



A MITEL  
PRODUCT  
GUIDE

# MiContact Center Enterprise

## Configure MBG for WEBRTC - Operating Instructions

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# INTRODUCTION

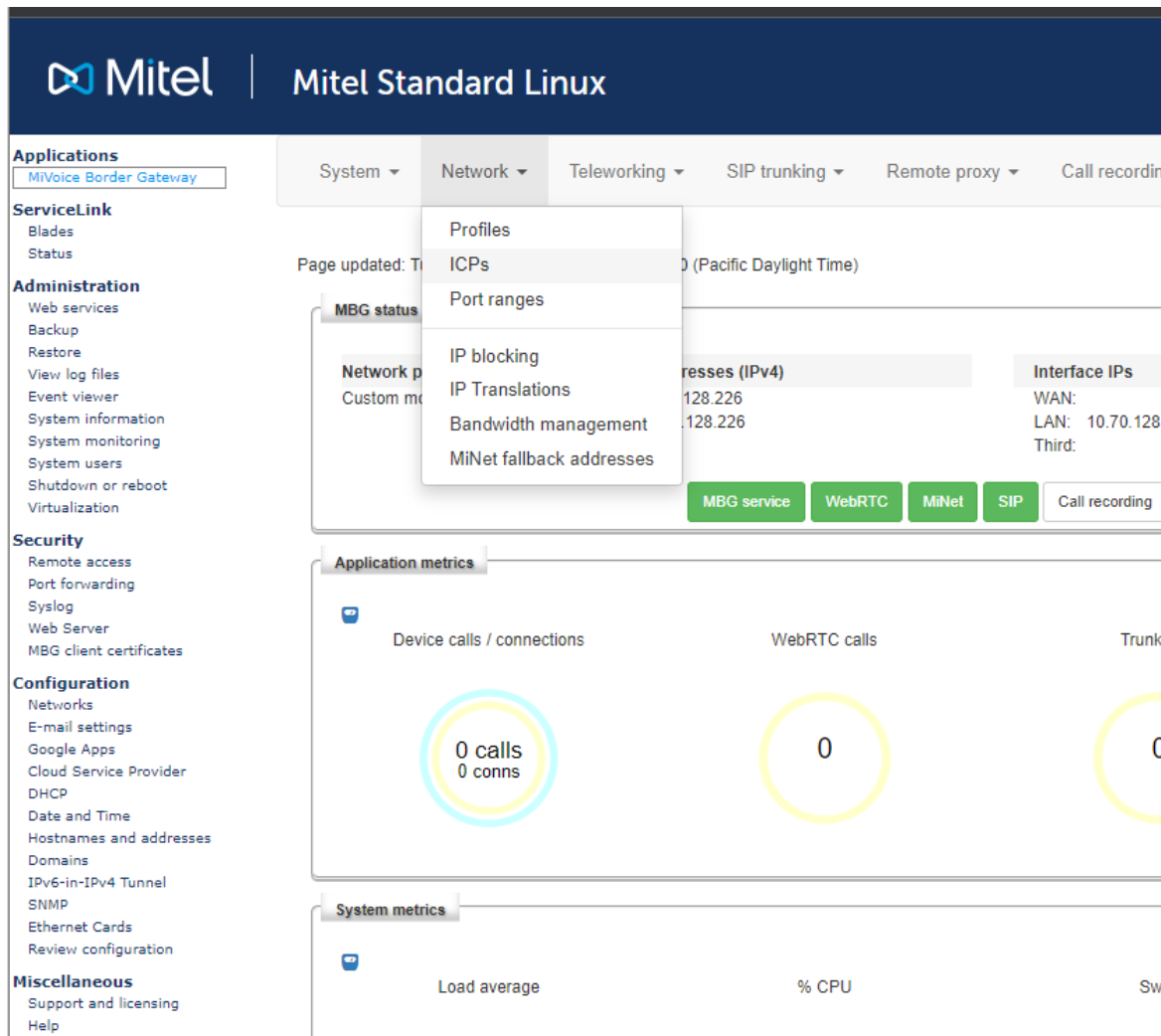
The Web Agent application contains WebRTC components so that it can be used as a WebRTC powered soft phone for voice calls. This requires that a Mitel Border Gateway (MBG) to be configured as a WebRTC Gateway connected to the MX-ONE call manager. It is highly recommended that the technician configuring the MBG system is trained and certified on that product.

To have the WebRTC calls to work you need access to:

- MBG server
- MXONE Server
- Optionally: Test Client / MBG inbuilt test client

# MBG SERVER CONFIGURATION

1. The very first thing we need to do is to create an ICP. From the top menu, select “Network->ICPs”.



2. On the ICPs page, click the “+” icon to add a new ICP.

The screenshot shows the Mitel Standard Linux web interface. The top navigation bar includes the Mitel logo and the text "Mitel Standard Linux". Below this, there are several tabs: "System", "Network", "Teleworking", "SIP trunking", "Remote proxy", "Call recording", and "Troubleshooting". The left sidebar contains a menu with categories: "Applications" (with "MiVoice Border Gateway" selected), "ServiceLink", "Administration" (with sub-items like "Web services", "Backup", "Restore", "View log files", "Event viewer", "System information", "System monitoring", "System users", "Shutdown or reboot", "Virtualization"), "Security" (with sub-items like "Remote access", "Port forwarding", "Syslog", "Web Server", "MBG client certificates"), "Configuration" (with sub-items like "Networks", "E-mail settings", "Google Apps", "Cloud Service Provider", "DHCP", "Date and Time", "Hostnames and addresses", "Domains", "IPv6-in-IPv4 Tunnel", "SNMP", "Ethernet Cards", "Review configuration"), and "Miscellaneous" (with sub-items like "Support and licensing", "Help").

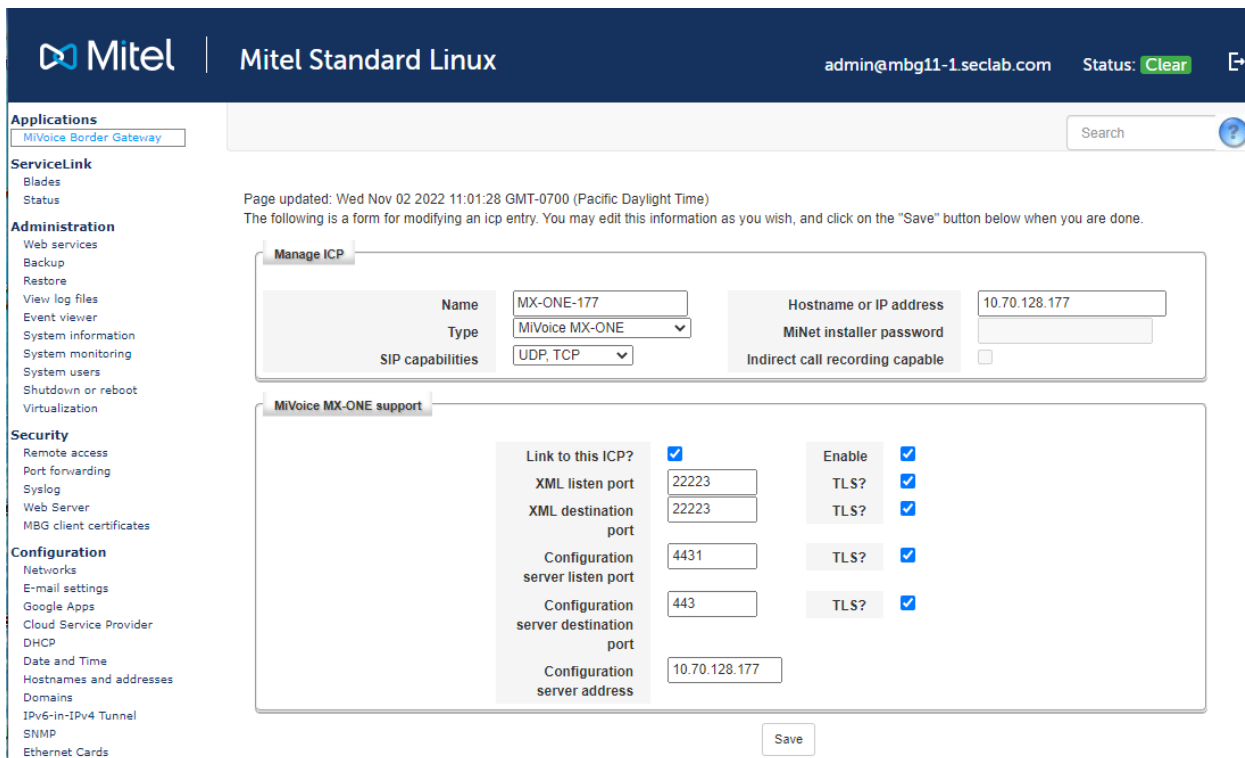
The main content area displays "Page updated: Tue Aug 16 2022 11:45:20 GMT-0700 (Pacific Daylight Time)" and a note: "To test connectivity to your configured ICPs, or to run a DNS resolution test on configured hostnames, see the [Diagnostics](#) page."

The "ICP Information" section contains a table with a "+" icon in a red box in the top-left corner. The table has the following structure:

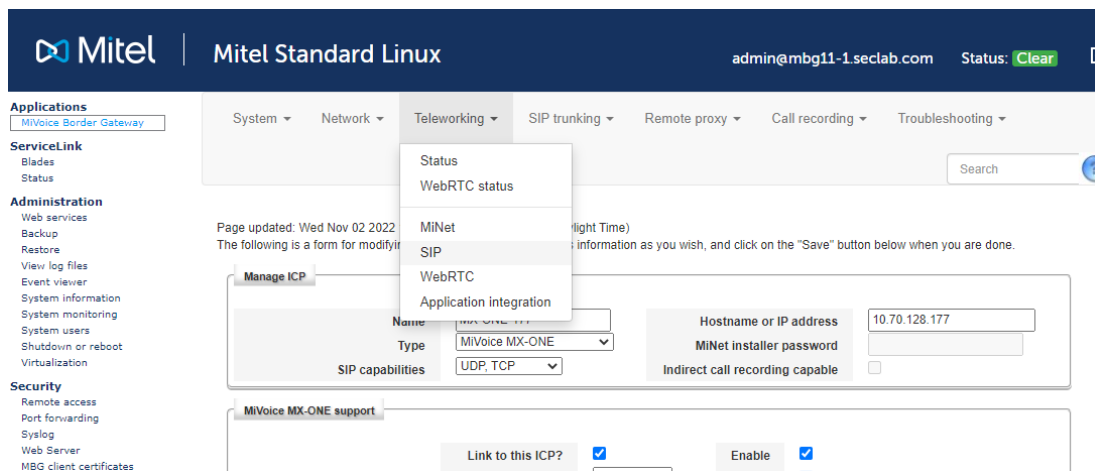
Default for MiNet	Default for SIP	Name	Hostname or IP address	Type	Installer password
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At the bottom of the page, there is a footer with the text: "MiVoice Border Gateway 11.3.0.49", "Copyright 1999-2022 Mitel Corporation", and "All rights reserved."

- On “Manage ICP” page, enter a name which can be anything you want. For the “Type” field, select “MiVoice MX\_ONE”. For the “SIP capabilities” field, select “UDP, TCP”. For the “Hostname or IP address” field, enter the MXONE IP address. Click the “Save” button.



- Now we need to add a SIP teleworker user that will be making WebRTC calls. We have to program this user in MBG and in MXONE. From the top menu, select “Teleworking->SIP”.



5. In the “SIP profile information” section, click on the “+” icon to add a new teleworking user.

The screenshot shows the Mitel Standard Linux web interface. The top navigation bar includes the Mitel logo and the text "Mitel Standard Linux". Below this, there are several menu categories: Applications (with "MiVoice Border Gateway" selected), ServiceLink, Administration, Security, and Configuration. The main content area displays a breadcrumb trail: System > Network > Teleworking > SIP trunking > Remote proxy. A message indicates the page was updated on Tue Aug 16 2022 11:59:58 GMT-0700 (Pacific Daylight Time) and provides a note about configuring SIP profiles via a CSV file, with a link to the "Bulk provisioning" page. Below the note are three control boxes: "Sets per page" (set to 20), "Status" (radio buttons for "Either", "Enabled", and "Disabled", with "Either" selected), and "Simple filter" (an empty text input field). The "SIP profile information" section is highlighted, showing a table with a "+" icon in the first column and the following headers: Enabled, Set-side username, ICP-side username, Availability, and Configured ICP.

**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  
Virtualization

**Security**  
Remote access  
Port forwarding  
Syslog  
Web Server  
MBG client certificates

**Configuration**  
Networks  
E-mail settings  
Google Apps  
Cloud Service Provider

System > Network > Teleworking > SIP trunking > Remote proxy

Page updated: Tue Aug 16 2022 11:59:58 GMT-0700 (Pacific Daylight Time)  
Below is a list of devices for this MBG server.

Note: To configure SIP profiles by uploading a CSV file, please see the [Bulk provisioning](#) page.

Sets per page: 20

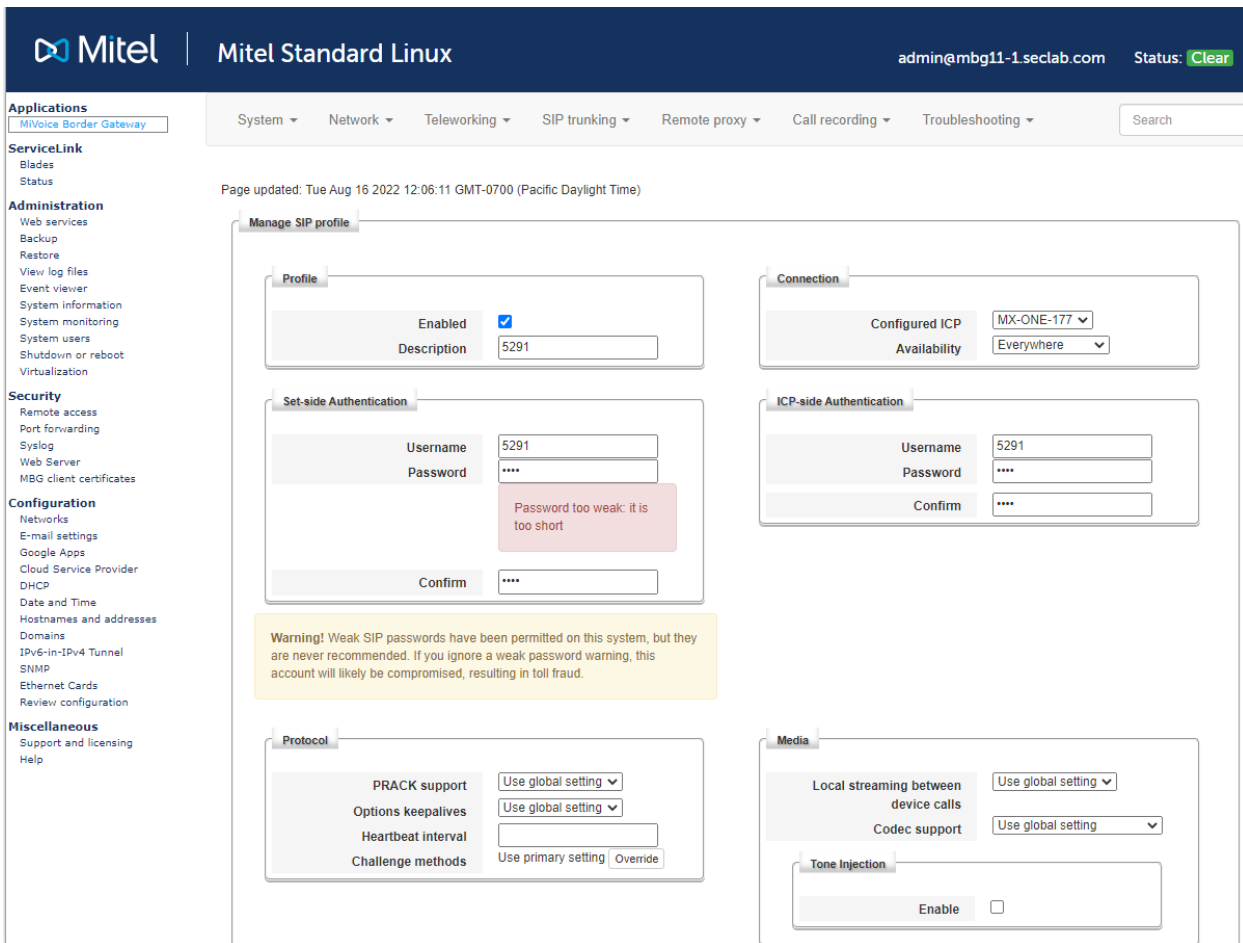
Status:  Either,  Enabled,  Disabled

Simple filter: [ ]

**SIP profile information**

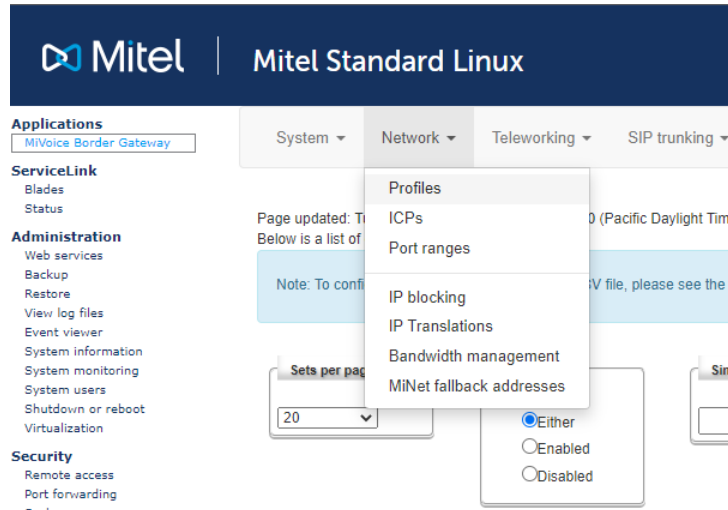
+	Enabled	Set-side username	ICP-side username	Availability	Configured ICP
---	---------	-------------------	-------------------	--------------	----------------

- In the “Manage SIP profile” page, check the “Enable” checkbox. For both “Set-side username” and “Icp-side username” fields, use the extension we plan to use as the UC Endpoint user in MXONE. For the “Configured ICP” dropdown, select the MXONE we just created at step 3 above. For both set-side and icp-side passwords, use the SIP password same as the extension number. Click the “Save” button.

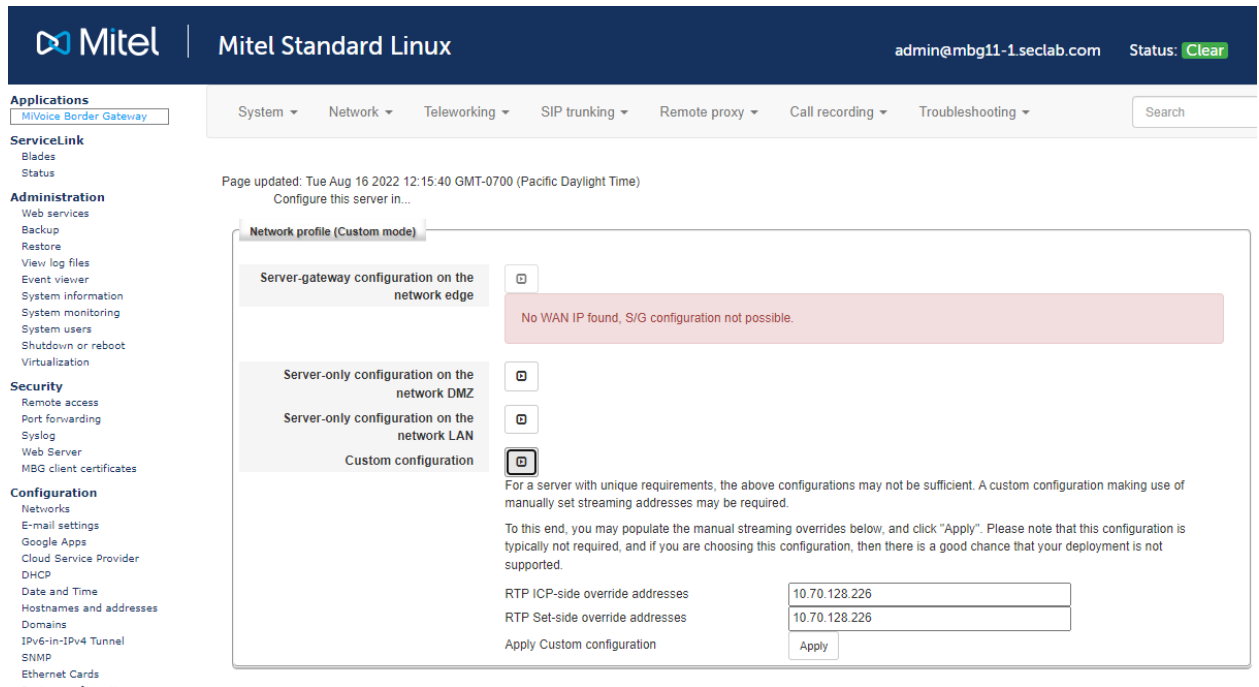


MBG may not allow you to add weak passwords, in that case go to System → Settings → Find “Permit weak SIP passwords“ in the very bottom of the page and enable the checkbox.

7. We now need to create a Network profile before we can configure WebRTC. From the top menu, select “Network->Profiles”.

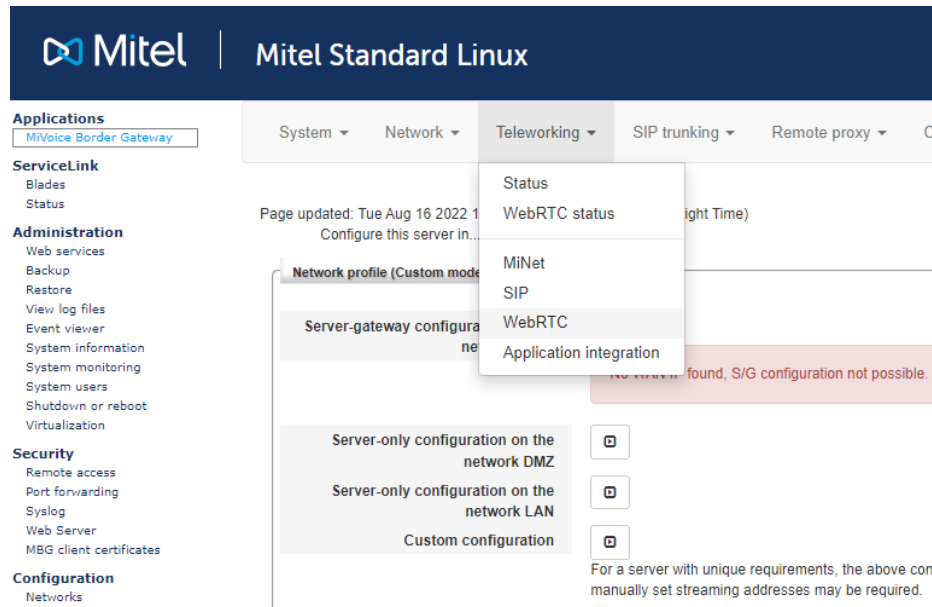


8. In “Network profile” page, click on the right-arrow on the right of “Custom Configuration”, enter the MBG IP address for both “RTP ICP-side override addresses” and “RTP Set-side override addresses” and click the “Apply” button.



9. If the network profile is created successfully, you will see “Custom mode” beside the “Network profile” label.

10. Now we need to configure WebRTC, from the top menu, select “Teleworking->WebRTC”. (only needed on MBG versions 11.5 or older)



11. In “WebRTC” page, click the “Enabled” checkbox.
  - a. For the “Hosting mode” dropdown, select “Host WebRTC client locally”.
  - b. For “Webserver shared secret” field, just enter something, it is not used but something must be entered.
  - c. For the “WebRTC protocol security mode” field, just select “Public and Private”.
  - d. “Video enabled” should be unchecked.
  - e. For the “Mode” field, select “Anonymous and Subscriber”.
  - f. Anonymous WebRTC ICP - Select the Configured ICP name
  - g. WebRTC whitelist/blacklist mode - choose “neither”

## Configure MBG for WebRTC – Operating Instructions

- Now we need to enable SIP option. From the top menu, select “System->Settings”, in the “SIP options” section, enable UDP, TCP and TCP/TLC protocols.

- Now we need to start MBG service. From the top menu, select “System->Dashboard” and click on the “MBG service” button.

The screenshot displays the Mitel Standard Linux web interface. At the top, the Mitel logo and 'Mitel Standard Linux' are visible, along with the user email 'admin@mbg11-1.seclab.c'. A navigation bar contains dropdown menus for System, Network, Teleworking, SIP trunking, Remote proxy, Call recording, and Troubleshooting. The left sidebar lists various sections: Applications (with 'MiVoice Border Gateway' selected), ServiceLink (with 'Blades' selected), Administration (including Web services, Backup, Restore, View log files, Event viewer, System information, System monitoring, System users, Shutdown or reboot, and Virtualization), and Security (including Remote access, Port forwarding, Syslog, Web Server, and MBG client certificates). The main content area shows the page was updated on Tue Aug 16 2022 12:37:32 GMT-0700 (Pacific Daylight Time). The 'MBG status' section includes three columns: Network profile (Custom mode), Streaming addresses (IPv4) (Set-side: 10.70.128.226, ICP-side: 10.70.128.226), and Interface IPs (WAN, LAN: 10.70.128.226, Third). Below these are buttons for MBG service, WebRTC, MiNet, SIP, and Call recording. The 'Application metrics' section shows a bar chart with categories for Device calls / connections, WebRTC calls, and Trunk calls.

14. The MBG service should now turn green, and we can continue with MX-ONE configuration.

The screenshot displays the Mitel Standard Linux web interface. The top navigation bar includes the Mitel logo, the text "Mitel Standard Linux", the user email "admin@mbg11-1.seclab.com", and a "Status: Clear" indicator. A left sidebar lists various system categories: 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, Virtualization), Security (Remote access, Port forwarding, Syslog, Web Server, MBG client certificates), Configuration (Networks, E-mail settings, Google Apps, Cloud Service Provider, DHCP, Date and Time, Hostnames and addresses, Domains, IPv6-in-IPv4 Tunnel, SNMP, Ethernet Cards, Review configuration), and Miscellaneous (Support and licensing, Help). The main content area features a top navigation menu with dropdowns for System, Network, Teleworking, SIP trunking, Remote proxy, Call recording, and Troubleshooting, along with a search box. Below this, a "Page updated" timestamp is shown. The "MBG status" section contains three panels: "Network profile" (Custom mode), "Streaming addresses (IPv4)" (Set-side: 10.70.128.226, ICP-side: 10.70.128.226), and "Interface IPs" (WAN, LAN: 10.70.128.226, Third). Below these panels are buttons for MBG service (green), WebRTC (green), MiNet (grey), SIP (grey), and Call recording (grey). The "Application metrics" section shows four circular gauges: "Device calls / connections" (0 calls, 0 conns), "WebRTC calls" (0), "Trunk calls" (0), and "Active taps" (0). The "System metrics" section shows four circular gauges: "Load average" (0.1 cores: 2), "% CPU" (1%), "Swap" (8%), and "Disk usage" (32.5%).

# MX-ONE CONFIGURATION

## SIP EXTENSION PASSWORD

For the Registration of any extension to on MBG → WebRTC Gateway the MBG does not accept Register of users without challenging SIP password.

Which means SIP Passwords must be added for extensions on MX-ONE side with MD5 Authentication (and replace the ICP Side Passwords into the corresponding SIP users in MBG).

On MX-ONE side set the passwords for the extensions by the below commands:

1. `auth_code -i --dir <extension> --auth-code <extension> --csp 0 --cil <extension>`
2. `auth_code --encrypt -d <extension> --hash-type md5a1`
3. `auth_code -p -dir <extension>`

Example:

```
auth_code -i --dir 5291 --auth-code 5291 --csp 0 --cil 5291
auth_code --encrypt --dir 5291 --hash-type md5a1
auth_code -p --dir 5291
```

customer	dir	auth	code	cil	code	CSP	restr	new	customer
0	5291	md5a1:	3417465e46c5d2b3fb78d0e8489bb278	5291	0	-			

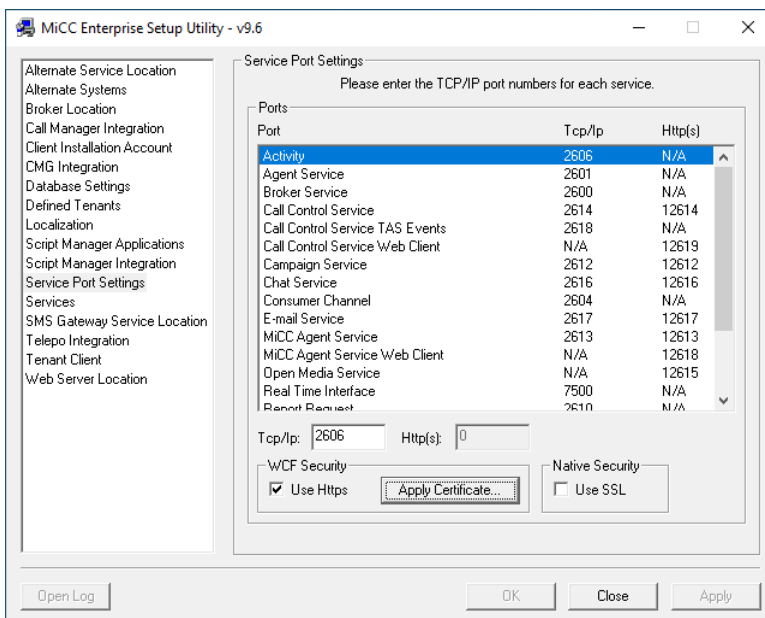
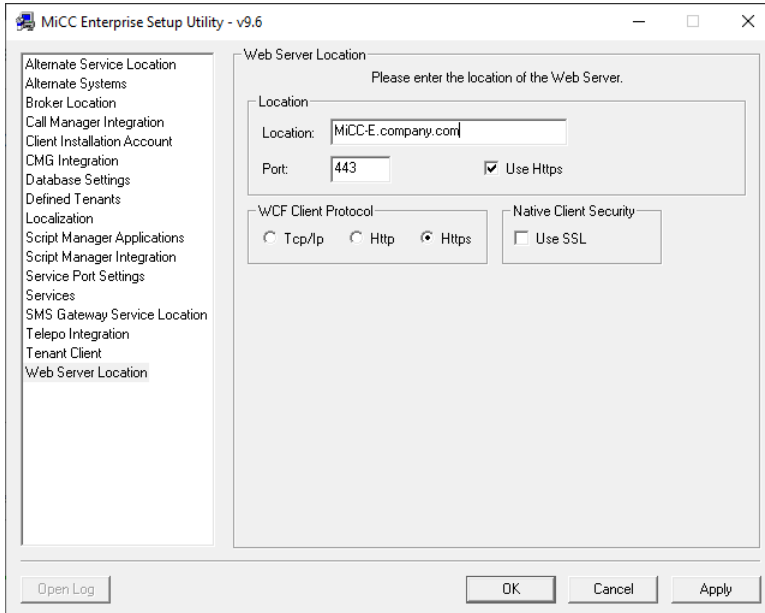
Copy the highlighted part to the clipboard and open the MBG Configuration tool. Navigate to Mitel Border Gateway->Teleworker->SIP and click to edit the extension. Click on Change Password buttons for the ICP-side Authentication and paste in the encrypted password that was copied from MX-ONE. Don't forget to click Save at the bottom of the page.

The screenshot shows the 'Manage SIP profile' interface with four main sections:

- Profile:** Includes 'Enabled' (checked) and 'Description' (5291@128.170).
- Connection:** Includes 'Configured ICP' (MX-ONE-170) and 'Availability' (Everywhere).
- Set-side Authentication:** Includes 'Username' (5291) and a 'Change password' button.
- ICP-side Authentication:** Includes 'Username' (5291) and a 'Change password' button, which is highlighted with a red rectangle.

## CONFIGURE THE MICC ENTERPRISE SERVER

The MiCC Enterprise system needs to be configured to use HTTPS in order for WebRTC to work well. This is configured using the MiCC Enterprise Setup Utility.



The location and domain of the MBG server needs to be configured on the MiCC-E server. Open the config.json file located in the *<MiCC-E install location>\Services\Web\WebAgent\assets* folder in a text editor and change the “webSocketServerURL” and “domain” entries in the “webRTCConfig” section to point to the location of the MBG server.

Example:

```
"webRTCConfig": {
    "userAgent": "Mitel-UC-Endpoint",
    "webSocketServerURL": "wss://vm-mbg11-6.seclab.com:5063",
    "domain": "vm-mbg11-6.seclab.com"
}
```

**Note:** If MBG 11.5 or older is used then leave the 192.168.0.1 entry for the “domain” parameter.

## CONFIGURE THE WEB AGENT CLIENT

### 1. DNS

Each client device needs to be able to reach the MBG server, so if the MBG is reached by server name or FQDN the DNS must be able to resolve them. If not, entries will have to be added to the clients HOSTS file. Same things would apply for the resolving the MiCC-E server name.

### 2. Certificates

- a. Login into MBG server, Go to Security → Web Server menu
- b. Under “Web Server Certificate” tab, find “Download the current web server certificate” and click on Perform button, it will download the certificate
- c. Use the Certificate Manager in Windows to install the certificate into the “Trusted Root Certification Authorities”.

## VALIDATE THE CONFIGURATION

The configuration can be validated in two ways.

### 1. Using Web Agent

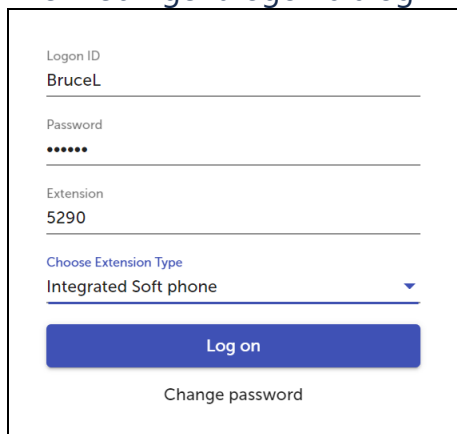
If the MiCC Enterprise system is already in place and is configured, then the MBG setup can be validated using Web Agent. Start Web Agent in a Chrome browser by loading:

*http://<MiCC Enterprise Server>/WebAgent*

or in case of a multi-tenanted system loading:

*http://<MiCC Enterprise Server>/WebAgent/#/login/<Tenant Name>*

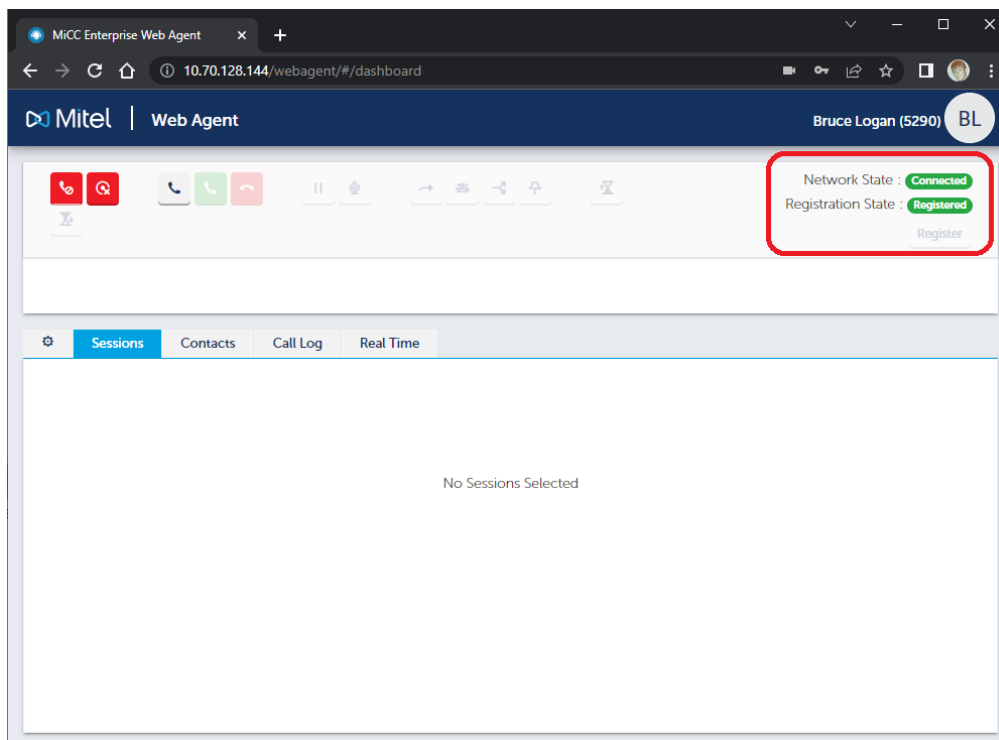
The Web Agent logon dialog will be presented:



The logon dialog form contains the following fields and elements:

- Logon ID: BruceL
- Password: masked with six dots
- Extension: 5290
- Choose Extension Type: Integrated Soft phone (dropdown menu)
- Log on button (blue)
- Change password link

Enter the SIP extension number that has been configured in MX-ONE and MBG and select *Integrated Soft Phone*. If all goes well then Web Agent will load, and Network State and Registration State should be shown as green:



If not, then click F12 to enter Console mode in Chrome to troubleshoot connectivity and Registration issues.

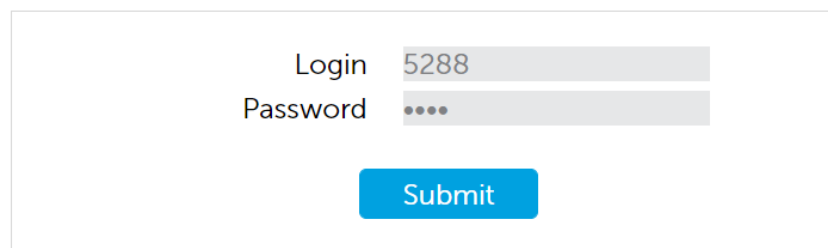
2. Using MBG inbuilt app (MBG 11.5 or older)  
To use the MBG built-in test app, from the top menu of the MBG server

manager, select “Teleworking->WebRTC”, and click the “?” icon. This will bring up the help page.

As per the help page, there are two different ways to launch the client app. One is Anonymous call mode (c://<MBG-FQDN>/webrtc/call.php?to=<CalledNumber | SipUri>) and the other is the Subscriber call mode (<https://<MBG-FQDN>/webrtc/index.php>) Subscriber call mode will be used in this example.

Note that you might have to add the <MBG-FQDN> in your computer’s hosts file (c:\Windows\System32\drivers\etc\hosts) if it is not in your corporate DNS.

When you enter the URL in your browser, you will be prompted to enter Login/Password. The Login is the extension number and the password is the SIP password for the extension.

A login form with two input fields. The first field is labeled "Login" and contains the text "5288". The second field is labeled "Password" and contains four dots. Below the fields is a blue "Submit" button.

Note that the password needs to be the MD5 hashed password as entered above for the SIP user.

If correct credential is entered, you will see this and you can make WebRTC call by enter a number in the "Name/Number" field.

