



OAISYS Auto Call Record 4.x
Operations Manual

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Overview

Auto Call Record is an OASYS application designed by Computer Telephony Solutions, Inc. Auto Call Record monitors call activity of an *Axxess* PBX. When a listed call occurs, Auto Call Record triggers a recording of the telephone conversation in order to create a permanent record of the call. The recordings can be made into either (1) a specified Voice Mailbox of *AxxessoryTalk*, or (2) into a WAV file on any PC on the LAN by using *Voice Assistant*. Auto Call Record runs under the OASYS Net Server.

The call recordings that are generated can have a variety of uses: training of personnel, verifying instructions and conversations, or monitoring specific company functions for problems. Management can help their company be less vulnerable to errors or ill will and at the same time create a more thorough and efficient learning environment with the judicious use of recordings.

Note: Recording calls may not be legal in all locations or may be subject to local restrictions. Check with your local government communications agencies for current information on wiretap and telephone recording laws. The end user is responsible for using the product within the limits of local laws and regulations. CTS is not responsible for any misuse of Auto Call Record or the recordings produced by the product.

What's New With Auto Call Record?

Version 4.0

- Integration with OAISYS Replay and Call Historian adds user functionality and extensive search and sort capabilities.
- Uses Net Server Class of Service settings to control which users can see recordings in Replay.
- Adds a Recording trigger for ACD calls (requires *ACD Manager 4.x* or higher)
- Administrators may restrict the Manual Start option to affect all calls or only specific call types on a per station basis.
- Administrators may perform an easy, one-time import to make Auto Call Record 3.x recordings available in Replay.

Version 3.x

- Record a percentage of calls on a station instead of all calls or no calls.
- Recordings can be appended to the original recording when calls are transferred or put on hold. (Before, there would be two recordings with different file names for one phone call.)
- Free space handling threshold. *Auto Call Record* will not invoke any new recordings if the available space drops below a user-defined limit.
- Automatically receive list of voice ports from *Voice Assistant*.
- Integrates with client programs such as *Net Phone* to allow you to start and stop recordings.
- Displays the Extension Name of the station in the Change Monitored Extension screen.
- Simple schedule to allow automatic triggers to occur on certain days of the week or times of day.

Example Applications

Application #1:

Mail-Order Desk monitors selected employees for training

In this small mail-order company the sales people represent a large percentage of the employees. Their rapport with the customers and their accuracy in filling orders represents the difference between the success and failure of the company's overall performance.

Salespeople are organized into groups of twelve and a Sales Manager runs each group. Every morning he or she selects two members of the group to monitor and sets up their extensions in the *Auto Call Record* computer for recording. At the end of the day, these two salespeople along with two others from each of the other five groups log off the order desk an hour early to review some of their selected conversations. The trainers work with each one of them individually, making suggestions for more effective telephone strategies. Then, in the last fifteen minutes, the group gathers as a whole to listen and make comments on two or three selected conversations of their co-workers.

This company invested in the technology of *Auto Call Record* to enhance the performance of their employees in this critical area of their business. Using multimedia PC's for making and playing back the recordings gave their training personnel the flexibility and tools that they needed to be effective. Directories were created for each employee and key conversations were archived in them along with notes by the trainer on the training session. These conversations could be reviewed in the context of a new call to see if progress was being made or if some of the same mistakes kept cropping up. The trainers filled out evaluation forms that were returned to the Sales Managers along with the file name of the archived conversation if the Sales Manager wanted to listen to it from his PC.

The company quickly discovered that these training sessions, instead of intimidating the sales people, actually gave them a sense of belonging, and the fifteen-minute peer reviews contributed to a greater sense of a collective endeavor. As an added bonus, the previously rising curve of the high turnover rate caused by the sense of isolation inherent in such a job started to come down.

Application #2:

Car Dealership records sales calls

This car dealership configured *Auto Call Record* to monitor all sales calls because the General Manager knew that most car sales happen very quickly and their chance to make a sale depended on a small number of relatively short contacts with the customer, the first of which was generally by phone. When the sales-people handed in their slips on new leads, the Sales Manager scanned through a sampling of the calls on which they were based. In the first week of use he discovered several deals in which he, with his experience, could recognize that the customer was slipping away but that the sales-person had not. He directed the sales-people involved to follow up and sales were made that would have previously been lost.

The General Manager calculated that in one month he had saved a sufficient number of deals to pay for his complete investment in the PC, phone system, and software.

Application #3:***Stock Broker records calls for protection***

Stock Brokerages have a lot riding on the telephone. Instructions for orders from customers need to be delivered quickly and easily and the resulting transactions have to be done in an equally timely fashion. Yet, large sums of money are being handled and errors can be costly for either the customer or the business. In some situations, miscommunications can lead to rancorous disagreements, the loss of good will, or even costly law suits.

To avoid these pitfalls, a Brokerage firm in Boston installed *Auto Call Record* and configured it to record every broker's extension for every outside call. The resulting recordings are archived onto CD-ROMs and filed, easily, by date and extension. If an order is ever disputed or if a broker's recollection of a transaction is different than the confirmation received, the office manager can easily put the appropriate CD-ROM in the CD player of his multimedia PC and, using *Replay*, listen to the conversation in question.

While the Managing Partnership had installed the system for exactly this kind of protection, they were surprised at how often they referred to the archived CD's and at how effective these recordings were at settling problems and maintaining good customer relations.

Requirements

PC Requirements

Auto Call Record runs on Windows NT or Windows 2000. *Auto Call Record* requires the *OAISYS Net Server* from **Computer Telephony Solutions, Inc.** in order to run. Net Server must be installed on a dedicated PC as specified in the *OAISYS Net Server Operations Manual*. *Auto Call Record* can be installed on the same pc as the *OAISYS Net Server*, or on another pc as long as it can communicate with the *OAISYS Net Server* via TCP/IP. All documentation assumes *Auto Call Record* is installed on the same pc as the Net Server.

If call recordings are to be made to the hard disk of the Application PC or some other PC on the LAN, an adequately sized hard disk drive will be needed to meet the archival requirements of the application. The default WAV file format requires 360k per minute of recorded conversation. If recordings need to be saved for a period of time, some sort of backup device (tape, ZIP drive, CD) will also be necessary on another PC on the network.

Note: *Voice Assistant* can record using a selection of different file formats, so disk usage per minute of recording depends on the file format used.

See Appendix F: PC Sound Files, page 71, for more information

Software and Hardware Requirements

In addition to *OAISYS Net Server*, *Auto Call Record* requires either *Voice Assistant* from *Computer Telephony Solutions, Inc.* or the *Axxessory Talk Voice Mail System* from *Inter-Tel*, depending on the customer application. Whichever recording system is used, it will need to be configured with the number of ports necessary to record the maximum number of simultaneous calls. If *Axxessory Talk* is also being used for *Voice Mail* or if *Voice Assistant* is also being used by other applications, additional ports will need to be allocated for these functions as well.

See *Recording Device and Destination*, page 34, for more information about these two options.

Auto Call Record integrates with *Call Historian* and *Replay*. *Call Historian* must be installed on the Net Server PC along with *Auto Call Record*. *Replay* is the user interface used to play back the recordings. It can be installed on any user's PC. For specific information on *Call Historian* and *Replay* please refer to their respective Help Files.

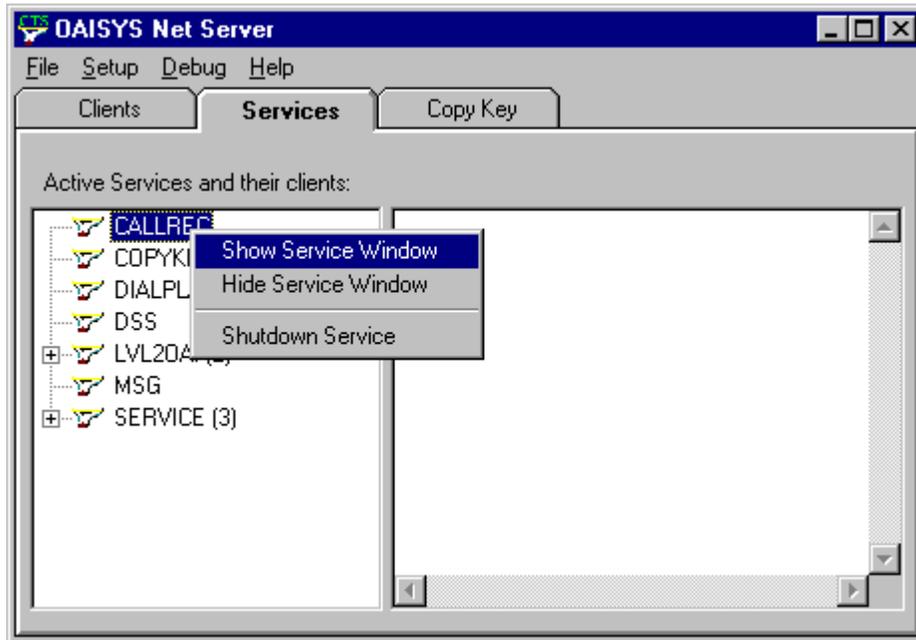
Telephone System Requirements

Auto Call Record works with an *Inter-Tel Axxess Telephone System*, version 4.1 or higher. It requires a Level 2 OAI connection with both the premium features **System OAI Events** and **System OAI Third Party Call Control** enabled.

Auto Call Record uses the conferencing feature of the phone system. Additional conference circuits will be required depending on the installation. As a rough rule, figure that one additional DSP will be needed for every 4 simultaneous conversations to be recorded.

Power-Up

Auto Call Record will automatically launch once Net Server successfully connects to the phone system. The Auto Call Record screen will appear briefly on the desktop while initializing. Once it establishes the link to Net Server, Auto Call Record will hide itself. Use the Services tab in Net Server to open the Auto Call Record programming screens, as shown below.



Installation

You will find the installation files on the OAISYS CD and our website (<http://www.oaisys.com/ResellersOnly.cfm>).

If you plan to use Voice Assistant install the Voice Assistant software before installing Auto Call Record as there are several Auto Call Record files that need to be installed in Voice Assistant directories.

Install the OAISYS software in the following order: Net Server, Voice Assistant, Auto Call Record, MSDE, Historian, Replay. Backup Assistant is an optional component.

Installing the Software Key

A software key comes with every version of OAISYS Net Server (required to run Auto Call Record). All Net Server installations include at least one software key. If you purchased Net Server and Auto Call Record at the same time, your key will already contain the correct enabler codes. If you purchased Auto Call Record for a previous Net Server installation, you will need to run the Net Server Copy Key Upgrade. See the Net Server Operations Manual for details on this procedure.

Installing Auto Call Record

Auto Call Record 4.0 adds support for OAISYS Replay, a database driven player for recordings. Replay requires OAISYS Historian to track and manage all of the recording information. Historian uses a Microsoft SQL Server database to store information about recordings. You may use an existing copy of Microsoft SQL Server 2000, or you may install the Microsoft Data Engine (MSDE) from the OAISYS CD.

MSDE is a free, limited feature version of SQL Server 2000. The limitations are:

- 2 GB size limit on each database (roughly 2 million Auto Call Record entries.)
- Tuned for 5 concurrent user connections (supports more than 5 with lower performance.)
- No User Interface tools (runs as a service, provides only command line control.)

You may connect to MSDE using an existing copy of MS SQL Server 2000 Enterprise Manager. Please review your Microsoft License Agreements for specific limitations and restrictions on how you may use Enterprise Manager.

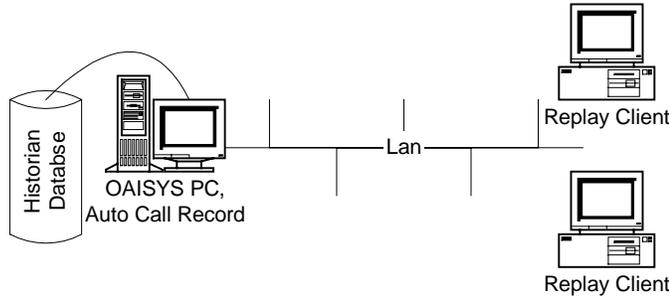
MSDE requires a minimum of 256MB of memory and a 500MHz (or better) CPU.

Auto Call Record ships with tools to help you configure MSDE and SQL Server databases. There are several ways to configure Auto Call Record with support for OAISYS Replay. We will describe the three most common scenarios.

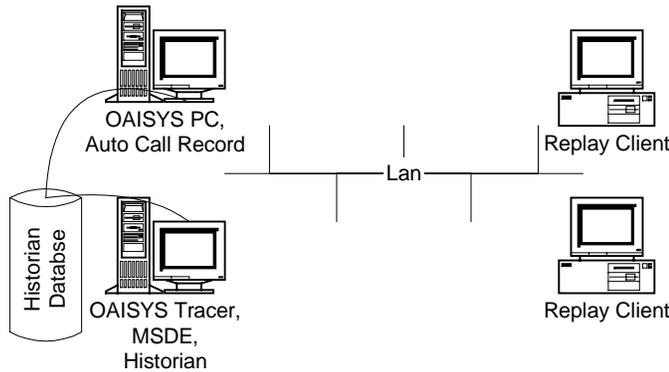
Installation

Method 1: Standard or Default Configuration:

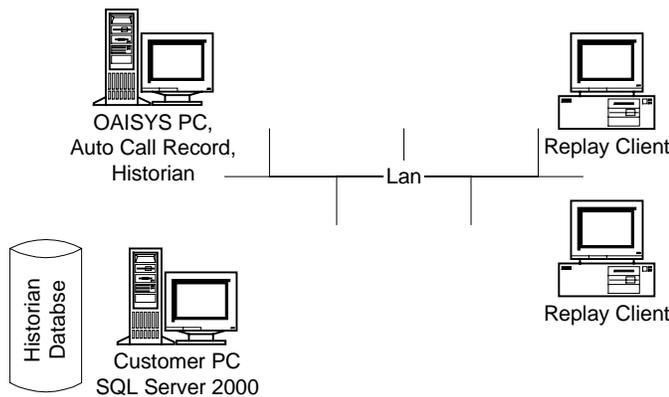
All applications on the same PC (Auto Call Record, MSDE, Historian, Net Server)



Method 2: Auto Call Record and Tracer on separate PCs, using a combined Call History database.



Method 3: Auto Call Record on a stand-alone PC, using Historian connected to a customer SQL Server.



Method 1 – All Applications on Same PC

All applications will reside on the OASYS PC. (**Standard/Default Configuration**)

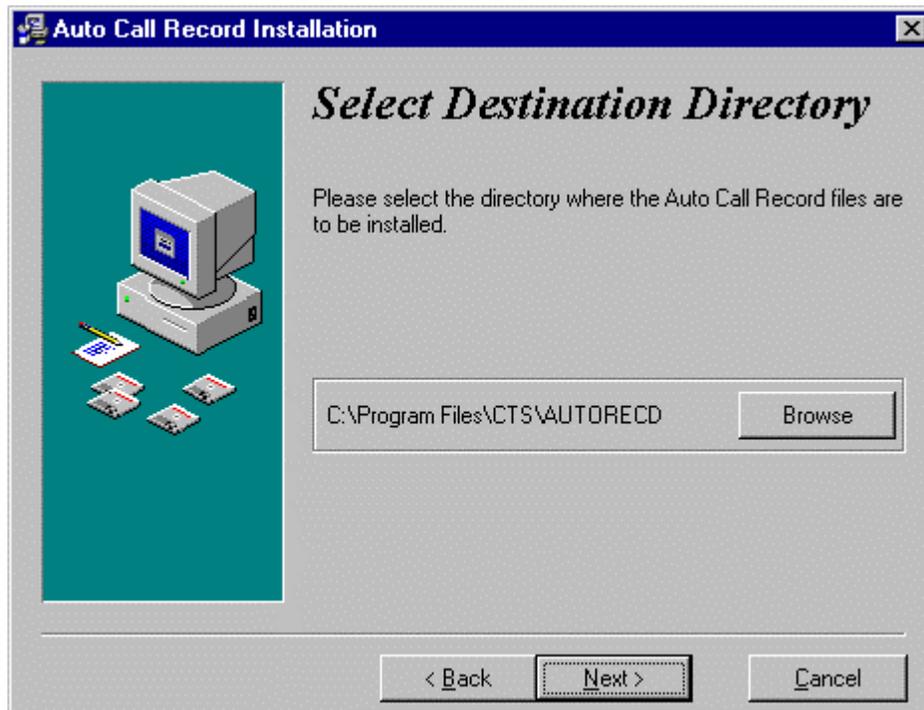
Install the OASYS software in the following order: Net Server, Voice Assistant, Auto Call Record, MSDE, Historian, Replay. Backup Assistant is an optional component.

Installing Auto Call Record

Insert the OASYS Net Suite CD into the CD drive of your computer. Locate the menu option titled Auto Call Record. The installation wizard will prompt you through the installation process.



The installation program will suggest a default directory for the location of the program. This directory can be changed but it is recommended that you accept the default.



Voice Assistant Scripts and Prompts

Auto Call Record comes with some pre-packaged scripts and prompts for Voice Assistant. If Voice Assistant is to be used for recording calls and if it has already been installed, then **Install Voice Assistant Scripts** should be selected on the following installation screen:



If you elected to install the Voice Assistant scripts and prompts, the Installation Script will prompt you for the directory location of Voice Assistant. The default location is offered as a first choice; if you installed Voice Assistant in some other directory, click the **Browse** button and select the alternative location.



If Voice Assistant has not yet been installed or, for some reason, the Installation Script cannot recognize it, then you will get an error message saying the directory will be created and the script will be installed in C:\Program Files\CTS\V_assist32\scripts. Click okay.

If you chose to install the Voice Assistant scripts and there is already a script with the same name in the scripts folder, you will be prompted with a notification box. This box will tell you that your original script, such as vascr850.scr, has been renamed to vasscr850original.scr. The new scripts will be installed, however, you won't lose your original scripts.

Configuring Auto Call Record

Auto Call Record requires only one specific change to support Historian / Replay integration. You must ensure that each station's Recording Directory path uses a network share name.

Change Monitored Extension

Ext #: 1000 ?? Okay Cancel

Recording Triggers:

Automatic Manual Control:
 Manual Start/Stop Only On Any Call Type/Direction
 Either Only for Call Type/Direction below

Automatic Record Triggers:

Call Types: All Outside Only Outside Call Direction:
 Intercom Only Any Incoming Only
 None Any Outgoing Only
 Specific:

Acct Code Required: None Any Only ACD Calls?:
 Specific: No Yes, on Any ACD Group
 Yes, Only Group Ext:

Random Recording: All Percentage: 100 Use Schedule:
 Percentage: No Yes

Recording Settings:

Record on this Ext? Record on all Subsequent Exts?

Recording Device and Destination:

None
 Accessory Talk to Mbox #:
 Voice Assistant to Directory Path: \\w2kserver\rec
 use Script: 850 & Filename:
 Use Same Filename on Call Transitions

Installing Microsoft Data Engine (MSDE)

Close all applications on the OAISYS PC. Locate the file msde_setup.exe on the OAISYS CD or download a copy from <http://www.oaisys.com/>.

Run msde_setup.exe. Installation will take several minutes, depending on the speed of your PC. Reboot after installation to ensure MSDE is properly registered.

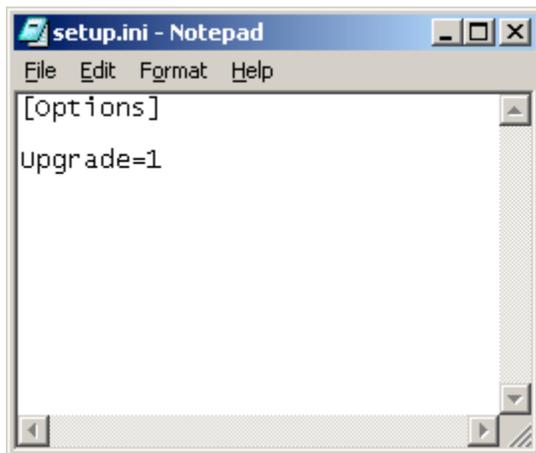
After rebooting the system, you should see a new icon in the Windows System Tray:  This icon indicates MSDE is installed and currently running. The icon will show a red square when the SQL Server service is stopped.

Option: Upgrading MSDE with Service Pack 3

CTS strongly recommends installing SQL Server Service Pack 3 on any system running SQL Server or MSDE, especially if the system is accessible on the open Internet. Service Pack 3 protects against the widespread Internet worm known as “Slammer.” This worm attacks systems running SQL Server or MSDE with open name resolution ports and creates a Denial of Service condition.

As of this writing, exposed MS SQL Server 2000 and MSDE systems require Service Pack 3 to defend against the Slammer worm. Visit <http://www.microsoft.com/sql/downloads/2000/sp3.asp> and download Sql2kdeskSP3.exe.

Run the Sql2kdeskSP3.exe file once it has been downloaded from Microsoft. It will create the files necessary to run the SQL service pack 3 upgrade. By default it will put these files in a directory it asks to create (c:\sql2ksp3\MSDE). Once the files are located in the directory the setup.ini file must be modified to contain the line “Upgrade=1”.

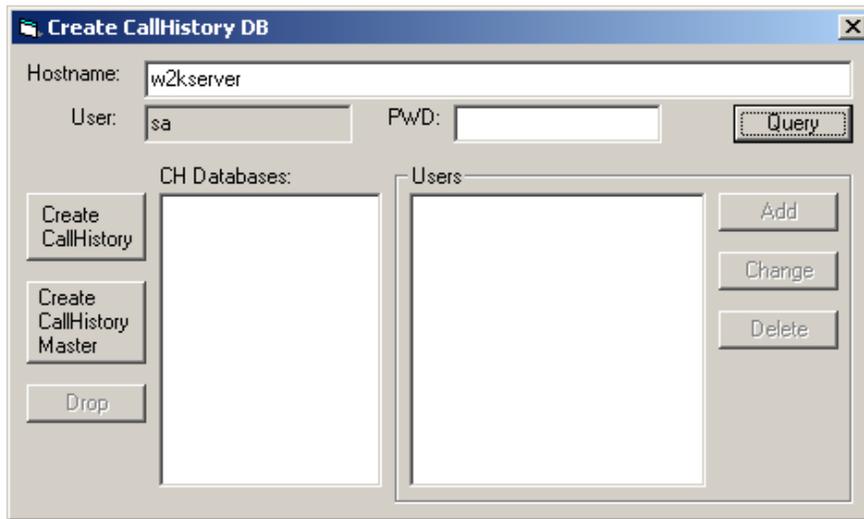


Run the setup file from the same folder and let the service pack install. This may take 10 to 15 minutes, and may seem like it hangs especially near the end. It will prompt you to reboot after the setup is complete. Check the version of the machine after the reboot to ensure that the patch loaded correctly. Right click on the SQL icon in the system tray in the lower right corner and choose about. It should be version 8.00.760

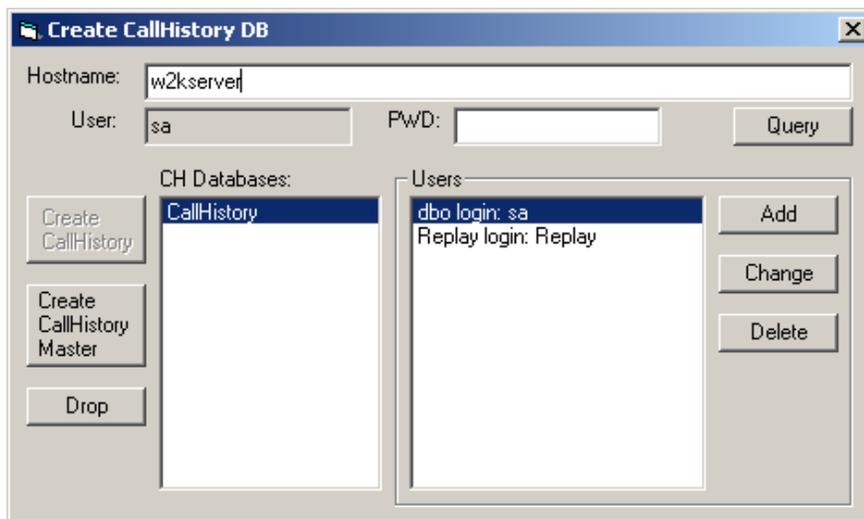
Configuring MSDE

You must configure a Call History Database in MSDE.

- Click Start → Programs → Oaisys → Recording Tools → Create Call History Database
- When you first connect, MSDE is running under the server name (localhost) with no System Administrator password. Change the Hostname to match the name of your MSDE PC.

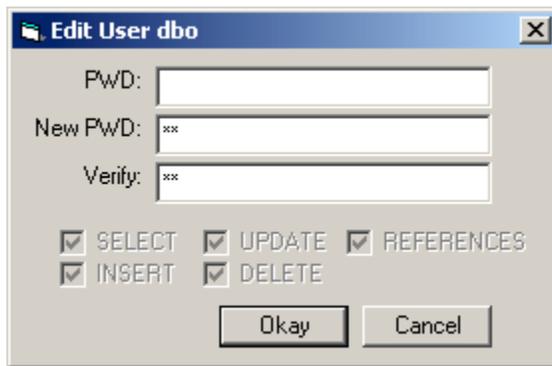


- Click **Query**.
- Once the utility connects, you will be able to press the **Create CallHistory** button. This creates the basic database tables and users necessary for Auto Call Record to store recording data in the database.
- Highlight *dbo login: sa* under the Users section.



- Click **Change** to change the System Administrator account password.

- Enter the old password (blank). Enter and verify your new password.



The screenshot shows a dialog box titled "Edit User dbo" with a close button in the top right corner. The dialog contains three text input fields: "PWD:" (empty), "New PWD:" (containing "xx"), and "Verify:" (containing "xx"). Below the fields are five checked checkboxes: "SELECT", "UPDATE", "REFERENCES", "INSERT", and "DELETE". At the bottom are "Okay" and "Cancel" buttons.

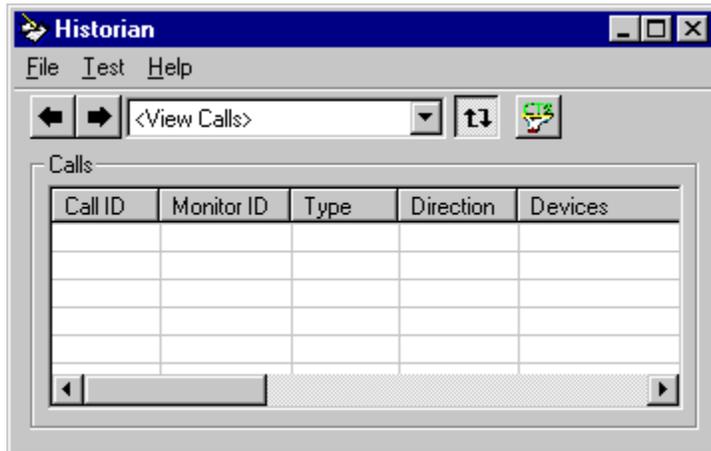
- Click **OK** to save the change.
- Close Create CallHistory DB.

Installing Historian

If Historian is not installed, install it from the OAISYS CD or download the installation from <http://www.oaisys.com/>

Configuring Historian

Call Historian must be running and connected to Net Server.



Settings

Once the connection to Net Server is valid you can access the Settings screen using the menu: **File → Settings**. You must first login using the Login menu.

The default username is: **admin**

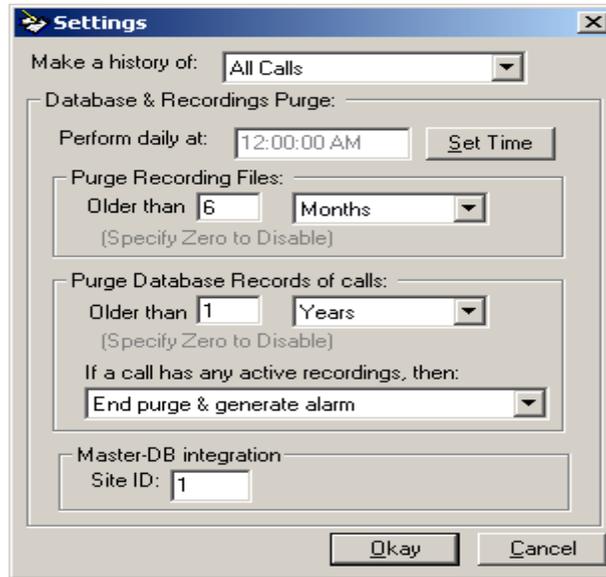
The default password is: **admin**

Next, configure the database connection.

- Click **File → DBServer**
- Historian will search the local network for any SQL Server or MSDE that has a valid CallHistory Database defined.
- Select your server from the list.



Change the Historian Settings: Make sure to login then go to File/Settings.



Make a history of: –This should be set to **All Calls**.

Database Purge: To keep the Call Historian database from growing endlessly it must be periodically purged of its older records.

- ❑ **Perform Daily at:** – This should be set to start at a time when the system is either idle or, if it will never be idle, when it is the least busy.
- ❑ **Purge records for Calls** – This setting determines how far back call records and call recordings should be kept. This setting depends largely on (1) which operating mode you are using (Temporary or Archival), and (2) the amount of available disk space on the system. For example, if on a Temporary configuration you want to keep recordings for 30 days, you would set this option to 30 days.

For an Archival configuration, you would select a value based on how long you want the call information to remain in the database. Company policy might dictate that call information must be available for up to one year, so you would set your purge to clear calls older than 1 year. Historian will retain call information in the database even after the call recording is backed up and moved to off-line storage by Backup Assistant.

***Note:** Be sure to select a time period that allows Backup Assistant to move files for staging before purging to prevent loss of data. For example, you risk losing information if you configure Historian to purge all calls over 30 days if Backup Assistant is configured to backup all calls over 45 days. Historian will purge them before Backup Assistant can back them up!*

- ❑ **Active Recordings:**
 - The **Delete the Active Recordings** option is used with the Temporary mode. When selected Call Historian will delete all call records AND all recordings older than the **Older than** value.
 - The **End Purge and Generate Alarm** option is used with the Archival mode. When selected Call Historian will only delete old database call records. The recordings files associated with the old call records should have already been backed up and removed from the system. If all of the old recordings have NOT been removed, Call Historian will detect this, generate an alarm, and stop the purge operation until the next day.

Method 2 – Auto Call Record combined with Tracer

Auto Call Record, Net Server, and Voice Assistant will reside on the OAISYS PC. Tracer applications and MSDE will reside on the Tracer PC.

Installing Microsoft Data Engine

MSDE is pre-installed and configured on the Tracer PC. MSDE on Tracer includes SQL Server 2000 Service Pack 3.

Configuring the OAISYS Applications

Tracer must be configured to use the OAISYS PC Net Server in order for Tracer and Auto Call Record to share the Historian database. Please refer to Page 60, *Connecting Tracer with an OAISYS Server* in the *Tracer System Administration Manual*.

Configuring Auto Call Record

Auto Call Record requires only one specific change to support Historian / Replay integration. You must ensure that each station's Recording Destination path uses a network share name.

The screenshot shows the 'Change Monitored Extension' dialog box with the following settings:

- Ext #:** 1000 ??
- Recording Triggers:**
 - Automatic
 - Manual Start/Stop Only
 - Either
- Manual Control:**
 - On Any Call Type/Direction
 - Only for Call Type/Direction below
- Automatic Record Triggers:**
 - Call Types:**
 - All
 - Outside Only
 - Intercom Only
 - Outside Call Direction:**
 - Any
 - Incoming Only
 - Outgoing Only
 - Acct Code Required:**
 - None
 - Any
 - Specific:
 - Only ACD Calls?:**
 - No
 - Yes, on Any ACD Group
 - Yes, Only Group Ext:
 - Random Recording:**
 - All
 - Percentage:
 - Use Schedule:**
 - No
 - Yes
- Recording Settings:**
 - Record on this Ext?
 - Record on all Subsequent Exts?
- Recording Device and Destination:**
 - None
 - Accessory Talk to Mbox #:
 - Voice Assistant to Directory Path:
 - use Script: & Filename:
 - Use Same Filename on Call Transitions

Method 3 – Auto Call Record uses Customer SQL Server

All applications will reside on the OAISYS PC. Historian will connect to a customer-provided SQL Server 2000.

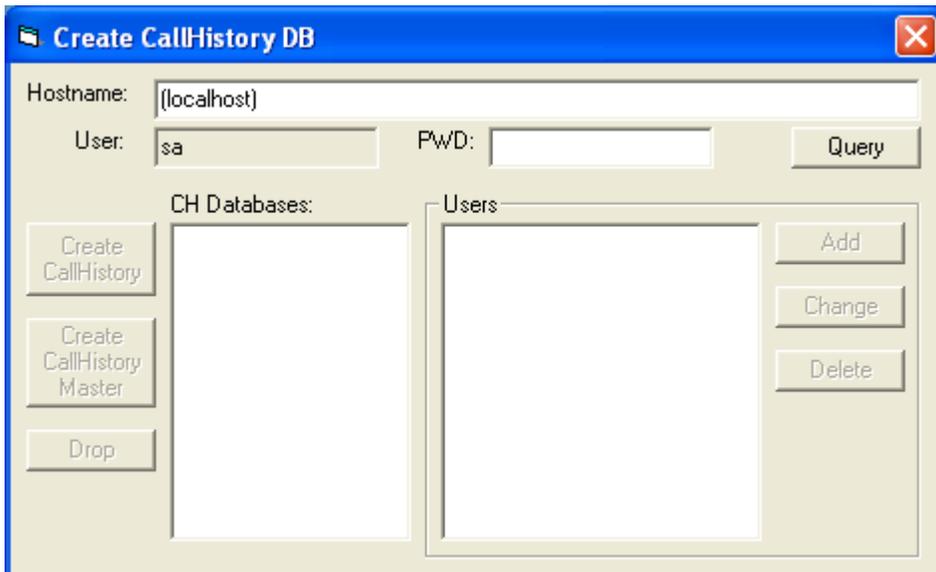
Installing Microsoft Data Engine

MSDE is not required in this scenario.

Configuring the Customer's SQL Server 2000 database

You must configure a Call History Database in the customer's SQL Server 2000.

- Click Start → Programs → Oaisys → Recording Tools → Create Call History Database
- Enter the customer's SQL Server 2000 PC Name and System Administrator password.

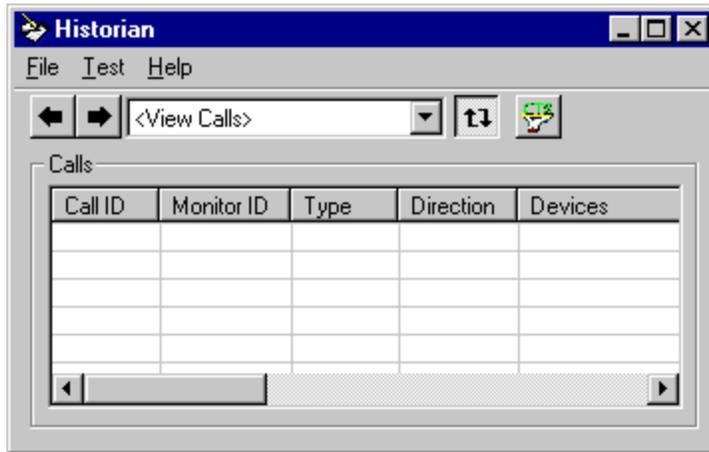


- Click **Query**.
- Once the utility connects, you will be able to press the **Create CallHistory** button. This creates the basic database tables and users necessary for Auto Call Record to store recording data in the database.
- Close *Create CallHistory DB*.

Configuring Historian

If Historian is not installed, install it from the OAISYS CD or download the installation from <http://www.oaisys.com/>

The Call Historian must be running and connected to Net Server.



Settings

Once the connection to Net Server is valid you can access the Settings screen using the menu: **File → Settings**. You must first login using the Login menu.

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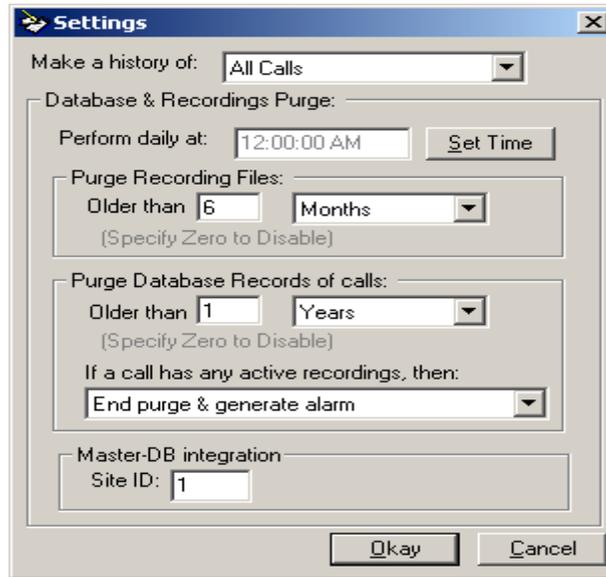
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- Click **File → DBServer**
- Historian will search the local network for any SQL Server or MSDE that has a valid CallHistory Database defined.
- Select your server from the list.



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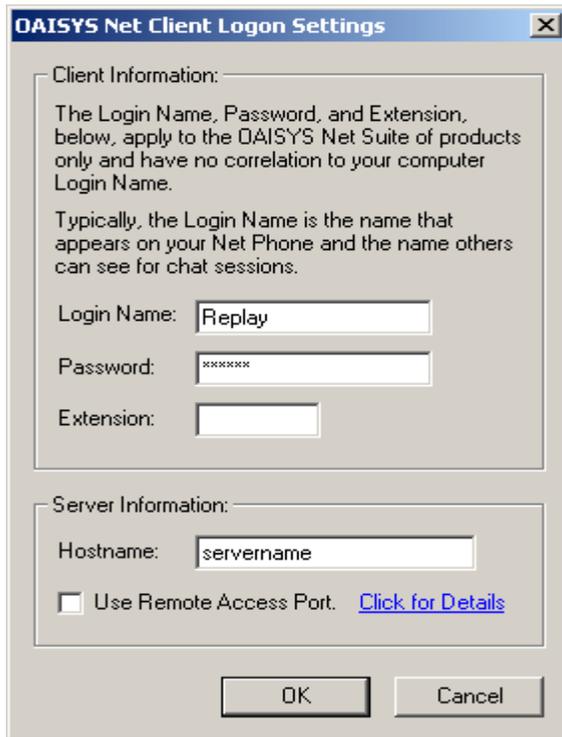
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Installing Replay

Replay is the client application that can be installed and used on any sound-equipped PC on the LAN to view Tracer call information and playback recordings of calls.

Either use the OAISYS CD or create a share on the server with the Replay setup file. During the installation Replay will prompt with the following window:



The screenshot shows a dialog box titled "OAISYS Net Client Logon Settings". It contains two sections: "Client Information" and "Server Information".

Client Information:

The Login Name, Password, and Extension, below, apply to the OAISYS Net Suite of products only and have no correlation to your computer Login Name.

Typically, the Login Name is the name that appears on your Net Phone and the name others can see for chat sessions.

Login Name:

Password:

Extension:

Server Information:

Hostname:

Use Remote Access Port. [Click for Details](#)

Buttons: OK, Cancel

Login Name: Replay

Password: 'blank'

Extension: 'blank'

Hostname: 'computer name of the OAISYS Net Server'

When prompted to login use Admin and Admin for both Username and Password.



The screenshot shows a dialog box titled "Login to Replay". It contains two input fields: "Username" and "Password".

Username:

Password:

Buttons: Okay, Cancel

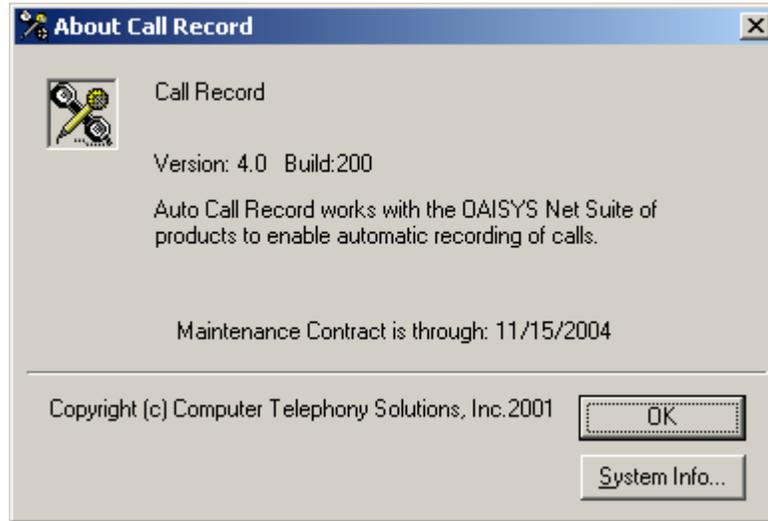
See the Help File for more information on how to use and search for calls.

See Appendix C for installation and use of Backup Assistant

Auto Call Record General Use and Setup:

Maintenance

Auto Call Record displays Maintenance status and Maintenance expiration date in the **Help About** screen. If your Maintenance has expired or you have any questions about maintenance please contact your reseller. Resellers may contact CTS Sales Engineering at (480) 496-9040 x3, or se@oaisys.com



Auto Call Record continued...

Menu Commands

File

Exit

Click Exit to close the application.

Setup

Preferences

The screenshot shows a 'Preferences' dialog box with the following fields and options:

- Axxess Interface:** Record-A-Call Feature Code:
- Voice Assistant Interface:** Port Group:
- Record Options:**
 - Start Early on Outgoing CO calls After: Secs
 - Retry Recording later if VA ports all busy

Buttons:

Axxess Interface

In this box enter the Axxess feature code for the Axxess Record-A-Call feature. This code will be used when using this method for recording calls to Axxessory Talk.

Voice Assistant Interface

This box allows you to enter a specific Voice Assistant Port Group number. In most situations you will want to use G1 because this is the Universal Port Group in Voice Assistant. If you are using other applications that use Voice Assistant Ports, you may want to single out a specific Port Group for Auto Call Record to use.

Record Options

Start Early on Outgoing CO Calls

It is unavoidable that the first second or two of a recorded call is missed as the recording can only be started once the call is established. However, on Outgoing CO calls, the recording can be started early so that this drawback can be minimized. If you want to take advantage of this option, check this box.

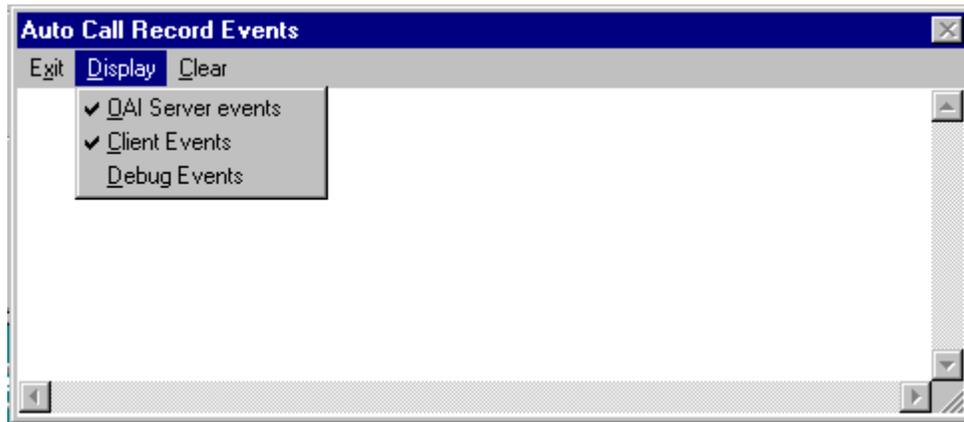
Note: If PRI trunks are being used you may need to use the "After" option if you select **Start Early on Outgoing CO calls**. This is necessary because if we start early on PRI trunks without any delay it may cause audio problems inside the Axxess on the call we are trying to record. The symptom is no or one-way audio between the agent and the outside party. This field needs to be set to 1.0 or more seconds when any recordings will occur on any PRI trunk. You may need to experiment with the number of seconds.

Retry Recording later if VA ports all busy

Checking this box will cause Auto Call Record to try again if all of the Voice Assistant ports were busy when it attempted to record a call the first time. With this option enabled, Auto Call Record will keep trying to record a call until it can successfully do so. The net result will be a recording of part of a call. On a busy system, this option will deliver many partial recordings, a result that may not be desirable, in which case this option should be disabled.

Show Activity

This allows you to display events as they occur in Auto Call Record. You have the option to turn on the following events: OAI Server Events, Client Events, and Debug Events. These events are primarily used for troubleshooting purposes. Technical Support can often solve difficult problems using events from this log.



- **OAI Server Events:** Shows OAI events and confirmations received from the Server.
- **Client Events:** Shows commands sent from Auto Call Record to the Server.
- **Debug Events:** Shows events used for troubleshooting.

There are several options available within the Events window. Right click anywhere in the window to view the following options.



Start Log File allows you to log events to disk. This is extremely useful when trying to track down an intermittent problem. Simply start the log file, wait for the problem, then retrieve the log file for analysis.

Setup configures *Auto Call Record* for automatic disk logging starting with version 3.3. The log files will appear either in the *Auto Call Record* folder, or in the common Logs directory in the Net Server folder. *Net Server* ships with a troubleshooting tool called ZipLogs that you can use to capture vital configuration and debugging information. See the *OAISYS Net Server Operations Manual* for details.

Help

Contents

Click here to display the help files associated with *Auto Call Record*.

About

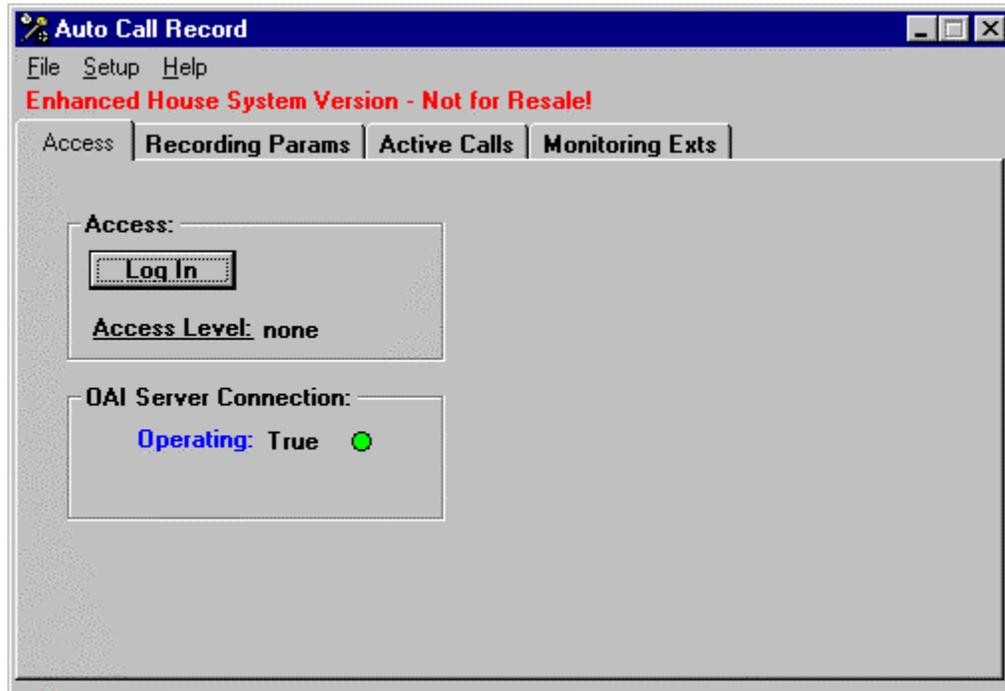
Click here to display the version number of *Auto Call Record*, system information, and maintenance status information.

Tab Choices

Access

OAI Server Connection

When *Auto Call Record* establishes a valid connection with *OAISYS Net Server*, the operating condition changes to **True** and the light will display green.



Login

In order to view the active calls or make any additions or changes to the port entries you must first log in.

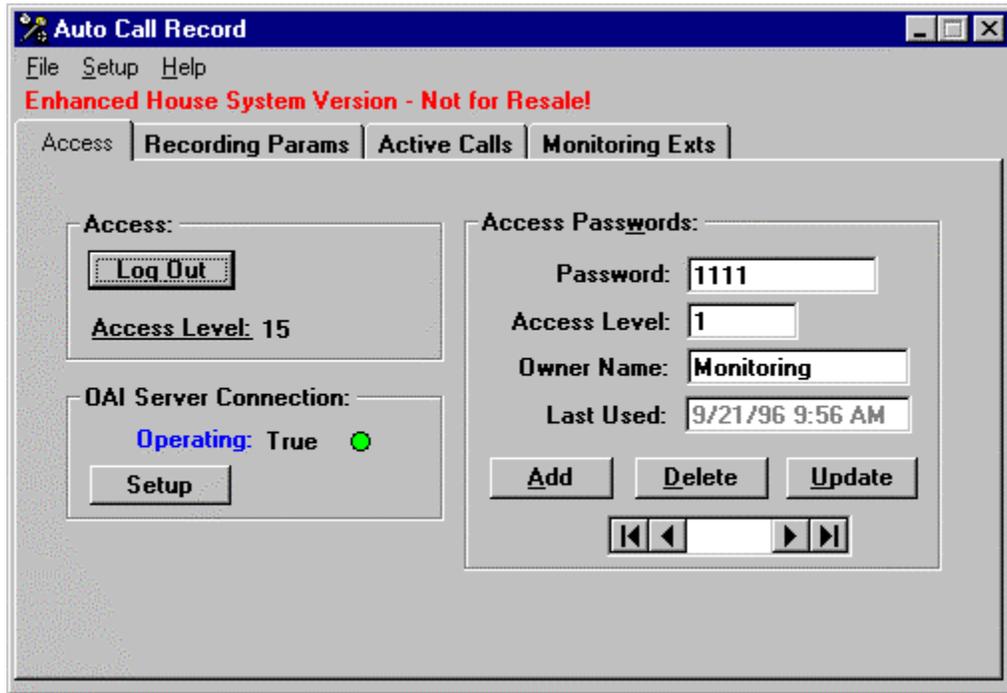
Click the **Log In** button and enter your password.



The default passwords are:

- 3333** for normal access
- 9999** for supervisory or top level access

When in the supervisory mode, the default passwords can be changed, as shown in the following screen:



Setup

Use this button to configure the OASYS Net Client Logon Settings.

OASYS Net Client Logon Settings

Client Information:

The Login Name, Password, and Extension, below, apply to the OASYS Net Suite of products only and have no correlation to your computer Login Name.

Typically, the Login Name is the name that appears on your Net Phone and the name others can see for chat sessions.

Login Name:

Password:

Extension:

Server Information:

Hostname:

Use Remote Access Port. [Click for Details](#)

OK Cancel

Auto Call Record communicates with Net Server via TCP/IP. The Net Client Logon Settings specify the connection settings to the Net Server.

Login Name: The name of the application. Default is “Auto Call Record”

Password: Assign a password for *Auto Call Record*. Default is blank.

Extension: Assign the extension number for the client. *Auto Call Record* is a module and does not require an Extension. Leave blank.

Hostname: Enter the Hostname of the Net Server PC. The Hostname can be any of the following:

Fully Qualified Domain Name: ex. netserver.xyzcompany.com

Local DNS Name: ex. netserver

Windows Networking Name: ex. OASYS-PC

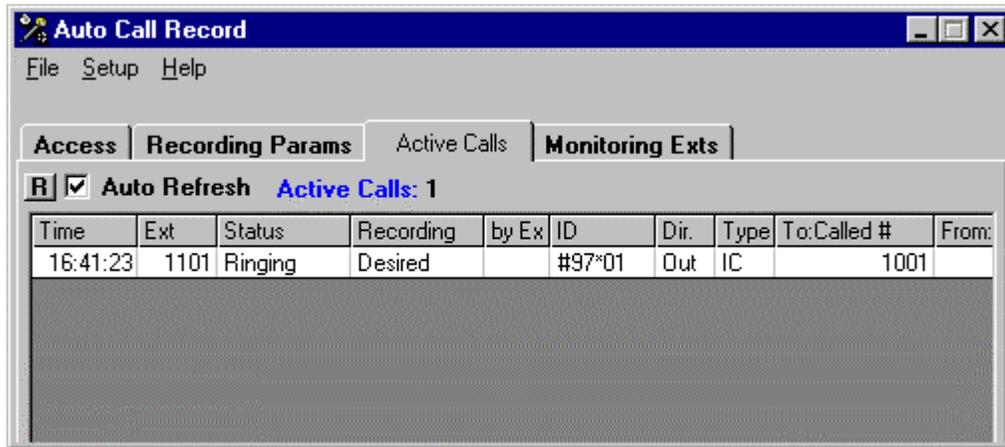
IP address: ex. 192.168.0.10

If *Auto Call Record* resides on the same PC as Net Server, use either ‘localhost’ or ‘127.0.0.1’ Both point to “This PC.”

Click OK to save any changes.

Active Calls

This screen shows information about active calls being monitored by the server. This information is used for engineering analysis and troubleshooting.



The following values may appear in the Recording field:

Desired—Recording is desired for this call but presently the call is in a state that cannot be recorded (i.e. Holding).

Req Port—In the process of requesting a VA port for recording.

Ports Busy—Last attempt to record, no VA ports were available, will retry periodically if this option is enabled.

Attempting—VA is in the process of attempting to set a recording connection to the call. Normally this state will occur very quickly and thus won't typically be seen on display. However if a recording attempt is having difficulty it may appear in this state for 10 or more seconds. The "by Ext" field shows the extension number of the VA port attempting the connection.

Active—This call is being recorded by the VA port shown in the "by Ext" field.

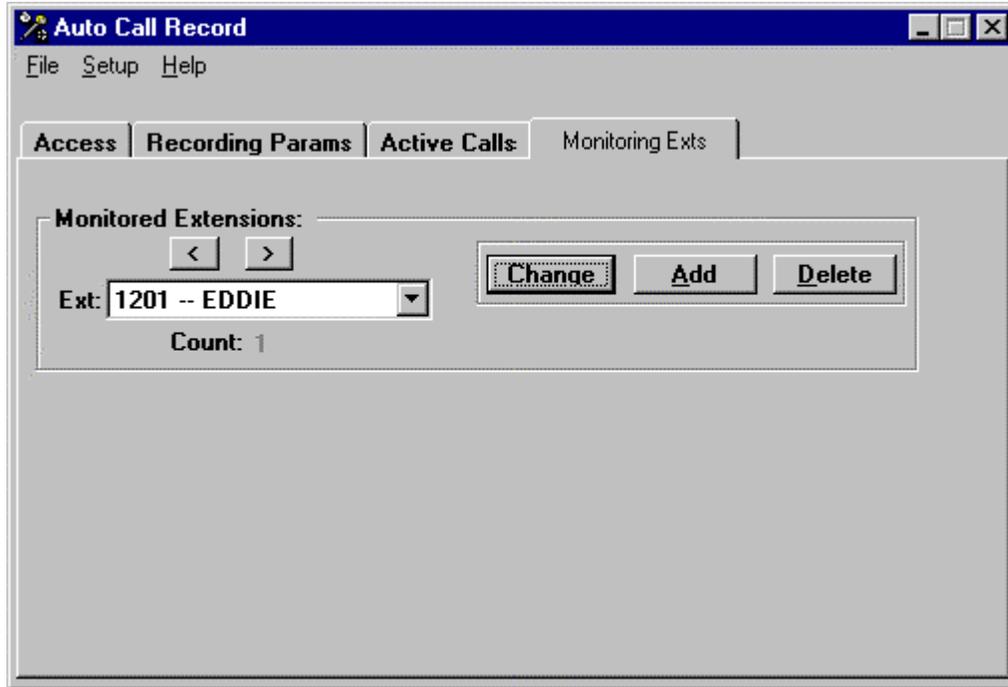
Killed—Recording occurred but was 'killed', an option in the VA script. This call won't be recorded even if it is transferred to other extensions that have recording enabled.

Stopped—Recording occurred but was 'stopped', an option in the VA script. It could be recorded if transferred to other extensions that have recording enabled.

Failed—Recording attempt failed. Possible causes include: (1) hunt group programming not setup correctly to allow this VA port to record on this extension, (2) no conference circuits were available, or (3) VA is not installed or not operational.

Monitored Extensions

The **Monitored Exts** tab provides access to all of the extensions that *Auto Call Record* monitors and/or controls.



Change

The **Change** button brings up a screen similar to the one below in which the extension number or any of its settings can be changed. The extension number and the Name are displayed.

Recording Triggers

Specify if you want the recordings to occur Automatically, by Manual Start and Stop or Either. If you choose **Automatic** calls will automatically be recorded. If you select **Manual Start/Stop Only** the user will use the options in Net Phone to manually start and stop their recordings. If you select **Either** recordings can be started and stopped either manually or automatically.

If you select **Manual Start/Stop Only** or **Either** the **Manual Control** radio buttons will display.

Select **On Any Call Type/Direction** to manually record calls regardless of the call direction. Select **Only for Call Type/Direction below** to indicate you'd like to follow the triggers defined in the **Automatic Record Triggers** section.

Automatic Record Triggers

A user can specify, on an extension-by-extension basis, if they want to record just **Incoming** or **Outgoing** calls, from **Outside** the PBX or on the **Intercom**, or **All** of the above. In addition, just calls with an **Account Code** can be requested or, even further, just those with a specific **Account Code**. Additionally, only ACD calls can be recorded or only ACD Group calls to a specific ACD Group can be recorded. This combination of choices can all work together to define either a broad range of calls or a very narrow one, depending on the application.

Random Recording

This feature adds flexibility to the application by allowing you to randomly record a percentage of calls for an extension. If you enable **All** then all calls for that extension will be recorded. If you enable **Percentage**, you can enter a number from one to one hundred, indicating the percentage of calls that you wish to record. For example, if you want to randomly record 20 percent of the calls for Extension 1009, enable the **Percentage** button and enter 20 in the percentage field.

Use Schedule

This feature adds the flexibility to allow you to use a schedule for recordings. For example, you can choose to record an extension or extensions on specific days of the week or during specific time intervals. If you enable the **Yes** radio button a **Schedule** button will appear. Click on **Schedule** to bring up the Schedule screen.

Select the days of the week that you want the recordings to occur and the times of day that you want the recordings to occur. If you leave “Start” time blank the starting time will be midnight. If you leave “Stop” time blank the ending time will be midnight. If you wish to record 24 hours per day leave “Start” and “Stop” time blank. Click on **Save** to save the changes you made.

Record on this Extension?

While this box would normally be checked, there are some situations in which it might not. Suppose a car dealership wanted to record all of the incoming sales calls but they all came through a Sales Secretary who then placed the calls in a Park Orbit with an overhead page for the appropriate sales-person to pick it up. There is no telling what extension that sales-person might use for the pickup, so the call is tracked from the Sales Secretary’s desk, only none of the conversation that the Sales Secretary has with the customer is recorded because management has no interest in that portion of the call.

Record on all subsequent Extensions?

This option will follow a call and record it at any station to which it might be transferred. The above example is a good one for its use. Another might be a Customer Relations call. Before the call is over, it could conceivably travel through three or four different departments to get the problem resolved.

Recording Device and Destination

Recordings can be made in two entirely different ways to two entirely different locations. There are pros and cons to each, depending on the application.

Axxessory Talk

(requires Axxessory Talk Voice Mail unit)

This method uses the Axxess Record-a-Call feature and operates exactly as if the user dialed the feature code (or pressed the feature code button) on his or her set to activate a recording into an Axxessory Talk Voice Mailbox. If a Voice Mailbox number is not entered, the Voice Mailbox for the recording extension will be used.

Note: If this call-record method is used on a keyset with a display, the keyset will show that a recording is in progress just as it would if the Record-a-Call feature were implemented from the set. This has the disadvantage of reminding the user that his or her conversation is being recorded, which might be an unwanted distraction.

Axxess Setup:

The **Record-A-Call** Premium Feature must be enabled.

Every extension that is to be recorded must have the Record-a-Call feature enabled. Also, if the recording is to be into a Mailbox other than the Mailbox for that extension, **User Keyed Mailbox** must also be enabled.

By default, tones are put on a call while it is being recorded. These tones can be disabled, if desired, in the Axxess programming under *System-Wide Features / Miscellaneous System-Wide Information / Record-A-Call Tone*. (*Axxess 7.0 > Main Flags/Record A Call Tone*)

Make sure the PBX is equipped with a sufficient number of **Conference Circuits** because one is used per party during the life of each recording session (three circuits per recording).

Voice Assistant

(requires Voice Assistant software and voice boards)

This method uses the Station Monitor feature of the Axxess so that a voice board port of Voice Assistant can monitor an existing call and record the conversation to the hard disk of a PC.

To implement this method a valid directory destination must be entered for the WAV file recording. A LAN path can be specified in order to record onto another PC if the application PC is on a network, and variables can be used in the path name.

(*See Appendix C: Variables, page 70, for more information.*)

NOTE: If you plan to use Historian and Replay, you **must** enter a valid Universal Naming Convention (UNC) path to a network share, ie: `\\OAISYS\Recordings\`. The OAISYS PC must have Write access to the network share. Replay clients will connect to the share point to play back recordings. Using standard paths like `d:\archive` will cause Replay clients to look for files on their local PCs.

A Voice Assistant script file number must be entered in the appropriate box. This script file will initiate and control the monitoring and call-logging features of the recording.

A file name may be optionally entered in the Filename box if the user wants to specify a particular file name for this recording. This has the drawback of potentially over-writing the last recording with the current one (recordings can be, alternatively, appended by setting the append variable in the *Voice Assistant* script, but this too has drawbacks of its own). By default, this box is left blank and the *Voice Assistant* script assigns a random file name so that every recording has a unique name.

Axxess Setup:

The **UCD Hunt Groups Premium Feature** must be enabled.

A UCD Hunt Group must be created with the members of the hunt group being all the extensions that are to be recorded. Keep in mind that if **Record on all subsequent Extensions** is enabled, extensions other than those you have explicitly programmed will need to be included in the Hunt Group as well. Then, the extension numbers of the voice-board ports doing the recordings will have to be programmed as **Supervisors** to the UCD Hunt Group that you created.

By default, tones are put on a call while it is being monitored. These tones can be disabled, if desired, in the Axxess programming under *System-Wide Features / Miscellaneous System-Wide Information / UCD Station Monitor Indications*. (Axxess 7.0 > Main Flags/Record A Call Tone)

Make sure the PBX is equipped with a sufficient number of **Conference Circuits** because one is used per party during the life of each recording session (three circuits per recording). In addition, provide for an adequate number of **DTMF Receiver Circuits** because one is needed for a few seconds as each recording is initiated.

Use Same Filename on Call Transition

Checking this box will allow a recording to be appended to another recording with the same name. This is useful for calls that are put on Hold and then retrieved from Hold, as only one recording file will be made for the entire call. This is also useful when a call is transferred from one extension to another as there will be one file for a recorded conversation regardless of how many times the call was transferred. However for the call to continue to be recorded at each new extension either the “Record on all Subsequent Extensions” option must be enabled or each of the extensions must have recording enabled as a monitored extension.

Add

Click on Add when you wish to add a new monitored extension. Upon clicking on the Add button, the following screen appears:



Add Monitored Extensions

If you enable **Add Blank Extension(s)** you can type in a list of extensions you wish to add in the **Extensions To Add** field. You can add a range of extensions by typing in the starting extension followed by a dash followed by the ending extension, for example, 1000-1009. You can add a series of extensions by using a comma-delimited list.

If you enable **Add Extension(s) based on this Ext:** you can click on the drop down list and select from the extensions that are available. The extension you choose will be used as a configuration template for the extension(s) added.

Open Edit-Extension Dialog

If you enable **Show Edit Dialog for each new added extension** the Change Monitored Extension window will appear for each extension you added. This will allow you to configure each extension for recording. If you enable **Just add the new extensions** your extensions will be added to the monitored extensions list, however, you will need to go back and configure each extension.

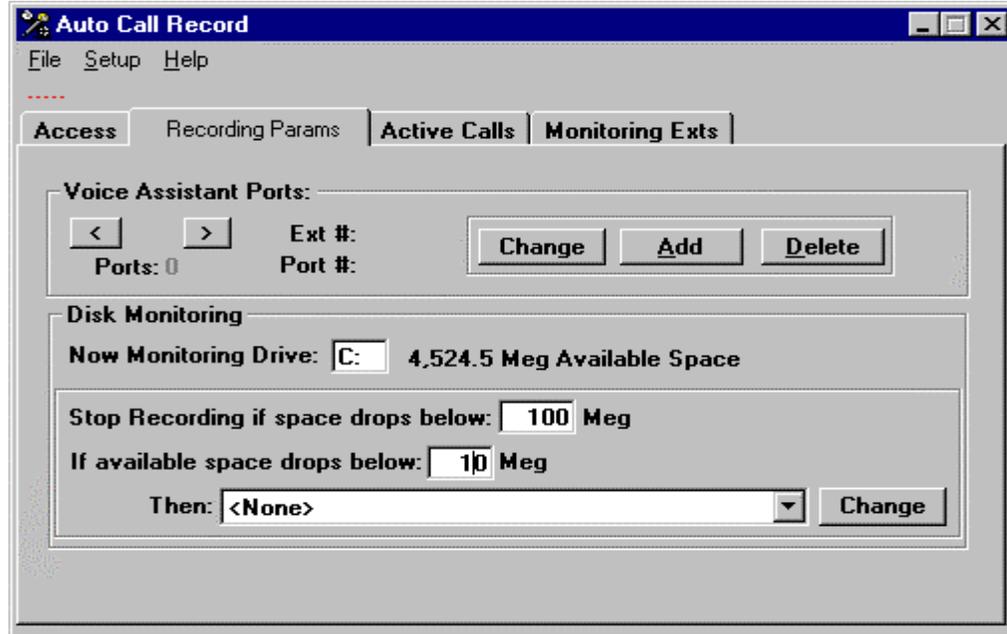
Delete

Clicking the **Delete** button will delete the selected extension from the list of extensions being monitored and recorded.

Recording Params

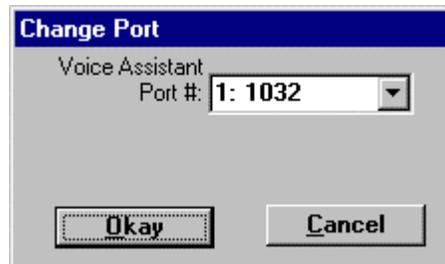
Voice Assistant Ports

The recording ports of Voice Assistant must be configured with the voice-board port number and the associated extension number of each port to be used by Auto Call Record.



Add & Change

Clicking the **Add** or **Change** button will bring up a screen similar to the one below in which new extension numbers can be added or existing ones can be modified. It is essential that the information entered here about the extension number and the associated port number is accurate.



Delete

Clicking the **Delete** button will delete the selected port from the list of Voice Assistant ports available to Auto Call Record.

Disk Monitoring

This section is used to display which drive is being monitored and how much available space is left on that drive. The Recording Params tab also tells *Auto Call Record* to stop recording if available space falls below a certain amount. If available space drops below a specific amount then you can choose an available action that you want to take space. For example, you may want to run a script that calls a voicemail if the space drops below 10 Meg.

Appendix A: Voice Assistant Setup

Voice Assistant can be used to record calls on to the hard disk of a PC. Calls recorded in this way take approximately 360k of hard disk space per minute of recorded call and can be played back using the Replay program that comes with Auto Call Record or with any other WAV file player.
see Appendix D: PC Sound Files, page 71, for more information

Script File #850

```

=====
1.  //, Auto Call Record -- New Version for ACR V4.x
2.  //,Parms %1=Ext %2=Path %3=File %4=CID, %5=call info
3.  //,
4.  //, Includes support for Broadcast Start / Stop events (indicators for Net Phone)
5.  //,
6.  //,Variable Usage
7.  //,%{RecFile} = Filename           %{RecPath} = Path
8.  //,%{OrigCallInfo} = Call Info     %{PBXID} = Call ID
9.  //,
10. //,
11. //,Turn on system debugging events for all ports (Set to N to disable)
12. SET,TRACE,A
13. //,
14. //,Take the voice port offhook
15. OFFHOOK
16. //,
17. //,Set HOLDEVENTS to Y if we want to have HOLD events included in WXT
18. //*,SET,HOLDEVENTS,Y
19. //,
20. //,Set Maximum Silence timer to 30 seconds (0 to disable)
21. SET,MAXSILENCE,30
22. //,
23. //,Set the default Recording Format (See VA and/or ACR manuals for other options)
24. SET,RECORDFORMAT,7
25. //,
26. //, OAILINDROP **Must** be = N for Axxess 5.0 and lower. Y for 5.1 and higher.
27. SET,OAILINEDROP,Y
28. //,
29. //,Set the recording path to the value of %2
30. SET,%{RecPath},%2

31. //,
32. //,Check if our target recording directory exists
33. IFEXIST,%{RecPath},GOTO,DIALSNOOP
34. //,Directory Path doesn't exist, so attempt to create it
35. FILE,CREATEDIR,%{RecPath},
36. IF,RESULT,NEQ,F,GOTO,DIALSNOOP
37. //,Can't create the Requested directory - Try a DEFAULT dir.
38. SET,%{RecPath},\RECD_ANY\
39. IFEXIST,%{RecPath},GOTO,DIALSNOOP
40. FILE,CREATEDIR,%{RecPath},
41. IF,RESULT,EQ,F,GOTO,EXIT
42. //,
43. LABEL,DIALSNOOP
44. //,Here to Begin recording
45. //,Dial Station Monitor code & Ext #
46. SERVREQ,LVL2OAI,RAWCMD,|_EF,xxx,&E,,321%1|,|{%SnoopResult.*}|
47. //,Make sure the EF command returns success. If it doesn't, we can't record, so
   exit.
48. IFTHEN,%{SnoopResult.5},NEQ,0
49. DEBUG,*****Could NOT start recording since OAI _EF command failed, on
   Ext %1 for call %I *****
50. GOTO,EXIT
51. ENDIF

52. //,Setup VTERMDIGITS with a DTMF digit if you want user to KILL or STOP a
   recording

```

```
53. VTERMDIGITS,*
54. //,
55. //,Generate a random file name
56. SET,%{RecFile},RANDOM
57. //,
58. //,
59. LABEL,FILENAME
60. SET,%{PathFile},{RecPath}{RecFile}.wav
61. //,
62. //,Save Filename to be Returned to calling program in 'N'
63. SET,%N,%{PathFile}
64. //,Modify the Call Information to include the new path and file info
65. SERVREQ,LVL2OAI,MODIFYCALL,|&E,%I,,%N|,||

66. //,Turn on the Append flag -- if RECORD finds the target file already exists, just
    add to what's there.
67. SET,RECAPPEND,Y

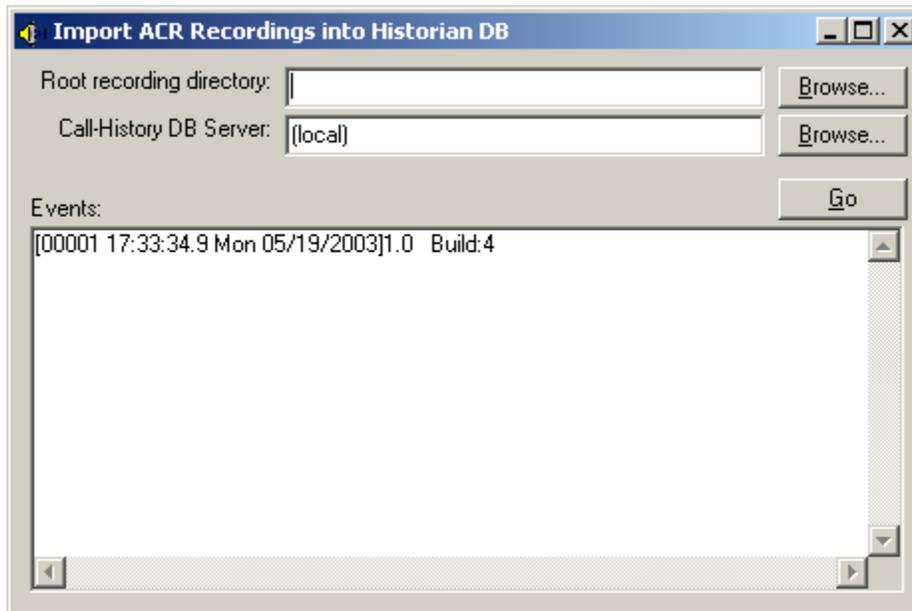
68. //,Save Call ID param as we'll need to remember after end of call
69. SET,%{PBXID},%4
70. //,Send an Event telling Recording is STARTing
71. SERVREQ,CALLREC,REC_START,|{%PBXID},&E,%{RecFile}.wav|,||
72. //,Record the Conversation - with 30 minute timeout!
73. RECORD,%{PathFile},3600,N
74. //,... Recording Terminates with Hangup(H), DTMF (D), Silence (S) or Noise (N)
75. SET,%{RecordingResult},RESULT
76. //,
77. //,Send an Event telling Recording is STOPing
78. SERVREQ,CALLREC,REC_STOP,|{%PBXID},&E,%{RecFile}.wav|,||
79. //,
80. IF,%{RecordingResult},NEQ,D,GOTO,NO_KILL
81. //,Here for KILL or STOP -- chg following to SET,D,S,%{RecFile} for 'S'TOP.
82. SET,D,K,%{RecFile}
83. //,
84. LABEL,NO_KILL
85. //,Delete any corresponding TXT file in the destination directory
86. FILE,DELETE,%{RecPath}{RecFile}.TXT,
87. //,Save original Call info in case REQ_INFO fails
88. SET,%{OrigCallInfo},%5
89. //,Request latest Call info from ACR (in case ACCT code added)
90. SERVREQ,CALLREC,REQ_INFO,|{%PBXID},&E|,|{%OrigCallInfo}|
91. //,Create New corresponding TXT file in the destination directory
92. LOG,%{RecPath}{RecFile}.TXT,|&Nyymm/dd& &T File:%{RecFile}.WAV %5|
93. //,
94. GOTO,EXIT
95. LABEL,EXIT
96. DUMPVARS
97. HANGUP
98. RTN
```

See the Voice Assistant Programmer's Guide for more information on script commands.

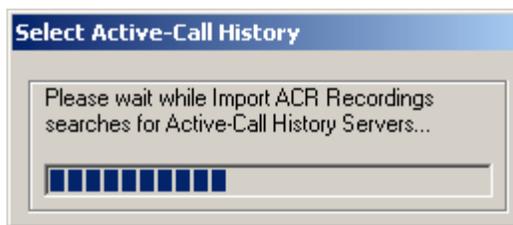
Appendix B: Importing Auto Call Record 3.x Recordings

Auto Call Record 4.x provides a simple tool to import recording information from your existing system into the new Historian database format.

- Launch Start → Programs → Oaisys → Recording Tools → Import ACR Recordings



- Browse to the root recording folder that contains the original Auto Call Record recordings. This is normally c:\archive or d:\archive on the local PC.
- Click Browse to search for all PCs running MSDE / SQL Server 2000 with a valid Call History database. (You may also type the name.)



- Select your server from the list -- (local) will not work. You must select the actual PC name.



- Press **Go** to start the import.

Appendix C: OAISYS Backup Assistant

For long-term recording solutions, OAISYS Backup Assistant is used to automatically move recording files from the Real-Time recording area to the Backup Staging area, so they can then be easily archiving onto removable media.

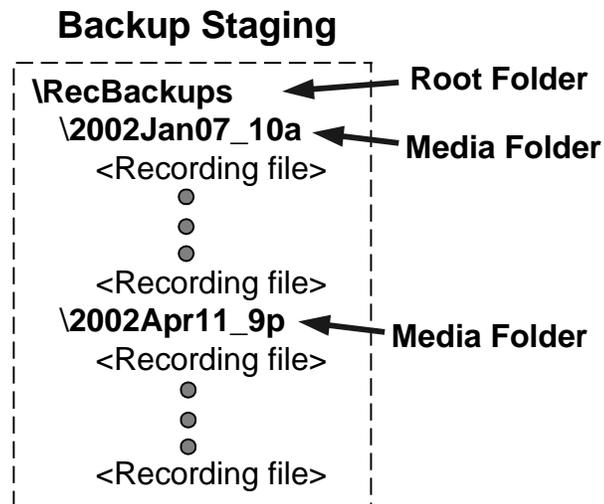
OAISYS Backup Assistant, as the name implies, assists in the backup process by moving the recording files into staging media folders so the Backup software can easily copy the recordings onto the desired backup media (i.e. Tape or CD). Backup Assistant automatically creates a new media folder for each new backup and moves only enough recording files into the folder to fill up the target backup media. Once that media folder is full, it will generate an appropriate notification (Alarm #61) to alert the system operator that a backup is due (see below for more details on notifications).

During the staging process, Backup Assistant keeps track of where each recording is moved and updates the call history database accordingly. Therefore, even while files are in the staging media folders they are still considered On Line and can be played by Replay users. Once the recording files have been successfully copied onto the backup media, the recordings should be purged (deleted) from that media folder using the Purge Folder feature in Backup Assistant. This purge process makes disk space available for subsequent backups but it also marks these recordings as Off Line.

Backup Staging Folders

In the backup staging area there is one main Root Folder and many sub folders called Media Folders. The Root Folder is named BackupStaging and must be shared on the LAN to allow proper operation.

During the staging process, each media folder is automatically created by Backup Assistant and then filled with recording files. Each new Media Folder is automatically named using the approximate date and time of the oldest recording file in the folder.



Once a Media Folder has been created it will transition through a number of states that represent the status of the associated recording files for that folder. Following is a table showing some of the main states of these folders.

Media Folder State	Description
Staging For Backup	Files have been copied into this folder but it is not yet full.
Ready for Backup	The staging process is complete. This folder is full of recording files and is ready to be Backed Up.
Backup In Progress	One or more of the files has been copied onto the backup media. ^{*B}
Ready for Purge	(Backup Complete) All of the recording files have been copied onto the backup media. ^{*B}
Purged	All of the recording files have been removed and are now off line. These folders are not deleted so that recordings can be easily restored/recovered at some future date/time.
Restored	Some or all of the recording files have been copied back into the folder from the backup media.

Note: ^{*B} This status is only available if the Backup Software sets the archived complete indicator on each file that it backs up.

For more details on the entire backup staging process please refer to the Backup Assistant manual.

Backing Up Recordings to Removable Media

When a Media Folder has been filled during the staging process, the recordings files then need to be copied onto a backup media (i.e. DVD, Tape, CD, etc). Depending on the target media type, different backup programs are appropriate for use.

Since these recordings files are standard computer files many different 3rd-party Backup Software programs can be used.

Important Note: *The recording media (DVD, Tape, or CD) should always be labeled using the same name as the Media Folder from which it was copied. This naming convention makes it very easy to know which Media Folder should receive the recording files when they need to be restored and brought back on line.*

Also, since each media folder is named using the date and time of the oldest recording it contains, when you want to recover a recording or recordings from a specific time period, it is easy to look through the media and determine which media contains recordings from that time period.

Backing Up Recordings to Network Storage

You may specify a network share for the BackupStaging folder in Backup Assistant. Consider using this feature with network-attached storage devices or Storage Area Network devices.

Notifications

During purging and backup processes, alarms will be triggered if problems are detected at various times during the process. Following is a listing of these alarms.

Alarm Number	Alarm Description
66	Historian Purge Error – historian detected an error when attempting to purge expired call records and recording files
63	Backup Error – an error occurred during the backup process.
62	Backup Stalled – backup to media is no longer progressing
61	Backup Needed – a new folder is fully staged and is ready to be copied to backup media.
60	Backup Completed – a backup process has completed.

When they occur, the alarms can be viewed on the Alarms screen of the Tracer Recording Manager. However it is often useful to setup alarm actions to notify you when these alarms occur. For example, you could have a Chat Broadcast message popup on your desktop PC or have an E-mail notification be sent to the administrator.

Appendix D: Errors & Troubleshooting

Connection Problems

Couldn't connect to server: Unable to resolve hostname (hostname)



Cause(s):	Solution(s):
The hostname is incorrect.	Check the spelling of the hostname, and make sure you are using the correct hostname.
Domain Name Service (DNS) is not working or is not configured <i>Auto Call Record attempts to connect to Net Server via TCP/IP.</i>	<ul style="list-style-type: none"> • Ping the IP Address of the server. • If pinging the address is successful, ping the hostname. • If pinging by hostname fails, DNS is not working properly. Contact the Network Administrator for assistance with DNS. Use the IP address in place of the hostname if you are unable to resolve the DNS problem.

Couldn't connect to server: Connection Refused



Cause(s):	Solution(s):
Auto Call Record contacted the hostname, but Net Server was not running on the target system.	Make sure you are connecting to a PC that has Net Server installed and running. If you are connecting through a firewall, make sure TCP port 8767 is open for two-way communication.

Couldn't connect to server: A, Invalid Access Password



Cause(s):	Solution(s):
Auto Call Record was able to contact the server, but there was already an entry for Auto Call Record with a different service password.	Check Net Server Admin for the Auto Call Record service password. Default is blank.

Unable to become service: E, Service Already Exists, CALLREC



Cause(s):	Solution(s):
Auto Call Record connected to a Net Server that already has another Auto Call Record running.	Do not attempt to connect more than one Auto Call Record to each Net Server.

Recording Problems

Auto Call Record does not try to record the station

Cause(s):	Solution(s):
The station may not be programmed under Auto Call Record's Monitored Extensions tab.	Make sure the station is programmed in Auto Call Record under Monitored Extensions.
The Target Extension may have "None" selected for the recording destination.	Select either "Voice Assistant" or "Accessory Talk".
The target extension may be flagged for "Manual Only" trigger.	Select either "Automatic Only" or "Either".
The target extension may not have the "Record on the Ext." checkbox flagged.	Flag the "Record on this Ext." checkbox.
The station may be configured to record only certain types of calls – IC, CO, Incoming, Outgoing.	Check to make sure that your test calls are the proper type for recording. A station programmed for Incoming CO calls will not record any IC test call. Note also that IC calls to a station with Auto Answer enabled may not be recorded even if IC calls are flagged for recording. Use Force-Private dialing (dial a # before the IC number.)

Voice Port stops recording during the conversation

Cause(s):	Solution(s):
The conversation may have exceeded the standard recording time limit.	Auto Call Record will automatically restart the recording. You may consider increasing the default time limit in Voice Script 850. The script ships with a 30 minute (1800 second) timeout.
The internal station may have placed the call on Hold.	Supervisor Station Monitor does not function when the station places a call on Hold. Auto Call Record will automatically restart the recording when the station retrieves the call.
The conversation may have triggered the MAXSILENCE timer -- too many seconds of silence passed.	Auto Call Record will automatically restart the recording if the call is still active. You may consider increasing the default MAXSILENCE timer if your users routinely experience long periods of silence. The standard script ships with a 30 second timer. You can disable this timer by setting it to 0, but this is not recommended.
DTMF termination may be enabled, and either party pressed the termination digit.	DTMF termination is disabled by default. Edit Voice Script 850 and remove any DTMF digits from VTERMDIGITS. Use DTMF termination with caution and make sure your users are trained.

Recordings stop very quickly after starting

Cause(s):	Solution(s):
Voice Script 850 may have OAILINEDROP enabled and you are using an Axxess 5.0 or lower.	Axxess 5.0 and lower use a slightly different OAI sequence to report a Snoop Start. This sequence includes an XC event right after the snoop is established. If OAILINEDROP is enabled, the port will stop recording and hang up almost immediately after starting. Set OAILINEDROP to N if you are using Axxess 5.0 or any 4.x release.
The recording destination may be out of disk space. Auto Call Record monitors one drive for disk space and will stop attempting to record if that drive falls below a certain threshold. If you record to a drive that AUTO CALL RECORD is not monitoring, you may run out of disk space. The voice port will attempt to record, but it will not be able to write the recording file.	Check your drives for available space and archive some old or unnecessary files.
You may be using a 3.0.x version of Voice Assistant. Some of these versions attempted to detect Dial Tone as a linedrop condition. Any solid tones, like the Snoop Confirmation tone, could be detected as Dial Tone and cause the port to drop.	Upgrade to Voice Assistant 3.2 or higher.
MAXNOISE timer may be too short. Voice Assistant 3.0.x versions supported Noise Detection as Linedrop. The default timer is 10 seconds, though some versions used a 2 second default. The detection code sometimes interpreted human voice as solid noise and dropped the port.	Increase the MAXNOISE timer in Voice Script 850 to 15 or more seconds. Also, upgrade to Voice Assistant 3.2 or higher.

Recordings contain short samples of dial tone

Cause(s):	Solution(s):
Voice Port extensions are numbered incorrectly in Voice Assistant. When Auto Call Record requests a port, VA grants Port 1 and tells Auto Call Record this is Extension 1010. If port 1 is physically connected to Extension 1000, the Voice Script will issue an OAI command to port 1010 to snoop the desired extension. Since 1010 is likely still on hook, the OAI command will fail. Port 1 is offhook, waiting to snoop a call. The snoop command fails, and the script enters the recording state. Thus, port 1 records dial tone until Auto Call Record determines the recording is failing.	Double check the voice port numbers and make absolutely sure that the Extension Number listed in Voice Port programming matches the extension number on the Axxess.

Unable to Monitor Ext. xxx – Check Hunt Group Programming or CNF circuits

Cause(s):	Solution(s):
This is a generic error message that can mean several things. It will appear any time a recording fails in the first 7 seconds of an attempt.	Check to make sure that your monitored stations are members of a UCD hunt group. Make sure that your voice ports are also Supervisors of that group. If the problem persists, see "Recordings stop very quickly after starting" for additional causes.
Auto Call Record attempted to record a call that was transferred to a voice mail application or mailbox.	Axxess Supervisor Station Monitor does not allow snooping calls to voice mail. This error appears when a station has the "Record on subsequent Exts." Flag checked. Either uncheck the flag, or ignore the error.

Voice Port stops recording when agent places caller on hold

Cause(s):	Solution(s):
Axxess Station Monitor does not allow snooping while the call is on hold.	Auto Call Record will restart the recording when the agent retrieves the caller.
ACR versions earlier than 3.2.2 did not always receive notification that a call came back off of hold.	Upgrading to Auto Call Record version 3.2.2 resolves the issue.

Recording only contains the last part of the conversation

Recording starts in the middle of a conversation

Cause(s):	Solution(s):
All voice ports may have been busy when the call started. A port became available during the call, and Auto Call Record used it to start recording.	Set the "Retry if VA Ports Busy" flag to no in preferences. This tells Auto Call Record that it should only record a call if it can start from the beginning.
Version 3.0.x -- The call may have lasted longer than 16 minutes. A problem with early versions of VAApndW.dll could have caused the first 16 minutes to be overwritten with the last part of the recording.	Upgrade to Voice Assistant 3.2 or higher.

Callers or agents report audio problems with certain CO calls

Cause(s):	Solution(s):
<p>Outgoing calls over certain PRI trunks do return connected signal from CO before Auto Call Record starts to record. This causes the PBX to fail in establishing proper audio paths, resulting in one-way or no audio between the inside and outside party.</p>	<p>Experiment with the "Start Early on Outgoing CO Calls" flag and timer in Auto Call Record Setup Preferences. Disabling the flag completely causes Auto Call Record to wait until it sees the Established event in the OAI stream, and could cause the first few seconds of the conversation to be lost. Adjusting the delay timer gives you the ability to slow Auto Call Record down long enough for the Axxess to establish PRI audio paths, yet still record before the start of the call. Most sites find a value between 2.1 and 3.0 acceptable.</p>

Callers or agents report hearing loud beeps at the beginning of the call

Cause(s):	Solution(s):
<p>Auto Call Record is configured to use Record-A-Call and send recordings to AxxessoryTalk. AxxessoryTalk defines a default Record-A-Call destination in Database Programming. It also has a flag called "User-Keyed Extension." This flag allows the user to enter which mailbox to use for the recording. Disabling User-Keyed Extension causes the Axxess to ignore any mailbox digits passed in by Auto Call Record. These extra digits are passed through to the caller as DTMF, causing the loud beeps at the beginning of the call.</p>	<p>Option 1: Enable User-Keyed Extension for the Record-A-Call destination in Database Programming. (See Station settings.) Program the desired mailbox in Auto Call Record's Recording Destination field for each station.</p> <p>Option 2: Disable User-Keyed Extension for the Record-A-Call destination in Database Programming. Leave the Destination Mailbox field blank in Auto Call Record.</p>

Configuration Problems

T1 Voice Ports generate Offhook administrator alarms

Cause(s):	Solution(s):
"T1 Send OPX Disconnect Flash" may not be enabled in Axxess Database Programming	Enable "T1 Send OPX Disconnect Flash" for each OPX T1 circuit connected to an OASYS Voice Port.
Voice Script 850 may not have OAILINEDROP enabled.	If you are using Axxess 5.1 or higher, you can set OAILINDROP to Y in Voice Script 850. This causes the Voice Port to hangup when it sees the Extension Clear (XC) event from the OAI stream. Do not use this flag on Axxess 5.0 or lower.
Voice Assistant may have been installed in Analog mode. Vvoice32.ini requires a special parameter setting for T1 installations.	Delete vvoice32.ini and re-install Voice Assistant, this time selecting the T1 option during setup.
You may need to configure the spandti.prm setting in the T1 board's Misc. tab in Dialogic Configuration Manager.	See the Voice Assistant Operations Manual for details on configuring the spandti.prm setting.

User cannot terminate a recording using DTMF digits

Cause(s):	Solution(s):
VTERMDIGITS is set to blank in Voice Script 850.	Edit Voice Script 850 and enter one or more DTMF digits that will terminate a recording. Do not use numeric digits if you need to record outgoing calls (unless you disable Start Early on Outgoing CO calls.)

Recordings terminate when user presses DTMF * (or #)

Cause(s):	Solution(s):
VTERMDIGITS is set to * (or #) in Voice Script 850.	Edit Voice Script 850 and set VTERMDIGITS to blank.

Recordings restart after using the DTMF termination digit

Cause(s):	Solution(s):
Agent placed the call on hold or transferred to another station and Voice Script 850 is set to Stop recording instead of Kill recording.	Edit Voice Script 850 and set the variable D to value of K. This tells Auto Call Record to terminate all recording attempts on the current PBX CallID. Using S tells Auto Call Record to stop recording for current connection session. As soon as that CallID returns from hold or arrives at another station, Auto Call Record will restart the recording.

Auto Call Record always uses the same recording filename

Cause(s):	Solution(s):
The target station has a filename listed in its Monitored Stations entry.	If you enter a filename in the Station property page, Auto Call Record will always use that filename for the recording. Leaving this field blank allows Auto Call Record to generate random filenames for each conversation.

“Can’t create folder: C:\archive\yyy” when programming stations

Cause(s):	Solution(s):
Auto Call Record can only auto-create the last folder in the path. If c:\archive\ does not already exist, Auto Call Record cannot create c:\archive\yyy	Create top level folders (C:\archive) first.

“Auto Call Record cannot guarantee folder creation due to use of run-time variables” message when programming stations

Cause(s):	Solution(s):
Auto Call Record cannot create folders when part of the folder name is a variable. (C:\Archive&Nmmddyyyy&)	Ensure that all of the folders before the dynamic folder already exist. Auto Call Record will attempt to create the dynamic folder the first time the script runs. You cannot include hard-coded folder names after the dynamic variable -- the variable must be the last folder in the path.

Playback Problems

Recordings do not appear in the OAISYS Player

Cause(s):	Solution(s):
If the wav file exists, it may be missing the matching .txt file.	Use the F (Fix) button in the OAISYS Player to create the missing .txt file.
Auto Call Record may not be recording the calls.	See "Auto Call Record does not attempt to record the station"

Recordings contain frequent or irregular beep tones during playback, but neither the agent nor the caller hear them during the conversation

Cause(s):	Solution(s):
Auto Call Record is restarting the recording on the conversation several times. The beep tones are the voice port recording the brief Axxess Confirmation tone when the snoop is established.	If the call is transferred several times, or placed on hold frequently, this is normal. If the beep tones occur during an uninterrupted conversation, troubleshoot as "Recording Stops during Conversation."

Recordings files contain excessive static

Cause(s):	Solution(s):
Interference in wiring from voice ports to Axxess.	Try recording a prompt using the Voice Assistant System Admin port, then play it back. If it contains the same static, check the wiring for crossed pairs or other problems. If the recording sounds clear through VA SysAdmin, check the PC speakers on the system used to play back the Auto Call Record files.

Account code added during the call does not appear in OAISYS Player

Cause(s):	Solution(s):
Auto Call Record cannot currently pass new info down to voice ports while they are recording.	This issue will be addressed in future releases of Auto Call Record and Voice Assistant.

Miscellaneous Problems

Auto Call Record Event Window shows Out of Disk Space message

Cause(s):	Solution(s):
Auto Call Record can monitor one drive's disk space and terminate new recordings when available space falls below the specified threshold.	Archive or delete other files to bring available space back above the threshold. If this problem occurs frequently, add more disk space or implement an archive strategy to move old files to other locations.

Cannot write the recording files to CD-R media as WAV files

Cause(s):	Solution(s):
The default file format is 8KHz, 8-bit, mono. The minimum for CD-Audio is 11KHz, 8-bit, mono.	Use an audio conversion utility to convert the file to the proper format. Windows Sound Recorder is capable of this.

Recording files take up too much disk space

Cause(s):	Solution(s):
The default file format uses 28.8MB per hour of recording.	Other formats will be made available in future releases of Voice Assistant. Systems using T1 digital boards may change the default recording format to '0' in script 850. This format uses 11MB per hour, but results in lower voice quality, and only works on T1 boards.

VA_Host32.exe generates a Memory Access Violation (Dr. Watson)

Cause(s):	Solution(s):
Early versions of VAApndW.dll contained an addressing error that can cause a memory access violation. (Voice Assistant 3.0.x)	Upgrade to Voice Assistant 3.2 or higher.

Auto Call Record and Voice Assistant OAI Samples

Case: Successful Recording

Auto Call Record monitors extension 1005 for incoming calls.
Incoming call rings in to 1005.
Auto call record records the call.

Auto Call Record Events

```
[00023 09:24:19.9]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,023,1005,1005
[00024 09:24:19.9]Server-Rcvd: LVL2OAI,
RAWCMD:001,DE,,023,43X7401,1005,,I,1014,,,,,I,1005,,,A,22
[00025 09:24:19.9]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X7401
[00026 09:24:19.9]Debug-Set to Record this call:43X7401, Type: V
[00027 09:24:19.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X7401,1005,,I,1014,,,,,I,1005,,C,35
[00028 09:24:19.9]Debug-Record Request Ext Hasn't changed on Call:43X7401, so don't Chg
record.
[00029 09:24:19.9]Client-ClientMsgSend->VA_HOST:REQ:
*,43X7401,W,S,850,1005,\Archive\,,43X7401,In IC 1014 1005 43X7401
[00030 09:24:20.0]Server-Confirmation: VA_HOST, REQ: GRANT:43X7401,2809,W
[00031 09:24:20.6]Client-7:MSG-Rcvd: REC_START:43X7401,2809,86669123
[00032 09:24:20.6]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7401,ACR,RE_START,\Archive\86669123,2809,8/3/01 9:24:20 AM,1005
[00033 09:24:20.6]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X7401,1005,,I,2809,,,,,I,1005,,C,31
[00034 09:24:20.6]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7401,ACR,RE_START,\Archive\86669123,2809,8/3/01 9:24:20 AM,1005
[00035 09:24:27.8]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X7401,1005,1005,N,36
[00036 09:24:27.8]Server-Rcvd: LVL2OAI, RAWCMD: 001,RY,,023,1005,1005
[00037 09:24:28.1]Client-7:MSG-Rcvd: REC_STOP:43X7401,2809,86669123
[00038 09:24:28.1]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7401,ACR,RE_STOP,\Archive\86669123,2809,8/3/01 9:24:28 AM,1005
[00039 09:24:28.1]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7401,ACR,RE_STOP,\Archive\86669123,2809,8/3/01 9:24:28 AM,8/3/01
9:24:28 AM,1005
[00040 09:24:28.1]Client-7:MSG-Rcvd: REQ_INFO:43X7401,2809
[00041 09:24:31.7]Server-Rcvd: VA_HOST, DONE: 43X7501,N,86669123,W,2809,
```

Voice Assistant Events

```
[00081 09:24:19.9 Fri 08/03/2001]Host:MSG-Rcvd from 6:
REQ:*,43X7401,W,S,850,1005,\Archive\,,43X7401,In IC 1014 1005 43X7401
[00082 09:24:20.0]Vport-1:MSG-Rcvd: STATUS:BUSY
[00083 09:24:20.0]Vport-1:MSG-Rcvd: OKAY:
[00084 09:24:20.0]Vport-1:CMD-RunScript: 850
[00085 09:24:20.0]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7401,2809,W
[00086 09:24:20.2]OAI:001,SI,,016,43X7501,2809,I,22
[00087 09:24:20.6]Vport-1:OAI:CMD-Sent: **CALL_UPDATE:43X7501,,,
[00097 09:24:20.6]Vport-1:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2809,,3211005
[00101 09:24:20.6]Vport-1:CMD-Sent: CNF:RAWCMD,xxx,S,|005,CF,_EF,xxx,0|
[00109 09:24:20.6]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X7401,2809,86669123
[00111 09:24:20.6]OAI:001,ES,,016,43X7401,1005,,I,2809,,,,,I,1005,,C,31
[00112 09:24:20.6]Vport-1:MSG-Rcvd: STATUS:RECORD
[00113 09:24:20.6]Vport-1:OAI:CMD-Sent: **CALL_UPDATE:43X7401,I,2809,
[00114 09:24:27.8]OAI:001,XC,,016,43X7401,1005,1005,C,36
[00115 09:24:27.8]OAI:001,XC,,016,43X7401,2809,1005,N,36
[00116 09:24:27.8]Vport-1:OAI:CMD-Sent: **CALL_CLR:
[00117 09:24:28.1]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00120 09:24:28.1]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X7401,2809,86669123
```

```
[00126 09:24:28.1]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REQ_INFO,43X7401,2809
[00127 09:24:28.1]Vport-1:MSG-Rcvd: STATUS:WNREQ
[00129 09:24:28.1]Vport-1:CMD-Sent: CNF:REQ_INFO,xxx,S,In IC 1014 1005
43X7401
[00134 09:24:31.7]Host:VA_HOST(6):EVENT-Send:DONE-43X7501,N,86669123,W,2809,
[00135 09:24:31.7]Vport-1:MSG-Rcvd: RUN-DONE:N,86669123,W,2809,
[00137 09:24:31.7]Vport-1:MSG-Rcvd: STATUS:IDLE
```

Event Analysis

```
[00024 09:24:19.9]Server-Rcvd: LVL2OAI,  
RAWCMD:001,DE,,023,43X7401,1005,,I,1014,,,,,I,1005,,,A,22
```

The PBX provides a Delivered (DE) event telling Auto Call Record there is a call ringing (43X7401) on Extension 1005.

```
[00026 09:24:19.9]Debug-Set to Record this call:43X7401, Type: V
```

Auto Call Record generates a Debug event indicating that it will attempt to record the call (43X7401) using a Voice (V) port.

```
[00027 09:24:19.9]Server-Rcvd: LVL2OAI, RAWCMD:  
001,ES,,023,43X7401,1005,,I,1014,,,I,1005,,C,35
```

The PBX provides an Established (ES) event telling Auto Call Record that the call is an Intercom (I) call from extension 1014 has been answered (35) at extension 1005.

```
[00029 09:24:19.9]Client-ClientMsgSend->VA_HOST:REQ:  
*,43X7401,W,S,850,1005,\Archive\,,43X7401,In IC 1014 1005 43X7401
```

Auto Call Record sends a message to Voice Assistant (VA_HOST) requesting (REQ) a voice port from the universal group (*) to record the call (43X7401) and run Script (S) 850 to record extension 1005 and gives the path for the directory where the wav file will be stored (\Archive\).

```
[00030 09:24:20.0]Server-Confirmation: VA_HOST, REQ: GRANT:43X7401,2809,W
```

Voice Assist grants the request to record the call using Voice Assistant port 2809.

```
[00031 09:24:20.6]Client-7:MSG-Rcvd: REC_START:43X7401,2809,86669123
```

Auto Call Record receives a broadcast message that the call is being recorded (REC_START) and the wav file has been given a file name (86669123).

```
[00033 09:24:20.6]Server-Rcvd: LVL2OAI, RAWCMD:  
001,ES,,023,43X7401,1005,,I,2809,,,I,1005,,C,31
```

Auto Call Record receives and Established (ES) event that extension 1005 is being is being silently monitored (31) by extension 2809.

```
[00035 09:24:27.8]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X7401,1005,1005,N,36
```

Auto Call Record receives and Extension Cleared (XC) event that says the call (43X7401) has cleared off of extension 1005 normally (36)

```
[00037 09:24:28.1]Client-7:MSG-Rcvd: REC_STOP:43X7401,2809,86669123
```

Auto Call Record receives a broadcast message that the recording has stopped (REC_STOP).

```
[00040 09:24:28.1]Client-7:MSG-Rcvd: REQ_INFO:43X7401,2809
```

Auto Call Record receives a request (REQ_INFO) to see if any additional information (account code attached during recording, etc.) needs to be added to the call (43X7401).

```
[00041 09:24:31.7]Server-Rcvd: VA_HOST, DONE: 43X7401,N,86669123,W,2809,
```

Auto Call Record completes the creation of the wav file associated with this recording.

In Voice Assistant the following occurs.

```
[00081 09:24:19.9 Fri 08/03/2001]Host:MSG-Rcvd from 6:  
REQ:*,43X7401,W,S,850,1005,\Archive\,,43X7401,In IC 1014 1005 43X7401
```

Voice Assistant receives a request (REQ) for a port in the universal group (*) to run script 850 on for extension 1005.

```
[00085 09:24:20.0]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7401,2809,W
```

Voice Assistant grants the request (REQ-GRANT) and assigns port 2809 for the recording.

```
[00086 09:24:20.2]OAI:001,SI,,016,43X7401,2809,I,22
```

Voice Assistant receives a Service Initiated (SI) event that the call (43X7401) has arrived on the Voice Port (2809).

```
[00109 09:24:20.6]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X7401,2809,86669123
```

Voice Assistant receives a message that it will start recording (REC_START) on the call (43X7401) using Voice Port 2809 with the file name of 86669123.

```
[00111 09:24:20.6]OAI:001,ES,,016,43X7401,1005,,I,2809,,,I,1005,,C,31
```

Voice Assistant receives an Established (ES) event that the call (43X7401) on extension 1005 is being silently monitored (31) by voice port 2809.

```
[00112 09:24:20.6]Vport-1:MSG-Rcvd: STATUS:RECORD
```

Voice Assistant receives a message that Recording has been initiated.

```
[00114 09:24:27.8]OAI:001,XC,,016,43X7401,1005,1005,C,36
```

Voice Assistant receives an extension cleared (XC) event that the call (43X7401) on extension 1005 has cleared normally (36).

```
[00115 09:24:27.8]OAI:001,XC,,016,43X7401,2809,1005,N,36
```

Voice Assistant receives an extension cleared (XC) event that the call (43X7401) has cleared off the Voice Port (2809) normally (36).

[00120 09:24:28.1]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X7401,2809,86669123

Voice Assistant receives a message that the recording has stopped (REC_STOP) for the call (43X7401) on Voice Port 2809 with the file name 86669123.

Case: Wrong Feature Code for Record A Call

Auto Call Record monitors extension 1005 for incoming calls.
 Auto Call Record attempts to record the call.
 The feature code for silent monitor is incorrect.
 The recording fails.

Auto Call Record Events

```
[00065 09:35:46.7 Fri 08/03/2001]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,023,1005,1005
[00066 09:35:46.7]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,023,43X7#01,1005,,I,1014,,,,,I,1005,,,A,22
[00067 09:35:46.7]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X7#01
[00068 09:35:46.7]Debug-Set to Record this call:43X7#01, Type: V
[00069 09:35:46.7]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X7#01,1005,,I,1014,,,I,1005,,C,35
[00070 09:35:46.7]Debug-Record Request Ext Hasn't changed on Call:43X7#01, so don't Chg
record.
[00071 09:35:46.7]Client-ClientMsgSend->VA_HOST:REQ:
*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In IC 1014 1005 43X7#01
[00072 09:35:46.7]Server-Confirmation: VA_HOST, REQ: GRANT:43X7#01,2809,W
[00073 09:35:47.3]Client-7:MSG-Rcvd: REC_START:43X7#01,2809,08188427
[00074 09:35:47.3]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7#01,ACR,RE_START,\Archive\08188427,2809,8/3/01 9:35:47 AM,1005
[00075 09:35:47.3]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7#01,ACR,RE_START,\Archive\08188427,2809,8/3/01 9:35:47 AM,1005
[00076 09:35:49.5]Client-7:MSG-Rcvd: REC_STOP:43X7#01,2809,08188427
[00077 09:35:49.5]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7#01,ACR,RE_STOP,\Archive\08188427,2809,8/3/01 9:35:47 AM,8/3/01 9:35:49 AM,1005
[00078 09:35:49.5]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7#01,ACR,RE_STOP,\Archive\08188427,2809,8/3/01 9:35:47 AM,8/3/01
9:35:49 AM,1005
[00079 09:35:49.5]Client-7:MSG-Rcvd: REQ_INFO:43X7#01,2809
[00080 09:35:49.9]Client-ClientMsgSend->VA_HOST:REQ:
*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In IC 1014 1005 43X7#01
[00081 09:35:49.9]Server-Confirmation: VA_HOST, REQ: GRANT:43X7#01,2810,W
[00082 09:35:50.4]Client-7:MSG-Rcvd: REC_START:43X7#01,2810,11876643
[00083 09:35:50.4]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7#01,ACR,RE_START,\Archive\11876643,2810,8/3/01 9:35:50 AM,1005
[00084 09:35:50.4]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7#01,ACR,RE_START,\Archive\11876643,2810,8/3/01 9:35:50 AM,1005
[00085 09:35:52.5]Client-7:MSG-Rcvd: REC_STOP:43X7#01,2810,11876643
[00086 09:35:52.5]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X7#01,ACR,RE_STOP,\Archive\11876643,2810,8/3/01 9:35:50 AM,8/3/01 9:35:52 AM,1005
[00087 09:35:52.5]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,023,43X7#01,ACR,RE_STOP,\Archive\11876643,2810,8/3/01 9:35:50 AM,8/3/01
9:35:52 AM,1005
[00088 09:35:52.5]Client-7:MSG-Rcvd: REQ_INFO:43X7#01,2810
```

Voice Assistant Events

```
5 09:35:46.7 Fri 08/03/2001]Host:MSG-Rcvd from 6:
REQ:*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In IC 1014 1005 43X7#01
[00196 09:35:46.7]Vport-1:MSG-Rcvd: STATUS:BUSY
[00197 09:35:46.7]Vport-1:MSG-Rcvd: OKAY:
[00198 09:35:46.7]Vport-1:CMD-RunScript: 850
[00199 09:35:46.7]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7#01,2809,W
[00200 09:35:46.9]OAI:001,SI,,016,43X7P01,2809,I,22
[00201 09:35:47.2]Vport-1:OAI-CMD-Sent: **CALL_UPDATE:43X7P01,,,
[00211 09:35:47.3]Vport-1:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2809,,3331005
[00216 09:35:47.3]Vport-1:CMD-Sent: CNF:RAWCMD,xxx,S,|007,CF,_EF,xxx,0|
[00217 09:35:47.3]OAI:001,FA,,016,43X7P01,2809,333,F,29
[00224 09:35:47.3]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X7#01,2809,08188427
```

```

[00226 09:35:47.3]Vport-1:MSG-Rcvd: STATUS:RECORD
[00227 09:35:49.5]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00230 09:35:49.5]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X7#01,2809,08188427
[00236 09:35:49.5]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REQ_INFO,43X7#01,2809
[00237 09:35:49.6]Vport-1:MSG-Rcvd: STATUS:WNREQ
[00240 09:35:49.6]Vport-1:CMD-Sent: CNF:REQ_INFO,xxx,S,In IC 1014 1005
43X7#01
[00243 09:35:49.9]Host:MSG-Rcvd from 6: REQ:*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In
IC 1014 1005 43X7#01
[00244 09:35:49.9]Vport-2:MSG-Rcvd: STATUS:BUSY
[00245 09:35:49.9]Vport-2:MSG-Rcvd: OKAY:
[00246 09:35:49.9]Vport-2:CMD-RunScript: 850
[00247 09:35:49.9]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7#01,2810,W
[00248 09:35:50.1]OAI:001,SI,,017,43X7F01,2810,I,22
[00249 09:35:50.4]Vport-2:OAI:001,SI,,017,43X7F01,2810,I,22
[00250 09:35:50.4]Vport-2:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2810,,3331005
[00251 09:35:50.4]Vport-2:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X7#01,2810,11876643
[00252 09:35:50.4]Vport-2:CMD-Sent: CNF:RAWCMD,xxx,S,|008,CF,_EF,xxx,0|
[00253 09:35:50.4]OAI:001,FA,,017,43X7F01,2810,333,F,29
[00254 09:35:50.4]Vport-2:MSG-Rcvd: STATUS:RECORD
[00255 09:35:50.7]OAI:001,XC,,016,43X7P01,2809,2809,N,36
[00256 09:35:50.7]Vport-1:OAI:001,XC,,016,43X7P01,2809,2809,N,36
[00257 09:35:51.6]Vport-2:MSG-Rcvd: STATUS:LINEDROPPED
[00258 09:35:52.5]Vport-2:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X7#01,2810,11876643
[00259 09:35:52.5]Vport-2:MSG-Rcvd: SERVREQ:CALLREC,REQ_INFO,43X7#01,2810
[00260 09:35:52.5]Vport-2:CMD-Sent: CNF:REQ_INFO,xxx,S,In IC 1014 1005
43X7#01
[00261 09:35:52.5]Vport-2:MSG-Rcvd: STATUS:WNREQ
[00262 09:35:52.7]Host:MSG-Rcvd from 6: REQ:*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In
IC 1014 1005 43X7#01
[00266 09:35:52.7]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7#01,2811,W
[00267 09:35:52.9]OAI:001,SI,,018,43X7X01,2811,I,22
[00269 09:35:53.1]Host:VA_HOST(6):EVENT-Send:DONE-43X7P01,N,08188427,W,2809,
[00270 09:35:53.1]Vport-1:MSG-Rcvd: RUN-DONE:N,08188427,W,2809,
[00272 09:35:53.1]Vport-1:MSG-Rcvd: STATUS:IDLE
[00277 09:35:53.2]OAI:001,FA,,018,43X7X01,2811,333,F,29
[00279 09:35:53.7]OAI:001,XC,,017,43X7F01,2810,2810,N,36
[00280 09:35:53.7]Vport-2:OAI:001,XC,,017,43X7F01,2810,2810,N,36
[00286 09:35:56.1]Host:VA_HOST(6):EVENT-Send:DONE-43X7F01,N,11876643,W,2810,
[00287 09:35:56.1]Vport-2:MSG-Rcvd: RUN-DONE:N,11876643,W,2810,

```

Event Analysis

```
[ 09:35:46.7 Fri 08/03/2001]Host:MSG-Rcvd from 6:
REQ:*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In IC 1014 1005 43X7#01
```

Voice Assistant receives a request (REQ) for a port in the universal group (*) to run script (S) 850 for extension 1005 to record a call (43X7#01).

```
[00199 09:35:46.7]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7#01,2809,W
```

The request is granted (REQ_GRANT) to use Voice Assistant port 2809.

```
[00211 09:35:47.3]Vport-1:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2809,,3331005
```

Voice Assistant attempts to dial the feature code to perform a supervisor snoop (333) on the extension it wishes to record (1005). By default, the feature code to perform a supervisor snoop is 321.

```
[00217 09:35:47.3]OAI:001,FA,,016,43X7P01,2809,333,F,29
```

Since Voice Assistant has dialed the incorrect feature code to perform the supervisor snoop, Voice Assistant returns a failed event stating that it is hearing reorder tone (29).

```
[00224 09:35:47.3]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X7#01,2809,08188427
[00226 09:35:47.3]Vport-1:MSG-Rcvd: STATUS:RECORD
[00227 09:35:49.5]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00230 09:35:49.5]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X7#01,2809,08188427
```

Voice Assistant attempts to record the call (REC_START) but since it's hearing reorder tone it thinks the line has dropped (STATUS: LINEDROPPED) and stops recording (REC_STOP).

```
[00243 09:35:49.9]Host:MSG-Rcvd from 6: REQ:*,43X7#01,W,S,850,1005,\Archive\,,43X7#01,In
IC      1014   1005      43X7#01
```

However, Auto Call Record sees that the same call (43X7#01) is still a live call and request (REQ) another Voice Assistant from the universal port group to begin the recording.

```
[00247 09:35:49.9]Host:VA_HOST(6):MSG-Send:REQ-GRANT:43X7#01,2810,W
```

The request is granted (REQ_GRANT) to use Voice Assistant port 2810. The events continue to mirror those from above until the recording fails on port 2810.

Case: Auto Call Record produces short recordings of dialtone

Auto Call Record monitors extension 1005 for incoming calls.
 Auto Call Record attempts to record the call.
 The Voice Assistant ports are misnumbered.
 The wrong Voice Assistant comes off hook.
 The Voice Assistant port records dialtone.

Auto Call Record Events

```
[00121 10:12:39.7 Mon 08/20/2001]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,006,1005,1005
[00122 10:12:39.7]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,006,9360701,1005,,I,1007,,,,,I,1005,,,A,22
[00123 10:12:39.7]Debug-Record_RequestAddNew Set .Rec_Status=none on call:9360701
[00124 10:12:39.7]Debug-Set to Record this call:9360701, Type: V
[00125 10:12:39.7]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,006,9360701,1005,,I,1007,,,I,1005,,C,35
[00126 10:12:39.7]Debug-Record Request Ext Hasn't changed on Call:9360701, so don't Chg
record.
[00127 10:12:39.7]Client-ClientMsgSend->VA_HOST:REQ:
*,9360701,W,S,850,1005,\Archive\,,9360701,In IC      1007   1005           9360701
[00128 10:12:39.7]Server-Confirmation: VA_HOST, REQ: GRANT:9360701,2806,W
[00129 10:12:40.3]Client-4:MSG-Rcvd: REC_START:9360701,2806,43539274
[00130 10:12:40.3]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
9360701,ACR,RE_START,\Archive\43539274,2806,8/20/01 10:12:40 AM,1005
[00131 10:12:40.3]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,006,9360701,ACR,RE_START,\Archive\43539274,2806,8/20/01 10:12:40 AM,1005
[00132 10:12:45.7]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,006,9360701,1005,1005,N,36
[00133 10:12:45.7]Server-Rcvd: LVL2OAI, RAWCMD: 001,RY,,006,1005,1005
[00134 10:12:48.0]Server-Sent: LVL2OAI,CHECK_MON:
[00135 10:12:48.0]Server-Confirmation: LVL2OAI, CHECK_MON: 0,5
[00136 10:12:56.1]Client-4:MSG-Rcvd: REC_STOP:9360701,2806,43539274
[00137 10:12:56.1]ERROR-REC_STOP event with No Matching Call for Call ID:9360701
[00138 10:12:56.1]Client-4:MSG-Rcvd: REQ_INFO:9360701,2806
[00139 10:12:59.6]Server-Rcvd: VA_HOST, DONE: 9360701,N,43539274,W,2806,
[00140 10:12:59.6]Debug-Call on Port 2806 doesn't Exist
```

Voice Assistant Events

```
[00415 10:12:39.7 Mon 08/20/2001]Host:MSG-Rcvd from 5:
REQ:*,9360701,W,S,850,1005,\Archive\,,9360701,In IC      1007   1005           9360701
[00416 10:12:39.7]Vport-1:MSG-Rcvd: STATUS:BUSY
[00417 10:12:39.7]Vport-1:MSG-Rcvd: OKAY:
[00418 10:12:39.7]Vport-1:CMD-RunScript: 850
[00419 10:12:39.7]Host:VA_HOST(5):MSG-Send:REQ-GRANT:9360701,2806,W
[00420 10:12:39.7]Vport-1:MSG-Rcvd: TRACE:SET,TRACE,A >> RESULT=S
[00421 10:12:39.9]OAI:001,SI,,019,9360801,2805,I,22
[00422 10:12:39.9]Vport-4:OAI-CMD-Sent: **CALL_UPDATE:9360801,,,
[00423 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:OFFHOOK >> RESULT=S
[00424 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,MAXSILENCE,30 >> RESULT=S
[00425 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,RECORDFORMAT,7 >> RESULT=S
[00426 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,OAILINEDROP,Y >> RESULT=S
[00427 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,%U2,\Archive\ >> RESULT=S
[00428 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:IFEXIST,\Archive\,GOTO,DIALSNOOP >> RESULT=S
[00429 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:GOTO,DIALSNOOP >> RESULT=S
[00430 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:LABEL,DIALSNOOP >> RESULT=S
[00431 10:12:40.3]Vport-1:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2806,,3211005
[00432 10:12:40.3]Vport-1:MSG-Rcvd: STATUS:WNREQ
[00433 10:12:40.3]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,LVL2OAI,RAWCMD,|_EF,xxx,2806,,3211005|,|%U0| >> RESULT=S
[00434 10:12:40.3]Vport-1:MSG-Rcvd: TRACE: -CNF Rcvd:RAWCMD,xxx,S,|016,CF,_EF,xxx,15| >>
RESULT=S
[00435 10:12:40.3]Vport-1:CMD-Sent: CNF:RAWCMD,xxx,S,|016,CF,_EF,xxx,15|
[00436 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:VTERMDIGITS, >> RESULT=S
```

```

[00437 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,RECAPPEND,Y >> RESULT=S
[00438 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,%U1, >> RESULT=S
[00439 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:IF,,NEQ,,GOTO,FILENAME >> RESULT=S
[00440 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,%U1,43539274 >> RESULT=S
[00441 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:LABEL,FILENAME >> RESULT=S
[00442 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,%N,43539274 >> RESULT=S
[00443 10:12:40.3]Vport-1:MSG-Rcvd: TRACE:SET,%V9,9360701 >> RESULT=S
[00444 10:12:40.3]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,9360701,2806,43539274
[00445 10:12:40.3]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,CALLREC,REC_START,|9360701,2806,43539274|,| >> RESULT=S
[00446 10:12:40.3]Vport-1:MSG-Rcvd: STATUS:RECORD
[00447 10:12:54.9]OAI:001,FA,,019,9360801,2805,,F,29
[00448 10:12:56.0]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00449 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:RECORD,\Archive\43539274.WAV,1800,N >> RESULT=H
[00450 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:SET,%V0,H >> RESULT=S
[00451 10:12:56.1]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,9360701,2806,43539274
[00452 10:12:56.1]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,CALLREC,REC_STOP,|9360701,2806,43539274|,| >> RESULT=S
[00453 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:IF,H,NEQ,D,GOTO,NO_KILL >> RESULT=S
[00454 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:GOTO,NO_KILL >> RESULT=S
[00455 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:LABEL,NO_KILL >> RESULT=S
[00456 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:FILE,DELETE,\Archive\43539274.TXT, >> RESULT=F
[00457 10:12:56.1]Vport-1:MSG-Rcvd: TRACE: CMD Failure = File not found
[00458 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:SET,%V8,In IC 1007 1005 9360701
>> RESULT=S
[00459 10:12:56.1]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REQ_INFO,9360701,2806
[00460 10:12:56.1]Vport-1:MSG-Rcvd: STATUS:WNREQ
[00461 10:12:56.1]Vport-1:MSG-Rcvd: TRACE: -CNF Rcvd:REQ_INFO,xxx,F,No Matching Call >>
RESULT=F
[00462 10:12:56.1]Vport-1:MSG-Rcvd: TRACE: CMD Failure = No Matching Call
[00463 10:12:56.1]Vport-1:CMD-Sent: CNF:REQ_INFO,xxx,F,No Matching Call
[00464 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:SERVREQ,CALLREC,REQ_INFO,|9360701,2806|,|%V8|
>> RESULT=S
[00465 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:LOG,\Archive\43539274.TXT,|2001_08/20 10:12
File:43539274.WAV No Matching Call| >> RESULT=S
[00466 10:12:56.1]Vport-1:MSG-Rcvd: TRACE:LABEL,EXIT >> RESULT=S
[00467 10:12:57.3]OAI:001,XC,,019,9360801,2805,2805,N,36
[00468 10:12:57.3]Vport-4:OAI:CMD-Sent: **CALL_CLR:
[00469 10:12:59.6]Vport-1:MSG-Rcvd: TRACE:HANGUP >> RESULT=S
[00470 10:12:59.6]Host:VA_HOST(5):EVENT-Send:DONE-9360701,N,43539274,W,2806,
[00471 10:12:59.6]Vport-1:MSG-Rcvd: RUN-DONE:N,43539274,W,2806,
[00472 10:12:59.6]Vport-1:MSG-Rcvd: TRACE:RTN,1001 >> RESULT=S
[00473 10:12:59.6]Vport-1:MSG-Rcvd: STATUS:IDLE IDLE

```

Event Analysis

```

[00127 10:12:39.7]Client-ClientMsgSend->VA_HOST:REQ:
*,9360701,W,S,850,1005,\Archive\,,9360701,In IC 1007 1005 9360701

```

Auto Call Record requests (REQ) a port from the universal port group (*) to record the call (9360701).

```

[00128 10:12:39.7]Server-Confirmation: VA_HOST, REQ: GRANT:9360701,2806,W

```

Voice Assistant grants port 2806.

```

[00129 10:12:40.3]Client-4:MSG-Rcvd: REC_START:9360701,2806,43539274

```

Voice Assistant starts recording (REC_START) the call (9360701) using port 2806 the file name of 43539274. The call then seems to record normally from there. The error can be determined by viewing the Voice Assistant logs.

```

[00419 10:12:39.7]Host:VA_HOST(5):MSG-Send:REQ-GRANT:9360701,2806,W

```

Voice Assistant grants the request (REQ-GRANT) to record the call (9360701) using port 2806.

[00421 10:12:39.9]OAI:001,SI,,019,9360801,2805,I,22

Voice Assistant receives a Service Initiated (SI) event that the call (9360801) has arrived on the Voice Port (2805). Since the Voice Ports are misnumbered, the wrong Voice Assistant port comes off hook, therefore generating a recording of dialtone.

Case: Voice Assistant port not a supervisor of the hunt group

Auto Call Record monitors extension 1005 for incoming calls.
 Auto Call Record attempts to record the call.
 The Voice Assistant ports isn't a supervisor of the hunt group.
 The recording fails.

Auto Call Record Events

```
[00366 10:21:15.1 Fri 08/03/2001]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,066,1005,1005
[00367 10:21:15.1]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,066,43X9701,1005,,I,1014,,,,,I,1005,,,A,22
[00368 10:21:15.1]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X9701
[00369 10:21:15.1]Debug-Set to Record this call:43X9701, Type: V
[00370 10:21:15.1]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,066,43X9701,1005,,I,1014,,,I,1005,,C,35
[00371 10:21:15.1]Debug-Record Request Ext Hasn't changed on Call:43X9701, so don't Chg
record.
[00372 10:21:15.1]Client-ClientMsgSend->VA_HOST:REQ:
*,43X9701,W,S,850,1005,\Archive\,,43X9701,In IC 1014 1005 43X9701
[00373 10:21:15.1]Server-Confirmation: VA_HOST, REQ: GRANT:43X9701,2809,W
[00374 10:21:15.7]Client-7:MSG-Rcvd: REC_START:43X9701,2809,19632614
[00375 10:21:15.7]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X9701,ACR,RE_START,\Archive\19632614,2809,8/3/01 10:21:15 AM,1005
[00376 10:21:15.7]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,066,43X9701,ACR,RE_START,\Archive\19632614,2809,8/3/01 10:21:15 AM,1005
[00377 10:21:17.9]Client-7:MSG-Rcvd: REC_STOP:43X9701,2809,19632614
[00378 10:21:17.9]Client-ClientMsgSend->LVL2OAI:SPCLCALL:
43X9701,ACR,RE_STOP,\Archive\19632614,2809,8/3/01 10:21:15 AM,8/3/01 10:21:17 AM,1005
[00379 10:21:17.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,SPCLCALL,,066,43X9701,ACR,RE_STOP,\Archive\19632614,2809,8/3/01 10:21:15 AM,8/3/01
10:21:17 AM,1005
[00380 10:21:17.9]Client-7:MSG-Rcvd: REQ_INFO:43X9701,2809
[00381 10:21:18.1]Client-ClientMsgSend->VA_HOST:REQ:
*,43X9701,W,S,850,1005,\Archive\,,43X9701,In IC 1014 1005 43X9701
[00382 10:21:18.1]Server-Confirmation: VA_HOST, REQ: DENY:43X9701,B
[00383 10:21:19.5]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,066,43X9701,1005,1005,N,36
[00384 10:21:19.5]Server-Rcvd: LVL2OAI, RAWCMD: 001,RY,,066,1005,1005
[00385 10:21:21.4]Server-Rcvd: VA_HOST, DONE: 43X9801,N,19632614,W,2809,
```

Voice Assistant Events

```
[00770 10:21:15.1 Fri 08/03/2001]Host:MSG-Rcvd from 57:
REQ:*,43X9701,W,S,850,1005,\Archive\,,43X9701,In IC 1014 1005 43X9701
[00771 10:21:15.1]Vport-1:MSG-Rcvd: STATUS:BUSY
[00772 10:21:15.1]Vport-1:MSG-Rcvd: OKAY:
[00773 10:21:15.1]Vport-1:CMD-RunScript: 850
[00774 10:21:15.1]Host:VA_HOST(57):MSG-Send:REQ-GRANT:43X9701,2809,W
[00775 10:21:15.3]OAI:001,SI,,069,43X9801,2809,I,22
[00776 10:21:15.7]Vport-1:OAI:001,SI,,069,43X9801,2809,I,22
[00777 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,TRACE,Y >> RESULT=S
[00778 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,HOLDEVENTS,N >> RESULT=S
[00779 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,MAXSILENCE,30 >> RESULT=S
[00780 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,RECORDFORMAT,7 >> RESULT=S
[00781 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,OAILINEDROP,Y >> RESULT=S
[00782 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,%U2,\Archive\ >> RESULT=S
[00783 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:IFEXIST,\Archive\,GOTO,DIALSNOOP >> RESULT=S
[00784 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:GOTO,DIALSNOOP >> RESULT=S
[00785 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:LABEL,DIALSNOOP >> RESULT=S
[00786 10:21:15.7]Vport-1:MSG-Rcvd: SERVREQ:LVL2OAI,RAWCMD,_EF,xxx,2809,,3211005
[00787 10:21:15.7]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,LVL2OAI,RAWCMD,|_EF,xxx,2809,,3211005|,|| >> RESULT=S
[00788 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:VTERMDIGITS, >> RESULT=S
```

```

[00789 10:21:15.7]Vport-1:MSG-Rcvd: TRACE: -CNF Rcvd:RAWCMD,xxx,S,|005,CF,_EF,xxx,0| >>
RESULT=S
[00790 10:21:15.7]Vport-1:CMD-Sent: CNF:RAWCMD,xxx,S,|005,CF,_EF,xxx,0|
[00791 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,RECAPPEND,Y >> RESULT=S
[00792 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,%U1, >> RESULT=S
[00793 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:IF,,NEQ,,GOTO,FILENAME >> RESULT=S
[00794 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,%U1,19632614 >> RESULT=S
[00795 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:LABEL,FILENAME >> RESULT=S
[00796 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,%N,19632614 >> RESULT=S
[00797 10:21:15.7]Vport-1:MSG-Rcvd: TRACE:SET,%V9,43X9701 >> RESULT=S
[00798 10:21:15.7]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_START,43X9701,2809,19632614
[00799 10:21:15.7]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,CALLREC,REC_START,|43X9701,2809,19632614|,|| >> RESULT=S
[00800 10:21:15.7]Vport-1:MSG-Rcvd: STATUS:RECORD
[00801 10:21:15.7]OAI:001,XC,,069,43X9801,2809,2809,N,36
[00802 10:21:15.7]Vport-1:OAICMD-Sent: **CALL_CLRd:
[00803 10:21:17.9]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00804 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:RECORD,\Archive\19632614.WAV,1800,N >> RESULT=H
[00805 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:SET,%V0,H >> RESULT=S
[00806 10:21:17.9]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REC_STOP,43X9701,2809,19632614
[00807 10:21:17.9]Vport-1:MSG-Rcvd:
TRACE:SERVREQ,CALLREC,REC_STOP,|43X9701,2809,19632614|,|| >> RESULT=S
[00808 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:IF,H,NEQ,D,GOTO,NO_KILL >> RESULT=S
[00809 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:GOTO,NO_KILL >> RESULT=S
[00810 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:LABEL,NO_KILL >> RESULT=S
[00811 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:SET,%V8,In IC 1014 1005 43X9701
>> RESULT=S
[00812 10:21:17.9]Vport-1:MSG-Rcvd: SERVREQ:CALLREC,REQ_INFO,43X9701,2809
[00813 10:21:17.9]Vport-1:MSG-Rcvd: STATUS:WNREQ
[00814 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:SERVREQ,CALLREC,REQ_INFO,|43X9701,2809|,|%V8|
>> RESULT=S
[00815 10:21:17.9]Vport-1:MSG-Rcvd: TRACE: -CNF Rcvd:REQ_INFO,xxx,S,In IC 1014
1005 43X9701 >> RESULT=S
[00816 10:21:17.9]Vport-1:CMD-Sent: CNF:REQ_INFO,xxx,S,In IC 1014 1005
43X9701
[00817 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:WRITEWAVSTR,\Archive\19632614.WAV,|In IC
1014 1005 43X9701| >> RESULT=S
[00818 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:LABEL,EXIT >> RESULT=S
[00819 10:21:18.1]Host:MSG-Rcvd from 57:
REQ:*,43X9701,W,S,850,1005,\Archive\,,43X9701,In IC 1014 1005 43X9701
[00820 10:21:18.1]Host:VA_HOST(57):MSG-Send:REQ-DENY:43X9701,B
[00821 10:21:21.4]Vport-1:MSG-Rcvd: TRACE:HANGUP >> RESULT=S
[00822 10:21:21.4]Host:VA_HOST(57):EVENT-Send:DONE-43X9801,N,19632614,W,2809,
[00823 10:21:21.4]Vport-1:MSG-Rcvd: RUN-DONE:N,19632614,W,2809,
[00824 10:21:21.4]Vport-1:MSG-Rcvd: TRACE:RTN,1001 >> RESULT=S
[00825 10:21:21.4]Vport-1:MSG-Rcvd: STATUS:IDLE

```

Event Analysis

```

[00802 10:21:15.7]Vport-1:OAICMD-Sent: **CALL_CLRd:
[00803 10:21:17.9]Vport-1:MSG-Rcvd: STATUS:LINEDROPPED
[00804 10:21:17.9]Vport-1:MSG-Rcvd: TRACE:RECORD,\Archive\19632614.WAV,1800,N >> RESULT=H

```

In the Voice Assistant events it shows that the call cleared (**CALL_CLRd) even though the call is still active. It shows the Status as that the line dropped and that the voice assistant port hung up (RESULT=H). This most likely indicates an error in the PBX programming that the voice port is not a supervisor of the ACD group.

Case: No recording destination selected

Auto Call Record monitors extension 1005 for incoming calls.
No recording destination has been selected in Auto Call Record.
The recording does not start.

Auto Call Record Events

```
[00107 09:46:12.9 Fri 08/03/2001]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,023,1005,1005
[00108 09:46:12.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,023,43X8001,1005,,I,1014,,,,,I,1005,,A,22
[00109 09:46:12.9]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X8001
[00110 09:46:12.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X8001,1005,,I,1014,,,I,1005,,C,35
[00111 09:46:12.9]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X8001
[00112 09:46:18.6]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X8001,1005,1005,N,36
[00113 09:46:18.6]Server-Rcvd: LVL2OAI, RAWCMD: 001,R,Y,,023,1005,1005
```

Event Analysis

```
[00108 09:46:12.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,023,43X8001,1005,,I,1014,,,,,I,1005,,A,22
```

Auto Call Record receives a Delivered Event (DE) that a new call (43X8001) has arrived to extension 1005 from 1014.

```
[00110 09:46:12.9]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X8001,1005,,I,1014,,,I,1005,,C,35
```

Auto Call Record receives an Established Event (ES) that the call (43X8001) has been answered (35).

```
[00112 09:46:18.6]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X8001,1005,1005,N,36
```

Auto Call Record receives an Extension Cleared Event (XC) that the call (43X8001) has cleared (36) off the monitored extension. Since no recording destination has been selected Auto Call Record fails to record the call. On a successful call we would see the following event as seen in the successful Auto Call Record Events earlier in the troubleshooting guide.

```
Debug-Set to Record this call:43X8001, Type: V
```

This event shows the call (43X8001) is going to be recorded using a Voice (V) port. We do not receive the event in this example because the station programming has the Recording Destination set to 'None.'

Case: Record on this extension has not been flagged.

Auto Call Record monitors extension 1005 for incoming calls.
The Record on this Extension flag has not been enabled for the monitored extension in Auto Call Record.
The recording fails.

Auto Call Record Events

```
[00116 09:48:27.4 Fri 08/03/2001]Server-Rcvd: LVL2OAI, RAWCMD: 001,NRY,,023,1005,1005
[00117 09:48:27.4]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,023,43X8201,1005,,I,1014,,,,,I,1005,,A,22
[00118 09:48:27.4]Debug-Record_RequestAddNew Set .Rec_Status=none on call:43X8201
[00119 09:48:27.4]Debug-Record-Follow only on this call so don't record:43X8201
[00120 09:48:27.4]Server-Rcvd: LVL2OAI, RAWCMD:
001,ES,,023,43X8201,1005,,I,1014,,,I,1005,,C,35
[00121 09:48:27.4]Debug-Record Request Ext Hasn't changed on Call:43X8201, so don't Chg
record.
[00122 09:48:32.5]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X8201,1014,1014,,36
[00123 09:48:32.5]Server-Rcvd: LVL2OAI, RAWCMD: 001,XC,,023,43X8201,1005,1014,N,36
[00124 09:48:32.5]Server-Rcvd: LVL2OAI, RAWCMD: 001,RY,,023,1005,1005

[00117 09:48:27.4]Server-Rcvd: LVL2OAI, RAWCMD:
001,DE,,023,43X8201,1005,,I,1014,,,,,I,1005,,A,22
```

Auto Call Record receives a Delivered Event (DE) that a new call (43X8201) arrived to extension 1005 from extension 1014. Since Record on this Extension has not been flagged Auto Call record doesn't attempt to record the call.

```
[00119 09:48:27.4]Debug-Record-Follow only on this call so don't record:43X8201
```

Follow only indicates that **Record on Subsequent Ext** has been flagged but that **Record on this Ext** has not.

Appendix E: Variables

Variables provide a means to insert run-time call, extension, and system information into parameter strings passed to other programs. These variables can be used in virtually any position of any parameter. Following is a list of the variables:

Call Variables

These variables are used to insert specific information about a call.

- %A** - Account Number
- %D** - Call Direction
- %E** - Called Phone Number
- %F** - Call Fwd Number
- %H** - Calling Phone Number (hyphenated)
- %I** - Call ID
- %J** - Calling Phone Number (hyphenated)
- %N** - Calling Party Name (outside calls only)
- %P** - Calling Phone Number
- %S** - Call was Answered ('Y'es or 'N'o)
- %T** - Call Type

System Values

System values can be inserted into parameter strings. These can be very useful for inserting date/time stamps, etc. for use in the message string of the LOG command, for example.

- &C** - insert a Carriage Return character
- &D** - insert the date in format: "mm/dd/yy"
- &L** - insert a Line Feed character
- &N** - insert the date and/or time in user-specified format -- i.e. "&Nhh:mm:ss AM/PM&"
- &Q** - random variable (6 digits)
- &R** - random variable (8 digits)
- &T** - insert the time in format: "HH:MM"
- &t** - insert a tab character
- %%** - insert a Percent "%" character
- &&** - insert an ampersand "&" character

Appendix F: PC Sound Files

The default recording format for the *Voice Assistant* is a standard PCM WAV format. The Voice Assistant recordings can be listened to by Replay or any other WAV file player provided the PC is a multimedia PC. The table below gives a detailed specification for the available recording formats.

Recording Format	Setting	Kbps	Minutes/MB	Bytes/Second	MB/Hour
VOX ADPCM 6KHz	0	24	5.83	3000	10.8
VOX ADPCM 8KHz	1	32	4.37	4000	14.4
VOX PCM 6KHz	2	48	2.91	6000	21.6
VOX PCM 8KHz	3	64	2.18	8000	28.8
WAV ADPCM 6KHz ¹	4	24	5.83	3000	10.8
WAV ADPCM 8KHz ¹	5	32	4.37	4000	14.4
WAV PCM 6KHz (default)	6	48	2.91	6000	21.6
WAV PCM 8KHz	7	64	2.18	8000	28.8
WAV PCM 11KHz ²	8	88	1.59	11000	39.6

1. File formats 4 and 5 are non-standard WAV files. They are not recognized by the Windows Media Player or most Windows-based WAV file editors.
2. File format 8 is not supported by the DIALOG/4 board.

Appendix G: OAISYS Call Recording Solutions for Inter-Tel Systems

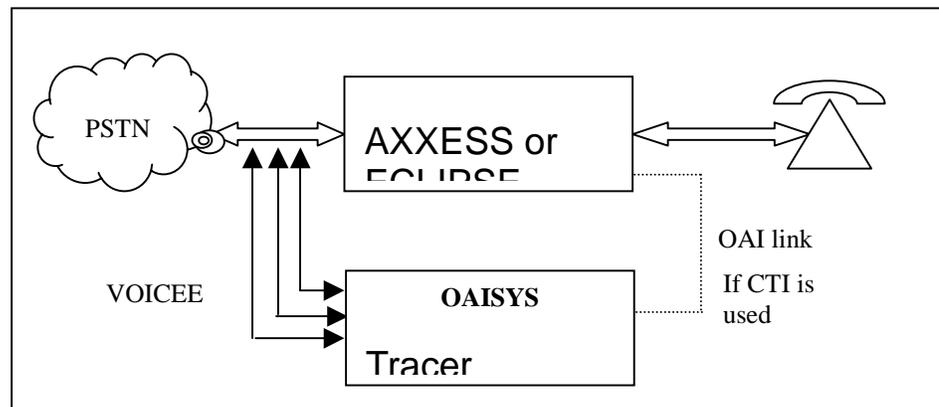
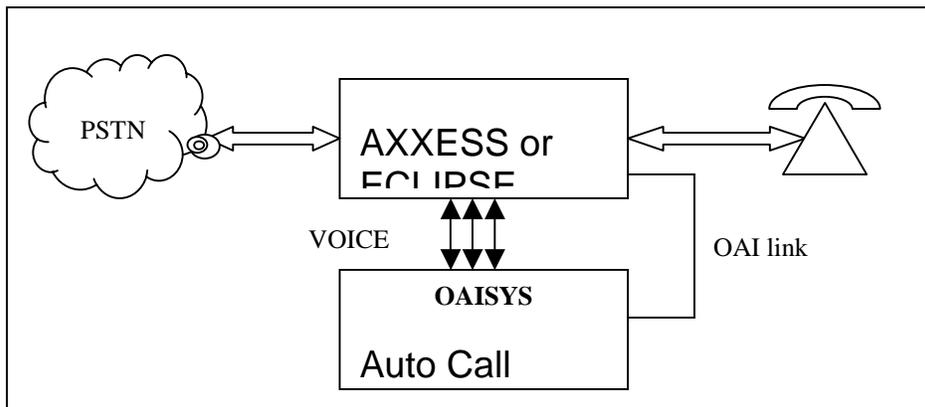
With both the *Auto Call Record* and *OAISYS Tracer* products available for the Inter-Tel Axxess and Eclipse systems, CTS provides solutions for a full range of recording needs. The following table highlights the differences between the two recording products.

Type / Feature	Auto Call Record (V4.0)	OAISYS Tracer
Connection Type	Station Side, Snoop Conference	Trunk Side, Passive Tap
Trunk Types	Any	Analog LS/GS ,T1, ISDN PRI
PBX resources per port	one SL or T-1/OPX port plus one 3-party CNF per recording	<none>
Installed Cost per port	Higher	Lower
Shares or uses IVR ports	YES	No
Requires CTI	YES	No – but CTI adds information and features
Port Limit	96 ports	96 ports 192 ports (Release 2)
Recording Size	12 or 24 Meg Bytes/hour	5 Meg Bytes/hour
Recording Type	Vox, WAV	Vox, Wav, GSM
PBX Type	Inter-Tel Axxess/Eclipse only	Any PBX or CO (but features limited without CTI)
Record CO calls	YES	YES
Record Intercom calls	YES	No
Recording while on Hold	No	YES
Cradle-to-Grave Recording	No	YES
Look-Back Recording	No	YES
Recording Bookmarks	No	YES
Error Alarming	Very Limited	Yes - extensive
Possible to miss beginning of incoming call	Yes	No
Recording Triggers:		
DNIS/DID trigger	No (Yes with Call Router)	YES
ANI/CLID trigger	No (Yes with Call Router)	YES
Account Code trigger	YES (one or all)	YES (list of numbers)
Call Duration trigger	No	YES
Extra Call info Triggers	No	YES
ACD Group trigger	YES (with ACD software)	YES (with ACD software)
ACD Agent trigger	No	YES (with ACD software)

Note: The new *Replay* (recording player) and *Backup Assistant* (backup) products will be able to operate with both of the above recording solutions.

Though in many cases either of the recording products will fit a customer's needs, the following table shows how customer requirements affect which product may be more appropriate.

Customer Recording Needs...	Suggested Product
Quantity of Stations equal to or more than quantity of trunks	<i>Tracer</i> most cost effective
Quantity of Trunks much more than quantity of stations	<i>ACR</i> most cost effective
Record All calls on All trunks	<i>Tracer</i> most cost effective
Low and Random % of stations	<i>ACR</i> most cost effective
Must Record Intercom calls	<i>ACR</i> required
Must Record calls on BRI trunks	<i>ACR</i> required
Must Record calls on PRI trunks	<i>ACR</i> or <i>Tracer</i>
Need Cradle-to-Grave Recording	<i>Tracer</i> required
Need Look-Back Recording	<i>Tracer</i> required
Port size greater than 96 ports	<i>Tracer</i> required (Release 2)
Extensive Alarming Important	<i>Tracer</i> suggested
Must never miss initial portion of any incoming calls	<i>Tracer</i> required
Recording calls over a central trunk group distributed across a networked PBX	<i>Tracer</i> required
High volume recording application requiring optimal voice compression	<i>Tracer</i> most effective



Combining Tracer and Auto Call Record (The best way)

It is possible to install both ACR and Tracer on the same Axxess. If you choose to do this, you should specify that ACR is only allowed to record Intercom (IC) calls – do not allow ACR to record Outside (CO) calls.

ACR and Tracer will connect to a single Net Server for OAI and license data. They will write information to a single Historian database. ACR will write recordings to the ACR PC; Tracer will write recordings to the Tracer PC. Both systems must be configured with file shares so that Replay clients can retrieve recordings from either system.

Combining Tracer and Auto Call Record (other ways...)

If you allow ACR to record CO calls along with a Tracer, you will see a single Call Record in Replay. However, that Call Record will have the ACR recording *and* the Tracer recording listed as files on the call. The presence of two recordings is not immediately obvious in Replay, and may lead to some confusion.

Net Phone Recording Light

Net Phone's Recording light works as usual, but there are special cases:

If ACR is set to automatically record CO calls and the user is allowed to manually start and stop, the light will show the recording state based on ACR. The Recording light displays the last known state of Recording on the station. Since ACR will send a Recording Stop notice to Net Phone, Net Phone will shut off the Recording light even if Tracer is still recording.

If ACR is set to manual start/stop on CO calls, Net Phone will light the Recording Light based on Tracer snooping the call. The user will be unable to initiate a Record Start to ACR since the button is lit – it will always send a Record Stop.

In a combined site, use ACR to record IC calls. Leave Trunk calls to Tracer.