



BackOffice SIP Trunk Installation Guide

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www.usbcallrecord.com

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This guide describes the installation procedures for the BackOffice software when used with the SIP Trunks as a centralized Call Recording and storage solution.

The complete SIP Trunk solution consists of:

- A Smart Switch mirroring the SIP Trunk Traffic
- A dedicated PC with 2 Network Interface Cards.
- BackOffice Recording software.
- XTR Reporter Pro supervisor software.

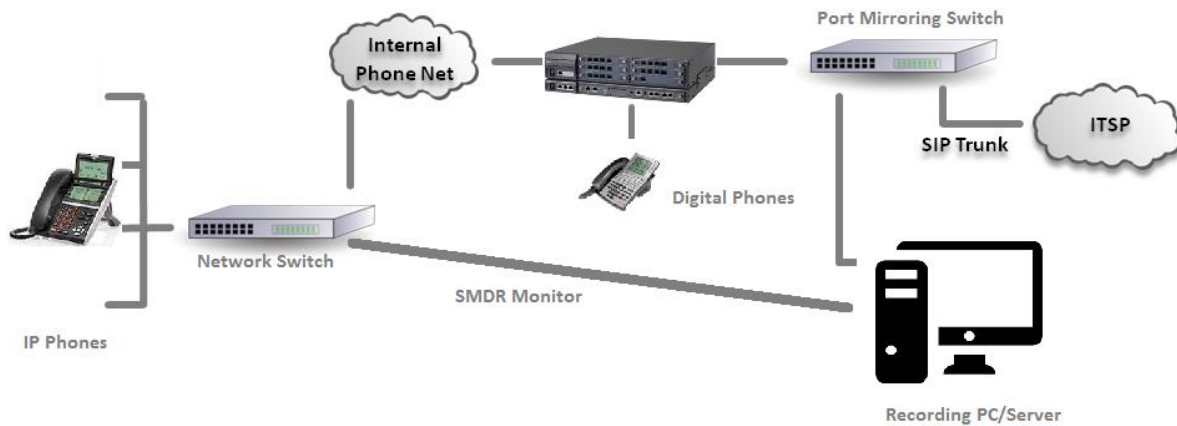
Host PC Requirements

The specs below are minimum specifications for use with any SIP Trunk recording solution used in a BackOffice Recording environment when utilizing the BackOffice 4.X Software. The host PC should be a new and dedicated PC. It is not recommended to run the BackOffice software on a PC that is shared with other applications, doing so may cause conflicts that could jeopardize the stability of the pc or applications. **We do not support installations in a virtual environment.**

- Operating System: Windows 7, Windows 8 and Windows 10 (32 & 64 Bit OS)
- Processor: Quad Core 3GHz or better
- Two Network Interface Cards
- RAM: 8Gb
- Hard Drive: 168 hours of recording per Gb of disk space available

PC Setup

1. Verify that the PC meets specifications above.
2. Install and identify a second Network Interface Card on the PC. Determine which NIC will be used for network traffic and which will be used for SIP Trunk Traffic.
3. Install all windows updates and set the Automatic Updates so that updates are not applied automatically. Updates should be applied manually by stopping the BackOffice service, applying the Windows updates and restarting the PC.
4. Install WinPcap on the recording PC. WinPcap can be downloaded at <http://www.winpcap.org>.
5. Install Wireshar on the recording PC> Wireshark can be downloaded at <http://www.wireshark.org>
6. Connect the SIP Trunk License Dongle to a USB port on the recording PC.



Network Setup

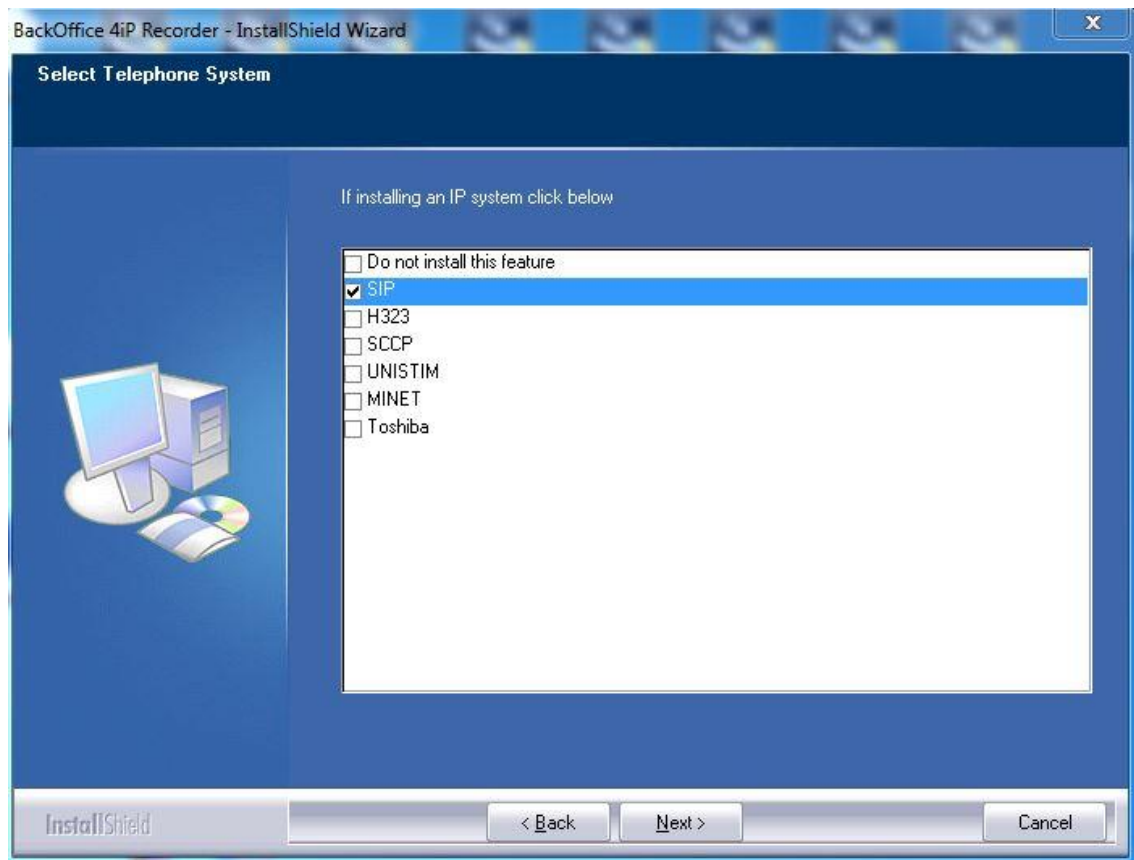
1. Verify that the SIP Trunks are connected to the network through a managed switch (smart switch).
2. Configure the SIP trunks so that all traffic is mirrored (span port) to the network connection that will go to the second NIC card on the recording PC.
3. Verify that there is no traffic from a Gateway on the mirrored port.
4. Connect the recording PC to the customers network on the NIC that has been defined for network traffic.
5. Connect the recording PC to the mirrored port of the switch on the NIC that has been defined for SIP Trunk traffic.
6. Verify the connectivity and functionality of both Network Interface Cards.

SIP Trunk Verification and Identification

1. Using Wireshark, verify that the recording PC can see the SIP Trunk traffic and VOIP calls and that audio is present on the calls. (See Wireshark Users Guide)
2. Identify the correct IP Address for the SIP Trunk recording application by placing an inbound call to the system and identify the "Destination" IP Address using the "INVITE" message for that call.

Install BackOffice Software

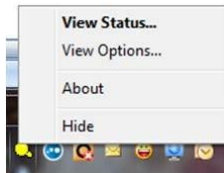
- 1) Download the latest version of BackOffice software designated for use with SIP Trunk installations from our website (www.usbcallrecord.com). Click on the Download link on the main menu bar, scroll down to the section for BackOffice.
- 2) During the installation select “SIP” when prompted for the system type being installed when you are on the IP Systems selection window. Select “Do Not Install This Feature” for both the digital phone systems and analog systems windows.



Configure SIP Trunks

The BackOffice recorder should already be running as a yellow icon on your system tray. If not double click the desktop icon:

The main Window of the Recorder shows the status of the ports, to show the window, right click on the sys tray icon and click “View Status...”



The Recorder Port Status screen is not used for configuring, it is only a display of current status of the recorder hardware and software:

| Port No. | ENC | State | Serial No. or Port No. | Name | Call | Unit Type | Destination |
|----------|-----|-------|------------------------|------|-------------------|-----------|-----------------------------------|
| 1 | | Good | 1111003400 | 31 | Incoming Exter... | ISDN | C:\Users\Andrew Roberts\Docume... |
| 2 | | Good | 1111003401 | 32 | Outgoing Exter... | ISDN | C:\Users\Andrew Roberts\Docume... |
| 3 | | Good | 1111003402 | 33 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 4 | | Good | 1111003403 | 34 | Incoming Exter... | ISDN | C:\Users\Andrew Roberts\Docume... |
| 5 | | Good | 1111003404 | 35 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 6 | | Good | 1111003405 | 36 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 7 | | Good | 1111003406 | 37 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 8 | | Good | 1111003407 | 38 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 9 | | Good | 1111003408 | 39 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 10 | | Good | 1111003409 | 40 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 11 | | Good | 1111003410 | 41 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 12 | | Good | 1111003411 | 42 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 13 | | Good | 1111003412 | 43 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 14 | | Good | 1111003413 | 44 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |
| 15 | | Good | 1111003414 | 45 | Idle | ISDN | C:\Users\Andrew Roberts\Docume... |

Port No: Shows the total number of ports licensed/equipped

ENC: If encrypted is enabled an icon will show identifying that the port is encrypted

State: The current state of the port.

Serial No. or Port No.: Serial number of the port or user defined port details.

Name: The name of the channel.

Call: The current call state of the port.

Unit Type: Type of the hardware device.

Destination: The destination where the call is going to be stored.

Exit the Status Screen by clicking the OK button, then right click on the icon in the system tray and select “View Options” to configure the Multicorder.

Options:

The screenshot shows the 'Options' dialog box with the 'File Management' tab selected. The dialog has a title bar with a yellow icon and the text 'Options'. Below the title bar is a tabbed interface with tabs for 'Port Configuration', 'Options', 'Caller ID', 'VoIP Configuration', 'SMDR Integration', 'Dialled ID', and 'Email Notification'. The 'Options' tab is active, displaying the 'File Management' section. This section includes a text box for 'Buffer calls locally at:', a 'Compress recordings' checkbox (checked), a 'Show status when recorder starts' checkbox (checked), a 'Call selection' section with radio buttons for 'Save all calls' (selected) and 'Only save calls longer than' (with a value of 0 seconds), and an 'Encryption type' dropdown set to 'None (Open)' with an adjacent 'Passphrase' text box. Below this is the 'Automatically Record Calls' section with a 'Record calls:' dropdown set to 'Always' and a 'Prefix call direction to Caller ID' checkbox. The 'Auto Delete Un-Important Calls' section has a 'Never' radio button selected, with options for 'After using' (0 Megabytes) and 'When the calls are' (0 days old). At the bottom, there are 'Process DTMF' (Don't detect), 'Stop Key' (#), and 'Restart Key' (#) dropdowns, and 'OK' and 'Cancel' buttons.

Buffer calls Locally At: *This option is only used if you will be storing the call files at a location other than the recording PC. Create a folder on the local hard drive to use as a buffer for the call files while they are being created. Using the browse icon set this option to the buffer folder. Once recording is completed the call file is then moved to storage location specified for each port.*

Compress recordings: uses a compression technique to store the recording more efficiently (168 Hours per GByte).

Call Selection: The option is used to only save calls longer than a specific number of seconds.

Encryption type: none, AES128 bit, AES 192 bit or AES 256 bit. The Passphrase that is created in the BackOffice recording application is also used in the player application to

decrypt the call files. Without the correct pass phrase calls will not be able to be played back. NOTE: it is critical to test the encryption pass phrase setup prior to live deployment, once a call is encrypted there is no way to reclaim the pass phrase that was used to encrypt the call.

Automatically Record Calls: Set for “Always” for use with SIP Trunks

Auto Delete Un-Important Call: this can be set to delete calls after ‘x’ number of days or after a define amount of disk space has been used. Calls marked as Important during playback will NOT be auto-deleted by this setting.

VOIP Configuration

1. Click on the VOIP Configuration Tab.

Options

Port Configuration Options Caller ID VoIP Configuration SMDR Integration Dialed ID Email Notification

IP Settings

Network Interface: Realtek PCIe GBE Family Controller

PBX IP: 192 . 168 . 5 . 11 ☒ SIP trunk Mode, with local PBX.

Terminals

Register Terminals

Before the terminals can be recorded they need to be registered with the system. To register the terminals you need to check the checkbox below and make an out bound call from each off the terminals, once registered you need un check this checkbox.

☐ Enable Terminal Registration

Logging

To enable logging check the checkbox below. Please make a few incoming and outgoing calls. The Log files can to found using the button below.

☐ Enable Logging

Open Location...

Save Settings

After filling out the information on this screen, you need to save your settings using the button below otherwise the terminal list below will not update.

Save Settings

The Terminal(s) registered with the system are listed below. All none phone terminals e.g. Gateways/PBXs and terminals you wish NOT to record should to be removed.

| URI | IP Address | Port | VLAN |
|-----|------------|------|------|
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Refresh Terminal List Remove Terminal

OK Cancel

2. Disable Terminal Registration
3. Select the Network Interface Card that is receiving the mirrored SIP Trunk Traffic
4. Set the IP Address identified as the source for the SIP Trunk Traffic.
5. Click “Save Settings” then OK to close the window.

Port Configuration:

Open the Options window and click on **Port Configuration** Tab. This is where you name and map each recording channel, when un-configured each channel has an assigned serial number that appears as shown above. **Select:** 'Enable this port for recording' to activate the channel

Channel Name: Numerical starting at 1 through the number of SIP Trunks that are licensed. Example below shows a 12 SIP Trunk installation.

The screenshot shows the 'Options' window with the 'Port Configuration' tab selected. The window has a title bar with a yellow icon and a close button. Below the title bar are several tabs: 'Port Configuration', 'Options', 'Caller ID', 'VoIP Configuration', 'SMDR Integration', 'Dialled ID', and 'Email Notification'. The 'Port Configuration' tab is active, displaying a table with two columns: 'Serial No. or Port No.' and 'Name'. The table lists ports from 1 to 12, with port 12 highlighted in blue. To the right of the table are three sections: 'Enable', 'Channel Name', and 'Settings'. The 'Enable' section has a checked checkbox 'Enable this port for recording'. The 'Channel Name' section has a text box with '12' and a folder icon. The 'Settings' section has a 'File Path' text box with 'C:\Call Recordings\' and a folder icon, 'Unit Type' dropdown with '<Select One>', 'Unit No.' dropdown, 'Port' dropdown, a checked checkbox 'Auto Gain Control', and 'Audio Boost (%)' sliders for 'Local' and 'Remote' both set to 100. At the bottom right are 'OK' and 'Cancel' buttons.

| Serial No. or Port No. | Name |
|------------------------|------|
| 1110000000 | 1 |
| 1110000001 | 2 |
| 1110000002 | 3 |
| 1110000003 | 4 |
| 1110000004 | 5 |
| 1110000005 | 6 |
| 1110000006 | 7 |
| 1110000007 | 8 |
| 1110000008 | 9 |
| 1110000009 | 10 |
| 1110000010 | 11 |
| 1110000011 | 12 |

Enable

☒ Enable this port for recording

Channel Name

Channel Name: 12

Settings

File Path: C:\Call Recordings\

Unit Type: <Select One> Unit No: Port:

☒ Auto Gain Control

Audio Boost (%) 100 Local 100 Remote

OK Cancel

File Path: Set the storage location for call files to be stored. All ports are assigned to the same storage location.

Unit Type: Not Used

Unit No: Not Used

Auto Gain Control: Leave this option enabled.

Audio Boost: Not used with SIP Trunks

Once all ports are configured, click 'OK' to exit this screen.

SMDR Configuration

Options

Port Configuration | Options | Caller ID | VoIP Configuration | SMDR Integration | Dialled ID | Email Notification

☒ Enable SMDR IP Address: 192 . 168 . 1 . 20 Port: 4001 PBX: NEC ▼ View...
☐ TCP/IP Replication Replication port: 0
☒ Obtain the SMDR details from the PBX
☐ Obtain the SMDR details from the Call Logger
☐ Obtain the SMDR details directly (RS232): COM1 ▼ (19200 : 8 : N : 1)

Recording allocation (Extension vs Trunk)

☒ Record all calls by default ☐ Exclude all calls by default

- ☐ Match calls using the trunk ID (default)
- ☒ Match calls using Caller ID

- ☐ Use the first extension connected to the trunk
- ☒ Use the last extension connected to the trunk
- ☐ Use the extension connected to the trunk the longest time
- ☐ Use the extension connected

☐ Exclde the repectionist from transferred calls

Repectionist number: 0

| Extension Number | Record / No Record State |
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Add Extension... Remove Extension Edit Extension...

OK Cancel

For BackOffice to perform Line side extension matching via SMDR, the SMDR configuration needs to be completed. Click on the SMDR tab and click Enable SMDR.

Configure the Windows Firewall to enable the BackOffice application access through the Firewall.

Enter the IP Address and the port number of the SMDR output on the PBX, and select the PBX type. Click View to verify the SMDR data to verify it is being received.

Select "Obtain the SMDR details from the PBX"

Select "Match calls using Caller ID"

Select "Use the last extension connected to the trunk"

Click OK

Exclude Extensions from Recording

BackOffice offers two methods of excluding a specific extension or extensions from being recorded. If the majority of extensions will be recorded then you would build an exclusion table. If the majority of extensions will not be recorded you would build an inclusion table.

Exclusion – Used if the majority of extensions will be recorded - select Record All Calls by Default, add the extension(s) to the exclusion list and select Do Not Record. The example below shows this option with two extensions that will not be recorded.

Inclusion – Used if the majority of extensions will not be recorded – select Exclude All Calls By Default, add the extensions to the inclusion list and select Record.

Options

Port Configuration Options Caller ID VoIP Configuration SMDR Integration Dialed ID Email Notification

☒ Enable SMDR IP Address: 192 . 168 . 1 . 20 Port: 4001 PBX: NEC View...

☐ TCP/IP Replication Replication port: 0

☒ Obtain the SMDR details from the PBX

☐ Obtain the SMDR details from the Call Logger

☐ Obtain the SMDR details directly (RS232): (19200 : 8 : N : 1)

Recording allocation (Extension vs Trunk)

☒ Record all calls by default ☐ Exclude all calls by default

☐ Match calls using the trunk ID (default)

☒ Match calls using Caller ID

☐ Use the first extension connected to the trunk

☒ Use the last extension connected to the trunk

☐ Use the extension connected to the trunk the longest time

☐ Use the extension connected

☐ Exclude the receptionist from transferred calls

Receptionist number: 0

| Extension Number | Record / No Record State |
|------------------|--------------------------|
| 121 | Do not record |
| 154 | Do not record |
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Add Extension... Remove Extension Edit Extension...

OK Cancel

Email Notification

Use this section to setup email notification if the BackOffice service fails or if the hardware removed:

The screenshot shows the 'Options' dialog box with the 'Email Notification' tab selected. The dialog has a title bar with a yellow icon and a close button. Inside, there are four tabs: 'Options', 'Port Configuration', 'SMDR', and 'Email Notification'. The 'Email Notification' tab contains the following sections:

- Email Notification:** A checkbox labeled 'Enable email notification' is checked. To its right are three unchecked checkboxes: 'Send alert if the number of unallocated calls is greater than', 'Send alert if a hardware failure or unplug has been detected', and 'Send alert if a recorder service has started or stopped'. The first checkbox has a numeric input field set to '5' and the unit 'calls'.
- Statistics:** A section with five labels and values: 'Number of calls recorded today: 0', 'Number of unallocated calls today: 0', 'Last unallocated call: None', 'Last recorded call: None', and 'Total number of unallocated calls: 0'.
- Test Email Settings:** A section with a text box containing the message: 'After filling out the information on this screen, we recommend you test your settings by clicking the button below. (Requires network connection)'. Below the text box is a button labeled 'Test Settings...'.
- Email Server:** A section with several input fields: 'Outgoing mail server (SMTP):', 'Port: 25', 'Username:', 'Password:', 'To:', 'Subject:', and 'Mail message:' (a text area).

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

Supervisor Player Software

The BackOffice creates the recording files and XTR Reporter Pro is used to review and listen to the calls.

Download and install the XTR Reporter Pro and Installation/User manual from the Downloads section of our website.

You can also use the XTR Desktop Player to listen to the call files. The Desktop Player is a freely distributed (non licensed) player for the .xtr file type.