

Mitel MiVoice Connect Integration Guide

Encore Workforce Optimization Solution
Version 9.0 or later

May 10, 2024

encore

**For Dealer
and Customer
Use Only**

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Introduction

The Encore system integrates with the Mitel MiVoice Connect system via the ShoreTel Remote Application Server (also known as the ShoreTel TAPI Application Server). If using the Mitel MiVoice Connect Contact Center (MCCC) ACD, both Encore call recording and Encore WFM integrate with MCCC using the Group Activity API. Integrating with the Mitel MiVoice Connect system allows the Encore system to successfully perform the following functions:

- Audio Collection – Capture the audio that needs to be recorded.
- Recording Control – Receive the necessary events that signal when Encore must start and stop recording.
- Capture Data – Receive data associated with the call.
- Capture Group Activity Data – Receive data associated with queues and agent activity and associate the queue data to the call.
- Send Data to Encore WFM – Receive real-time adherence information and retrieve historical data from Mitel Connect Contact Center and send it to Encore WFM.

Supported Call Data Capture

The following is a list of the supported call data elements that can be collected with each recording. Not every element is applicable for each call. For example, if the call being recorded is an internal call, the Trunk field is blank. For a description of each data element, refer to “[Appendix 1: Glossary](#)” on page 30.

- | | | |
|------------------------------|------------------------------|------------------------------|
| • Agent Name ¹ | • DNIS | • Priority ¹ |
| • Agent Number ¹ | • ECC Call ID ¹ | • Recorded Party Name |
| • ANI | • Extension | • Recorded Party Number |
| • Call Direction | • Group ID ¹ | • Service ID ¹ |
| • Call ID ² | • Group Name ¹ | • Third Call ID ² |
| • Call Type | • Hunt Group Name | • Trunk |
| • Consultation Call | • Hunt Group Number | • User Name |
| • Customer ID ¹ | • Other Call ID ² | • Work Group Name |
| • Customer Name ¹ | • Other Party Name | • Work Group Number |
| • Dialed Number | • Other Party Number | |

1. These fields are only available when using ShoreTel Enterprise Contact Center

2. These fields include the Call GUID depending on the type of call, such as consultation, transferred, etc.

If using ShoreTel ECC, up to 30 custom fields may be captured, such as Account Number, Balance and Due Date. For configuration steps to set up ECC, see “[Configure MiVoice Connect CC / ECC - Optional](#)” on page 19 and “[Step 6: Extract and Store Call Profile Information in TAPI - Optional](#)” on page 18.

Supported Recording Features

Use the following matrix to determine which audio collection method is best for your business needs. For example, if you need to record internal calls, you must use Station-side RTP Packet Capture. If you find that more than one collection method will work for you, talk to your Encore representative about which method is more cost-effective. Features specific to Mitel MiVoice Connect are explained in [“Appendix 1: Glossary”](#) on page 30. **Note:** Where supported, G.711 Wav recording is the default recording format.

RECORDING FEATURE	AUDIO COLLECTION METHOD			
	TRUNK-SIDE TDM	STATION-SIDE RTP PACKET CAPTURE ³ (PASSIVE INTERFACE)	SUBSCRIPTION-BASED TAPI AUDIO STREAM ¹	TRUNK-SIDE SIP PACKET CAPTURE
Max. Recording Ports per Server ²	288	500	250	500
Record External Calls	YES	YES	YES	YES
Record Internal Calls		YES ³		
Record Encrypted Calls	YES		YES	YES ⁴
Related Call Lookup	YES	YES	YES	YES ⁵
Suspend/Resume on Hold	YES	YES	YES	
ShoreTel Office Anywhere	YES		YES	YES
Dynamic IP Capture		YES		
Warning Tone Injection	YES (analog only)		YES	
G.711 Wav Recording	NO ⁸	Stereo ⁶	Mono ⁷	NO ⁸

1. Due to a limitation with the ShoreTel PBX, if two or more recorded phones are in a conference call with an external party and using this audio collection method, only one of the phones will be recorded.
2. Small Business Servers are limited to 72 ports.
3. This method cannot be combined with the Subscription-based TAPI Audio Stream method to record internal calls. If internal calls need to be recorded, only the Station-side RTP Packet Capture method can be used.
4. If the encryption occurs at the station, Encore can record the encrypted calls. If the encryption occurs at the trunk, Encore cannot record encrypted calls.
5. Does not include internal calls since they are not recorded.
6. **G.711 Wav Recording in stereo** stores recorded audio at 16000 bytes/sec.
7. **G.711 Wav Recording in mono** stores recorded audio at 8000 bytes/sec.
8. **Vox mono audio storage only.** Encore stores recorded audio using ADPCM 4000 bytes/sec

Software Requirements

SYSTEM	SOFTWARE REQUIREMENTS
<p>Mitel MiVoice Connect system</p>	<ul style="list-style-type: none"> • Trunk-side TDM <ul style="list-style-type: none"> ○ ShoreTel Connect ONSITE 1.0 or higher • Subscription-based TAPI Audio Stream <ul style="list-style-type: none"> ○ ShoreTel Connect ONSITE 1.0 or higher • Station-side RTP Packet Capture <ul style="list-style-type: none"> ○ ShoreTel Connect ONSITE 1.0 or higher • A TAPI Application Server license for use exclusively by the Encore system • ShoreTel Remote Application Server installation setup files must be available for installation on the Encore server • If using the ECC ACD, use version 6 or higher <ul style="list-style-type: none"> ○ If using ShoreTel Connect Contact Center ONSITE 1.0 or higher or any Mitel MiVoice Connect Contact Center (MCCC) branded version, an available Group Activity API license is required • If using Encore WFM <ul style="list-style-type: none"> ○ ShoreTel Connect Contact Center ONSITE 1.0 or higher or any Mitel MiVoice Connect Contact Center (MCCC) branded version ○ An available Group Activity API license is required. (If using Encore WFM along with Encore Call Recording, only one license is needed for both products)

SYSTEM	SOFTWARE REQUIREMENTS
Encore system	<ul style="list-style-type: none"> • Trunk-side TDM, Subscription-based TAPI Audio Stream, Station-side RTP Packet Capture, or Trunk-side SIP Packet Capture <ul style="list-style-type: none"> ○ Windows Server 2016 requires ShoreTel Connect ONSITE 21.82.9630.0 R1704 SP1 or higher ○ Windows Server 2019 requires Mitel MiVoice Connect version 22.11.4900.0 (Release 19.1 SP1) or higher • ShoreTel Remote Application Server <ul style="list-style-type: none"> ○ This software must be installed on any Encore server where CT Gateway for ShoreTel TAPI or the Softphone Audio Server for Subscription-based TAPI Audio Stream recording will be running. ○ Requires the Windows Firewall to be disabled or a port range exception of 1025 - 65535 be opened for TCP and UDP. • Encore WFM Integration <ul style="list-style-type: none"> ○ Encore 8.1 or later ○ Reporting on Agent Groups is currently not support by Encore WFM

NOTE

When the ShoreTel PBX is upgraded in the future, be sure to upgrade the ShoreTel Remote Application Server installed on the Encore server. If you need assistance with this, contact your DVSAanalytics Reseller or DVSAanalytics Technical Support. If this software is not upgraded, a status of **Software Mismatch** or **Error Initializing TMS** may show on the **Quick Look** window of the ShoreWare Director.

Servers and Appliances						Today's Events		
Server / Appliance	Type	Status	Services	DB Used	Disk			
Encore Recorder 01	SW	Error Initializing TMS	Running	0 %	43	13	1040	
Encore Recorder 02	SW	In Service	Running	37 %	35	115	1074	
HQ Server	SW	In Service	Running	34 %	10	217	365	

HARDWARE	HARDWARE REQUIREMENTS
Mitel MiVoice Connect system	<ul style="list-style-type: none"> • All recording methods <ul style="list-style-type: none"> ○ Encore supports all existing ShoreTel phones, including the ShoreTel 400 series • Trunk-side TDM <ul style="list-style-type: none"> ○ Must allow Encore to tap at the trunk • Station-side RTP Packet Capture <ul style="list-style-type: none"> ○ Span port on network to route all RTP traffic for recorded stations to Encore server ○ DHCP IP address reservation or static IP assignment for each station to be recorded. If the Dynamic IP Capture feature is used, the DHCP reservation or static IP assignment requirement is optional. • Subscription-based TAPI Audio Stream <ul style="list-style-type: none"> ○ SIP trunk-based calls require SIP Media Proxy (hairpinning) resources on the SG switches (only available on ½ width switches) • Trunk-side SIP Packet Capture <ul style="list-style-type: none"> ○ This depends on the PBX environment; see the Note in the “Trunk-side SIP Packet Capture” section on page 11.
Encore system	<ul style="list-style-type: none"> • Trunk-side TDM <ul style="list-style-type: none"> ○ AudioCodes DP PCIe card

Compliance Tested

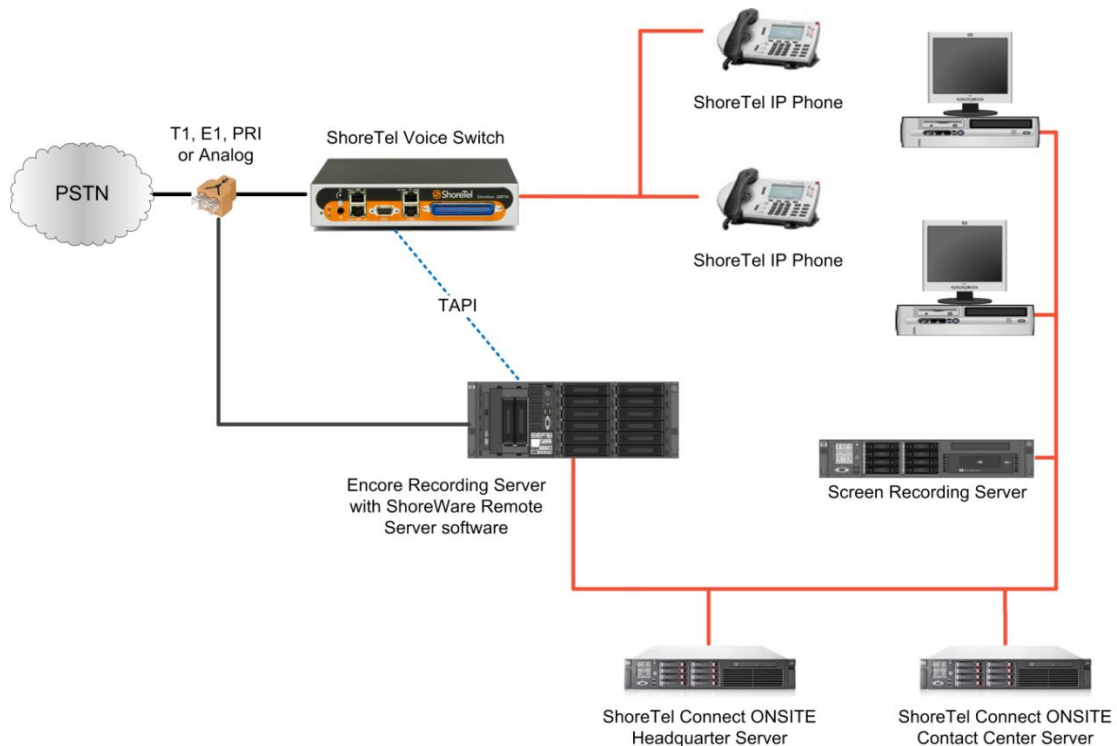
As of April 2017, Encore has been compliance tested to operate with the ShoreTel Connect ONSITE 1.0 and ShoreTel Connect Contact Center ONSITE 1.0 for recording methods listed in [“Supported recording features”](#).

Overview

This section provides an overview of each audio collection method. For simplicity's sake, the diagrams only display a single Encore server but there can be multiple Encore servers depending on the number of stations to be recorded.

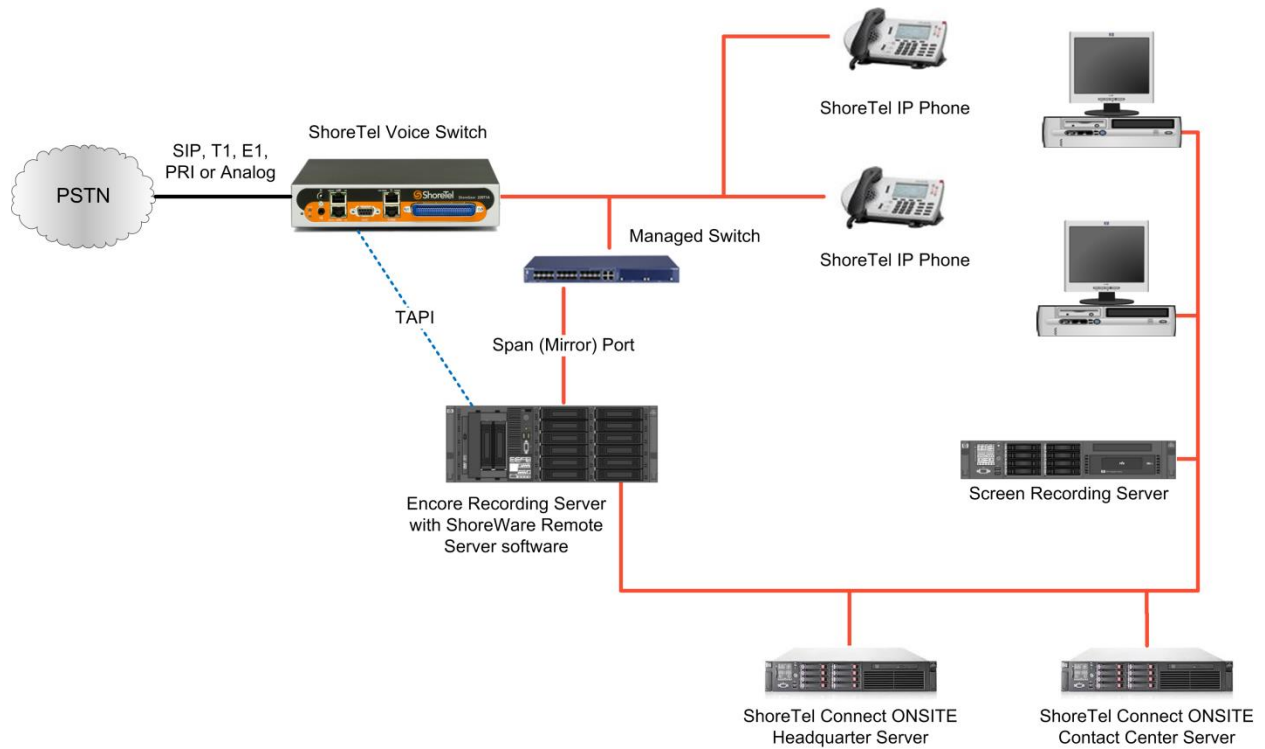
Trunk-side TDM

The Trunk-side TDM method uses a passive tap on the telephony trunks that connects the ShoreTel system to the PSTN. The trunks can be T1, E1, PRI or Analog. This passive tap is connected to the recording boards in the Encore server. The audio is collected via the passive tap. The ShoreWare Remote Server software is installed on the Encore server. Based on events received from the TAPI interface, the Encore server collects the audio on the recording boards and the data associated with the call from the TAPI messages.



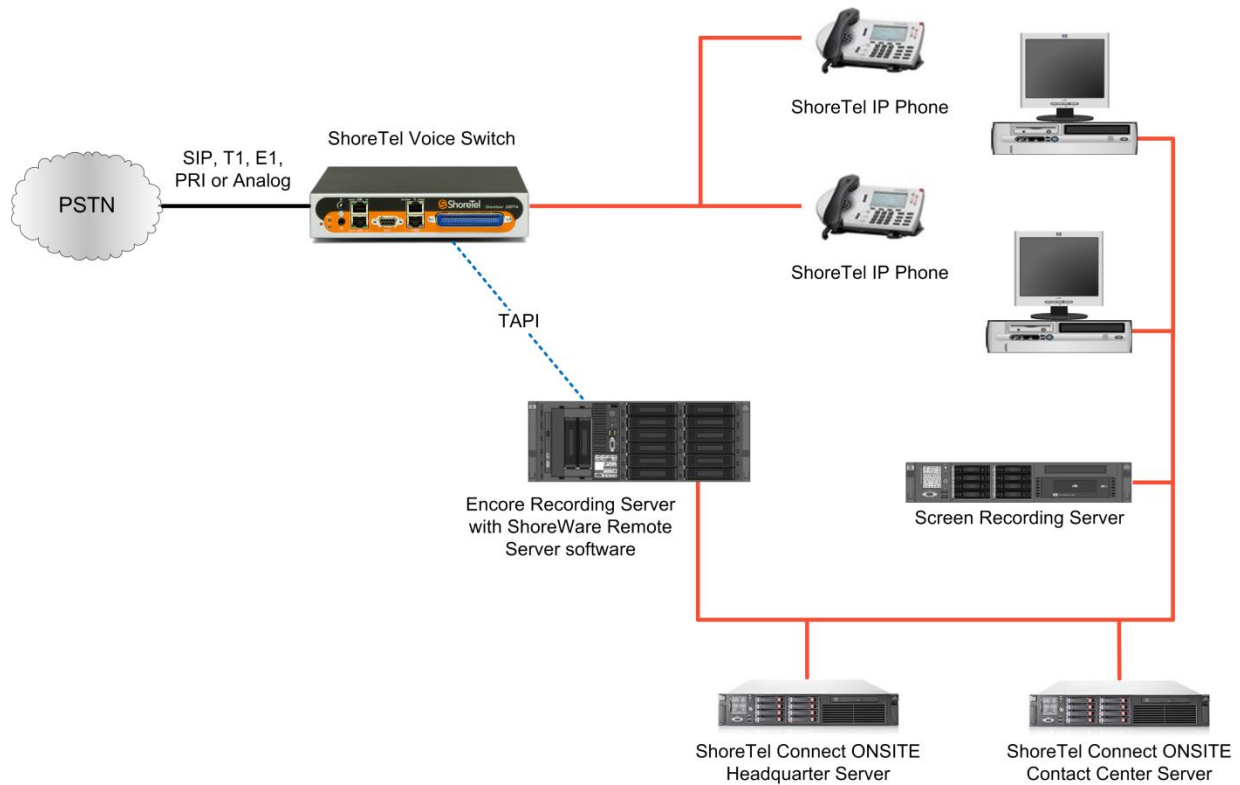
Station-side RTP Packet Capture

The Station-side RTP Packet Capture method uses a span port to collect the RTP audio packets directly from the network segment that includes the VoIP traffic. The ShoreWare Remote Server software is installed on the Encore server. Based on events received from the TAPI interface, the Encore server collects the RTP packets for a specific IP address and converts the RTP data to an audio recording file. Encore collects data associated with the call from the TAPI messages.



Subscription-based TAPI Audio Stream

The Subscription-based TAPI Audio Stream method uses the TAPI audio streaming feature to receive the audio directly from the ShoreTel system via the network. The ShoreWare Remote Server software is installed on the Encore server. Based on events received from the TAPI interface, the Encore server issues a request to the ShoreTel system to send the audio to the route point configured specifically for the Encore system. Encore collects data associated with the call from the TAPI messages.



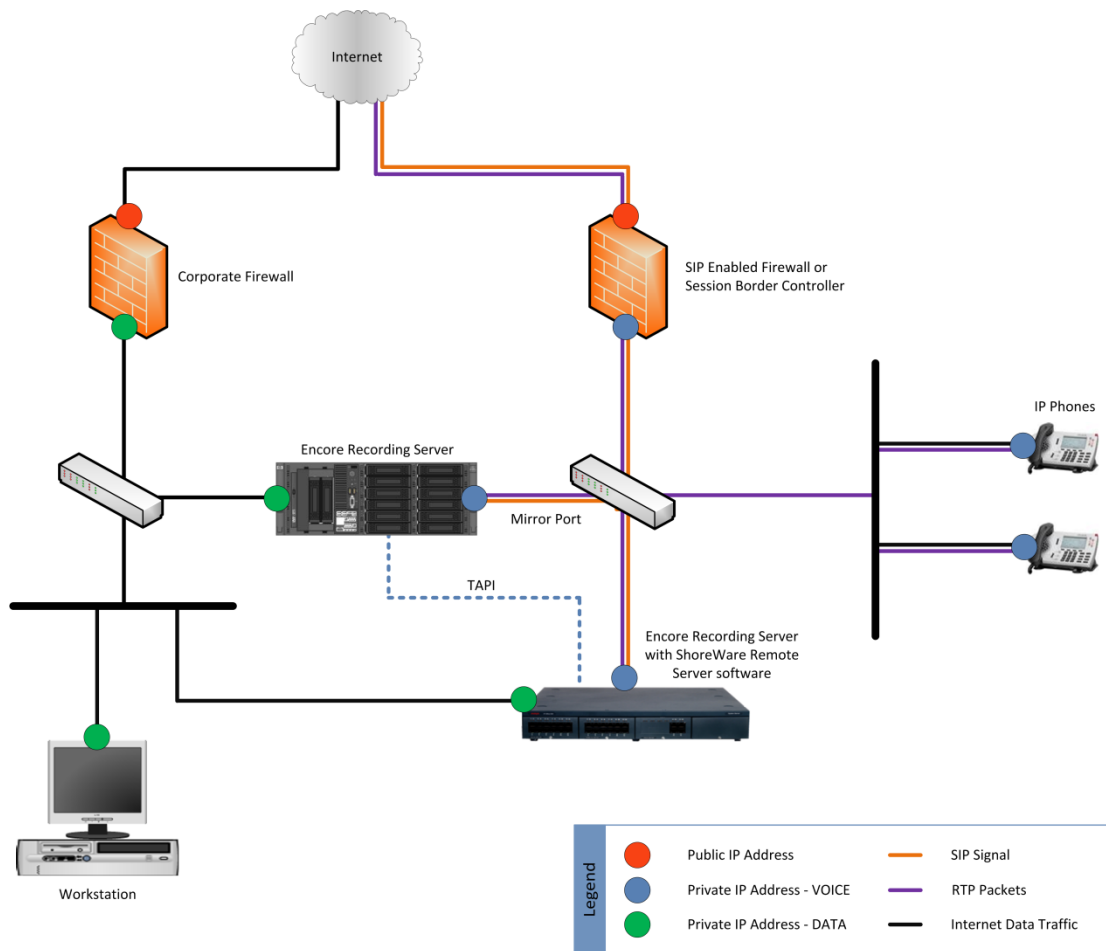
Trunk-side SIP Packet Capture

The Trunk-side SIP Packet Capture method uses a span port to collect the SIP and RTP audio packets directly from the network segment that includes SIP trunk traffic. The ShoreWare Remote Server software is installed on the Encore server and based on events received from its TAPI interface and on events received from SIP signaling, the Encore server collects the RTP packets for a specific SIP trunk call and converts the RTP data to an audio recording file. Encore collects data associated with the call from the TAPI messages when the call is terminated to a station of interest, or from the SIP signaling when the call is terminated elsewhere on the PBX.

NOTE

When recording SIP trunks, DVSAalytics prefers that all SIP trunk traffic goes through a Session Border Controller (SBC), such as a Cisco CUBE, Ingate SIParator, etc. The SBC's LAN-side port must terminate to a network switch that can provide a SPAN/mirror port to the Encore server.

If an SBC cannot be provided, then the SIP trunk provider must be able to guarantee that a single IP Address will be used for all SIP and RTP media packets for both inbound and outbound calls. The LAN-side port of the device used for SIP trunk traffic must terminate to a network switch that can provide a SPAN/mirror port to the Encore server.



Configure Mitel MiVoice Connect System

The steps to configure the system and the screen shots of the ShoreWare Director are based on various versions of the MiVoice Connect systems. Your screens may be different. It is assumed that the reader has a working knowledge of ShoreWare Director and only needs specific configuration assistance.

Steps 1 and 2 must be performed regardless of the audio collection method. The remaining steps must be completed only if using the Subscription-based TAPI Audio Stream method.

Step 1: Verify License

Verify you have a ShoreTel TAPI Application Server license available for the Encore system.

You can check this by selecting **System | Licenses | License Requirements**. If you do not have an available license, contact your Mitel MiVoice Connect representative to purchase a license.

ShoreTel Connect Director License Requirements

SAVE RESET CANCEL Register and Request System Key

Name	Configured	Purchased
Keyed Licenses:		
ShoreTel System License (Enterprise Edition)	1	1
ShoreTel Additional Site License	0	0
ShoreTel Extension License	5	5
ShoreTel Mailbox License	5	5
ShoreTel SoftPhone License	5	5
ShoreTel Additional Language License	0	0
ShoreTel Mobile Access License	0	0
ShoreTel SIP Phone License	0	0
ShoreTel SIP Trunk License	2	2
ShoreTel Standard Resolution Video License	0	5
ShoreTel High Resolution Video License	0	0
ShoreTel Operator Access License	0	0
ShoreTel Connect Client Access License	1	5
ShoreTel Workgroup Agent Access License	0	0
ShoreTel Workgroup Supervisor Access License	0	0
ShoreTel External Unified Messaging SIP Link	0	0
ShoreTel Audio Conference License	0	0
ShoreTel Web Conference License	0	0
ShoreTel Virtual Switch IPPhone License	0	0
ShoreTel Virtual Switch SIP Trunk License	0	0
ShoreTel Remote Phone License	0	0
ShoreTel Virtual Edge Gateway License	0	0
Self-Audited Licenses:		
ShoreTel Phone Only Access License	4	<input type="text" value="5"/> *
ShoreTel Remote Server Software	0	<input type="text" value="1"/> *
ShoreTel TAPI Application Server	1	<input type="text" value="1"/> *
ShoreTel Phone API License	0	<input type="text" value="0"/> *

Step 2: Configure ShoreTel Remote Application Server

The Remote Application Server can be created and configured before the Encore installation but it cannot be tested until the Encore server is installed.

1. To create and configure a Remote Application Server, select **Administration | Appliances/Servers | Platform Equipment** and then click **New**.

The screenshot shows the ShoreTel Connect Director interface. The left sidebar contains navigation options: Users, Trunks, Telephones, Appliances/Servers (selected), Spare Switches, Integrated Servers, SIP Servers, SIP Profiles, Features, System, and Applications. The main content area is titled 'Platform Equipment' and contains a table with columns: NAME, DESCRIPTION, SITES, SERVER, DATABASE SERVER, TYPE, and IP ADDRESS. Below the table is a search bar and pagination controls. The 'ShoreGear SoftSwitch: -' configuration page is displayed, with the 'GENERAL' tab active. The 'Site' dropdown is set to 'dvsAnalytics'. The 'Hardware type' dropdown is set to 'ShoreGear SoftSwitch'. The 'Name' and 'IP address' fields are required, indicated by an asterisk. The 'Allow voice mailboxes' checkbox is checked. The 'Maximum trunks for voice mail notification' is set to 10. The 'User group' is set to 'Voice Mail Notification'.

2. In **Hardware type** select **ShoreGear SoftSwitch** or **WinDVS**, whichever is presented in your version.
3. Modify the following fields:
 - **Name** – Enter the name of the Application Server. It should be descriptive so it is clear that it is the Application Server for the Encore system.
 - **IP address** – Enter the IP address you designated for the Encore server.
 - **Allow voice mailboxes** – Remove the check from this option since voice mail is not used on this Application Server.
 - **Maximum trunks for voice mail notification** – Set this to **1**, since voice mail is not used on this Application Server.

The remaining fields do not need to be modified.

4. Click **Save**.

Step 3: Configure User Groups (Subscription-based TAPI Audio Stream Only)

TAPI Audio Stream is enabled on the users' groups and not the individual users. You can enable it on all users' groups or only the groups associated with the individual users you wish to record. To determine which groups need to be configured select **Administration | Users | Individual Users**. Determine which users need to be recorded and make note of the User Group(s) associated with those users. Don't worry if a group has a combination of users that should and should not be recorded. The Encore system will be configured with the specific extensions to record.

Once you have decided which groups should have audio streaming enabled, select **Administration | User Groups** and click one of the groups that need to be configured. Click the **Go to this Class of Service** or the **View Class of Service** link associated with the **COS – Telephony**.

ShoreTel
ShoreWare Director
Build 15.41.9301.0
Logoff Administrator

Administration

- **Users...**
- Individual Users
- **User Groups**
- Class of Service
- Anonymous Telephones
- Extension Lists
- Batch Update Utility
- Call Handling Mode Defaults...
- Trunks...
- IP Phones...
- Switches...
- Call Control...
- Voice Mail...
- Auto-Attendant Menus
- Workgroups
- Schedules
- Call Manager...
- System Directory
- Application Servers
- Conference Bridges
- IM Servers
- SIP Servers...
- Sites
- System Parameters...
- Preferences

User Groups
Edit User Group

[New](#) [Copy](#) [Save](#) [Delete](#) [Reset](#) [Help](#)

Edit this record [Refresh this page](#)

Name:

COS - Telephony: [Go to this Class of Service](#)

COS - Call Permissions: [Go to this Class of Service](#)

COS - Voice Mail: [Go to this Class of Service](#)

Send Caller ID as Caller's Emergency Service Identification (CESID).

Send DID as Caller's Emergency Service Identification (CESID).

Account Code Collection:

Show Call Manager users a list of account codes when dialing.

Outgoing Trunk Groups (Access Code):

- Analog Loop Start (8)
- Digital Loop Start (9)
- Digital Wink Start (9)

Voice Mail Interface Mode:

User Profile:

Check the **Allow Recording of Own Calls** option. Select this option for each user group that needs recording enabled.

The screenshot displays the ShoreTel ShoreWare Director interface. On the left is a navigation tree with 'Administration' expanded and 'User Groups' selected. The main area is titled 'Class of Service' and 'Edit Telephony Features Permissions'. It includes a toolbar with 'New', 'Copy', 'Save', 'Delete', and 'Reset' buttons, and a 'Help' link. Below the toolbar is a 'Refresh this page' button. The configuration fields include: Name (Fully Featured), Max. Call Stack Depth (8), Max. Buddies Per User (500), Max. Parties in Make Me Conference (3), and IM Presence Invitation Handling (Prompt to accept invitation). A list of permissions follows, with 'Allow Recording of Own Calls' checked and circled in red. Other permissions include Allow Call Pickup, Allow Trunk-to-Trunk Transfer, Allow Overhead and Group Paging, Allow Make Hunt Group Busy, Allow Extension Reassignment, Allow PSTN Failover, Show Caller ID Name and Number for Other Extensions, Enumerate Individual Held Calls for Unpark, Allow Customization of IP Phone Buttons and Call Manager Monitor Windows, Show Extensions with Different Prefixes in Directory, Allow Collaboration Features, and Allow Intersite Video Calls.

Step 4: Configure Route Point (Subscription-based TAPI Audio Stream Only)

A minimum of one route point per 200 concurrent recordings needs to be created to allow the system to send the TAPI audio stream to the Encore system. The route point cannot be used by any other application.

NOTE

If your business model often requires agents to put customers on hold and make another external phone call, it may be necessary for you to set up an additional route point, up to a maximum of three, because any external call that originates or terminates to a recorded phone counts against the 200 maximum calls that can be streamed through the route point.

If you think you may often reach or surpass the 200 maximum, then it may be beneficial to set up an additional route point. For example, if a company is consistently recording 250 concurrent calls, then only two route points would be needed. If, while those 250 concurrent recordings are taking place, 175 agents have their original call on hold and have placed an additional external outbound call, then three route points would need to be configured so that the 425 total external calls in progress have a slot available on the route points.

1. To create/edit a route point select **Administration | Features | Call Control | Route Points** and then click **New**.

The screenshot displays the ShoreTel Connect Director web interface. The left sidebar shows the navigation menu with 'Administration' expanded and 'Call Control' selected, leading to 'Route Points'. The main content area shows the configuration for an 'Encore Route Point'. The 'GENERAL' tab is active, and several fields are highlighted with orange boxes: 'Name' (Encore Route Point), 'Extension' (503), 'Include in System Dial by Name directory' (checked), 'Call stack depth' (200), 'Server' (Encore Recorder 01), and 'Enable mailbox' (checked). Other visible fields include 'DID Range' (+14805381000), 'DID number' (+1480), 'User group' (Executives), 'Language' (English(US)), and 'Mailbox server' (HQ Server). At the bottom, there are buttons for 'PLAY', 'RECORD', 'IMPORT', and 'PREFERENCES'.

2. Modify the following fields on the **General** tab:
 - **Name** – Enter a descriptive name for the route point so it is clear the route point is being used by the Encore system.
 - **Extension** – Enter the extension number assigned to the route point. If you already have a route point defined, use the next available extension after that one. If no route points are defined, try to use an extension that will not be confused with other real extensions.
 - **Include in System Dial by Name directory** – Remove the check from this option.
 - **Call stack depth** – This field specifies the number of calls that can be streamed through this route point. It should be set to the maximum which is 200.
 - **Server** – Select the Remote Application Server you created for the Encore server in Step 2.
 - **Enable mailbox** – **Remove** the check from this option
3. Make sure all other options are **unchecked** and do not change the default values in the other fields. No changes need to be made on the other tabs.
4. Click **Save**.

Step 5: Configure Record Warning Tone (Subscription-based TAPI Audio Stream Only)

1. To enable the system to deliver a record warning tone, select Administration | Features | Call Control | Options.
2. Make sure the **Enable Monitor / Record Warning Tone** is selected.

The screenshot shows the ShoreTel administration interface. On the left, the 'Administration' menu is expanded to 'Options', which is circled in red. The main panel is titled 'Call Control Options' and has a 'General' tab selected. The 'Enable Monitor / Record Warning Tone' checkbox is checked and circled in red. Other visible settings include: 'Use Distributed Routing Service for call routing' (unchecked), 'Enable Silent Coach Warning Tone' (unchecked), 'Generate an event when a trunk is in-use for 240 minutes' (checked), 'Park Timeout (1-100000) after 60 seconds' (checked), 'Hang up Make Me Conference after 20 minutes of silence' (checked), 'Delay before sending DTMF to Fax Server: 2000 msec', 'DTMF Payload Type (96 - 127): 102', 'SIP: Enable SIP Session Timer' (checked), 'Session Interval (90 - 3600): 1800 sec', 'Refresher: Caller (UAC)', 'Voice Encoding and Quality of Service: Maximum Inter-Site Jitter Buffer: 50 msec', 'DiffServ / ToS Byte (0-255): 0 (DSCP = 0x0)', and 'Media Encryption: None'.

3. With this option enabled, the Encore system can control which calls actually receive the warning tone. The configuration selections are: outbound, inbound or both.

The system is now prepared for the Encore installation.

Step 6: Extract and Store Call Profile Information in TAPI - Optional

ECC automatically provides these call profile fields as TAPI call properties:

- AgentQueue
- Group
- Priority
- Service

The corresponding TAPI call property name is the call profile field name with the “_STCC_” prefix:

- _STCC_AgentQueue
- _STCC_Group
- _STCC_Priority
- _STCC_Service

Encore is able to capture this additional data (up to 30 fields) and associate it with the call record.

If you would like to extract and store additional call profile fields in TAPI, complete the steps below:

1. On the Contact Center Server, in the directory in which ShoreTel Contact Center is installed, open the **Bin** folder.
2. In the **Bin** folder, use a text editor to create a file named **shoretelcfg.ini**.
3. In the **shoretelcfg.ini** file, add a section named **[call_profile]**.
4. In the **[call_profile]** section, specify a key named **user_fields** with call profile field names as values. Separate the values with a comma. For example:

```
[call_profile]
User_fields=AccNo, Balance, DueDate
```

5. Restart the Contact Center Server. The specified call profile field values display in the TAPI call properties.

NOTE

See the *ShoreTel Enterprise Contact Center 9 Administrator Guide* for more information about implementing call profiles.

Configure MiVoice Connect CC / ECC - Optional

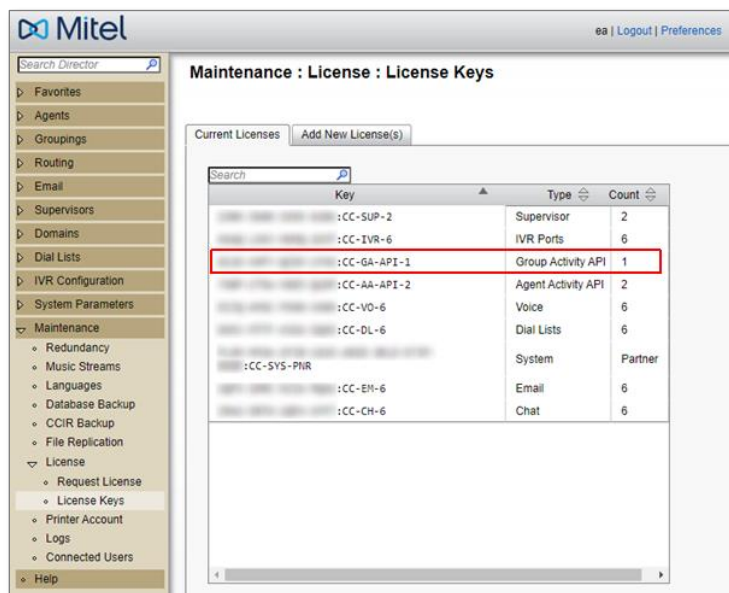
Only complete these steps if using the MiVoice Connect Contact Center(MCCC) / Shortel ECC ACD.

This section applies to configurations where MCCC is being used in the following scenarios:

- Encore Call Recording
- Encore Call Recording with Encore WFM
- Encore WFM without Encore Call Recording

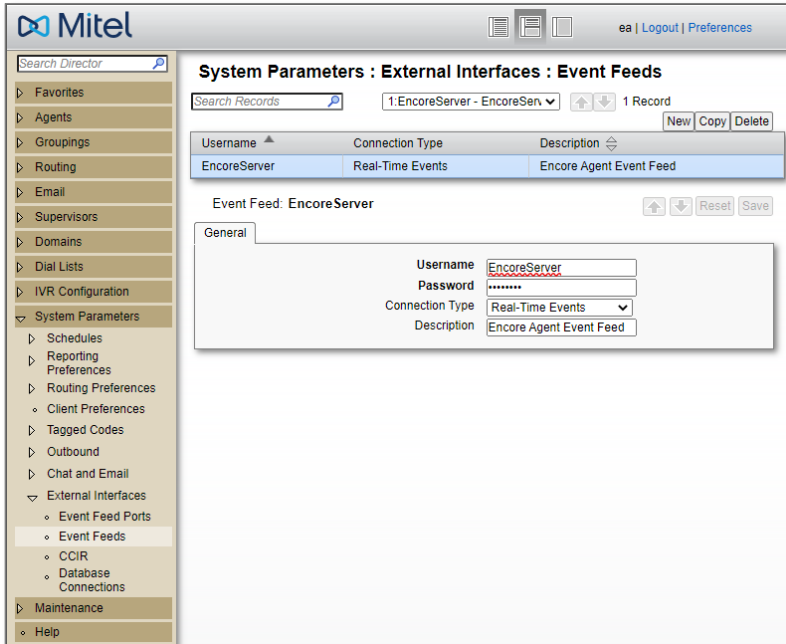
Verify the license

1. Log in to the **MiVoice Connect Contact Center Director**.
2. Navigate to **Maintenance | License | License Keys**.
3. Verify the **Group Activity API** license is installed and enough are available for each system that will use the Real Time Event Feed. When using any of above scenarios, one license is needed per server connecting to the MCCC. If other Mitel or third-party applications require the use of this license, those licenses are in addition to Encore's requirements.
 - a. For ECC 6, the **Group Activity API** license is controlled by a self-audited license.
 - b. For MCCC/ECC 7 or higher, the **Group Activity API** license is required (see the image below).

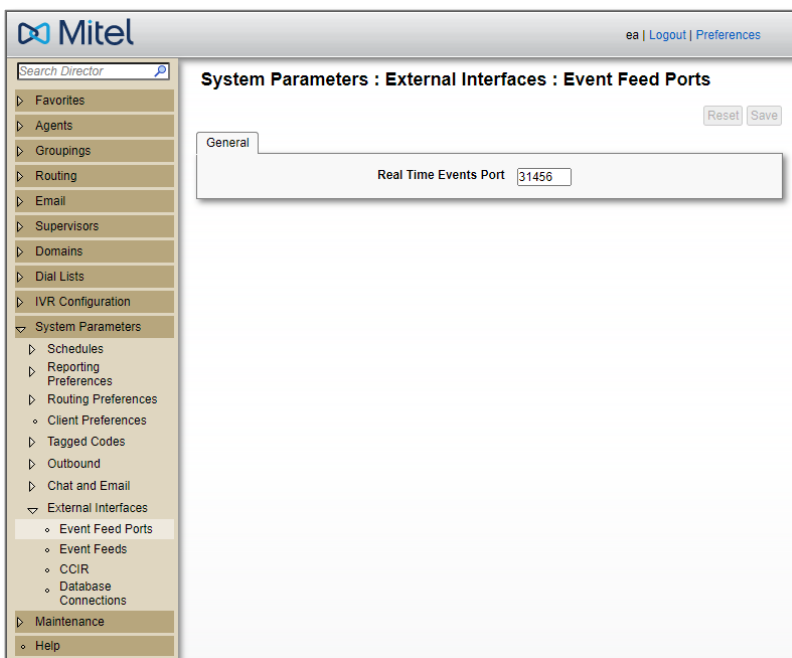


Configure Real-Time Event Feeds

1. Navigate to **System Parameters | External Interfaces | Event Feeds**.
2. Set up a user account for Encore with a **Connection Type** of **Real-Time Events**. Encore Call Recording and Encore WFM share the same user account and if installed on the same server, share the same connection.



3. Navigate to **System Parameters | External Interfaces | Event Feed Ports** and make a note of the **Real Time Events Port** number. During the configuration of the Encore server, your Encore installer will need this, as well as the username and password established in the previous step.



Encore WFM Considerations - Optional

If the Encore WFM product is in use, please follow the below sections to ensure a smooth installation.

Ensure Encore WFM Communication is Allowed

To ensure a successful installation and continuous operation, the Encore software running on a customer's network must be able to communicate with the cloud-hosted Encore WFM service. Please be sure that any firewalls or security appliances allow traffic from the Encore server(s) to the following URL's:

- <https://login.microsoftonline.com>
- <https://api.wfm.puzzel.com>

If connectivity between the on-premise Encore server and the Encore WFM Cloud Service (Encore WFM API) is unavailable, Realtime Adherence data may be lost. Historical data collected from the ACD system will be sent to Encore WFM once connectivity is reestablished.

MCCC Provided Realtime Event Codes

Please use the following Event Code list as a reference when the time comes to perform real-time activity mapping in the Encore WFM UI:

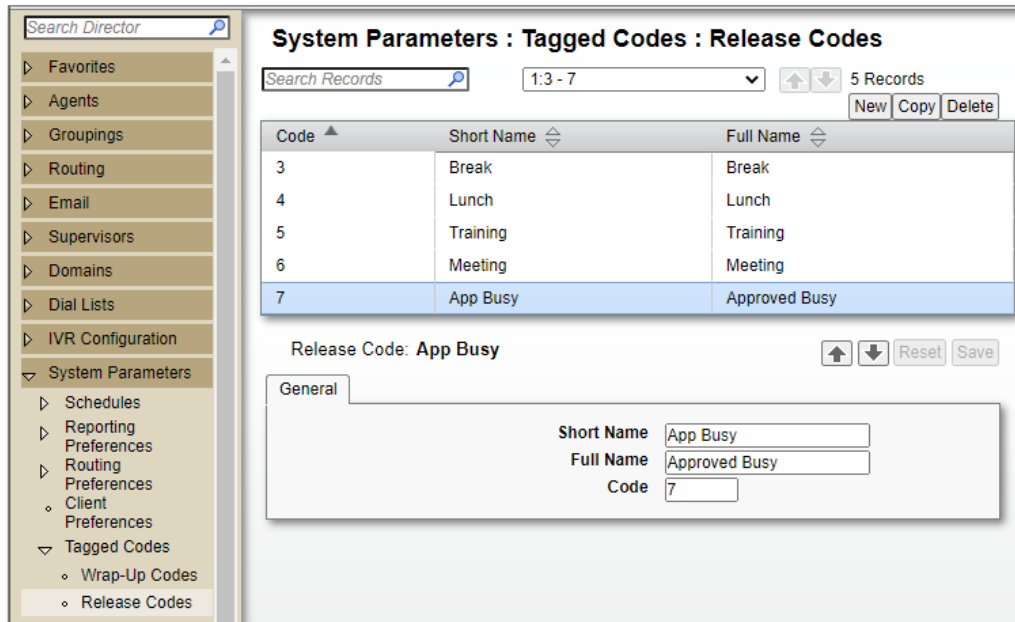
agent-login
agent-logout
agent-idle
agent-on-call
agent-release <Event Reason>
agent-resume
wrap-start
wrap-end
agent-reserve

The **agent-release** Event Code has an additional Event Reason that will need to be uniquely handled. See the next section, *Gather the list of Release Codes from MCCC*, for further details.

Gather the list of Release Codes from MCCC

For a successful Encore WFM installation, please provide your DVSA Analytics Project Manager or Installation Tech a list of all Release Codes defined in the MCCC. These will be needed later when activity mapping is performed.

A MCCC administrator can find these release codes in the MCCC Director under **System Parameters->Tagged Codes->Release Codes**.



The screenshot shows the MCCC Director interface. On the left is a navigation tree with 'System Parameters' expanded to 'Release Codes'. The main area is titled 'System Parameters : Tagged Codes : Release Codes'. It features a search bar, a record range '1:3 - 7', and '5 Records'. A table lists the following release codes:

Code	Short Name	Full Name
3	Break	Break
4	Lunch	Lunch
5	Training	Training
6	Meeting	Meeting
7	App Busy	Approved Busy

Below the table, the 'Release Code: App Busy' is selected. A 'General' tab is active, showing input fields for 'Short Name' (App Busy), 'Full Name' (Approved Busy), and 'Code' (7). Buttons for 'New', 'Copy', 'Delete', 'Reset', and 'Save' are also visible.

When the time comes to perform activity mapping in the Encore WFM UI, these Release Codes will be entered into the **Event Reason** field of an *agent-release Event Code* and will be in the following format:
<Code> - <Full Name>

For example:

"3 - Break"

"4 - Lunch"

"7 - Approved Busy"

Gather the list of ACD queues needed for Encore WFM

For a successful Encore WFM installation, please provide your DVSAalytics Project Manager or Installation Tech a list of all ACD queue names(Groups) that Encore WFM needs to report on.

To acquire this information a MCCC administrator can find the group names in the MCCC Director, under the following menu options **Groupings->Groups**.

Groupings : Groups

Search Records: 1:Cust Srvc Level2 - Sales 3 Records

Name ▲	Agents in Group
Cust Srvc Level2	1
Customer Service	2
Sales	3

Group: Cust Srvc Level2

General Agents Chat Thresholds Staffing

Name: Cust Srvc Level2

Call Handling Scenarios

This section explains how different call types are recorded in Encore. These descriptions typically assume that all stations involved in the calls are configured to be recorded.

Trunk-side TDM

Hold – When a call is put on hold, the recording is suspended. When the call is retrieved, the audio is appended to the recording to create one audio recording.

Consultation Call – If an agent is on a call and then places a consultation call, the first call is put on hold and the recording is suspended. Assuming the consultation portion of a call is an internal call then it is not recorded for this audio recording method. When the agent hangs up the consultation call and retrieves the caller, the recording resumes; the second portion of the recording is appended to the first portion creating one recording.

Blind Transfer – When a call is blind transferred (also called an unannounced transfer), the first recording ends after the agent presses the transfer button and hangs up the handset. The second recording begins when the second agent answers the transferred call. The second recording ends when the second agent hangs up the call. Separate Segment IDs (SIDs) are associated with each recording and they usually share the same Related ID (RID). If the call is transferred to an ACD queue or Hunt Group, it may not be possible to show the relationship between the recordings and the same RID may not be associated with both recordings.

Conference Call with 3 parties – The following conditions apply:

- If the conference controller is a recorded station, the trunk that is being recorded is associated with the controller.
- If the recorded conference controller drops from the conference first, the recording of the trunk stops. A new recording is started on the same trunk for the recorded station that remains.
- If two recorded trunks and one recorded station are on the conference call, the call is recorded only on the first trunk. If the first trunk drops from the conference first, recording stops on the dropped trunk and a new recording is started on the remaining recorded trunk.
- If the conference controller is not recorded, the trunk recording is associated with the other recorded station.

Conference Call with 4 parties (Make Me Conference bridge) – Continuing from the 3-party conference, the following conditions apply:

- If one of the parties from the 3-party conference is a recorded station, the trunk that is being recorded continues to be associated with that station.
- If the recorded station or the caller drops from the conference first, the recording of the trunk stops. The remaining call is not recorded.

Internal Call – Not recorded.

Station-side RTP Packet Capture

Hold – When a call is put on hold, the recording is suspended. When the call is retrieved, the audio is appended to the recording to create one audio recording.

Consultation Call – If an agent is on a call and then places a consultation call, the first call is put on hold and the recording is suspended. Assuming the called party is also using a recorded phone, the consultation call is recorded as two separate recordings – one for each extension. When the agent hangs up the consultation call and retrieves the caller, the two recordings end and the first recording resumes; the second portion of the recording is appended to the first portion. All three recordings have different Segment IDs (SIDs) and share the same Relation ID (RID).

Blind Transfer – When a call is blind transferred (also called an unannounced transfer), the first recording ends after the agent presses the transfer button and hangs up the handset. The second recording begins when the second agent answers the transferred call. The second recording ends when the second agent hangs up the call. Separate SIDs are associated with each recording and they usually share the same RID. If the call is transferred to an ACD queue or Hunt Group, it may not be possible to show the relationship between the recordings and the same RID may not be associated with both recordings.

Conference Call – When an agent decides to bring a third party into a current call, the agent usually puts the caller on hold to first consult with the third party. The first recording of the agent and the outside caller suspends during the consultation call. Assuming the third party is using a recorded phone, the consultation call creates two recordings – one for the agent and another for the third party. After the consultation call ends and the three parties are joined into the conference, the first recording resumes and it ends when the agent hangs up. The recording of the third party continues until the third party hangs up.

Conference Call with 3 parties –When an agent decides to bring a third party into a current call, the agent usually puts the caller on hold to first consult with the third party. The first recording of the agent and the outside caller suspends during the consultation call. Assuming the third party is using a recorded phone, the consultation call creates two recordings – one for the agent and another for the third party. After the consultation call ends and the three parties are joined into the conference, the first recording resumes and it ends when the agent hangs up. The recording of the third party continues until the third party hangs up.

Conference Call with 4 parties –When a fourth party is added to a three-party conference call, the PBX moves all parties to the Make Me Conference bridge. CT Gateway treats this as all parties are transferred to the conference bridge. All station recording continues until the station drops.

Internal Call – Recorded as usual.

Subscription-based TAPI Audio Stream

Greeting – A small portion of the greeting may be missing from recordings. In most situations, it should not exceed a couple of seconds unless there is excessive network congestion or communication issues between ShoreTel devices.

Hold – When a call is put on hold, the recording is suspended. When the call is retrieved, the audio is appended to the recording to create one audio recording.

Consultation Call – If an agent is on a call and then places a consultation call, the first call is put on hold and the recording is suspended. Assuming the consultation portion of a call is an internal call then it is not recorded for this audio recording method. When the agent hangs up the consultation call and retrieves the caller, the recording resumes; the second portion of the recording is appended to the first portion creating one recording.

Blind Transfer – When a call is blind transferred (also called an unannounced transfer), the first recording ends after the agent presses the transfer button and hangs up the handset. The second recording begins when the second agent answers the transferred call. The second recording ends when the second agent hangs up the call. Separate Segment IDs (SIDs) are associated with each recording and they usually share the same Relation ID (RID). If the call is transferred to an ACD queue or Hunt Group, it may not be possible to show the relationship between the recordings and the same RID may not be associated with both recordings.

Conference Call with 3 Parties – When an agent decides to bring a third party into a current call, the agent usually puts the caller on hold to first consult with the third party. The first recording of the agent and the outside caller suspends during the consultation call. Assuming the third party is an internal party, the consultation portion is not recorded.

After the consultation call ends and the three parties are joined into the conference, the first recording resumes and it ends when the agent hangs up. Due to a limitation with the ShoreTel PBX, if two or more recorded phones are in a conference call with an external party and the Subscription-based TAPI Audio Stream method is used, only one of the phones will be recorded. If both the agent (conference controller) and the third party are recorded stations, only the agent station is recorded. If the agent is not a recorded station and the third party is a recorded station, only the third party station is recorded.

Post conference call recording depends on which party remains on the line:

- If the agent hangs up first and the external party and the third party remain, a recording starts for the third party.
- If the third party hangs up and the agent and external party remain, the recording for the agent continues.
- If the external party hangs up and the agent and third party remain, the recording stops.

Conference Call with 4 Parties – When a fourth party is added to a three-party conference call, the PBX moves all parties to the Make Me Conference bridge; CT Gateway treats this as all parties are transferred to the conference bridge. Recording stops because this PBX does not support the recording of Make Me Conference calls.

Internal Call – Not recorded.

Trunk-side SIP Packet Capture

All Calls – By default, all calls on SIP trunks are recorded from cradle to grave. If the call can be associated with a recorded agent and Encore is configured to split the recording into multiple files, then each segment of the call will be broken up into its own recording, with the segments associated with the recorded agent containing additional agent related data. The segments of the call that cannot be associated with a recorded agent will only contain data available to the SIP trunk itself.

For example, if an inbound call is first answered by an ACD recorded announcement and then answered by the agent, and the agent places the call on hold and then later resumes the call. The call would be broken up into 4 recordings:

- Recording 1 = ACD recorded announcement
- Recording 2 = Call with the agent until the agent placed the call on hold
- Recording 3 = Hold music
- Recording 4 = Call with the agent after the agent retrieves the call

Internal Calls – Not recorded.

Data Capture for Calls with Multiple Segments

For the RTP packet capture audio collection method, a recording with multiple segments in a call does not always generate a new recording for each call segment. For example, when a person receives a supervised transfer, the consultation call segment and the transferred segment are merged into one recording, and the call data from the last segment of the call overwrites the data stored from the previous segment. If the last segment does not include a data value, then that value is retained from the previous segment. This is illustrated in the following scenario:

1. An inbound call from 480-222-3333 is answered by John (ext. 111). Encore starts recording John's extension; we will refer to this as Recording A. This data is associated with Recording A:
 - a. Recorded Party Number =111
 - a. Recorded Party Name=John
 - b. Other Party Number =4802223333
 - c. Other Party Name is blank
2. John (ext. 111) makes a supervised transfer to Greg (ext. 112). Recording A between the caller and John stops. Recording B starts to record John's station (ext. 111) and capture the conversation between John and Greg. Recording B includes this data:
 - a. Recorded Party Number =111
 - b. Recorded Party Name=John
 - c. Other Party Number =112
 - d. Other Party Name=Greg
 - e. Consult=Yes

At the same time Recording B starts, Encore also starts Recording C of Greg's station (ext. 112). Recording C includes this data:

- a. Recorded Party Number =112
 - b. Recorded Party Name=Greg
 - c. Other Party Number =111
 - d. Other Party Name=John
3. When John (ext. 111) hangs up his phone to transfer the caller to Greg (ext. 112), Recording B ends. Recording C continues and new data is assigned to it. Because a caller name was not originally provided for the call, the recorder does not erase the existing call data in the Other Party Name field; instead, it retains the original data.
 - a. Recorded Party Number=112
 - b. Recorded Party Name=Greg
 - c. Other Party Number =4802223333
 - d. Other Party Name=John
4. When Greg hangs up his phone, Recording C stops.

If the original call was from an internal party, let's say it was Jen at extension 114, the recorder would create just one recording for Jen (ext. 114) and it would include the conversations with both John (ext. 111) and Greg (ext. 112). The Other Party Number field would show 112 and the Other Party Name field would show Greg because this was the last person she would have talked to.

For the Subscription-based TAPI Audio Stream method, the internal segment of a call is not recorded. Consider the following scenario:

1. An inbound call from 480-222-3333 is answered by John (ext. 111). Encore starts recording John's extension; we will refer to this as Recording A. This data is associated with Recording A:
 - a. Recorded Party Number =111
 - b. Recorded Party Name=John
 - c. Other Party Number =4802223333
 - d. Other Party Name is blank
2. John (ext. 111) makes a supervised transfer to Greg (ext. 112). Recording A between the caller and John stops, and the conversation between John and Greg is not recorded because it is an internal call.
3. When John (ext. 111) hangs up his phone to transfer the caller to Greg, Recording B starts to record the conversation between Greg and the caller. Recording B includes this data:
 - a. Recorded Party Number=112
 - b. Recorded Party Name=Greg
 - c. Other Party Number =4802223333
 - d. Other Party Name is blank
 - e. When Greg hangs up his phone, Recording B stops

Appendix 1: Glossary

abandoned call

An incoming call which is answered by the ACD but terminated by the caller before it is answered by an agent.

ACD

Automatic Call Distributor. An application that answers calls and directs them to a predetermined queue, or line, of waiting calls. In most cases, the ACD ensures that the first call in is the first call answered. It also determines which agent receives a call based on predetermined criteria such as idle time or availability and generates reports on call volume and distribution.

agent

A person who handles phone calls. Other variations include operator, attendant, representative, customer service representative (CSR), telemarketer, phone sales representative (TSR), and so on.

agent name

If the agent is logged into the ECC ACD, this is the ECC Agent Name.

agent number

If the agent is logged into the ECC ACD, this is the ECC Agent Number.

ANI

Automatic Number Identification. For inbound calls, this is the phone number from which the customer is calling (may not be supported by the trunk). For outbound calls, this is the dialed number.

automated attendant

A voice processing system that answers calls with a recording and then enables callers to press touch-tone buttons to navigate through a menu system to a person, department, or voice mail.

call direction

The direction is either incoming (inbound) or outgoing (outbound).

Call GUID

A unique identifier used by the database to locate each recording. The call identifier for a recording can be viewed in Encore.

call ID

A unique call ID assigned by the PBX, showing the relationship to other call ID's assigned by the PBX. For example, this identifier allows the Encore server to relate the "customer-agent" call to the "agent-supervisor" consultation call.

call record

An entry in a database that holds the data associated with a call.

call type

The call type is either internal or external.

consultation call

A call that is made while the customer (original call) is on hold. In the database, the **Consultation Call** field shows **Yes** when the recording is a consultation call.

customer ID

For ECC ACD calls, this is the ECC Customer ID.

customer name

For ECC ACD calls, this is the ECC Customer Name.

dialed number

Captured for outbound calls and is stored in the ANI field.

digital recording

A method of recording that converts analog sound into a series of pulses that are translated into binary code, which is read by computers.

DNIS

Dialed Number Identification Service. For inbound calls, this is the number the customer dialed or the agent's extension number (may not be supported by the trunk). For ACD calls, this field includes the DNIS provided by ECC.

dynamic IP capture

Encore captures a phone's IP address from the TAPI messages allowing an agent to hot desk to any phone while still retaining the ability to record the agent using the Station-side RTP Packet Capture method.

ECC call ID

For ECC ACD calls, this is the ECC Call ID.

encrypted calls

Calls that have the audio RTP packets encrypted. This prevents 3rd party applications, such as the Encore system, from using the RTP packets for recording.

extension

The number associated with a person's station. Extension and station are sometimes used interchangeably.

external calls

In these calls, the calling or called parties are outside the PBX.

full-time recording

This method uses the Recording Engine to record all conversations for the defined endpoints.

group ID

For ECC ACD calls, this is the ECC Group ID.

group name

For ECC ACD calls, this is the ECC Group Name.

hold duration capture

The sum of all hold durations that occurred during the recording.

hunt group name

If the call is a hunt group call, then the name of the hunt group is stored in this database field. If the call is not in a hunt group, then the field is blank.

hunt group number

If the call is a hunt group call, then the number of the hunt group is stored in this database field. If the call is not in a hunt group, then the field is blank.

inbound

Calls which are received/answered by a recorded party.

internal calls

Calls made between extensions on the same PBX.

other call ID

A unique call ID assigned by the PBX, showing the relationship to other call ID's assigned by the PBX. For example, this identifier allows the Encore server to relate the "customer-agent" call to the "agent-supervisor" consultation call.

other party name

Name of the other party on the line with the person being recorded, may be blank if this is an external call.

other party number

Number of the other party on the line with the person being recorded; if external and incoming call, this is an ANI.

outbound

Calls which are initialed/placed by a recorded party.

pause/resume on hold

A method that pauses the recording of audio and screen when a call is placed on hold, and resumes recording when the hold is taken off.

PBX (PABX)

Private (Automated) Branch Exchange. The phone system to which the office phones are connected.

priority

For ECC ACD calls, this is the ECC Call Priority.

recorded party name

Name of person being recorded.

recorded party number

Number of person being recorded.

recording

The audio recording, screen recording, and database record associated with a single phone call or conversation.

related call lookup

A customer's experience in a call center may include multiple recordings even though the customer was on one, continuous call. This feature shows recordings that are related to the selected recording.

service ID

For ECC ACD calls, this is the ECC Service ID.

scheduled recording

This method uses the ESO Engine 2 to only record the defined endpoints according to the recording schedule. For instance, Encore may only record 50% of the calls on the defined endpoints instead of 100% as is automatically done for full-time recording.

ShoreTel Office Anywhere

A feature that allows users to assign their extension to any phone, including a mobile phone or home phone.

station

A phone connected to the PBX.

TAPI (Telephony Application Programming Interface)

A telephony software interface included in a Microsoft Windows operating system that supports the incorporation of telephony control by other applications.

third call ID

A unique call ID assigned by the PBX, showing the relationship to other call ID's assigned by the PBX. For example, this identifier allows the Encore server to relate the "customer-agent" call to the "agent-supervisor" consultation call.

trunk

The connection between the phone company and the PBX that carries incoming and outgoing calls. For the Trunk-side TDM audio collection method, this is the trunk number as defined by the PBX that is linked to specific physical trunks and their channels. For the Trunk-side SIP Packet Capture audio collection method, this is a fictitious, ever-changing number that is only populated when a call is associated with a recorded agent.

user name

The ShoreTel User Name. This can be captured in the **fldAgentLoginID** field when Encore is not integrating with ECC.

warning tone injection

A tone that is played every 15 to 30 seconds to indicate to all parties that the call is being recorded.

work group name

If the call is a work group call, then the name of the work group is stored in this database field. If the call is not in a work group, then the field is blank.

work group number

If the call is a work group call, then the number of the work group is stored in this database field. If the call is not in a work group, then the field is blank.