

Advanced SIP recording for small to mid-size organisations

Product Documentation

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Home

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What is Echo?

Echo is the call recording module that can be incorporated into one of our call logging solutions, TIM Plus or Enterprise in order to provide a fully integrated call logging and recording solution. It can be attached to either ISDN or SIP lines and, any phone calls going over those

channels are intercepted, recorded, then sent to our call logger to be attached to the logged call.

To record calls over PSTN, channels such as ISDN30 (PRI/E1/T1/J1), ISDN2 (BRI) or analogue POT lines, a piece of physical hardware - the Magic Box - is used to physically connect into your lines.

For VoIP (SIP) channels, a PC with a standard network interface card (NIC) can be used to capture the voice packets from strategic points in your voice network. If many simultaneous VoIP calls are expected, a dedicated computer with multiple NICs becomes necessary.

All calls are securely encrypted using the industry standard 256-bit key AES algorithm.

Prerequisites

System requirements

In order for Echo to collect call audio information, it must be installed on a computer that has an additional network card connected to a mirrored port on a local managed network switch.

The primary network card would have its IP configuration set up so that it is visible on the data LAN. This allows playback of recordings by authorised users, as well as remote control of the Echo server, such as Remote Desktop Connection, if required.

The secondary network card would have its IP configuration set up so that it is visible on the SIP/telephone network. This allows mirrored traffic to be sent to it for the purpose of monitoring and recording by the Echo server.

Field	Description	
CPU	minimum 4 cores, 2GHz	
Memory	3GB	
Hard disk	250GB Hard disk space = 44,000 channel hours	
	500GB Hard disk space = 88,000 channel hours	
	700GB Hard disk space = 132,000 channel hours	
	1TB Hard disk space = 176,000 channel hours	
Operating system	Windows XP SP3 - Windows 8 (inc. Server editions)	
Physical adaptors	Realtek PCI GBE Family Controller	
	D-Link DGE-528T Gigabit Ethernet Adapter,	
	Realtek PCIe FE Family Controller, Intel(R) 82566DM-2 Gigabit	
	Network Connection, Intel(R) 82576 Gigabit Dual Port Network,	
	TRENDnet, TEG-PCITXR 32-bit 10/100/1000Mbps PCI ADAPTER,	
	Intel(R) PRO/1000 PM Network Connection,	
	AMD PCNET Family PCI Ethernet Adapter,	
	HP NC112i 1-port Ethernet Server Adapter,	
	Intel(R) Gigabit CT Desktop Adapter,	
	Broadcom NetXtreme Gigabit Ethernet	

SCCP/SIP extension example

Below is an example of a network layout for an installation that would allow recording of internal and external calls across the telephone network, depending on the configuration.



Monitoring handsets that are capable of either SCCP or SIP communication allow generic recording to occur, regardless of what combination of PSTN interfaces are in use, e.g. SIP, PRI, BRI, analogue.

To record extension side audio, the monitoring can be configured in two ways. The first method will record external calls only, whereas the second will record all calls but will add further load to the managed switch.

Field	Description
External only	The managed switch needs to be configured to mirror the port where the telephone system connects to the telephone network.
All calls	The managed switch needs to be configured to mirror every port that has a telephone connected to it, but the telephone system's network connection doesn't need to be mirrored. This method allows the collection of the internal RTP traffic that would not be seen at the telephone system's network connection.

SIP trunk example

Below is an example of a network layout for an installation that would allow recording of external calls across SIP trunks.



Monitoring SIP trunks allows any phone system or handsets to be recorded. This includes proprietary handsets which would normally be expensive when recording extension-side.

The managed switch needs to be configured to mirror the port where the telephone system would be sending the SIP/RTP call information.

Setup

Installing Echo

To install Echo, click on the setup package and follow the on-screen instructions.

🕎 Setup - Echo		
	Welcome to the Echo Setup Wizard	
	This will install Echo v1.0.0.60 on your computer.	
	It is recommended that you close any other setup programs before continuing.	
	Click Next to continue, or Cancel to exit Setup.	
Next > Cancel		

If you are monitoring ISDN channels, ensure the Install Magic Box USB driver option is selected. Follow the on-screen instructions to install the driver.

🕎 Setup - Echo	
Select Additional Tasks Which additional tasks should be performed?	
Select the additional tasks you would like Setup to perform while installing click Next. Install Magic Box USB driver	g Echo, then
< Back Next >	Cancel

Configuring Echo

After installation, the Echo settings screen will appear, where you are prompted for various pieces of information to help set up Echo successfully on your network:

VOIP

Echo settings	
Choose a name to help you identify the location of this E	cho installation
My Echo Installation	
VOIP Telecom Web Server Audio	
Select the network adapter to use for monitoring	
Adapter name	IP address
Realtek PCIe GBE Family Controller	192.168.0.115
Buffer size 65535 bytes Protocol(s) UDP TCP End session if no audio after	SIP Port(s) 5060 Add Remove
secs	SCCP port 2000
Service status	Apply
Service is stopped Start	Close

Field	Description	
Choose a name	Enter a unique name to identify this installation; if you are installing more than one instance of Echo on your network, the name you enter here will be used in the subsequent setup of your TIM Plus or TIM Enterprise server.	
Network adapter	Choose the adapter that will receive SIP/SCCP and media packets from your network.	
Buffer size	The socket buffer value is the maximum size (in bytes) that you'd expect your network adapter to receive from your network. The default value of 65536 should be sufficient for most networks.	
Protocols	The types of IP packets that you know Echo should look for when inspecting passing traffic on your network adapter. If you know for sure that your audio signal or media packets will never be TCP packets, you should deselect TCP to save CPU load; the less traffic that Echo needs to inspect, the more concurrent calls it can handle with the same hardware.	
SIP port(s)	The UDP/TCP port number(s) that will be used for SIP signalling traffic on your network. Usually this is a single port (5060) but, in the case of media proxies or multiple SIP registrars on the same network segment, further ports may need to be entered here.	
SCCP port	The TCP/UDP port that you expect Cisco SCCP (Skinny) packets to be transmitted on. This value is normally port 2000.	
End session if no audio	This value specifies (in seconds) the maximum amount of time that Echo will continue monitoring a SIP or SCCP session in the event of no traffic, before it considers the session abandoned.	

Web server

Echo settings	
Choose a name to help you identify the location of this Echo installation	
My Echo Installation	
VOIP Telecom Web Server Audio	
Web server settings	
Port 8088	
Username admin	
Password *****	
Service status	
	Apply
Service is running Stop	Close

Setting	Description	
Port	The port number that the internal web service that Echo should listen on	
Username The username required to access the Echo web service		
Password	The password required to access the Echo web service	

Audio

Echo settings	
Choose a name to help you identify the location of this Echo installation	
My Echo Installation	
VOIP Telecom Web Server Audio	
Audio settings	
Quality 7 🔔 10 = best	
Compress timeout 300 secs	
Select a base folder to store audio files	Change
Service status Service is running Stop	Apply Close

Setting	Description	
Quality	The desired quality of audio recordings after compression. The higher the quality, the better the audio will sound, but the bigger the files on disk will be	
Compress timeout		
Change	By default, the audio files are stored in the following location: C:\ProgramData\Tri-Line\Echo\audio. To select a different folder, click on the Change button and enter the preferred location.	

When you have finished configuring Echo, click on the Apply button to save the settings to disk and then start the Echo service.

You can verify that the Echo service is running by connecting to its web service at: http://localhost:8088/. If you changed the Web server settings (above), the address may differ.

Magic Box

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In addition to the Echo software, to record calls over PSTN channels, such as ISDN30 (PRI/E1/T1/J1), ISDN2 (BRI) or analogue POT lines, a piece of physical hardware - the Magic Box - is also required.

Tri-Line MagicBox	PRI IN PRI OUT	SERVICE	B D A C IN OUT OUT
MagicBox			В Р А С И ООТ Ф ИЗВ

The Magic Box can be attached to any telephone system connected to one of our call logging solution, TIM Plus or Enterprise. The box is placed between the ISDN trunk and the telephone system and must be connected to the PC running the Echo software, where the audio files will be stored and embedded thereafter in the call logging software.

_	To install the driver for the call recording device,	ensure the Install	Magic 1	Box USB	driver box is ticked,	during the
0	Echo installation.					

Setup - Echo	
Select Additional Tasks Which additional tasks should be performed?	
Select the additional tasks you would like Setup to perform while installing click Next.	g Echo, then
< Back Next >	Cancel

TIM Talk

Overview

TIM Talk is our integrated call logging and recording solution, combining one or more Echo installations with one of our call logging software, TIM Plus or Enterprise.

Unlike other call recorders that are separate and require special client software, our integrated solution enables all calls to be securely played through the existing web interface of the call logger, using a standard web browser.





Integrating with TIM Plus

After installing Echo into your voice network, you need to configure its presence in TIM Plus.

Ensuring you are logged in to TIM Plus as an administrator, click on the Settings tab and select the voice recording option from the left-hand side menu. To add a voice recording option, click on the New tab, as shown below:

TIMPLUS	Reports	Directory	Call view	Live stats	Tariff editor	Settings	Alerts
Web users Email	Voice recording						New
Web server	Add or edit recording devi	ces to attach aud	dio to your teleph	ione calls.			
Alerts	Name 🔺			ID Type	e IP		
License							*
Questions							
Voice recording							
recording							

A new window will appear, allowing you to configure the settings of your call recording device.

Recording device	settings			×
General	Ch	annel map		
Device name				
Choose the type of re	cording device:			
Туре	Magic Box - Pl	RI	-	
Enter specific settings	for the selected	d device:		
ID	0			
Host & Port	127.0.0.1		8088	
Time offset	60	seconds		
	-Ca	ncel	Add	
	Cu		Add	•

Setting	Description
Device name	The name of your recording device
Туре	The type of telephone lines you are using: PRI, BRI, Analogue, VOIP
ID	The unique identifier of each call recording device
Host & Port	The IP address of the recording device, or computer to which the device is attached
Time offset	The time interval around which TIM Plus will search for calls when matching audio files

Voice recording - overview video

Integrating with TIM Enterprise

After installing Echo into your voice network, you need to configure its presence in TIM Enterprise, by following the steps below:

1. Log in to TIM Enterprise, drill-down to the Directory level where you want to add the call recording device and click on the New object tab, as shown below:

timenterprise		Reports	Directory	Call View	Tariff Editor	Alerts
윰 \ UK \ London \						
È 🖗 🔍	📑 New object			17 items	Clipboard 0 items	
				^	📔 Paste 🌧 Clear	
😢 All London						
C Accounts						
🗀 Customer Services						
🗋 Development						
ті 📫						
🗀 London Sales						
📷 London				=		
📷 London Daily Stats						
📷 London Weekly Stats						
🗐 Avaya IP Office						

2. In the new window that opens, select the Magic Box object from the Other object list, enter a name and select the type of telephone lines you are using (PRI, BRI, Analogue, VOIP), as shown below:

📑 Add new object		
Organisation unit	Other object	
嶐 Channel Group	🔆 Alarm	🚕 Billing Charge
🔁 Cost Centre	🥢 Channel	📸 Stats Collector
🖾 Division	🚍 PBX	1 ₂ 3 LCR Plan
🗋 Group	글 Magic Box	🔒 Tariff Modifier
👸 Reporting Collection	🙎 User	🔇 Web User
🛄 Site	📊 Display Board	🙆 Directory Sync
	📝 Question	
An individual question a user r	nust answer in order to score	calls
Enter a name for the object	PRI Magic Box	
Model	PRI (ISDN-30)	Cancel Add
		Add

3. A new window will open, allowing you to configure the properties of your recording device object.

🥃 PRI Magic Box				
General PRI IN PRI OUT	PRI Magic Box		a Ar ganga	
	Name Box ID IP address:Port Time tolerance	New Magic Box 0 127.0.0.1 8088 60	seconds	
			Cancel	📙 Save

Setting	Description
Name	The name of your recording device
Box ID	The unique identifier of each call recording device
IP address: Port	The IP address of the recording device, or computer to which the device is attached and the port number
Time tolerance	The time interval around which TIM Enterprise will search for calls when matching audio files

Voice recording - overview video

Acessing your call recordings

Call recordings are accessible via the web interface of your call logging solution. To listen or save a call recording, click on the 🖵 icon in the Call view screen or any itemised call logging report, as shown below:

⇒ (enterprise.ca	ll-logger.com					☆ マ C 8-	Google 🔎	Ŧ	⋒	-
timent	terprise				Repo	rts Direc	tory Call V	iew Tariff Editor		Alert	s
Call V	iew							🥜 Clear all 🛛 🎏 Hea			
						CLI	Dialled number				
7:23:16	0	00:03:33	0.00	09 October 2013	Holly Day	02074378594		London	Ģ] 🕀
7:23:01	0	00:02:42	0.00	09 October 2013	Doug Hole			120025	\bigtriangledown] 🕀
7:22:58	0	00:02:51	0.00	09 October 2013	Jack Wilson		2009	Earl E. Riser] 💮
7:22:53	0	00:00:32	0.00	09 October 2013	Hazel Nutt	02089623450		London	Ģ] 🕀
7:22:16	20	00:02:23	0.00	09 October 2013	Dr. Payne	02071829268		London	Ç] 🕀
7:20:58	0	00:00:04	0.00	09 October 2013	Norman Foster		2084	Sarah Kokova] 🕀
7:19:33	0	00:00:33	0.00	09 October 2013	Mike Francis	07817222380		Orange	Ģ] 🕀
7:18:38	0	00:00:18	0.00	09 October 2013	Barb E. Dahl	02073002904		London	Ç] 🕀
7:17:58	0	00:02:39	0.00	09 October 2013	Hazel Nutt	02078815600		London	Ç] 🕀
7:17:06	0	00:00:51	0.00	09 October 2013	Rick Shaw			121003	5		play re
7:16:38	0	00:01:14	0.00	09 October 2013	Dan Druff	07809765899		02		W E	
7:16:13	0	00:04:46	0.00	09 October 2013	Barry Cade			120026	Ç] 🕀
7:15:58	0	00:01:28	0.00	09 October 2013	Holly Day	02074940747		London	Ç] 🕀
7:15:41	0	00:03:38	0.00	09 October 2013	Holly Wood			120035	Ģ] 🕀
7:15:31	0	00:04:08	0.00	09 October 2013	Roman Holiday			120014	Ç] 🕀
7:15:28	0	00:05:20	0.69	09 October 2013	Hutchison 3G		07723047504	Bill Loney	Ç] 🕀
7:14:58	0	00:01:02	0.00	09 October 2013	Mel Loewe	02070531000		London	Ģ] 💮
7:14:31	0	00:01:27	0.19	09 October 2013	T-Mobile		07908273602	Kathy Burke	Ģ] 🕀
17:14:28	0	00:00:04	0.03	09 October 2013	London		02070010000	Sandy Shore	Ç] 🕀
7:14:18	0	00:00:32	0.00	09 October 2013	Mel Loewe	02076353629		London	Ç		

A new window will open, allowing you to listen or save the call recording, as shown below:

					A				
🤿 🕑 enterp	nenterprise Reports Directory Call View Tariff Editor Alerts all View Clear all Enders Clear all Enders Headers E versions Duration Cost Date Destination CLI Dialled number Source Source Source Clear all Enders Versions Clear all Enders Headers Clear all Enders Fersions Clear all Enders Clear all Enders Fersions Clear all Enders Clear all Enders Source Clear all Enders Clear all Enders Source Clear all Enders Clear all Enders Source Clear all Enders Clear all Enders Clear all Enders Source Clear all Enders Clear all Enders Source Condon Clear all Enders Clear all Enders Condon Clear all Enders Clear all Enders Clear all Enders Condon Clear all Enders Condon Clear all Enders Clear all En								
tim enterpri	se)		R	eports D	Directory	Call View	Tariff Editor	Ale	rts
Call View						🦪 Clear	all 🔚 Heade		
	onse Duration	Cost Date	Destination	CLI	Dialled	number Source			
17:20:58	0 00:00:04	0.00 09 October 2	2013 Norman Foste	er	2084	Sarah I	Kokova	ワ☆	r1
Inbound call fro	m 02074940747 to H	olly Day - 09 Octob	er 2013 17:15:58			X Orange			
Audio	Audit trail	Scoring	Notos Do	lated calls	Call info	London			
Audio	Aunt trail	Jeoning	Notes Re	Hateu calls	can illio	London		₽☆	ĽÎ.
1						121003		₽ ☆	ſ
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1		Load	ing		Directory Call View Tariff Editor Alerts Clear all Clear all Headers Save 2084 Sarah Kokova Orange Orange				
1						Call View Tariff Editor Alerts Image: Clear all image: Provide image: Provid			
						Bill Lon	ey		
1						London			
						Kathy E	Burke		
					Save record			\bigcirc \diamond	<u> </u>
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17:12:58	0 00:00:51								
	0 00:00:51 0 00:00:24 0 00:05:26	0.00 09 October 2				Copy Link L	.oc <u>a</u> tion		