	5 📀
Save									
Status —	s: Ready								
Service Na	me*		AS	CII Servic	e Name*				
Channel1			C	nannel1					
Service De	scription		Se	rvice URL*	ĸ				
			ht	tp://192.1	68.1.85/livefe	ed.xml			
Sava									

Add another Phone Service for the second Instreamer

cisco Fo	isco U or Cisco L	nified CM A	dminis ations Sol	t ration	Navig	ation Cis	co Unifie ministra	d CM Adr	ninistra About	ition 💽 Go
System 👻 Call F	Routing 👻	Media Resources 🔻	Voice Mail	 Device 	▼ Ap	plication 👻	User Ma	anagement	👻 Bu	ulk Administra
IP Phone Serv	vices Con	figuration				Related	Links:	Back To	Find/L	ist 😝 Go
Save										
- Status	eady									
— Service Info Service Name*	rmation •			ASCII Ser	vice Na	ame*				
Channel2				Channel2						
Service Descrip	ption			Service UF	RL*					
				http://192	2.168.1	.86/livefee	d.xml			
- (Save)										

3. Under **Device> Phone**, find and select the phone you want to configure.

cisco	Cisco Unified	d CM Adn Communicati	ninistı ons Solu	tions	avigation Cisco	o Unified CM Adm	inistratio	on 😝 Go
System 👻	Call Routing 👻 Media Re	esources 👻 V	'oice Mail 👻	Device 👻	Application -	User Management	+ Bulk	Administra
Find and L	ist Phones			Related Lii	iks: Actively	Logged In Devic	e Repo	rt 😫 Go
Add Ne	ew Select All	Clear All	Delete Se	elected 🎦	Reset Selected			
i 1 reco Phone	ords found (1 - 1 of 1)					Rows per :	Page 5	0
Find Phone	where Device Name		🗘 be	gins with 📫		(Find)	Clear	Filter (
					Select item o	r enter search tex	ct 🛊	
	Device Name(Line) ▲	Description	Device Pool	Device Protocol	Status	IP Address	Сору	Super Copy
	SEP001CBF25AB78)	<u>Default</u>	SCCP	Registered with CUCM6	<u>192.168.1.248</u>	6	r de la companya de l
Add Nev	v) (Select All) (Cle	ar All De	lete Select		eset Selected)		

4. In the Phone Configuration , select Subscribe/Unsubscribe Services, click Go button.

Cisco Unified CM Admi For Cisco Unified Communication	nistration Navigation Cisco Unified CM Administration 引 🚱 s Solutions ccmadministrator About Logout
System - Call Routing - Media Rescurces - Voice	e Mail 👻 Device 👻 Application 👻 User Management 👻 Bulk Administration 👻 Help 💌
Phone Configuration	Related Links Subscribe/Unsubscribe Services
🕞 Save 🗶 Delete 🗋 Copy 🎦 Reset 🚽	Add New
Association Information Modify Button Items	Phone Type Product Type: Cisco IP Communicator Device Protocol: SCCP
2 Image: Line [2] - Add a new DN 3 Comp Add a new SD 4 Comp Add a new SD	Device Information Registration Registered with Cisco Unified Communications Manager CUCM6 IP Address 192.158.1.248 Device Name* SEP001CBF25AB78

A subscribe window will be pop up and you can subscribe the two services you just created.

Subscrib	ed Cisco IP Phone Services for SEP001CBF25AB78
Save	2 Help
Status	successful
Service Su	bscription: Channel2
- Service	Information
Service Name	Channel2
Service Name*	Channel2
ASCII Service Name*	Channel2
- Subscri	bed Services
Subscrib	a new Service
Cha Cha	nnel1
Cha	nnel2

Listening Live Audio Streaming with the IP Phone

- 1. On the IP Phone click the service button
- 2. The list of services will be shown
- up on the phone display:



3. Select the service name, you will start to listen live audio streaming.



4. Click Exit to stop listening and return to main menu.

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Many thanks to our partner avanca **Technologies Pte Ltd** for creating this solution and the application note !