

3Com ExecutiveAssistant Call Recording/Monitoring

Technical Guidelines for Version 5.0

This document assumes working knowledge of the NBX phone system, the NBX dial plan and ExecutiveAssistant. Incorrect modifications to the NBX dial plan can cause the system to become inoperative. ExecutiveAssistant supports the use of pretranslation using NetSet version R4.1.66 and higher. For support of pretranslation using NetSet versions R4.2 and R4.3, you will need at NBX 4.3.7 or higher (for NBX 4.4 – you need NBX 4.4.5 or higher).

For NBX 5.0, you must have NBX R5.0.6 or higher.

NBX Terminology note: The following phrases are synonymous: Media Port, Wave Port, Wave Phone, WAV Phone, Media Driver Port, Windows Audio Volume License, TAPI/WAV Port.

In addition to describing the pretranslator functionality, this document also provides a list of functionality details and limitations of the Recording/Monitoring/Barge-in/Whisper features.

ExecutiveAssistant Recording/Monitoring/Barge-in/Whisper

3Com ExecutiveAssistant performs its functions, such as Recording, Monitoring, Whisper, Barge-in, Find-me/Follow-me, etc., by having all calls route through the software. This is accomplished by setting up hunt groups populated with the Media Ports installed on the ExecutiveAssistant server.

ExecutiveAssistant uses the hunt groups for various features and routing purposes. Using different hunt groups allows ExecutiveAssistant to know what type of call is being routed to it and therefore allows ExecutiveAssistant to know how to handle the call and/or route the call. Standard hunt groups used by ExecutiveAssistant are configured as Circular hunt groups with the first half of the media ports assigned to the ExecutiveAssistant server as members. For example: if the server has the media port range 200-219, then the hunt groups would have 200-209 as members. The last half of the media ports (210-219) are used dynamically and exclusively by ExecutiveAssistant to complete the recording mechanism. The log out if no answer option for the hunt groups should be unchecked by default. In addition, the hunt group time outs must be reduced to 4 per device and 6 total time out.

The dial plan can be setup in various ways to achieve the desired results. The examples listed below are the most common validated methods but should not be considered or limited as the only way of configuration. You can setup and configure pretranslators to streamline the interface of ExecutiveAssistant's recording module. By using pretranslators, there are no noticeable interrupts during telephone calls. Calls coming into certain extensions can be intercepted by ExecutiveAssistant and will trigger the recording mechanism before the caller reaches the final extension. In addition, outbound calls from certain extensions can be intercepted by ExecutiveAssistant and will trigger the recording mechanism before the call is placed without using pretranslators.

1. Save a backup of your current dial plan by exporting to your local computer. You can do this by going to NetSet→Operations→Export. Make a copy of the backup dial plan and edit the copy with the information below.

Dial Plan Configuration for Outbound Recording/Monitoring/Barge-in/Whisper

Outbound call recording/monitoring can be configured for per user or company-wide. The instructions in this document will describe the configuration for the per user method. The basic concept is to include user extensions as “Devices Using” an alternate dial plan table that routes to an alternate extension list. The alternate extension list uses the ExecutiveAssistant call recording hunt group as the primary device. Populating the alternate extension list with trunk lines as secondary devices allows for a convenient and easy method of enabling and disabling recording.

Note: These instructions assume that the last extension list used is *0008, and thus the new one will be *0009. The same is true regarding dial plan tables – the assumption is that you have three (3) tables in use, and the new one is table 4. If either assumption is not the case, then adjust Step 2 or Step 3 (immediately below) to be one higher than the last extension list and/or table used.

2. Add an extension list in the NBX system. Go to NetSet→Dial Plan→Extension Lists and add *0009. Modify this extension list and move the ExecutiveAssistant call recording hunt group into the left column. This is the “Extensions in List” column. The priority number for the hunt group should be a smaller number than any other devices in this list so that the hunt group is the primary device used. If a hunt group has not been created, then create one now based on the instructions from the first page of this document and name it Outbound Record. This hunt group should not be used for any other purpose or feature within ExecutiveAssistant.
3. Edit the copy of the dial plan created in step #1. Create a duplicate of table 1 and call it table 4 Recording. Each “TableEntry Create” should have an “Id” of 4. For all entries beginning with 9 (except for 911 and 9911), change the route to 9.
4. Add route 9 to the dial plan:

```
/                               Route Description
/                               -----
DestinationRoute Create        9 Recording

/                               Route Entry DestinationExtension
/                               -----
DestinationRouteEntry Create   9    1    *0009
```

Pretranslation for Inbound Recording/Monitoring/Barge-in/Whisper

As long as inbound calls are directed to ExecutiveAssistant (via trunks or hunt groups) on the way to their destination, there is no need to use pretranslators for inbound recording. If calls are being routed without explicitly being passed through ExecutiveAssistant, however, you will need to add a pretranslator to ensure that the call is routed through ExecutiveAssistant. Examples where this is useful include: (1) to record/monitor extension-to-extension calls, (2) record/monitor from the NBX auto-attendant (if routing from the NBX auto-attendant with NBX 4.2 /4.3, make sure to use at least 4.3.7).

- Configure pretranslators in the NBX system for inbound calls not using ExecutiveAssistant's built-in auto attendant. You will add an entry for every extension that is to be recorded with inbound calls. The pretranslator will route to the ExecutiveAssistant Auto Attendant hunt group any time a user's extension is dialed. This example assumes the user's extension is 100 and the ExecutiveAssistant Auto Attendant hunt group is 450:

```

Pretranslator Create 3 ExecutiveAssistant Inbound Record
/
/          PreTransId Entry Digits
/          -----
PretranslatorEntry Create          3      1 100

PreTranslatorOperation Create          3      1      1 replace      450

```

- Update your dial plan. **Note:** While importing your dial plan, the NBX will not be able to answer incoming telephone calls and users will not be able to dial outbound calls.

ExecutiveAssistant Installation and Configuration

- ExecutiveAssistant needs to be fully installed.
- Each user in ExecutiveAssistant must have their correct extension entered in Settings→User Configuration→User/Department Setup for the extension field and the DID field. Also set the licensing for the each user to determine if the user is a Advanced, Supervisor or Basic client. Using the example above, set the user with extension 100 as a Supervisor Client. Make sure that 100 is listed in the Extension field and the DID field.
- Set the Recording permissions for extension 100. Go to Recording→Administrator Settings and select the user with extension 100 as Supervisor Client. Move extension 100 from the right column to the left column and then click OK. Highlight extension 100 and check the Incoming Calls External Always box, Incoming Calls Internal Always box, and the Outgoing Calls External Always box.
- Configure the dialing rules in ExecutiveAssistant by going to Settings→System Configuration→Phone Control (server) tab. Enter 9 for the Normal outbound call sequence and enter 8 for the Backup outbound call sequence. Click the OK button to exit.
- Enter the Outbound Record hunt group value into the Record Call field of ExecutiveAssistant by going to Settings→System Configuration→Phone Line Configuration tab. The hunt group is the hunt group that was entered into the Extension List of the NBX back on step #2 of Configuration of Outbound Dialing. This hunt group is only used for Outbound call recording and should only list the media ports used by ExecutiveAssistant as members.
- If ExecutiveAssistant will only be used for Call Recording and Monitoring, then it is recommended to disable the Text-to-speech and Speech Recognition engines to increase performance and reduce CPU usage. Under Settings→System Configuration→Recording Settings (Server) tab, check the checkboxes to disable the Text-to-speech and Speech Recognition engines. Restart ExecutiveAssistant for the changes to take effect. With the engines disabled, features such as the Auto Attendant, Find Me Follow Me, Speech Dialing, Call Notification will not be functional. Also make sure that the person or department marked

as the Operator in Settings→User Configuration is legitimate because that is where the software will send callers if they don't match on any numbers in the users' DID fields.

13. It is also recommended that you disable use of Windows Dialing Rules. You do that by going into Settings -> System Configuration -> Phone Line Configuration and un-checking the Windows Dialing Rules (in the middle-right of the screen). If you want to use the Windows Dialing rules, you must verify that you have configured the Windows dialing properties by going to the Windows Control Panel→Phones and Modems→Dialing Rules tab. If not previously configured, configure your location and enter 9 for accessing outside lines for local and long distance. If it has been previously configured, edit the location listed and verify it will use an 9 for accessing outside lines for local and long distance.
14. In NetSet, set the devices that will be using the pretranslator. Assuming that you want to pretranslate extension 100 when dialed from an NBX auto attendant, put the voice mail port extensions in the pretranslator by going to NetSet→Dial Plan→Pretranslators. Highlight the name of the pretranslator you created and click Devices Using button. Highlight your voice mail port extensions in the right hand column and move the extensions to the left hand column and click Close.
15. In NetSet, set the devices to use the new "Recording" table by going to NetSet→Dial Plan→Tables. Highlight the "Recording" table and click the Devices Using button. Highlight only the extensions you want to record outbound calls for and move them from the right column to the left column and click Close.
16. Test the Incoming Internal trigger by dialing extension 100 from an NBX auto attendant. You can access the recording through the Call Log for extension 100 in ExecutiveAssistant.
17. Test the Outgoing External trigger by dialing a 9 + External number from extension 100. You can access the recording through the Call Log for extension 100 in ExecutiveAssistant.

ExecutiveAssistant Recording/Monitoring Functionality

General Recording/Monitoring Functionality

- Any live call within a 3Com NBX-100, SS3 NBX, V3000 or V5000 can be recorded or monitored with ExecutiveAssistant's Recording Module (part # 3C10450A) for any extensions with at least Basic Client license (part # 3C10452A).
- Requires two 3Com Wave (Media) Port licenses per call being recorded, or even be eligible for on-demand recording, monitoring, whisper or barge-in – dynamically allocated. The 3Com Media Driver Port License is 3Com Part # 3C10319. The site license is 3Com Part # 3C10329.
- CPU requirements are roughly 70MHz of CPU for each Media Port on NBX R4.x. NBX R5.x is more efficient and only uses about 50% of the CPU resources necessary for R4.x. This will vary depending on call traffic patterns. Please refer to the separate ExecutiveAssistant Hardware Requirements PDF.
- If more than 10 supervisors will operating the software's GUI at once, you must run this on Windows Server with enough Windows CALs to cover the number of simultaneous users.

- The supervisor has visibility on the PC screen of all active calls they have access to for recording and monitoring.
- Once that recording is complete, that supervisor can playback and review all recordings from the sort-able ExecutiveAssistant Call Log window.
- The supervisor can also export any recording or selected group of recordings into standard WAV audio format for special storage or e-mail usage.
- The system administrator sets up permissions for recording supervisors (Supervisor Clients) and recording seats (Basic Clients).
- The administrator also can designate the disk volume for storing recording, as well as set thresholds for e-mail notifications, auto-purges and auto-archiving.
- With proper network settings, the recording files are secure from those who have not been designated as having proper access.
- It is imperative that the customer understands and follows the laws for their state or local government regarding usage and notification of recording features. ExecutiveAssistant allows the company to record a special greeting prompt for any company or department using Automatic Recordings that indicates to callers that a recording may occur.
- The integrator can include inbound call routing coverage so that calls are handled automatically if ExecutiveAssistant is not running. For outbound calls, however, it is recommended that the Sentry.exe application (no additional charge) run on a separate machine (is a service, and can run on a shared machine that is always running). This application ensures that calls still route correctly if the ExecutiveAssistant system is turned off or disabled for any reason.

Automatic (Always) Recording

- Calls to any user, whether or not they are using an NBX telephone can be automatically recorded.
- The Supervisor user can designate which types of calls are to be recorded, including incoming internal, incoming external, outgoing external.
- Outside party has no audio (or visual indication) of a recording occurring, unless the optional periodic beep tone is enabled.
- Calls to DID's can be automatically recorded with ExecutiveAssistant, once again without the caller having any indication a recording is occurring.
- Calls that are automatically forwarded to outside lines using the find-me-follow-me logic of ExecutiveAssistant can also be automatically recorded or monitored.
- Uses ExecutiveAssistant's conference bridge (no additional charge); does not use up any of the 3Com NBX conference resources.
- *[Limitation only if using NCP older than R5.0.6 or MediaDrivers older than R5.0.4]:* If employee uses a display NBX telephone, they will see the Caller ID of the Media Port instead of the caller party (correct Caller ID will display on the PC screen, however). In addition, no DNIS (DID) information displays on the NBX telephone display. Caller ID and DID information can only be available on the PC screen using ExecutiveAssistant's screen pop (available for Basic, Advanced or Supervisor client licenses).

- *[For NCP R5.0.6 and later and MediaDriver R5.0.4 and later]:* Caller ID (and Called Number for outbound calls) displays on the LCD display of the telephone. Both the Caller ID number and name display on the first line of the LCD display.
- For incoming calls through ExecutiveAssistant (or even DID calls if configured correctly), employee has no audio indication of recording occurring.
- For incoming calls processed outside of ExecutiveAssistant (transferred from another extension or going through NBX auto-attendant), these calls can be recorded as long as the devices are using the pretranslators. In this scenario, if the employee does not answer the phone and is sent to voice mail, the voice mail references the Media Port number instead of the extension of the caller (and instead of “from an outside caller” for voice mails from outside).
- For outbound calls on digital lines that are recorded, potentially recorded, monitored, or potentially monitored, dynamic CLI (Calling Line ID information) special configuration mechanisms and options are now available. Please contact BrightArrow for details on settings.
- If using the 3Com voice mail in the e-mail box, if that call was recorded or on-demand it will not show the Caller ID.
- With NCP R6.0 and later, 3Com has an updated CDR program that restores relevant changes that ExecutiveAssistant’s Media Port usage makes in the call reports. *[Limitation for NCP R5.0 and earlier]:* if using automatic recording with older NBX software, Caller ID information for those incoming calls are not available in the 3Com CDR reports or the telephone Call Logs button. For those users, recent call information and call logs information is available through the ExecutiveAssistant user interface. ExecutiveAssistant provides correct information in its comma-delimited reports formatted similarly to the NBX’s CDR data.
- *[For analog line installations only]:* If customer uses analog line appearance button mappings, the customer needs to identify Line Cards or Line Trunks in the ExecutiveAssistant System Configuration.
- *[For analog line installations only]:* If customer picks up calls directly from analog line appearances on their handsets (key mode operation), those calls cannot be recorded or monitored. In those cases, full and seamless recording can either be accomplished by using the built-in (no additional charge) ACD functionality of ExecutiveAssistant or NBX R5, or by changing over to a Calling Group model for incoming calls.

Silent On-Demand Recording

- Same functionality and limitations as Automatic Recording, except that calls are not saved unless the user initiates the recording via “**” or supervisor clicks the Record button during the call.
- The number of Media Driver ports required include those used for ALL calls that might need to record (times two), not just the ones that are recording. For a call to be eligible for On Demand, it must be passed through ExecutiveAssistant with its two Media Drivers ports in use.
- When a user starts “Record,” the entire call is saved (not just from the time of invocation).
- In order for a caller to be available for silent recording, monitor or barge-in, that call must be in the On Demand state – therefore, the call must be set up at call start with two Media Ports.
- If the employee is at least a Basic Client, they can press “**” (star-star) on their telephone keypad to record the current conversation. If it is an NBX telephone (or PcXset), the caller will not hear that recording has been enabled.

- Even if the call has been directed to an outside number (like a cell phone using find-me-follow-me), “**” is still available to initiate a record. If it is pressed while the call is being announced in find-me-follow-me, the caller will not hear the touch-tones. If it is pressed during a call from the outside number, the caller will hear the touch-tones.
- Additional options for controlling what is recorded on-demand: If you press “*0” (star-zero), prior information in the call is erased and the recording starts then. If you press “*7” (star-seven), recording is Paused. If you press “*8” (star-eight), it is un-paused. These features are also available to Supervisor clients in the GUI of the software.

Silent Monitoring, Barge-in and Whisper

- The number of Media Driver ports required are two (2) for each simultaneous call that is eligible to be monitored/whispered/barged-into, plus one for each simultaneous Supervisor who is using these features. If Automation or On-demand Recording is being used, those would be the same two Media Drivers used for these features.
- Calls that are set to Automatic Record or On Demand are available for Silent Monitor, Barge-in or Whisper by authorized manager (via a Supervisor client license).
- Participants in a call have no audio or visual indication of being monitored.
- When monitoring (or barging/whispering) a call, the Supervisor uses another Media Driver Port.
- Supervisor can barge into (join) the call simply by clicking the “Barge-in” radio button.
- Supervisor can speak to the user (user cannot respond) by clicking on the “Whisper” radio button. This is also known as Whisper Page.
- NBX conferences can be bridged using Barge-in to create larger conference calls that exceed the current NBX limitation of 4-parties per conference call.
- These features are available from remote locations – given the correct remote IP connection, a recorded or monitored user and/or supervisor can be at a remote site.

NBX Usage

- Uses 3Com’s Media Port technology for all recording/monitoring functionality. Therefore, all recordings/monitors are point-to-point (no multi-cast) and there is no need to de-encrypt any packets (so conversations remain secure from unauthorized packet sniffers and other spyware intrusions). Specifically, there is no need to purchase the “3Com Call Record and Monitor License” (instead part 3C10451 is required) because that is simply a license to de-scramble the audio on going through the LAN – ExecutiveAssistant does not use that approach, and allows you to keep the conversations secure over the LAN.
- CPU requirements are roughly 70MHz of CPU for each Media Port for NBX R4.x. It is half that (approximately 35MHz per WAV phone for NBX R5.0.6 and later if a recording/monitoring-only installation). This will vary depending on call traffic patterns. Please refer to the separate ExecutiveAssistant Hardware Requirements PDF, or contact BrightArrow for specific recommendations.

Integration with the 3Com eXchange Call Center or Easyrun Epic Center

The topology for 3Com ExecutiveAssistant integration with 3Com’s eXchange Call Center (and Easyrun Epic Center) is for incoming calls to be routed to ExecutiveAssistant first, with ExecutiveAssistant terminating the call on one Media Port and immediately dialing eXchange on a

second Media Port (with those two Media Ports connected doing 2-way full-duplex audio pass-through). With this topology, the following applies:

- Each live call (whether it is in the eXchange queue or connected to a live person) will need to be allocated a pair of Media Ports if at any point during the conversation that call might possibly need to be recorded or monitored. In addition, a 3rd Media Port will be necessary for the Supervisor to use when they are actively monitoring calls.
- If it is possible that the number of live calls might exceed the Media Ports available, you should designate one or two (depending on call volume) of the Media Ports for overflow pass through – those Media Ports cannot be used for On Demand usage or Supervisor Monitor usage, but ensure that overflow calls are directed to the correct eXchange destination.
- An easy way to calculate the number of Media Ports needed is to multiply the expected maximum number of incoming trunks used (agents + queue) by 2, add the number of supervisors who might be monitoring at the same time, and add one or two overflow Media Ports for pass-through in case the expected maximum is exceeded. The only known way to reduce the consumption of Media Ports is to designate some hunt groups as not available for record/monitor, and thus reduce the expected number of maximum incoming calls to be On Demand. This can only be done at the granularity of eXchange hunt groups, not at the agent level.
- Since calls are not transferred to eXchange (a new call is being placed from the second Media Port), DNIS and ANI are not sent via TAPI to eXchange. Therefore, ExecutiveAssistant provides that information to eXchange (or Epic) directly by running an ExecutiveAssistant client on the eXchange/Epic server. For this integration, you will need at least version 4.33.03 of eXchange or Epic.
- The ExecutiveAssistant client software is installed from the ClientSetup folder located on the ExecutiveAssistant server once the ExecutiveAssistant server software has been installed. **Do not** try to install the client portion of ExecutiveAssistant using the same setup files used to install ExecutiveAssistant on the server.
- ExecutiveAssistant's server should be operating on a PC separate from the eXchange server. It is the client of ExecutiveAssistant that operates on the eXchange server.
- It is required that the NetSet's TAPI Settings tab (in System Configuration) reflects the sum of all the TAPI clients PLUS the number of Media Ports on the NBX. For example, if there are total of 100 Media Ports and 50 in the "Maximum TAPI Clients" is the default 50, you might encounter TAPI errors when trying to open the 51st Media Ports.
- To prevent the possibility of ExecutiveAssistant taking Media Ports designated for eXchange during installation, or incorrectly identifying Citel-connected Nortel phones as Media Ports, it is recommended that a registry value be set in the ExecutiveAssistant registry, named "Total Media Ports" (type DWORD) that identifies the number of Media Ports allocated to ExecutiveAssistant.
- Due to the number of Media Ports needed, typically call centers purchase the 3Com Media Driver Site license (3C10329) instead of individual Media Driver ports (3C10319).

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