



A MITEL  
PRODUCT  
GUIDE

# IP48x Desktop Phone and MiVoice Business Interoperability Guide

MiVoice Business (MiVB) Integration with IP48x Series Phones

Release Number 1.0

Revision 02

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Mitel Desktop Phone Interoperability Guide

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## About This Document

This guide provides a reference for Mitel Authorized Solutions Providers on configuring **MiVoice Business** to support the **IP48x** series as a **Generic SIP Phone**. While the IP48x and associated endpoints can be deployed in multiple network configurations depending on the VoIP solution in use, this document focuses on a **basic SIP configuration** using MiVoice Business, including key provisioning and option programming requirements.

In addition to configuration guidance, this document also includes references to **Product Lifecycle Information** to ensure that partners deploying or supporting IP48x devices are fully aware of lifecycle planning implications and support timelines. The reference includes:

- Current product lifecycle phase
- Guidance for ongoing support and software availability
- Recommendations for future-proofing deployments
- Reference to official lifecycle documentation for compliance and customer communication

For detailed and up-to-date lifecycle status of IP48x devices and related systems, please consult the official **Mitel Product Lifecycle Documentation** available through the below portal.

Refer: <https://nuxeo.unify.com/nuxeo/site/proxy/nxdoc/view/raw/93ee0db1-ed3d-4a5f-ae3e-3727b7105ad3?source=SAMLSSO>

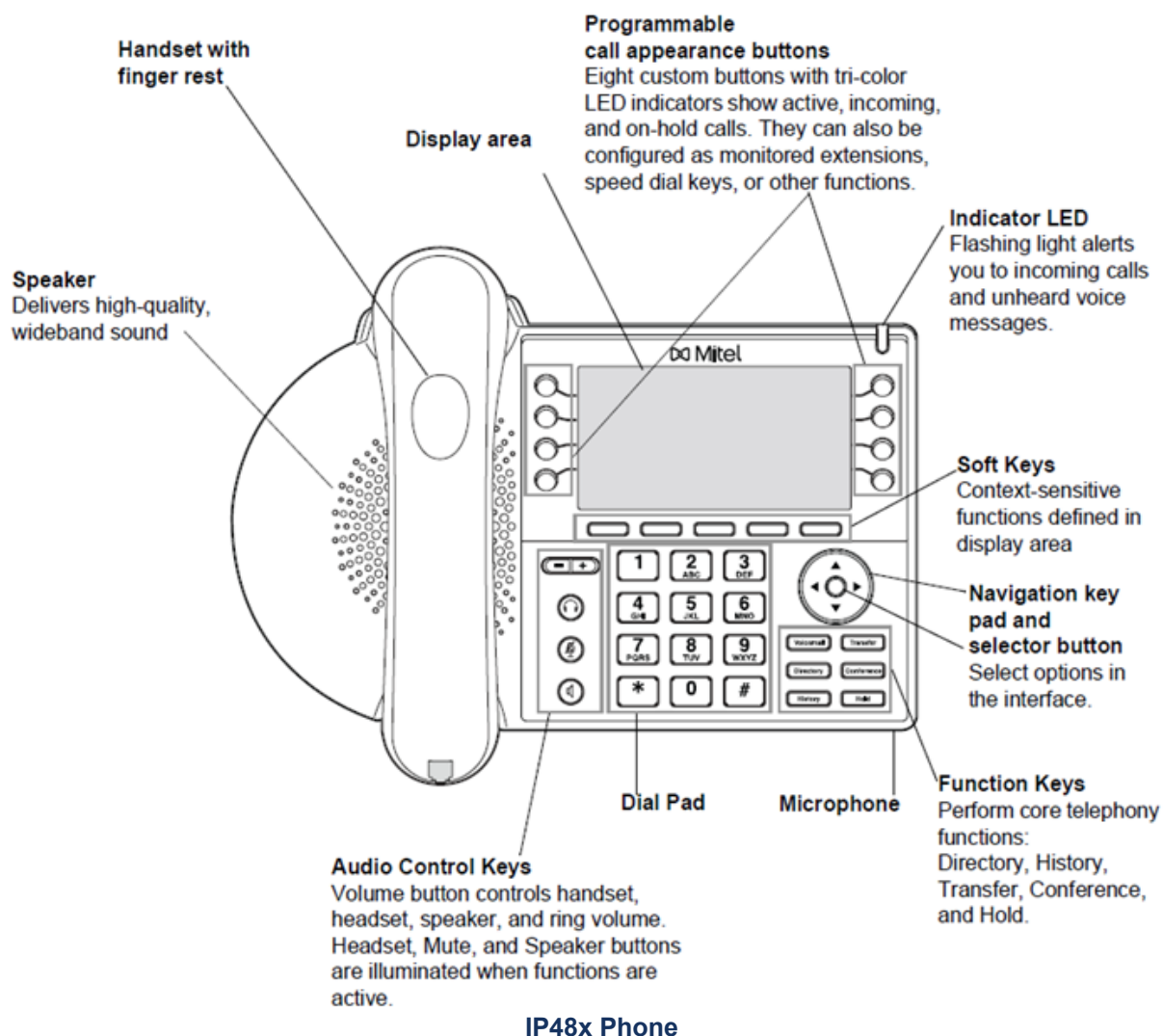
## Supported Phone Models

The following IP400 phone models are supported:

- IP480
- IP480g
- IP485g

The following IP400 phone models are not supported:

- IP420
- IP420g



Note: The physical Voicemail key on IP48x phones running Generic SIP firmware does not invoke MiVoice Business voicemail and cannot be configured to do so.

## Supported Phone Features

The following is an overview of the features supported.

| Feature                     | Feature Description                                   |
|-----------------------------|-------------------------------------------------------|
| Basic Call                  | Making and Receiving calls                            |
| Registration/Authentication | Device registration and authentication                |
| DTMF Signal                 | Sending DTMF after call setup (i.e. mailbox password) |
| Call Hold                   | Putting a call on hold                                |
| Call Transfer               | Transferring a call to another destination            |
| Call Forward                | Forwarding a call to another destination              |
| Conference                  | Conferencing multiple calls together                  |

| Feature                    | Feature Description                                                 |
|----------------------------|---------------------------------------------------------------------|
| <b>Redial</b>              | Last Number Redial                                                  |
| <b>Personal Ring Group</b> | Multiple sets ringing when one number dialed                        |
| <b>MWI</b>                 | Message Waiting Indication                                          |
| <b>TLS/SRTP</b>            | Making and Receiving calls using TLS/SRTP                           |
| <b>Teleworker</b>          | Making and Receiving calls using UDP and TLS/SRTP                   |
| <b>Long Duration Calls</b> | Basic Incoming & Outgoing long duration calls                       |
| <b>Resiliency</b>          | Device able to handle resiliency when primary MiVB or MBG goes down |

Detailed list on the MiVoice Business (MiVB) supported features on IP48x Phone are listed in the [MiVoice Business \(MiVB\) Supported Features for IP48x Series Phones](#) section.

### Resiliency

The IP48x device supports the following resiliency mechanisms when connected to MiVoice Business.

| Scenario                                    | Description                                                                                                                                                                                        | Behavior                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DNS-Based Resiliency</b>                 | Resiliency is achieved by using DNS servers that return multiple IP addresses for a single FQDN, typically through DNS SRV or A records.                                                           | The device resolves the FQDN and automatically moves to the next available IP address if the primary becomes unreachable                                                                                                                                                                                                                                                                                                                |
| <b>Primary and Backup Outbound Proxy</b>    | Used in environments where DNS SRV is not applicable. The device is configured with both a primary and backup outbound proxy.                                                                      | If the primary proxy becomes unreachable, the device automatically redirects SIP requests to the backup proxy.                                                                                                                                                                                                                                                                                                                          |
| <b>Enhanced Failover Using OPTIONS Ping</b> | Builds on DNS-Based Resiliency and Primary and Backup Outbound Proxy by adding active monitoring. The device sends OPTIONS requests ("pings") to the active server to detect failure more rapidly. | If an OPTIONS request times out, the device immediately switches to the alternate server for all future requests. This provides significantly faster failure detection, allowing the device to fail over to an alternate MiVoice Business system much more quickly and with minimal user interruption. Faster detection reduces the likelihood that the user will notice any loss of service, as failover can occur almost immediately. |

## Supported Hardware and Software/Firmware Environment

The table below summarizes the hardware and software/firmware environment supported.

| Product          | Software/Firmware Version | Additional Applicable Variants |
|------------------|---------------------------|--------------------------------|
| MiVoice Business | 10.x                      | All MIVB variants              |
| MBG - Teleworker | 12.x                      | Not Applicable                 |
| IP48x SIP        | 6.2.1.1079/ 6.2.1.1080    | IP480, IP480g and IP485g       |
| MiCollab Server  | 10.x                      | Not Applicable                 |

## IP48x Firmware Upgrade Process

This section provides a complete guide for upgrading IP48x phones to SIP firmware compatible with MiVoice Business (MiVB). It covers pre-migration preparation, firmware upgrade stages, verification, and optional updates.

**Note:** During firmware upgrades, the phones may reboot one or more times. This is expected behavior.

### Supported Firmware Versions

IP48x phones must first be upgraded to **804.2210.1600.0** before installing the Generic SIP firmware that works with MiVB. The following versions mentioned in the below table supports upgrade of IP48x devices to **804.2210.1600.0** version.

| Build Series | Build Version                 | Comments                                                                                                                                                     |
|--------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Azure        | <b>800.0.0.1 – 800.x.x.x</b>  | Supported. Phones must first upgrade within Connect to <b>804.2210.1600.0</b> before using the IP400 upgrade process. Factory default versions are included. |
|              | <b>801.5.4160.0 and later</b> | Supported for web-based upgrade process.                                                                                                                     |
| Brazos       | 802.x.xxxx.x                  | Any 802 build                                                                                                                                                |
| Colorado     | 803.x.xxxx.x                  | Any 803 build                                                                                                                                                |
| Connect      | 804.x.xxxx.x                  | Any 804 build                                                                                                                                                |

Once upgraded to 804.2210.1600.0, the phones must be further upgraded to Generic SIP firmware (6.2.1.1079 for IP485G / 6.2.1.1080 for IP480 and IP480G).

**Note:** Firmware version 6.2.1.2020 is planned for future availability. At the time of this documentation, the currently supported and available firmware versions are 6.2.1.1079/1080.

### Unsupported Firmware Versions

| Build Series           | Comments                   |
|------------------------|----------------------------|
| <b>&lt;= 800.0.0.0</b> | Not supported for upgrade. |



| Build Series             | Comments                                                                                                                                                    |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 801.0.0.0 – 801.5.4159.x | Supports only SSH-based upgrades where the server must initiate a TCP connection to the phone. Not compatible with the automated web-based upgrade process. |

## Pre-Migration Setup

### PROVISION CONFIG SERVER

The IP48x phones must have the **configServer** parameter set. This can be done in two ways:

1. **Via DHCP Option 156** (recommended for multiple phones)
2. **Manually** on each phone using the admin menu

#### Notes:

1. Default admin password during migration: **1234**
2. Post-migration admin password: **22222**
3. Passwords are used for log uploads and configuration changes.

### CONFIGURE DHCP OPTION 156 (PREFERRED)

Configure the enterprise DHCP server to include **Option 156** in DHCP replies:

| Environment | configServer Setting | IP Address Equivalent |
|-------------|----------------------|-----------------------|
| Production  | ip400.mitelcloud.com | 34.111.177.55         |

**Note:** Phones receiving this DHCP option will automatically populate the configServer parameter.

### CONFIGURE INDIVIDUAL PHONES (MANUAL)

For environments where DHCP cannot be modified:

1. **Factory Reset**
  - Press the **Mute** key, then use the dial pad to enter 25327# (CLEAR#); the phone will reset and reboot.
2. **Set Config Server**
  - Press the **Mute** key, then use the dial pad to enter 73887# (SETUP#).
  - Go to **Admin Options** > Enter admin password **1234** > **Services** > **Config Server** and enter the configuration server information as described below.

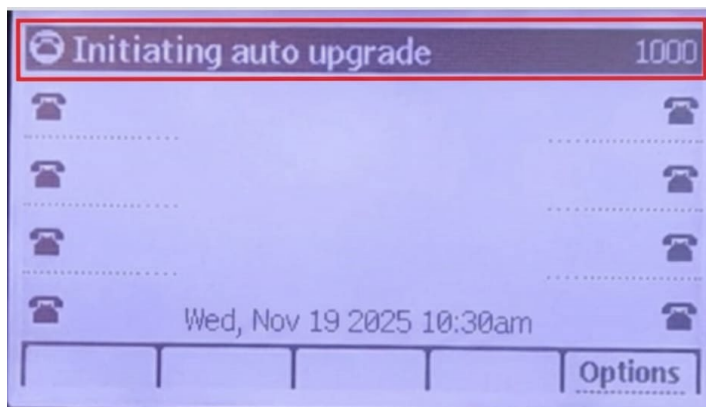
Set Config Server 1:

| Environment | configServer Setting | IP Address Equivalent |
|-------------|----------------------|-----------------------|
| Production  | ip400.mitelcloud.com | 34.111.177.55         |

**Note:** When manually entering an IP address using the phone keypad, press the \* key to insert a dot

(.) between numbers.

3. Wait a few seconds; the phone registers automatically with the **IP400Migration** service (default extension: 1000).
4. The display will show **“Initiating auto upgrade”**.



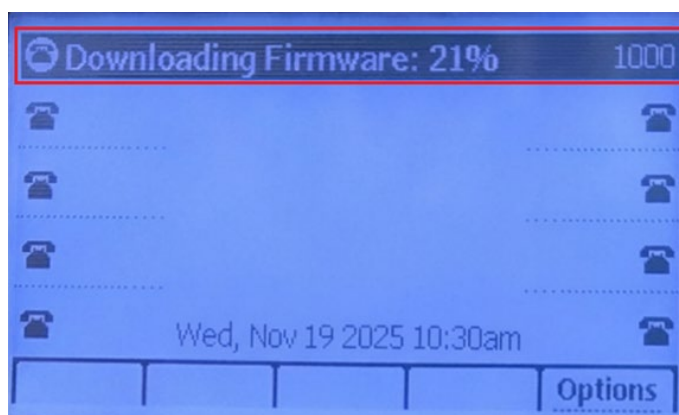
**Note:** IP48x phones with firmware versions between **800.2841.9111.0** and **801.5.1460.0** may display **Unsupported firmware** after pre-migration (factory reset and configServer configuration). This status indicates that the current firmware is below the minimum supported level but does **not** block the upgrade path. In this case, users can still proceed with the documented firmware upgrade process.

### Firmware Upgrade Stages

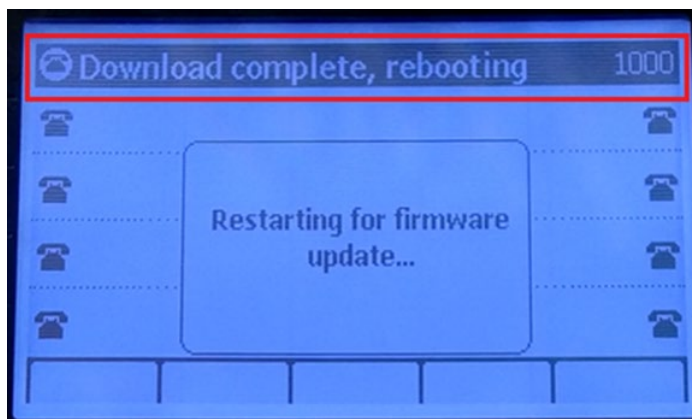
Firmware upgrades are divided into **two stages**. Stages are sequential and must be completed in order.

#### STAGE 1: UPGRADE TO LATEST 804 FIRMWARE

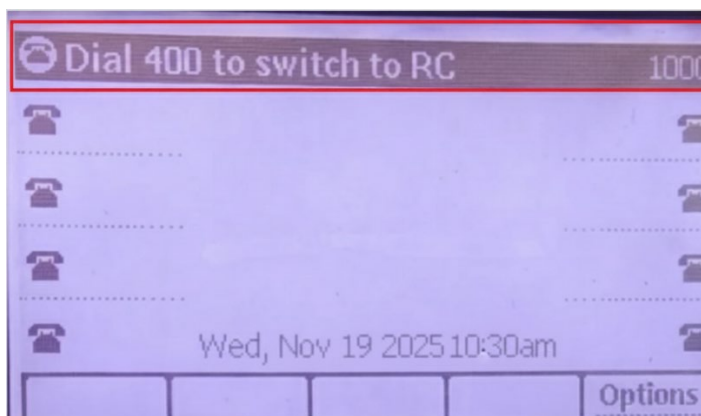
1. After pre-migration, the phone automatically starts upgrading to **804 firmware**.
  - If **auto-upgrade does not start**, dial **804** manually on the keypad.
2. The phone displays **“Downloading Firmware”**.



3. Upon completion, the phone **reboots** and loads the latest **804 firmware**.

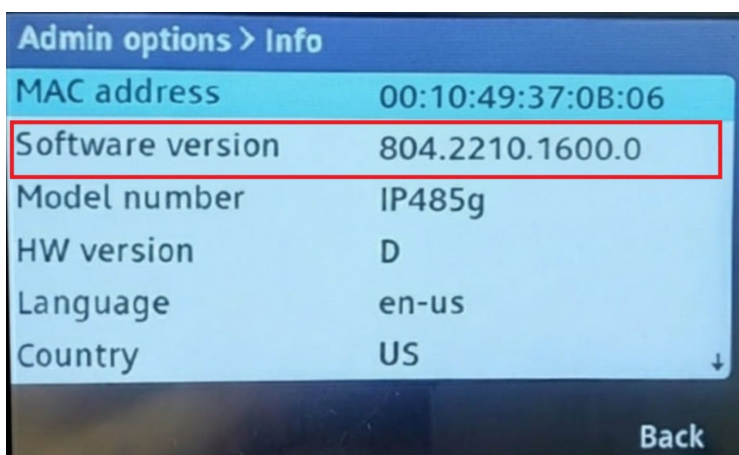


4. After reboot, the screen displays "Dial 400 to switch to RC".



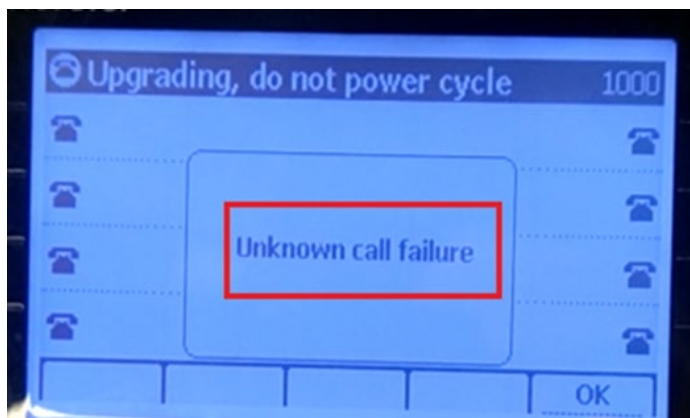
5. Verify Firmware Version

- Press the **Mute** key, then use the dial pad to enter 73887# (SETUP#).
- Go to **Admin Options > Phone Information**
- Press **Cancel** when prompted for Admin password

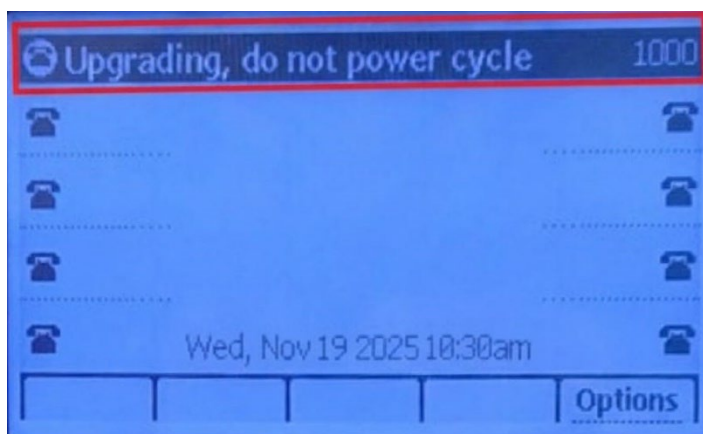


## STAGE 2: UPGRADE TO GENERIC SIP FIRMWARE

1. Dial **400** on the keypad. The phone may display “Unknown call failure” — press **OK**.

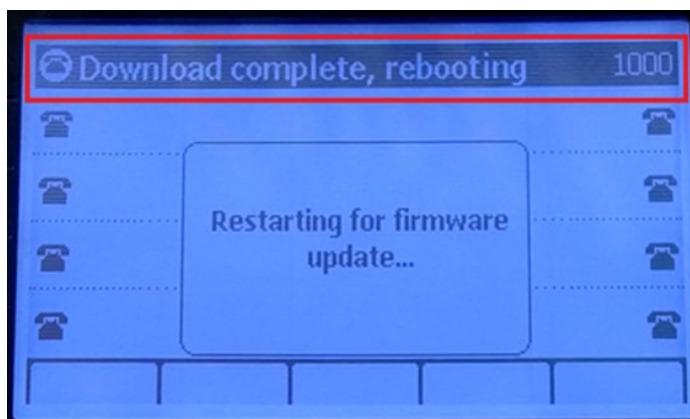


2. Wait **2–3 minutes**; the firmware downloads silently in the background. Do not power off the phone.



3. The phone **reboots automatically** and loads the **Generic SIP (ST) firmware**.

**Note:** IP480 and IP480g may undergo multiple reboots, while the IP485g reboots once.



4. Verify Generic SIP Firmware Version
  - Press **Settings > Status > Firmware Info > Phone Info**

- The firmware version for IP480 and IP480g: 6.2.1.1080, IP485g: 6.2.1.10.79

**Important Advisory:** Upgrading to the Generic SIP firmware is a one-way operation. After migration, the device cannot be downgraded to the original firmware.

## User Password

A user or an administrator can change the user passwords on the phone using the Mitel Web UI.

Use the following procedures to change the user password.

1. Click on **Operation > User Password**.

The screenshot shows the Mitel Web UI interface. On the left is a navigation menu with categories: Status (System Information, License Status), Operation (User Password, Phone Lock, Softkeys and XML, Keypad Speed Dial, Directory, Reset), Basic Settings (Preferences), and Advanced Settings. The main content area is titled 'Reset User Password'. It includes a section 'Please enter the current and new passwords' with three input fields: 'Current Password', 'New Password', and 'Password Confirm'. Below these fields is a 'Save Settings' button.

2. In the **Current Password** field, enter the current user password.
3. In the **New Password** field, enter the new user password.
4. In the **Password Confirm** field, enter the new user password again.
5. Click **Save Settings** to save your changes.

## Resetting a User Password

If a user forgets his password, either the user or an administrator can reset it so a new password can be entered. The reset user password feature resets the password to the factory default

Use the following procedure to reset a user password using Mitel Web UI.

1. Click on **Operation > Phone Lock**.

The screenshot shows the Mitel Web UI interface. On the left is a navigation menu with categories: Status (System Information, License Status), Operation (User Password, Phone Lock, Softkeys and XML, Keypad Speed Dial, Directory, Reset), Basic Settings (Preferences), and Advanced Settings. The main content area is titled 'Phone Lock'. It includes a 'Settings' section with an 'Emergency Dial Plan' field containing '911|999|112|110'. Below this is a 'Lock or unlock the phone' section with a 'Lock the phone?' checkbox and 'Lock' and 'Reset' buttons. At the bottom is a 'Save Settings' button.

2. In the **Reset User Password** field, click **Reset**. The following screen displays:

The screenshot shows the Mitel Web UI interface. On the left is a navigation menu with categories: Status (System Information, License Status), Operation (User Password, Phone Lock, Softkeys and XML, Keypad Speed Dial, Directory, Reset), Basic Settings (Preferences), and Advanced Settings. The main content area is titled 'Reset User Password'. It includes a section 'Please enter the current and new passwords' with three input fields: 'Current Password', 'New Password', and 'Password Confirm'. Below these fields is a 'Save Settings' button.

3. Leave the **Current Password** field blank if using the default password. If the password has been

changed, enter the current password.

4. In the **New Password** field, enter a new password for the user.
5. In the **Password Confirm** field, re-enter the new user password.
6. Click **Save Settings** to save the new user password.

## MiVoice Business (MiVB) Configuration

This section provides the required configuration steps on MiVoice Business to support registration and operation of IP48x phones running Generic SIP firmware.

### Network Requirements

To ensure high-quality SIP audio, the network must meet the following requirements:

- **Bandwidth:** Approximate consumption per voice session:
  - **G.711:** ~85 Kb/s
  - **G.729:** ~29 Kb/s (Assumes 20 ms packetization.)

Example: For 20 simultaneous SIP calls

- G.711: ~1.7 Mb/s
- G.729: ~0.6 Mb/s

Typical enterprise LAN environments support this without special engineering. Refer to **MiVoice Business Engineering Guidelines** for detailed recommendations.

- **Quality Requirements:**
  - Packet loss: < **1%**
  - Jitter: < **30 ms**
  - One-way delay: < **80 ms**

### Assumptions for MiVB Programming

- SIP signaling uses **UDP port 5060**.
- For TLS deployments, use **TLS port 5061**.

### Configuration Overview

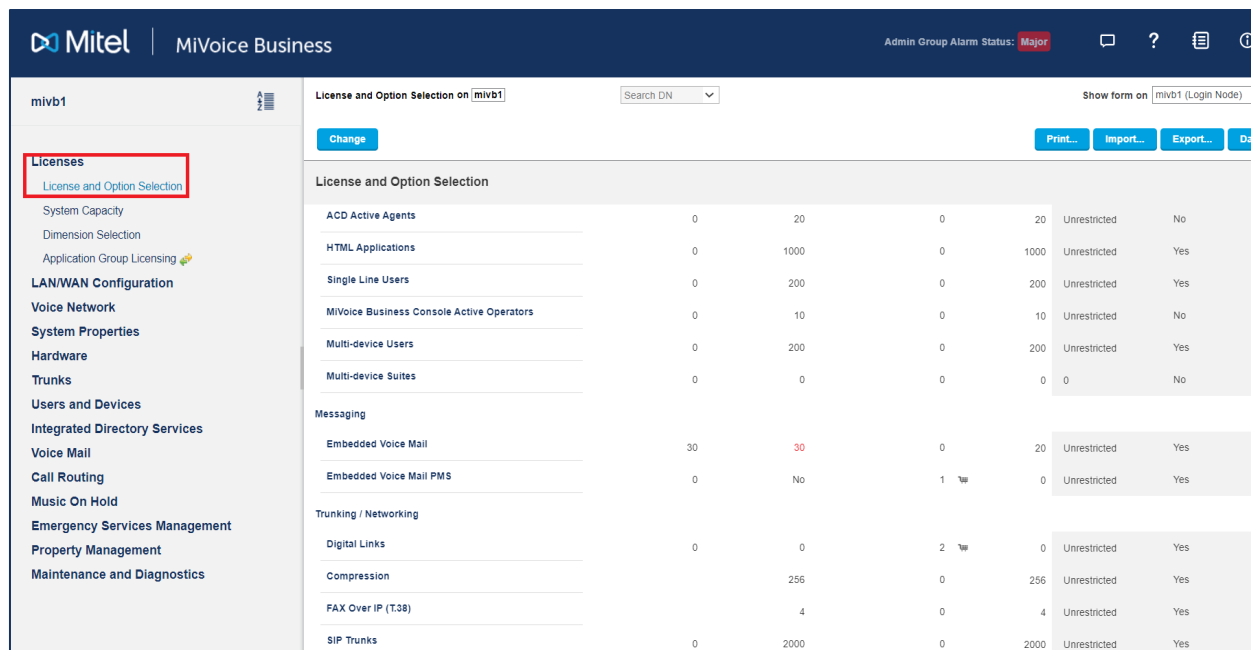
The following MiVB forms must be programmed to enable successful interoperability with IP48x Generic SIP phones:

- Software Licensing
- Multiline IP Set Configuration (or User Configuration)
- Class of Service Assignment
- SIP Device Capabilities
- Station Attributes

## SOFTWARE LICENSE – SIP LICENSING

Allocate the number of licenses (0-5000) for Single Line Users. The licenses can be used to configure a Generic SIP Phone as a Single Line Phone. Changes from a non-zero value to any other value are updated immediately without a reboot. Changes from zero to any value require a reboot.

This can be verified in the **Licenses > Licenses and Option Section (LOS) > Single Line Users** section.



**Licenses**

License and Option Selection on **mivb1**

Search DN: [v]

Show form on: **mivb1 (Login Node)**

**Change** **Print...** **Import...** **Export...** **Data**

| License and Option Selection              |    |      |   |      |              |     |  |
|-------------------------------------------|----|------|---|------|--------------|-----|--|
| ACD Active Agents                         | 0  | 20   | 0 | 20   | Unrestricted | No  |  |
| HTML Applications                         | 0  | 1000 | 0 | 1000 | Unrestricted | Yes |  |
| Single Line Users                         | 0  | 200  | 0 | 200  | Unrestricted | Yes |  |
| MiVoice Business Console Active Operators | 0  | 10   | 0 | 10   | Unrestricted | No  |  |
| Multi-device Users                        | 0  | 200  | 0 | 200  | Unrestricted | Yes |  |
| Multi-device Suites                       | 0  | 0    | 0 | 0    | 0            | No  |  |
| <b>Messaging</b>                          |    |      |   |      |              |     |  |
| Embedded Voice Mail                       | 30 | 30   | 0 | 20   | Unrestricted | Yes |  |
| Embedded Voice Mail PMS                   | 0  | No   | 1 | 0    | Unrestricted | Yes |  |
| <b>Trunking / Networking</b>              |    |      |   |      |              |     |  |
| Digital Links                             | 0  | 0    | 2 | 0    | Unrestricted | Yes |  |
| Compression                               |    | 256  | 0 | 256  | Unrestricted | Yes |  |
| FAX Over IP (T.38)                        |    | 4    | 0 | 4    | Unrestricted | Yes |  |
| SIP Trunks                                | 0  | 2000 | 0 | 2000 | Unrestricted | Yes |  |

## MULTILINE IP SET CONFIGURATION

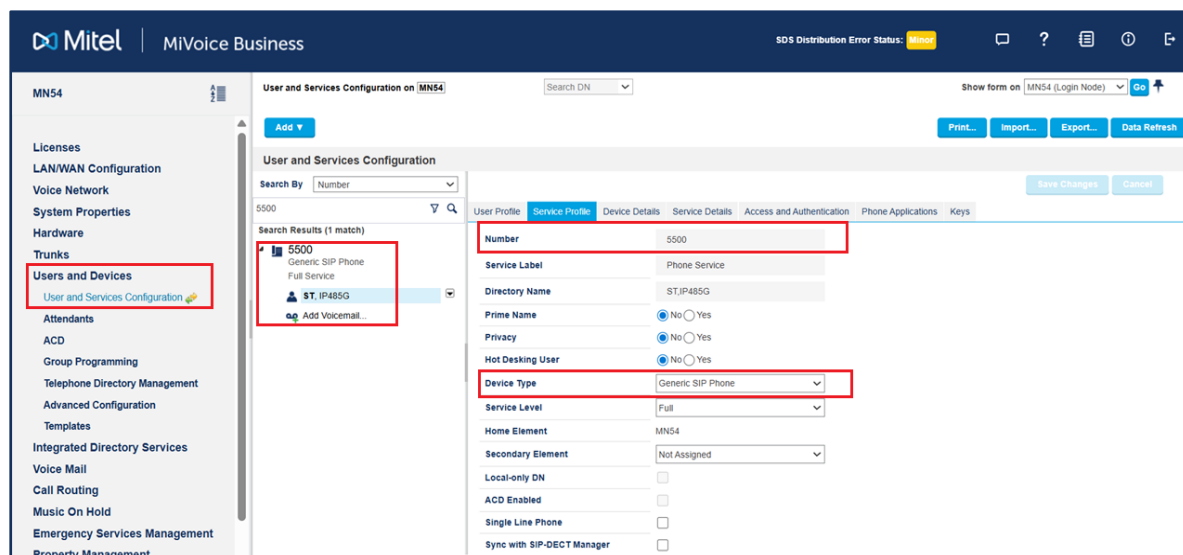
Multiline IP Sets are used for generic SIP phones to enable advanced call handling features, including conferencing, transfer, hold, call waiting, and multi-call appearances.

You may configure them using either of these MiVB forms:

- **User Configuration**
- **Multiline IP Set Configuration**

### Required Fields

- **Number (DN):** Directory Number assigned to the phone.
- **SIP Password:** SIP authentication password used by the IP48x.
- All remaining fields may remain default unless site requirements dictate otherwise.
- **Conference Requirement (IP48x):** To use the Conference feature, you must configure the phone with two appearances of the same DN.



## CLASS OF SERVICE ASSIGNMENT

The **Class of Service (COS)** defines the feature permissions available to each SIP endpoint. Many COS options may vary depending on site requirements; however, the IP48x Generic SIP Phone requires a specific set of COS values for correct operation.

The **Class of Service (COS) Options** form defines feature permissions for SIP devices. COS numbers are later assigned through the Station Attributes form.

The following COS options **must be changed from default** for Generic SIP devices to function correctly with MiVB:

| COS Option                      | Default Value | IP48x value            |
|---------------------------------|---------------|------------------------|
| Call Park – Allowed to Park     | No            | Yes                    |
| Auto Campon Timer               | 10            | Blank (No fixed value) |
| Public Network Access via DPNSS | No            | Yes                    |

**Note:** Other COS options may be modified depending on deployment needs.



## SIP DEVICE CAPABILITIES

The **SIP Device Capabilities** form creates a SIP profile applied to Generic SIP Phones. This profile defines how MiVB interacts with third-party SIP endpoints.

### Required Settings for IP48x:

| SIP Device Capabilities Number                           | Default | IP48x |
|----------------------------------------------------------|---------|-------|
| Replace System based with Device based In-Call Features  | No      | Yes   |
| Allow Device To Use Multiple Active M-Lines              | No      | Yes   |
| Force sending SDP in initial Invite message              | No      | Yes   |
| Prevent the Use of IP Address 0.0.0.0 in SDP Messages    | No      | Yes   |
| Allow Display Update                                     | No      | Yes   |
| Require Reliable Provisional Responses on Outgoing Calls | No      | Yes   |
| Allow MWI notification without subscription*             | No      | Yes   |
| Session Timer                                            | 0       | 1800  |

Note: You can allow MWI notification without subscription either from MIVB SIP Device Capabilities form (recommended method) or from IP48x phone web UI.

**SIP Device Capabilities on MN54**

Search DN: [v]

Show form on: MN54 (Login Node)

Buttons: Change, Copy, Print..., Import..., Export...

**SIP Device Capabilities**

20 IP48x

Basic | SDP Options | Signaling and Header Manipulation | Distinctive Ring Tones | Timers | Key Press Event | Called Party Inward Dialing Modification | Record Information | Advanced

**SIP Device Capabilities Number**: 20

**Comment**: IP48x

**Call Routing and Administration Options**

**Outbound Proxy MBG Cluster**

**Outbound Proxy Server**

**Emergency Info Provided by Device**: No

**Replace System based with Device based In-Call Features**: Yes

**Allow MWI Notifications without Subscription**: No

**Enable Digit Collection in Busy Or Alerting State**: No

**TLS Only**: No

## Notes:

- For TLS/SRTP deployments:
  - Set **AVP Only Device** = No
  - Set **Force Sending SDP** = No

## STATION ATTRIBUTES

To each IP48x Generic SIP Phone, use the **Station Attributes** form to assign:

- Class of Service (Day/Night1/Night2)**
- SIP Device Capability Number**

## Example Assignment:

- SIP Device Capability Number: 20**
- Class of Service (Day/Night1/Night2): 20**

**Note:** The form supports **Range Programming** for multiple phones.

**Station Attributes on MN54**

Search DN: [v]

Show form on: MN54 (Login Node)

Buttons: Change, Print..., Import..., Export..., Data Refresh

Page 9 of 11 | Go to [Number] Value 5500 | Go

**Station Attributes**

| Number | Intercept Number | Class of Service - Day | Class of Service - Night1 | Class of Service - Night2 | Class of Restriction - Day | Class of Restriction - Night1 | Class of Restriction - Night2 | Call Coverage Service Number | Default Acct. Code | Zone Assignment Method | Zone ID | SIP Device Capabilities |
|--------|------------------|------------------------|---------------------------|---------------------------|----------------------------|-------------------------------|-------------------------------|------------------------------|--------------------|------------------------|---------|-------------------------|
| 5493   | 1                | 12                     | 12                        | 12                        | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |
| 5495   | 1                | 12                     | 12                        | 12                        | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |
| 5496   | 1                | 12                     | 12                        | 12                        | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |
| 5500   | 1                | 20                     | 20                        | 20                        | 1                          | 1                             | 1                             | 1                            | 1                  | Manual                 | 1       | 20                      |
| 5501   | 1                | 20                     | 20                        | 20                        | 1                          | 1                             | 1                             | 1                            | 1                  | Manual                 | 1       | 20                      |
| 5503   | 1                | 2                      | 2                         | 2                         | 1                          | 1                             | 1                             | 1                            | 1                  | Manual                 | 1       | 1                       |
| 55100  | 1                | 1                      | 1                         | 1                         | 1                          | 1                             | 1                             | 1                            | 1                  | Manual                 | 1       | 1                       |
| 55101  | 1                | 1                      | 1                         | 1                         | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |
| 5511   | 1                | 20                     | 20                        | 20                        | 1                          | 1                             | 1                             | 1                            | 1                  | Manual                 | 1       | 20                      |
| 5601   | 1                | 6                      | 6                         | 6                         | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |
| 5602   | 1                | 6                      | 6                         | 6                         | 1                          | 1                             | 1                             | 1                            | 1                  | Default                | 1       | 1                       |

## MiVoice Border Gateway Configuration for Teleworkers

This section describes the configuration required on the MiVoice Border Gateway (MBG) to enable teleworker connectivity for the IP48x Generic SIP Phone. The configuration assumes that MiVoice Business programming is already complete and that the MBG is operational within the deployment environment.

### Overview

MBG acts as the secure gateway for remote IP48x SIP phones connecting over the public internet. The steps below outline how to register the MiVoice Business (MiVB) as an ICP within MBG and how to add IP48x Generic SIP devices for teleworker use.

### Network Requirements

- Ensure the MBG is deployed according to the **Mitel Border Gateway Engineering Guidelines**.
- Verify adequate bandwidth, firewall rules, and public IP requirements for SIP teleworkers.

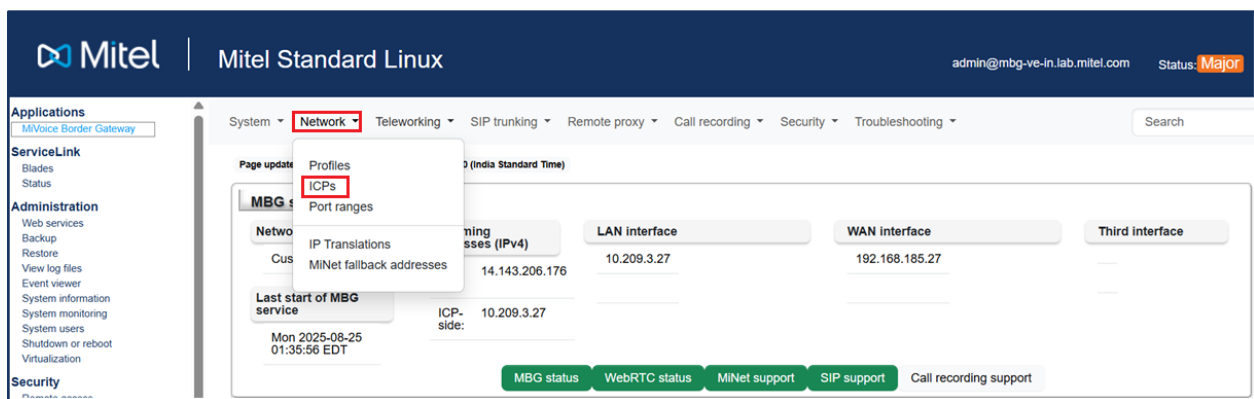
### Configuration Assumptions

The following configuration prerequisites are assumed:

- MiVoice Business has been fully configured as outlined in the **MiVoice Business (MiVB) Configuration** section.
- SIP signalling between MiVB and MBG uses:
  - **UDP Port 5060** for standard SIP
  - **TLS Port 5061** for secure SIP
- The MBG server is installed, licensed, and configured to support SIP clients.

### Adding MiVoice Business (ICP) to MBG

1. In the MBG interface, navigate to **Network > ICPs**.
2. Select **+ Add ICP**.



3. Enter the required ICP details:
  - ICP Name
  - Fully Qualified Domain Name (FQDN) or IP Address
  - ICP Type (MiVoice Business)
4. Click **Save**.

System ▾ Network ▾ Teleworking ▾ SIP trunking ▾ Remote proxy ▾ Call recording ▾ Security ▾ Troubleshooting ▾

Page updated: Thu Nov 13 2025 16:28:29 GMT+0530 (India Standard Time)  
The following is a form for modifying an icp entry. You may edit this information as you wish, and click on the "Save" button below when you are done.

**Manage ICP**

Name:

Type:

SIP capabilities:  [Export root cert](#)

Hostname or IP address:

MiNet installer password:

Indirect call recording capable: ☐

[Save](#)

## Adding IP48x Generic SIP Devices

To enable teleworker registration, configure each IP48x as a SIP device in MBG.

1. Navigate to **Teleworking > SIP**

Mitel | Mitel Standard Linux

admin@perfaz-tejas-mbg.az.ucs.mitel.io Status: **Warning**

Applications: [MiVoice Border Gateway](#)

ServiceLink: [Blades](#), [Status](#)

Administration: [Web services](#), [Backup](#), [Restore](#), [View log files](#), [Event viewer](#), [System information](#), [System monitoring](#), [System users](#), [Shutdown or reboot](#)

Security: [Remote access](#), [Port forwarding](#), [Syslog](#), [Web Server](#), [MBG client certificates](#)

Configuration: [Networks](#)

System ▾ Network ▾ **Teleworking** ▾ SIP trunking ▾ Remote proxy ▾ Call recording ▾ Troubleshooting ▾

Page updated: Mon Jul 12 2021 11:00:00 GMT+0530 (India Standard Time)

July 2, 2021, 9:49 a.m.

Below is a list of devices for this MBG. Note: To configure SIP profiles, see the [Bulk provisioning](#) page.

Sets per page:

Status: ☒ Either ☐ Enabled ☐ Disabled

Simple filter:

[Bulk edit](#) [Refresh](#)

2. Select **+ Add** to create a new SIP device.

**SIP profile information**

[+ Add](#)

| Enabled                             | Set-side username | ICP-side username | Availability | Configured ICP | Description | Local streaming between devices |                      |                        |
|-------------------------------------|-------------------|-------------------|--------------|----------------|-------------|---------------------------------|----------------------|------------------------|
| <input checked="" type="checkbox"/> | 1002              | 1002              | Everywhere   | MiVB1          | WebRTC      | Use global setting              | <a href="#">Edit</a> | <a href="#">Delete</a> |
| <input checked="" type="checkbox"/> | 1003              | 1003              | Everywhere   | MiVB1          | 1003        | Use global setting              | <a href="#">Edit</a> | <a href="#">Delete</a> |

Number of sip users: 2.

Page 1 of 1

3. In the SIP Device configuration screen, enter the following:

### Set-Side Credentials

- Username
  - Password
- (These must match the SIP credentials provisioned on the IP48x phone.)

### ICP-Side Credentials

- SIP Password
  - Directory Number (DN)  
(These must match the SIP extension programming on MiVoice Business.)
4. Complete all other required fields based on deployment needs, then click **Save**.

The screenshot shows the 'Manage SIP profile' configuration page. The 'Profile' section is highlighted with a red box, showing 'Enabled' checked and 'Description' as 'IP48X'. The 'Set-side Authentication' section is also highlighted with a red box, showing 'Username' as '4801' and a 'Change password' button. The 'ICP-side Authentication' section is highlighted with a red box, showing 'Username' as '4801' and a 'Change password' button. The 'Protocol' section has dropdowns for 'PRACK support', 'Options keepalives', and 'Challenge methods'. The 'Media' section has dropdowns for 'Local streaming between device calls', 'Bypass streaming between device calls', and 'Codec support'. The 'Set-side RTP security' and 'ICP-side RTP security' sections have dropdowns for 'Inbound', 'Outbound', and 'Preferred cipher'. At the bottom are 'Cancel' and 'Save' buttons.

## IP48x Configuration

### Pre-requisites

Before configuring the IP48x device:

- Ensure the unit is powered on and connected to the network.
- Confirm that your PC is connected to the same TCP/IP network.
- A web browser is required to access the full configuration interface.
- If connecting directly to the IP48x, ensure the phone is powered via PoE.

**Note:** The IP48x phone, by default, obtains its IP address from the DHCP server in the network. If a DHCP server is **not** available, the IP48x phone can be configured with a static IP address, as described in the **Network Settings** section below.

### Accessing the IP48x Web GUI

1. Ensure both the IP48x and your computer are connected to the LAN. A direct cable connection requires PoE.
2. Open a supported web browser and navigate to the phone's IP address, for example:  
<https://192.168.10.35>
3. When prompted, enter the default credentials:

- Username: admin
  - Password: 22222
4. Upon successful login, the Web GUI Home Page appears.

### Configuration Settings Using the IP48x Phone Display

1. Press **Settings** on the phone display.
2. Go to **Advanced**.
3. Enter the password **22222** and press **Enter**.
4. Navigate to **Network**.
5. Scroll down to **Settings**.
6. Uncheck **Use DHCP?**.
7. Enter the **IP address**.
8. Enter the **Subnet Mask**.
9. Enter the **Gateway**.
10. Enter the **Primary** and **Secondary DNS**.
11. Select **Save**.
12. When prompted, click **Yes** to restart the phone.

**Network Settings**

|                      |                          |
|----------------------|--------------------------|
| Use DHCP?            | <input type="checkbox"/> |
| DHCP User Class      |                          |
| DHCP Download Option | Any                      |
| IP Address           | 10.211.26.164            |
| Subnet Mask          | 255.255.255.0            |
| Gateway              | 10.211.26.1              |

Save

Cancel

## Configuration Settings Using the IP48x Web GUI

### SIP CONFIGURATION

1. Navigate to **Advanced Settings > Global SIP**
2. Configure the following:
  - **Basic SIP Authentication Settings:**
    - Phone Number
    - Caller ID
    - Authentication Name
    - Authentication Password
  - **Basic SIP Network Settings:**
    - Enter MiVB/MBG FQDN or IP details:
      - Proxy Server
      - Proxy Port
      - Registrar Server
      - Registrar Port
  - **Advanced SIP Settings:**
    - Transport Protocol:
      - Explicit MWI Subscription: Enabled
      - Set to **UDP**
      - Port: **5060**

### MESSAGE WAITING INDICATION (MWI)

The ability of an extension to receive a Message Waiting Indication (MWI) in the form of an LED.

You can configure the MWI from MiVB SIP Device Capabilities form or from IP48x Phone web UI.

#### *Method 1 – MiVB SIP Device Capabilities (recommended method)*

1. In MiVB click on **System Properties > System Feature Settings > SIP Device Capabilities** form.
2. **Basic > Call Routing and Administration Options > Allow MWI Notifications without Subscription.**
3. Change the value from **NO** (default) to **YES**.

#### *Method 2 – IP48x Phone Web UI*

1. Click on **Advanced Settings > Global SIP > Advanced SIP Settings**.
2. Enable **Explicit MWI Subscription**.
3. Click **Save Settings**.
4. You must restart the phone for the selection to take effect.

**Mitel**

**Status**  
System Information  
License Status

**Operation**  
User Password  
Phone Lock  
Softkeys and XML  
Keypad Speed Dial  
Directory  
Reset

**Basic Settings**  
Preferences  
Account Configuration  
Custom Ringtones

**Advanced Settings**  
**Global SIP**  
Line 1  
Line 2  
Line 3  
Line 4  
Line 5  
Line 6  
Line 7  
Line 8  
Line 9  
Line 10  
Line 11  
Line 12  
Line 13  
Line 14  
Line 15  
Line 16  
Line 17  
Line 18  
Line 19  
Line 20  
Line 21  
Line 22  
Line 23  
Line 24  
Action URI  
Configuration Server  
Firmware Update  
TLS Support  
802.1x Support  
Troubleshooting  
Capture  
Diagnostics  
Screenshot

**Global SIP Settings**

**Basic SIP Authentication Settings**  
Screen Name  
Screen Name 2  
Phone Number  
Caller ID  
Authentication Name  
Password  
BLA Number  
Line Mode  
Call Waiting

**Basic SIP Network Settings**  
Proxy Server  
Proxy Port  
Backup Proxy Server  
Backup Proxy Port  
Outbound Proxy Server  
Outbound Proxy Port  
Backup Outbound Proxy Server  
Backup Outbound Proxy Port  
Registrar Server  
Registrar Port  
Backup Registrar Server  
Backup Registrar Port  
Registration Period  
Conference Server URI

**Advanced SIP Settings**  
Explicit MVI Subscription  
Explicit MVI Subscription Period  
MVI for BLA account  
As-Feature-Event Subscription  
As-Feature-Event Subscription Period  
UA-Profile-Event Subscription  
UA-Profile-Event Subscription Period  
Send MAC Address in REGISTER Message  
Send Line Number in REGISTER Message  
Session Timer  
T1 Timer  
T2 Timer  
Transaction Timer  
Transport Protocol  
Local SIP UDP/TCP Port  
Local SIP TLS Port  
Registration Failed Retry Timer  
Registration Timeout Retry Timer  
Registration Renewal Timer  
BLF Subscription Period  
ACD Subscription Period

**Transport Protocol**  
Local SIP UDP/TCP Port  
Local SIP TLS Port  
Registration Failed Retry Timer  
Registration Timeout Retry Timer  
Registration Renewal Timer  
BLF Subscription Period  
ACD Subscription Period

## CODEC SETTINGS

Navigate to the Codec Settings section to ensure codecs align with MiVB expectations (G.711 / G.729 based on deployment).

BLA Subscription Period  
Blacklist Duration  
Park Pickup Config  
Whitelist Proxy  
XML SIP Notify

**RTP Settings**  
RTP Port  
Force RFC2833 Out-of-Band DTMF  
DTMF Method  
RTP Encryption

**Codec Preference List**  
Note: Basic Codecs Include G.711u (8K), G.711a (8K), G.729

Codec 1  
Codec 2  
Codec 3  
Codec 4  
Codec 5  
Codec 6  
Codec 7  
Codec 8  
Codec 9  
Codec 10  
Packetization Interval  
Silence Suppression

**Autodial Settings**  
Autodial Number  
Autodial Timeout

**Save Settings**

300  
300  
☐ Enabled  
☐ Enabled

3000  
☒ Enabled  
RTP  
SRTP Disabled

All  
None  
None  
None  
None  
None  
None  
None  
None  
None  
30  
☒ Enabled

0



## REGISTRATION STATUS

To confirm successful MiVB/MBG registration:

1. Navigate to **Status** → **System Information**
2. Verify that the **Registration Status** shows the SIP account as **Registered**.

Mitel

Status

- System Information
- License Status

Operation

- User Password
- Phone Lock
- Softkeys and XML
- Keypad Speed Dial
- Directory
- Reset

Basic Settings

- Preferences
- Account Configuration
- Custom Ringtones

Advanced Settings

- Network
- Global SIP
- Line 1
- Line 2
- Line 3
- Line 4
- Line 5
- Line 6
- Line 7
- Line 8
- Line 9
- Line 10
- Line 11
- Line 12

System Information

Network Status

| Attribute   | LAN Port | PC Port |
|-------------|----------|---------|
| Link State  | Up       | Down    |
| Negotiation | Auto     | Auto    |
| Speed       | 1000Mbps | 10Mbps  |
| Duplex      | Full     | Half    |

Hardware Information

| Attribute   | Value             |
|-------------|-------------------|
| MAC Address | 00:10:49:45:4B:3E |
| Platform    | ip485g Rev. D     |

Firmware Information

| Attribute             | Value                            |
|-----------------------|----------------------------------|
| Firmware Version      | 6.2.1.2020                       |
| Firmware Release Code | SIP                              |
| Date/Time             | May 5 2023 04:16:17              |
| Boot Version          | 803.0.0002.1 2022-08-12 19:44:30 |

SIP Status

| Line | SIP Account             | Status     | Backup Registrar Used? |
|------|-------------------------|------------|------------------------|
| 1    | 1000@10.211.122.49.5060 | Registered | No                     |
| 2    | 1000@10.211.122.49.5060 | Registered | No                     |

## TLS/SRTP Configuration on IP48x SIP Phone

To enable secure signaling and media, the IP48x SIP Phone supports TLS (for SIP signaling) and SRTP (for RTP media encryption).

### IMPORT ROOT CERTIFICATES AND CONFIGURATION FILE

Depending on your deployment, import the appropriate files into the IP48x:

- **Direct MiVB Registration**  
Import:
  - **MiVB Root CA Certificate**
  - **startup.cfg** (contains required TLS/SRTP parameters)
- **MBG / Teleworker Deployment**  
Import:
  - **MBG Root CA Certificate**
  - **startup.cfg** (same file)

#### Required Parameters in startup.cfg:

- sips persistent tls: 0
- sip persistent tls keep alive: 60
- sip send sips over tls: 0
- sips trusted certificates: CA.pem

**Note:** These files can be uploaded via **FTP**, **TFTP**, **HTTP**, **HTTPS**, based on your provisioning setup.

**Mitel**

**Status**  
System Information  
License Status

**Operation**  
User Password  
Phone Lock  
Softkeys and XML  
Keypad Speed Dial  
Directory  
Reset

**Basic Settings**  
Preferences  
Account Configuration  
Custom Ringtones

**Advanced Settings**  
Network  
Global SIP  
Line 1  
Line 2  
Line 3  
Line 4  
Line 5  
Line 6  
Line 7  
Line 8  
Line 9  
Line 10  
Line 11  
Line 12  
Line 13  
Line 14  
Line 15  
Line 16  
Line 17  
Line 18  
Line 19  
Line 20  
Line 21  
Line 22  
Line 23

**Configuration Server Settings**

**Settings** [HTTP ▼]  
Download Protocol [0.0.0.0]  
Primary Server [0.0.0.0]  
Pn TFTP Path [0.0.0.0]  
Alternate Server [0.0.0.0]  
Alt TFTP Path [0.0.0.0]  
Use Alt TFTP ☐ Enabled  
FTP Server  
FTP Path  
FTP Username  
FTP Password  
HTTP Server [10.211.26.232]  
HTTP Path [Newfolder/TW/]  
HTTP Port [80]  
HTTPS Server  
HTTPS Path  
HTTPS Port [443]

**Auto-Resync**  
Mode [None ▼]  
Time (24-hour) [00:00 ▼]  
Maximum Delay [15]  
Days [0]

**XML Push Server List(Approved IP Addresses)**  
[ ]

**Save Settings**

Upon successful certificate upload, the trusted certificate filename automatically populates as CA.pem.

**Mitel**

**Status**  
System Information  
License Status

**Operation**  
User Password  
Phone Lock  
Softkeys and XML  
Keypad Speed Dial  
Directory  
Reset

**Basic Settings**  
Preferences  
Account Configuration  
Custom Ringtones

**Advanced Settings**  
Network  
Global SIP  
Line 1  
Line 2  
Line 3  
Line 4  
Line 5  
Line 6  
Line 7  
Line 8  
Line 9  
Line 10  
Line 11  
Line 12  
Line 13  
Line 14  
Line 15  
Line 16  
Line 17  
Line 18  
Line 19  
Line 20  
Line 21  
Line 22  
Line 23  
Line 24  
Action URI  
Configuration Server  
Firmware Update  
TLS Support  
802.1X Support  
Troubleshooting  
Capture  
Diagnostics  
Screenshot

**TLS Support**

**Configure File Names**  
Root and Intermediate Certificates Filename  
Local Certificate Filename  
Private Key Filename  
Trusted Certificates Filename [CA.pem]

**Save Settings**

## CONFIGURE TLS TRANSPORT

Navigate to **Advanced Settings > Global SIP**

- Change **Transport Protocol** to **Persistent TLS**
- Set SIP signaling port to **5061**



Status

System Information

License Status

Operation

User Password

Phone Lock

Softkeys and XML

Keypad Speed Dial

Directory

Reset

Basic Settings

Preferences

Account Configuration

Custom Bindings

Advanced Settings

Network

Global SIP

Line 1

Line 2

Line 3

Line 4

Line 5

Line 6

Line 7

Line 8

Line 9

Line 10

Line 11

Line 12

Line 13

Line 14

Line 15

Line 16

Line 17

Line 18

Line 19

Line 20

Line 21

Line 22

Line 23

Line 24

Action URI

Configuration Server

Firmware Update

TLS Support

802.1x Support

Troubleshooting

Capture

Diagnostics

Screenshot

Global SIP Settings

Basic SIP Authentication Settings

Screen Name

Screen Name 2

Phone Number

Caller ID

Authentication Name

Password

BLA Number

Line Mode

Call Waiting

Basic SIP Network Settings

Proxy Server

Proxy Port

Backup Proxy Server

Backup Proxy Port

Outbound Proxy Server

Outbound Proxy Port

Backup Outbound Proxy Server

Backup Outbound Proxy Port

Registrar Server

Registrar Port

Backup Registrar Server

Backup Registrar Port

Registration Period

Conference Server URI

Advanced SIP Settings

Explicit MWI Subscription

Explicit MWI Subscription Period

MWI for BLA account

As-Feature-Event Subscription

As-Feature-Event Subscription Period

UA-Profile-Event Subscription

UA-Profile-Event Subscription Period

Send MAC Address in REGISTER Message

Send Line Number in REGISTER Message

Session Timer

T1 Timer

T2 Timer

Transaction Timer

Transport Protocol

Local SIP UDP/TCP Port

Local SIP TLS Port

Registration Failed Retry Timer

Registration Timeout Retry Timer

Registration Renewal Timer

BLF Subscription Period

ACD Subscription Period

## CONFIGURE SRTP FOR MEDIA ENCRYPTION

Navigate to **Advanced Settings > RTP Settings** and set **RTP Encryption** to **SRTP Only**

|                                                            |                                             |
|------------------------------------------------------------|---------------------------------------------|
| <b>RTP Settings</b>                                        |                                             |
| RTP Port                                                   | <input type="text" value="3000"/>           |
| Force RFC2833 Out-of-Band DTMF                             | <input checked="" type="checkbox"/> Enabled |
| DTMF Method                                                | <input type="text" value="RTP"/>            |
| RTP Encryption                                             | <input type="text" value="SRTP Only"/>      |
| <b>Codec Preference List</b>                               |                                             |
| Note: Basic Codecs Include G.711u (8K), G.711a (8K), G.729 |                                             |
| Codec 1                                                    | <input type="text" value="All"/>            |
| Codec 2                                                    | <input type="text" value="None"/>           |
| Codec 3                                                    | <input type="text" value="None"/>           |
| Codec 4                                                    | <input type="text" value="None"/>           |
| Codec 5                                                    | <input type="text" value="None"/>           |
| Codec 6                                                    | <input type="text" value="None"/>           |
| Codec 7                                                    | <input type="text" value="None"/>           |
| Codec 8                                                    | <input type="text" value="None"/>           |
| Codec 9                                                    | <input type="text" value="None"/>           |
| Codec 10                                                   | <input type="text" value="None"/>           |
| Packetization Interval                                     | <input type="text" value="30"/>             |
| Silence Suppression                                        | <input checked="" type="checkbox"/> Enabled |
| <b>Autodial Settings</b>                                   |                                             |
| Autodial Number                                            | <input type="text"/>                        |
| Autodial Timeout                                           | <input type="text" value="0"/>              |
| <input type="button" value="Save Settings"/>               |                                             |

## MiVoice Business (MiVB) Supported Features for IP48x Series Phones

The table below lists the MiVoice Business (MiVB) features supported on the IP48x phone. For detailed configuration information, refer to MiVoice Business Online Help.

| MiVB Features                                   | Supported on IP48x Phone |
|-------------------------------------------------|--------------------------|
| Account Codes - Default                         | Yes                      |
| Account Codes - System                          | Yes                      |
| Account Codes - Verified and Non-verified       | No                       |
| Add Held                                        | No                       |
| Auto-Answer                                     | No                       |
| Auto-Hold                                       | Yes                      |
| ACD Support                                     | No                       |
| ACD Agent Hot Desking (including ACD Express)   | No                       |
| Broker's Call                                   | Yes                      |
| Call Duration Display                           | Yes                      |
| Call Forward - Cancel All                       | Yes                      |
| Call Forward                                    | Yes                      |
| Call Forward - Delay                            | No                       |
| Call Forward - Follow Me - End Chaining         | No                       |
| Call Forward - Follow Me - Reroute when Busy    | Yes                      |
| Call Forward - Forced                           | No                       |
| Call Forward - Override                         | Yes                      |
| Call History                                    | Yes                      |
| Call Park/Group Park                            | Yes                      |
| Call Park Retrieve/Group Park Retrieve          | Yes                      |
| Call Pickup (Dialed, Directed, Clustered)       | Yes                      |
| Call Pickup - Display Calling/Called Party      | No                       |
| Call Privacy                                    | No                       |
| Call Screening                                  | No                       |
| Call Waiting - Swap Automatic                   | No                       |
| Callback                                        | Yes                      |
| Camp-on                                         | Yes                      |
| Clear All Features                              | Yes                      |
| Compression Support                             | Yes (G.711, G.729)       |
| Conference                                      | Yes                      |
| Conference Split                                | No                       |
| Corporate Directory                             | No                       |
| Direct Outward Dialing (DOD)                    | Yes                      |
| Direct Page - Initiate                          | Yes                      |
| Direct Page - Receive                           | No                       |
| Direct Station Select/Busy Lamp Field (DSS/BLF) | No                       |
| Directed Voice Call - Initiate                  | Yes                      |
| Directed Voice Call - Receive                   | No                       |

| MiVB Features                                                           | Supported on IP48x Phone |
|-------------------------------------------------------------------------|--------------------------|
| Do Not Disturb                                                          | Yes                      |
| Feature Keys                                                            | No                       |
| Flash - Calibrated                                                      | No                       |
| Flash - Switchhook                                                      | No                       |
| Flash - Trunk                                                           | No                       |
| Gigabit Ethernet Stand Support                                          | No                       |
| Ground Button                                                           | No                       |
| Group Listen                                                            | No                       |
| Group Page - Initiate                                                   | Yes                      |
| Group Page - Receive                                                    | No                       |
| Group Presence - Join/Leave Group                                       | Yes                      |
| Group Presence - Join All/Leave All Groups                              | No                       |
| Handsfree Answerback                                                    | No                       |
| Handsfree Operation                                                     | Yes                      |
| Handoff Support                                                         | No                       |
| Headset Operation                                                       | Yes                      |
| Headset Mute Switch                                                     | Yes                      |
| Hold                                                                    | Yes                      |
| Hold on Hold                                                            | No                       |
| Hold Key Retrieves Last Held Call                                       | Yes                      |
| Hot Desking                                                             | No                       |
| Hot Line                                                                | No                       |
| Language Change                                                         | No                       |
| Last Group Member Routing (LGMR)                                        | Yes                      |
| Line Types and Appearances                                              | No                       |
| Long Key Press                                                          | No                       |
| Meet-Me Answer                                                          | No                       |
| Meet-Me Conference                                                      | Yes                      |
| Messaging - Advisory                                                    | No                       |
| Messaging - Callback                                                    | No                       |
| Messaging - Dialed                                                      | No                       |
| MobileLink (Smartphone pairing)                                         | No                       |
| Multi-color LED                                                         | No                       |
| Multilingual Name Display/Multilingual Name Display Using External LDAP | No                       |
| Multiple Message Waiting Indication                                     | No                       |
| Music                                                                   | No                       |
| Mute Key                                                                | Yes                      |
| Night Service                                                           | Yes                      |
| Off-Hook Voice Announce                                                 | No                       |
| Override Busy                                                           | Yes                      |
| Override Security                                                       | Yes                      |
| Paging                                                                  | No                       |
| PC Port (for 2nd LAN connection; see Note 11)                           | No                       |
| Personal Directory                                                      | Yes                      |

| MiVB Features                             | Supported on IP48x Phone |
|-------------------------------------------|--------------------------|
| Phonebook                                 | No                       |
| Phone Lock                                | Yes                      |
| Privacy Release                           | No                       |
| PKM Support                               | No                       |
| Record-A-Call                             | No                       |
| Redial                                    | Yes                      |
| Redial - Saved Number                     | No                       |
| Resiliency Support                        | No                       |
| Ring Group Membership                     | Yes                      |
| Ringing Line Select                       | No                       |
| Silent Monitor                            | Yes                      |
| Softkey Support                           | No                       |
| SuperKey                                  | No                       |
| Swap                                      | No                       |
| Tag Call (Malicious Call Trace)           | Yes                      |
| Teleworker Support (Mitel Border Gateway) | Yes                      |
| Transfer                                  | Yes                      |
| Transport Layer Security                  | Yes                      |
| Trunk Answer From Any Station (TAFAS)     | Yes                      |
| Trunk Select - Direct                     | No                       |
| VIP Status and Wakeup (Hospitality)       | Yes                      |
| Visual Voicemail                          | No                       |
| Voice Mail                                | Yes                      |
| Whisper Coach                             | No                       |

## Troubleshooting

### State:

The phone displays "Unsupported firmware" after initial setup or during upgrade.

### Cause:

The device is running a factory-installed firmware version below the supported threshold for direct automated upgrade.

### Action:

Proceed with the documented firmware upgrade process. The device will successfully upgrade to a supported firmware version.

