

# MiVoice Office Call Recorder 5.1 Sales Engineer/Pre-Sales Guide

## Product Overview

MiVoice Office Call Recorder is a module of the MiVoice Office Application Suite. It provides extension-side call recording on the MiVoice Office 250 platform. The solution provides the customer with system wide call recording with easy to use search and playback features.

### What is Extension-Side Recording?

This section outlines the differences between a trunk-side and an extension-side call recorder. It is important to understand the differences when looking at a customer's requirements.

Recording Type	Description	Benefits	Drawbacks
Extension Side	Calls are recorded when they are in progress at an extension on the telephone system.	<ul style="list-style-type: none"><li>Internal calls can be recorded, including transfer legs</li><li>Calls are segmented, specific legs of external calls can be kept or deleted</li></ul>	<ul style="list-style-type: none"><li>Calls are not recorded when they are on hold or queueing</li><li>Trunk to trunk calls are not recorded</li></ul>
Trunk Side	Calls are recorded on the external trunk lines going into the telephone system.	<ul style="list-style-type: none"><li>Trunk to trunk calls are recorded</li><li>Calls that are queueing or on hold are recorded</li></ul>	<ul style="list-style-type: none"><li>Internal calls and transfer legs are not recorded</li><li>Different legs of call are often in a single recording and extension search information is lost</li></ul>



#### Note

MiVoice Office Call Recorder offers 'Extension-side' recording only.

### Recording Methods

The MiVoice Office Call Recorder provides extension side recording using 2 methods of recording calls:

- Record-A-Call -> The MiVoice Office Call Recorder is connected to the MiVoice Office 250 as a SIP Voicemail (MiVO 250 SIP Voicemail licenses included) and records audio traffic by the system creating a conference between the call in progress and the MiVoice Office Call Recorder server. This can be used on all extensions except SIP (Cat-F)
- IP/SIP Extension -> Port Mirroring (SPAN) is used to record RTP call traffic from IP and SIP extensions connected to the MiVoice Office 250

For more information on which recording methods to use, please refer to the 'MiVoice Office 250 Configurations' section.

## Key Features & Benefits

The following features describe the benefits to the customer of running a MiVoice Office Call Recorder solution. The information provided here can be used to show the flexibility of the solution and provide help when comparing against competing platforms:

### Integrated Platform

The solution is integrated into the MiVoice Office Application Suite, which provides many benefits, including:

- Single server installation, reduced cost of ownership, one system to install and maintain.
- Single user account to access all Application Suite components (Active Directory linked with automated sign on)
- Integration between Application Suite components; playback calls from within Reports or from Phone Manager Desktop Call History.

### Fully Featured Web-based Interface

The interface for playback of recording is all web-based with no client installation required. Searching for recordings and playback is quick, easy and requires minimal user training. Users can playback recordings, add notes, save all or part of a call and email calls to other users (permissions dependent). The system also allows users listen live to calls that are in progress, all through a web interface.

### Call Information & Segmentation

All possible call information is stored against recordings to make them easy to find, including but not limited to *DID, Caller ID, Agent ID, Hunt Group, Time of call and Extension*. In addition, each time a call is answered by a different extension on the telephone system, it is saved to a separate file and a separate row in the database. All call segments are grouped together and can be played whole or individually.

### Exclusion / Inclusion Lists

There will be some calls that customers do not wish to record. MiVoice Office Call Recorder provides an exclusion list to add extensions, telephone numbers etc. to stop specific calls being recorded. An inclusion list can be used to override the exclusion list if required. A persistent exclusion list entry can be used to tag a call as 'Do Not Record' at the beginning which will apply to all subsequent call segments.

### Secure User Access, Digital Signature & Encryption

All recordings are encrypted in memory before they reach the hard disk and are then digitally signed to ensure that they are tamper-proof. In addition, the system provides a flexible security structure to restrict or allow access to recordings. Access to recordings can be allowed or denied by user, department or by any of the call information listed above.

## Licensing

There are 2 types of MiVoice Office Call Recorder license available:

### *Small Business*

These licenses can be used for both recording methods listed above, depending on the customer's requirements. Maximum of 8 licenses per system.

### *IP/SIP Extension*

These licenses can be used for IP/SIP Extension recording only. Maximum 250 licenses per system.

All licenses are consumed on a concurrent basis; this allows a great amount of flexibility for the customer

### Example 1 – External Calls Only

*Configuration: 10 Digital, 10 IP extensions. 4 trunk lines*

*Licensing: Small Business x4*

All extensions can be configured using the Record-A-Call method. If the system is only configured to record external calls, 4 licenses are enough to meet the customer's requirements.



#### **Note**

if you have a mixture of 8 small business licenses and IP\SIP endpoint licenses then concurrent calls will use both license types e.g. if you have 10 x IP extension licenses but an 11th IP\SIP device makes a call then the system will automatically use one of the small business recorder licenses providing there is one available. This does not however work in the other direction if you reach the limit of 8 concurrent recordings using the R-A-C method you cannot use the IP\SIP licenses to increase this.

### Example 2 – External Calls Only, Mix of Extensions

*Configuration: 5 IP, 5 Digital & 2 SIP Extensions. 8 trunk lines*

*Licensing: Small Business x8*

The digital extensions must be recorded with the Record-A-Call method. The SIP extensions must be configured for recording with the IP/SIP Extension method. The IP extensions can be configured using either method, but IP/SIP Extension would be preferential because it would save telephone system resources. A Small Business x 8 license would still be enough for this site because there are no more than 8 trunks so there can never be more than 8 simultaneous external calls.

### Example 3 – Mixture of IP, Digital & SIP Devices, All Calls (Internal/External)

*Configuration: 4 digital, 10 SIP & 20 IP extensions*

*Licensing: Small Business x4, IP/SIP Extension x30*

The digital extensions must be recorded using the Record-A-Call method. Because all calls need to be recorded, all extensions need to be licensed to ensure no calls are lost. The SIP extensions are not supported by the Record-A-Call method, they would need to be recorded using the IP/SIP Extension method of port mirroring.

A Small Business x 4 license is enough to ensure all digital extensions can be recorded and 30 x IP/SIP Extension licenses ensures if all extensions are in use they can all be recorded.



#### **Note**

If all calls are to be recorded then no more than 8 digital phones can be supported, this is the limit of the Record-A-Call recording method.

## Port Mirroring

To use IP/SIP Extension side recording, the server must be connected to a port mirroring device on the customer's network. This will require an additional network interface card to be available/installed in the server that will run the MiVoice Office Call Recorder.

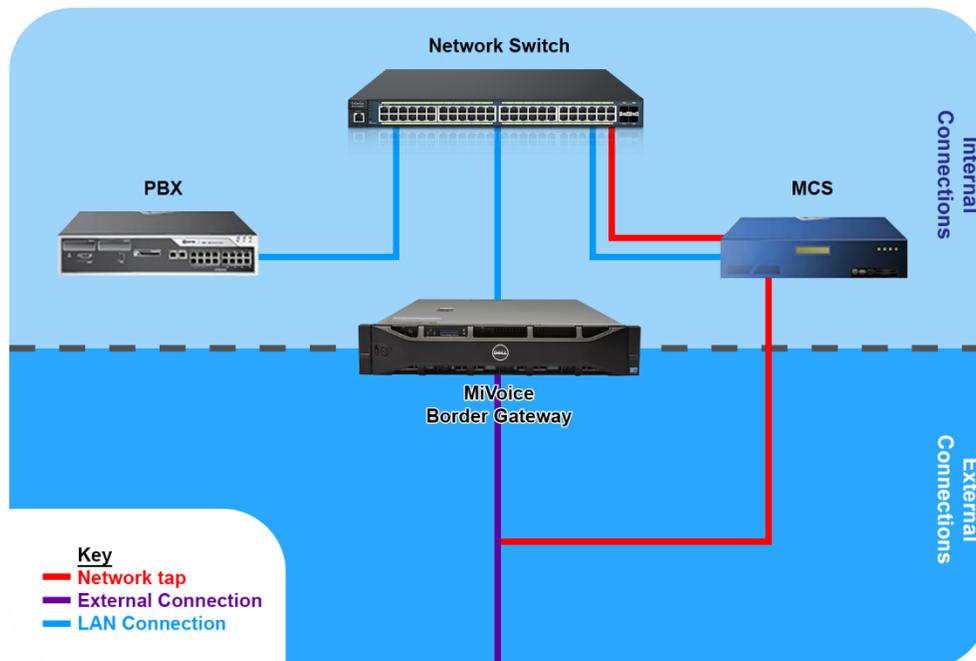
The system needs to be able to receive all the SIP/RTP traffic that is sent to and received from each device that is to be recorded. The easiest way to do this is to mirror the network connection that the phone system is connected to and disable any peer-to-peer communication on the phones. This will ensure that all the RTP traffic flows through the connection to the phone system and will be seen by the MiVoice Office Call Recorder.

Depending on

As the network topology of each site can be different, this may not be possible (for example, if ports on different switches need to be mirrored). MiVoice Office Call Recorder supports multiple port mirroring NICs so that complete coverage of all the SIP/RTP traffic can be provided. This is specifically required when recording devices over multiple telephone phone systems at a single location or when recording both local and remote phones. The server can be connected to each network switch it needs a port mirror on.

To create a mirror port of the telephone systems NIC, one of the following needs to be done:

- Configure the customer's switch to mirror the data on the port
- Install a hardware mirroring device between the telephone system and the customer's switch
- If using a MiVoice Border Gateway, a tap of its external connection will also be required.



## PS-1 Servers / Multi-Node

If there is a PS-1 Server connected to the telephone system and/or multiple nodes, all traffic from all Base Servers & PS-1 Servers must be sent to the mirror port on the MiVoice Office Call Recorder.

If the switch(es) being used by the customer do not support mirroring multiple source ports to one target port, a new switch will need to be installed to host the telephony equipment.



### Reference

The following HP switch can be used for mirroring multiple source ports into one target -> HP 1820-8G



### Note

When configuring a NIC on the server for Port Mirroring, disable the IPv4/IPv6 protocols on the NIC so that it does not get assigned an IP Address.

## Port Mirroring Vs Network Taps

There is a difference to configuring a network tap and a port mirror (or SPAN):

*Port Mirror* -> The transmit and receive legs of a network connection are aggregated into a single transmission to a single port.

*Network Tap* -> The transmit and receive legs of a network connection are tapped and are transmitted on different ports.

The MiVoice Office Call Recorder requires a port mirror (SPAN) connected to get the SIP and RTP traffic to the server to record. If there is a large amount of traffic mirrored, there is a risk of data loss because both transmit and receive legs of the mirrored connection are sent down a single network transmission.

To reduce the risk of data loss, one of the following options can be used:

- Port Mirror with Filtering, only mirror data on the ports required (remember to include the RTP port range being used by the PBX for audio)
- Port Mirror a 100Mb/s connection onto a 1Gb/s connection, this way there can never be a bottle neck

In most scenarios this will not be an issue but on large sites where there is a lot of traffic, or multiple ports are being mirrored to a single mirror port, data could be lost if the system is not configured correctly.



### Caution

Data lost on a mirror port will mean that all or parts of conversations will not be recorded.

# MiVoice Office 250 Configurations

## Supported Features

Call Processing version 6.1 of higher is required with System OAI Call Control & 3<sup>rd</sup> Party Events enabled. For multi-node systems a CT Gateway must be in place. Even if the Application Suite is only providing features for users on one node, it must be connected to all nodes in the network.

## Record-A-Call Method

Please be aware of the following when proposing use of the Record-A-Call recording method:

- It cannot be used in conjunction with NuPoint Voicemail/ Voice4Net IVR, only 1 SIP Voicemail is supported on the MiVoice Office 250.
- Users configured for MiVoice Office Call Recorder using the Record-A-Call method will not be able to use the native Ad-Hoc Record-A-Call
- The 'Ad-hoc Conference Mode' on the PBX needs setting to 'Advanced'
- Mitel Hot Desking is supported
- Record-A-Call uses conference resources on the PBX, make sure you have enough resource for the customer's needs
- Record-A-Call can be used on all extension types except SIP. To record SIP extensions (including Phone Manager Desktop & Mobile Softphones), IP/SIP Extension recording must be used
- There is a maximum limit of 8 concurrent recorded calls using this recording method
- Cross-node conference calls cannot be recorded using this recording method
- In a multi node environment each node would require its own MiVoice Office Call Recorder (additional rules also apply please contact support to discuss your requirements)

## IP/SIP Extension Method (Port Mirroring)

Please be aware of the following when proposing use of the IP/SIP Extension recording method:

- Only G.711 codecs are supported, not G.729
- 'Peer-to-peer' media must be disabled on the extensions being recorded
- If a PS-1 server is installed, the PS-1 network connection must be mirrored as well as the base server
- Mitel Hot Desking is supported. The IP/SIP Extension recording self-configures and will learn the IP/MAC address when users logon. No IP/MAC address programming is required for any extensions
- There is a maximum limit of 250 concurrent recorded calls based on this recording method
- 54XX and 56XX devices are **NOT** supported
- 53XX, 55XX, 69XX, 86XX, Phone Manager SIP and Generic SIP ARE supported
- Recording of audio calls on SIP devices that have video media is not currently supported in this release of software.
- Remote sites with multiple IP extensions connecting to the host node using Dynamic NAT (Network Address Translation) is not supported

## Supported Configurations

The following table shows the different MiVoice Office 250 configurations and which are supported by MiVoice Office Call Recorder. Some configurations are only supported by specific recording methods, in these scenarios, recording methods can be mixed so that the customer's requirements can be met.

Configuration	Record-A-Call	IP/SIP Extension (IP)	IP/SIP Extension (SIP)
Single Node – Local Extensions	Supported*	Supported	Supported
Multi-Node – Same Location	Not Supported	Supported	Supported
Multi-Node – Different Locations	Not Supported	Not Supported	Not Supported
Remote Extensions, 1 per remote location (Port Forwarding)	Supported*	Supported	Supported
Remote Extensions, >1 per remote location (Port Forwarding)	Supported*	Not Supported	Supported
Remote Extensions (MiVoice Border Gateway)	Supported*	Supported	Supported

\* No SIP Extensions

The following section breaks down each configuration and explains how the MiVoice Office Call Recorder needs to be implemented. Remember, the Supported Features listed in the previous section still applies to all the configurations below.

### Single Node – Local Extensions

#### Record-A-Call – Supported, IP/SIP Extension - Support

This is a basic setup, both methods are supported. The supported features list needs to be checked. If the customer is going beyond then 8 port Record-A-Call limit or needs to record SIP extensions, a port mirror will need to be configured.

### Multiple Networked MiVoice Office 250 Systems (at one location)

#### Record-A-Call – Not Supported

The Record-A-Call method cannot currently be used to record calls on more than one node at a time. There are some cross-node scenarios (conference) that do not work correctly with Record-A-Call. The Record-A-Call should not be used on networked systems with this release.

#### IP/SIP Extension - Supported

The IP/SIP Extension method on a single MiVoice Office Application Suite can be used to record calls across multiple nodes. In this scenario, all NICs for all nodes need to be mirrored to the MiVoice Office Application Suite server's mirror port.

### Multiple Networked MiVoice Office 250 Systems (at different locations)

#### Record-A-Call – No, IP/SIP Extension (IP) – Not Supported

This configuration is not supported at all. Currently a single MiVoice Office Application Suite is required for this type of configuration port mirroring across a WAN is not supported. Future releases of MiVoice Office Application Suite will support networked systems across multiple sites.

## Remote Extensions (behind NAT, Port Forwarded through a Firewall)

### Record-A-Call – Supported

Any number of remote extensions (remember the 8-concurrent recording limit, you could have more than 8 extensions) can be configured for recording with the Record-A-Call method. There are no restrictions on having more than 1 extension at a remote location so satellite offices can be supported with this setup.

### IP/SIP Extension (SIP) – Supported

Any number of remote SIP extensions can be configured for recording with the IP/SIP Extension recording method. The SIP is interpreted by the system to determine what traffic is for which extension.

### IP/SIP Extension (IP) – Supported, no more than 1 extension behind each remote IP Address

Remote IP extensions (e.g. 53xx) can be recorded using the IP/SIP Extension method if there is no more than 1 extension behind each remote public IP address. For example, 5 home workers with a single phone each, all presenting different public IP addresses is fine. A remote office with 5 phones however would not work because they would all be presenting the same public IP address. For remote office scenarios like this, use the Record-A-Call method.

## Remote Extensions (through MBG)

### Record-A-Call – Supported

Any number of remote extensions (remember the 8-concurrent recording limit, you could have more than 8 extensions) can be configured for recording with the Record-A-Call method when connected through an MBG. There are no restrictions on having more than 1 extension at a remote location so satellite offices can be supported with this setup.

### IP/SIP Extension (SIP) – Supported

Any number of remote SIP extensions can be configured for recording with the IP/SIP Extension recording source. The SIP is interpreted by the system to determine what traffic is for which extension.

### IP/SIP Extension (IP) – Supported, no more than 1 extension behind each remote IP Address

Remote IP extensions can be recorded using the IP/SIP Extension method when they are connected through an MBG. A mirror of the MBG's external network interface is required to record the remote phones.



#### **Caution**

When recording extension IP phones, the external traffic must be mirrored the MiVoice Office Application Suite server's mirror port. Ensure that the mirror port on the server is not given an IP address.

## Mixing Recording Methods

Where required, Record-A-Call and IP/SIP Extension recording methods can be used at the same time to meet a customer's requirements. For example, if a customer has remote and internal extensions, Record-A-Call could be used to record the remote extensions where IP/SIP Extension recording would not work. IP/SIP Extension recording could be used for the internal extensions ensuring that all calls are recorded.

# Server Requirements

## Operating Systems

- Windows 7/8.1/10 (Pro/Enterprise/Ultimate) 64-bit
- Windows Server 2008 R2/2012 R2/2016 (Standard/Datacenter) 64-bit

## Virtual Environments

- VMWare vSphere ESXi v5.1, v5.5, v6.0
- Hyper-V 2008 R2, 2012 R2, 2016 supported.

System Limits	Hardware Requirements
<b>Small:</b> <ul style="list-style-type: none"><li>• 1,200 calls per hour</li><li>• 50 Phone Manager Desktop Clients</li><li>• 50 Phone Manager Mobile Clients (up to 5 softphone calls in progress)</li><li>• 8 Concurrent Call Recordings</li></ul>	<ul style="list-style-type: none"><li>• CPU: 1 x Intel Dual Core i3 @ 3.3 GHz</li><li>• RAM: 4GB</li><li>• HDD: 100GB + 1GB for each million call records + 1TB for each 175,000 hours of call audio</li><li>• SQL Server: Express</li></ul>
<b>Medium:</b> <ul style="list-style-type: none"><li>• 2,400 calls per hour</li><li>• 100 Phone Manager Desktop Clients</li><li>• 100 Phone Manager Mobile Clients (up to 10 softphone calls in progress)</li><li>• 60 Concurrent Call Recordings</li></ul>	<ul style="list-style-type: none"><li>• CPU: 1 x Intel Quad Core Xeon @ 3.1 GHz</li><li>• RAM: 8GB</li><li>• HDD: 100GB + 1GB for each million call records + 1TB for each 175,000 hours of call audio</li><li>• SQL Server: Express</li><li>• NIC: 1Gb</li></ul>
<b>Large:</b> <ul style="list-style-type: none"><li>• 4,200 calls per hour</li><li>• 500 Phone Manager Desktop Clients</li><li>• 250 Phone Manager Mobile Clients (up to 25 softphone calls in progress)</li><li>• 250 Concurrent Call Recordings</li></ul>	<ul style="list-style-type: none"><li>• CPU: 2 x Intel Dual Core Xeon @ 3.1 GHz</li><li>• RAM: 16GB</li><li>• HDD: 100GB + 1GB for each million call records</li><li>• HDD: 1TB for each 175,000 hours of call audio</li><li>• SQL Server: Standard or higher</li><li>• NIC: 1Gb</li></ul>

## Supported Browsers

Internet Explorer 11, Chrome 49, Firefox 45.

## Parts & SWAS

The following part numbers are used to quote / order a MiVoice Office Call Recorder solution. These parts can be added to any MiVoice Office Application Suite system running release 5.0 or higher.



**Note**

Each MiVoice Office Application Suite is limited to a maximum of 8 Small Business licenses. These licenses can be used for either 'Record-A-Call' and/or 'IP/SIP Extension' recording, in any combination.

Part Number	Description
51306151	MiVoice Office Call Recorder - Small Business 4 Channels (includes SIP Voicemail licenses for the MiVoice Office 240)
51306140	MiVoice Office Call Recorder - IP Extension Side Single Channel
51306179	MiVoice Office Call Recorder - IP Extension Side 10 Channel Pack
51306180	MiVoice Office Call Recorder - IP Extension Side 50 Channel Pack
51306141	MiVoice Office Call Recorder - PCI Compliance 30 Channels or less
51306142	MiVoice Office Call Recorder - PCI Compliance 30 Channel to Site-wide Upgrade
<b>SWAS</b>	
51306174	MiVO Call Recorder Base SWAS Standard (up to 8 Licenses)
51306175	MiVO Call Recorder Base SWAS Premium (up to 8 Licenses)
51306177	MiVO Call Recorder SWAS Standard (Per License)
51306178	MiVO Call Recorder SWAS Premium (Per License)



**Note**

To purchase the MiVoice Office Call Recorder related SWAS, the MiVoice Office Application Suite Base SWAS must also be purchased. Premium SWAS parts are an upgrade to Standard SWAS parts and cannot be purchased on their own.



**Note**

The Per User SWAS parts are for sites with more than 8 recording licenses. A site with 12 recording licenses would purchase the up to 8 license SWAS and then 4 x the per license SWAS.

## Check List

The following checklist should be run through before completing any MiVoice Office Call Recorder solution sale on a MiVoice Office 250:

Item	Result	Notes
Is the 250 CP Version 6.1 or higher?		If not, the PBX must be upgraded first
If there is more than one node, is there a CT Gateway installed?		If recording extensions across more than one node, IP/SIP Extension recording must be used.
Does the customer have NuPoint installed?		NuPoint will not work in conjunction with MiVO Call Recorder Record-A-Call
Is the customer using 'Peer-to-peer' media options?		This is not supported for IP/SIP Extension recording
Is the customer aware that trunk to trunk calls will not be recorded?		Only extension side recording methods are provided so trunk to trunk calls will not be recorded.
Is the customer aware that calls in queuing and on hold will not be recorded?		Only extension side recording methods are provided so queuing and on hold calls will not be recorded
Does the customer wish to record Phone Manager Softphones? (Desktop or Mobile)		If yes, they must use IP/SIP Extension recording and set up a mirror port to record these
If using IP/SIP Extension side recording, does the customer have any phones that have their IP Address / MAC address masked using NAT?		This is ok as long as there is no more than one extension behind each remote NAT IP and an MBG is not being used.
If using IP/SIP Extension side recording, does the customer have G.711 configured as the audio compression method?		G.729 is not currently supported for IP/SIP Extension Side recording.
If using IP/SIP Extension side recording, does the customer have a network switch that is capable of port mirroring?		The recorder needs to be provided with audio data via a mirror port from the customer's switch.
Does the customer have more than 1 node at a site or a PS-1 installed?		If there is a more than 1 node at site and/or the customer has a PS-1 then traffic from both the PS-1 and Base server need to be sent to the MiVoice Office Call Recorder server's mirror port
Does the customer have remote extensions connected through an MBG?		Remember a mirror of the external network interface is required to record the remote phones in addition to the internal tap of the telephone system to record local phones