



A MITEL
PRODUCT
GUIDE

MiContact Center Enterprise

Configure MBG for WEBRTC - Operating Instructions

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INTRODUCTION

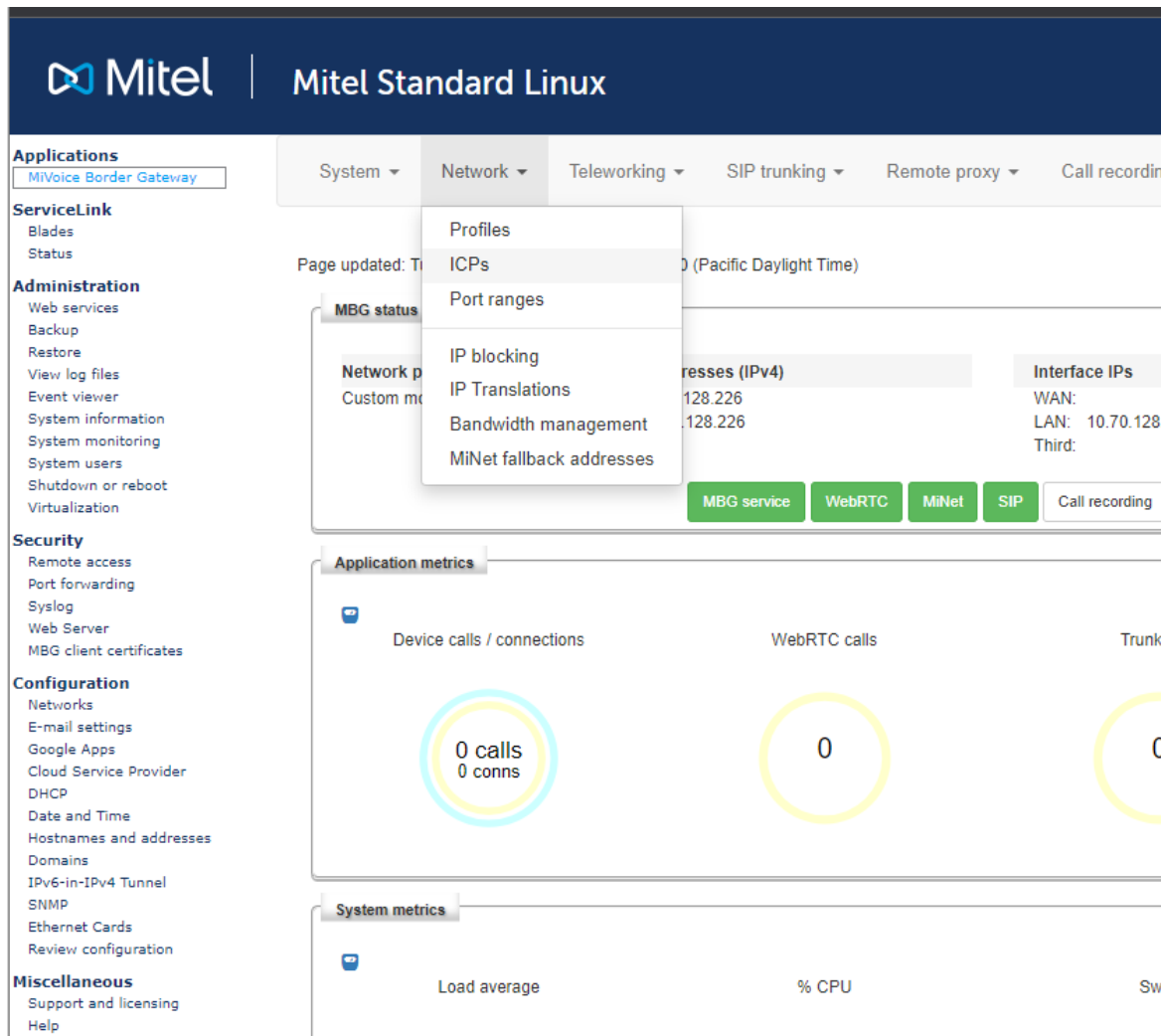
The Web Agent application contains WebRTC components so that it can be used as a WebRTC powered soft phone for voice calls. This requires that a Mitel Border Gateway (MBG) to be configured as a WebRTC Gateway connected to the MX-ONE call manager. It is highly recommended that the technician configuring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

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

- MBG server
Note: In this release, the MBG used by the MiCC Enterprise WebRTC Web Agents cannot be configured to use the WebRTC Pro feature, so recording via MBG's SRC ports cannot be done. This will be supported in a future release of MBG. In the meantime, in order to be able to record WebRTC Web Agents it is recommended that the TAS based recording feature is used together with Mitel Interaction Recorder (MIR).
- 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.

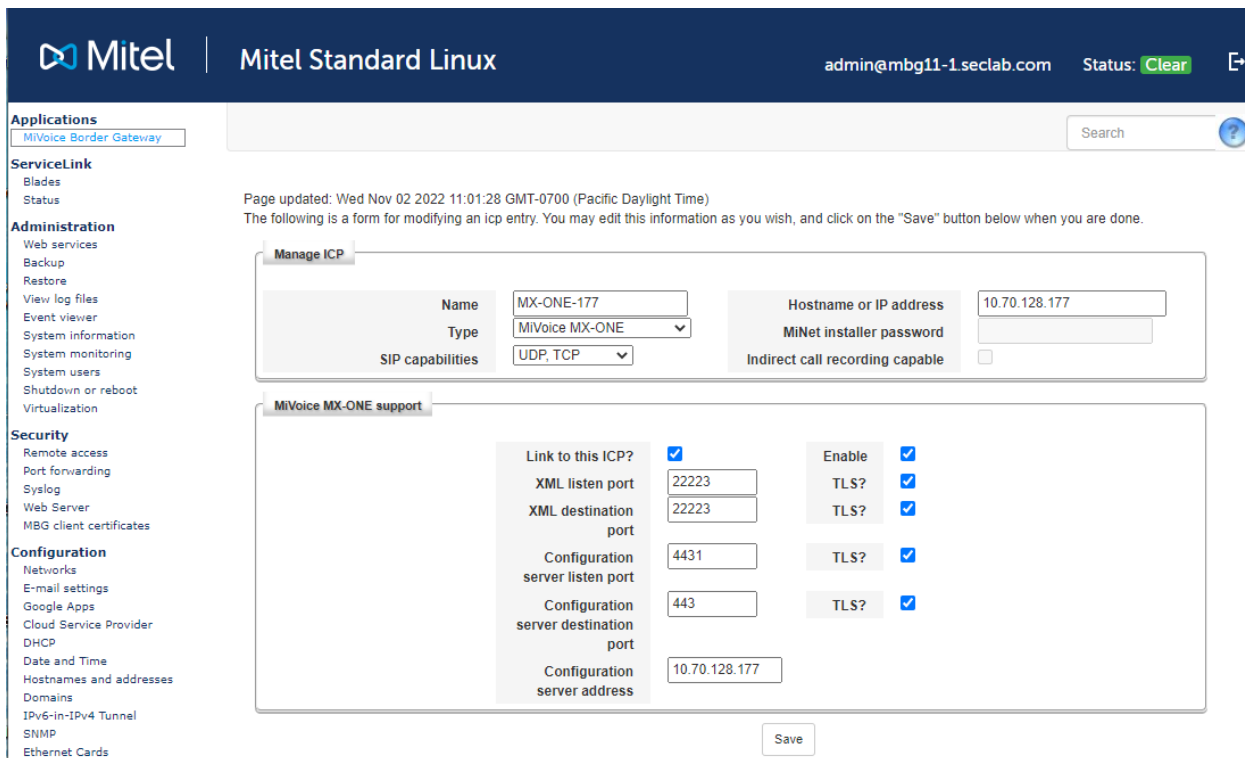
The screenshot shows the Mitel Standard Linux web interface. The top navigation bar includes the Mitel logo and the text "Mitel Standard Linux". Below this, there are several tabs: "System", "Network", "Teleworking", "SIP trunking", "Remote proxy", "Call recording", and "Troubleshooting". The left sidebar contains a menu with categories: "Applications" (with "MiVoice Border Gateway" selected), "ServiceLink", "Blades", "Status", "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 "To test connectivity to your configured ICPs, or to run a DNS resolution test on configured hostnames, see the [Diagnostics](#) page." Below this is a section titled "ICP Information" containing a table with a "+" icon in the top-left corner, indicating an option to add a new entry.

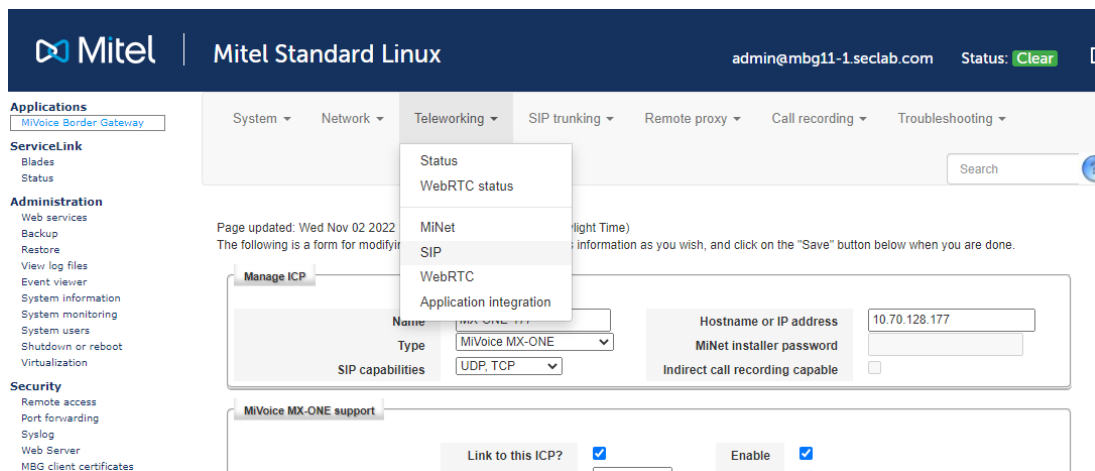
Default for MiNet	Default for SIP	Name	Hostname or IP address	Type	Installer password
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At the bottom of the page, the following text is visible: "MiVoice Border Gateway 11.3.0.49", "Copyright 1999-2022 Mitel Corporation", and "All rights reserved."

- 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, TLS”. For the “Hostname or IP address” field, enter the MXONE IP address. Click the “Save” button.



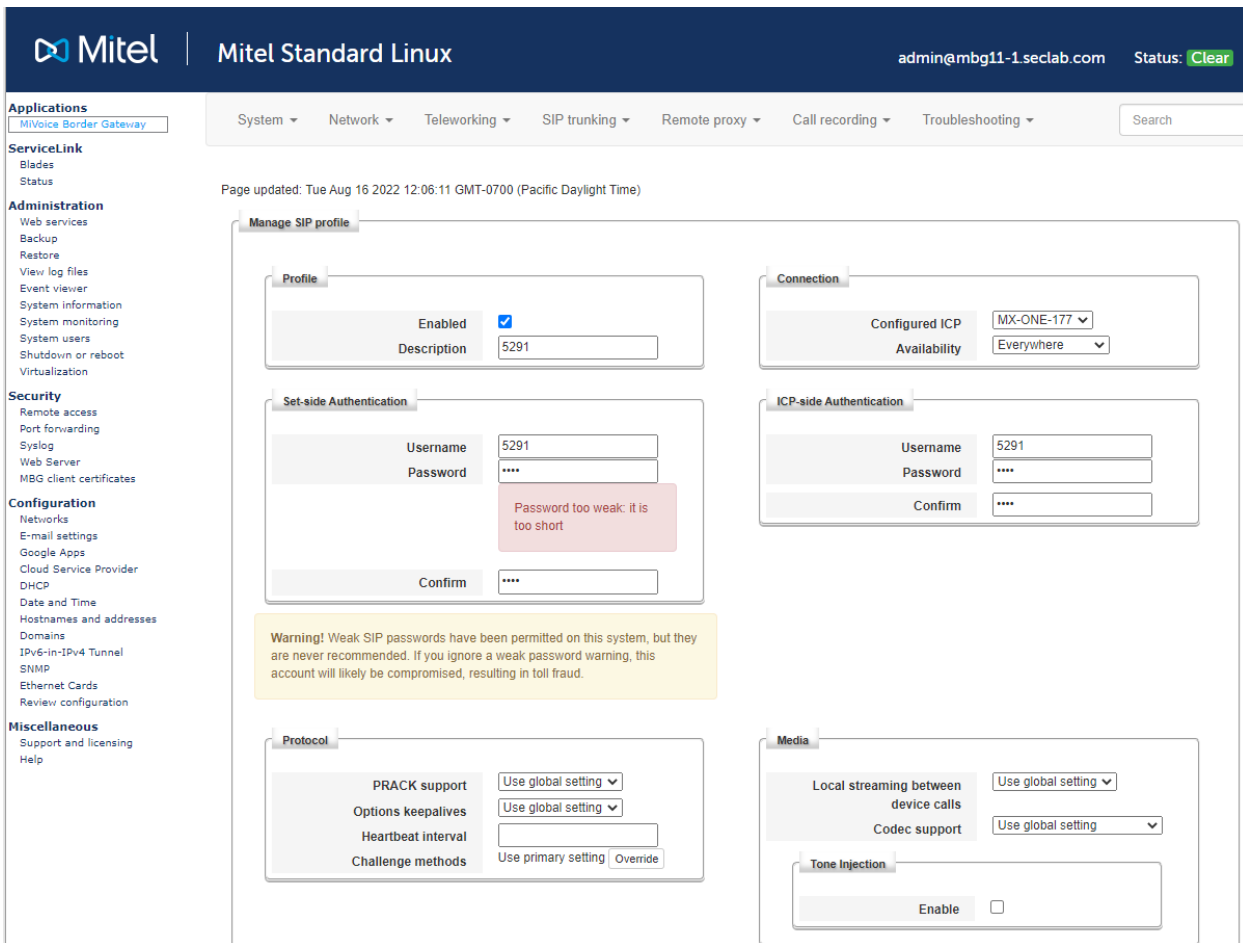
- Now we need to add a SIP teleworker user that will be making WebRTC calls. We have to program this user in MBG and in MXONE. From the top menu, select “Teleworking->SIP”.



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

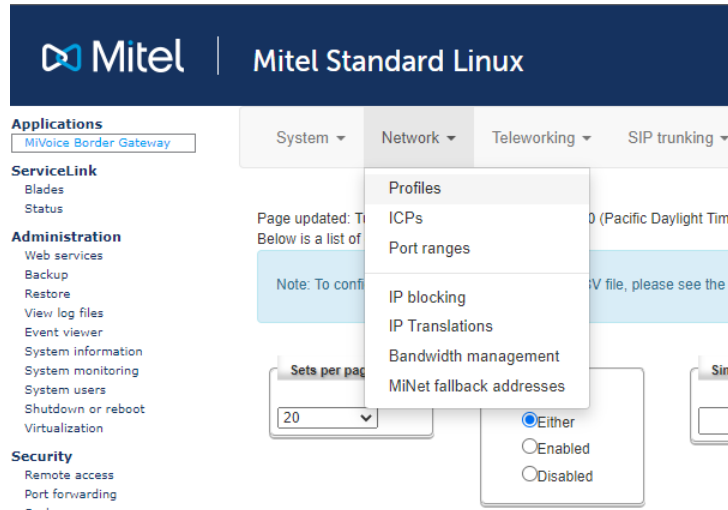
The screenshot shows the Mitel Standard Linux web interface. The top navigation bar includes the Mitel logo and the text "Mitel Standard Linux". Below this, there are several menu categories: Applications (with "MiVoice Border Gateway" selected), ServiceLink, Administration, Security, and Configuration. 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.

- 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.

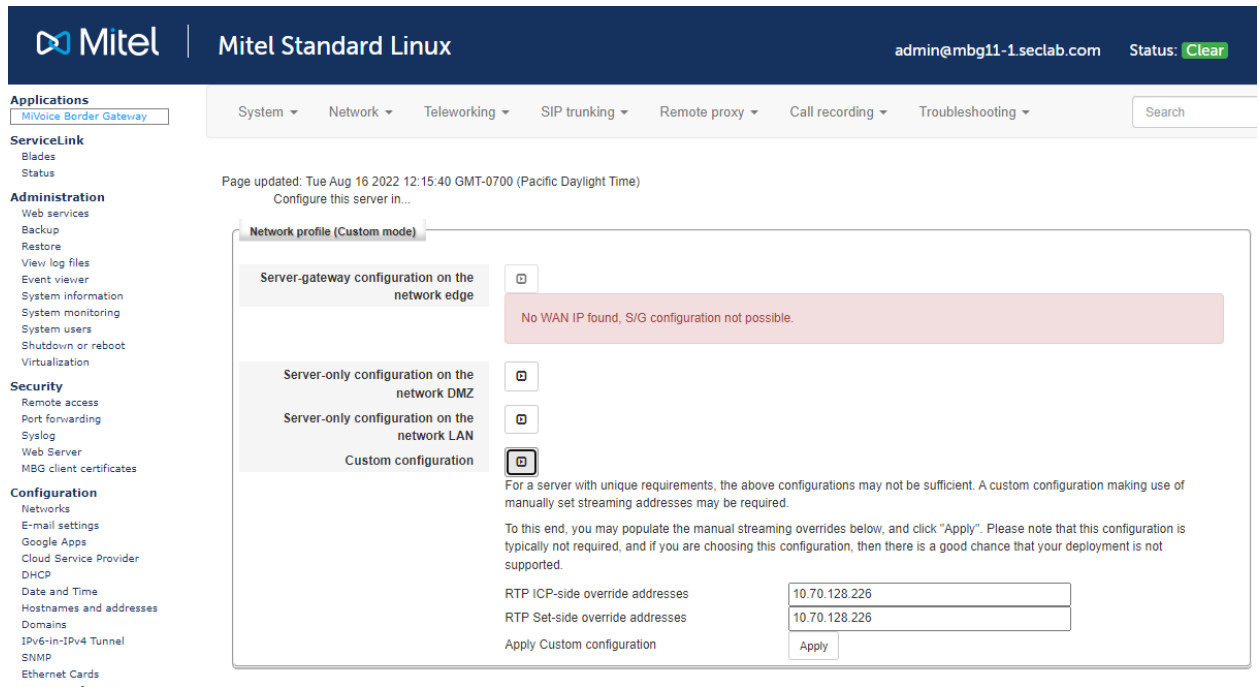


MBG may not allow you to add weak passwords, in that case go to System → Settings → Find “Permit weak SIP passwords“ in the very bottom of the page and enable the checkbox.

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

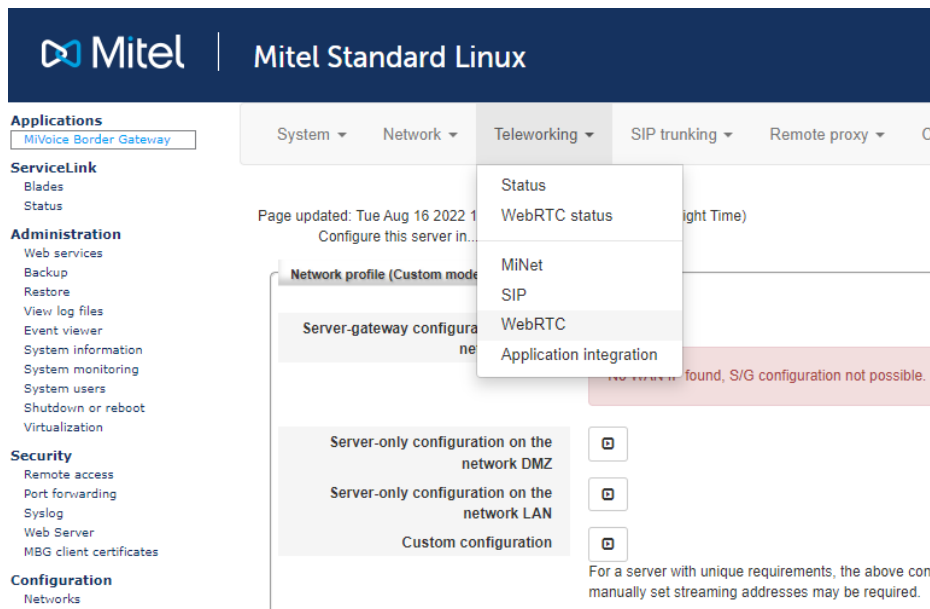


8. In “Network profile” page, click on the right-arrow on the right of “Custom Configuration”, enter the MBG IP address for both “RTP ICP-side override addresses” and “RTP Set-side override addresses” and click the “Apply” button.



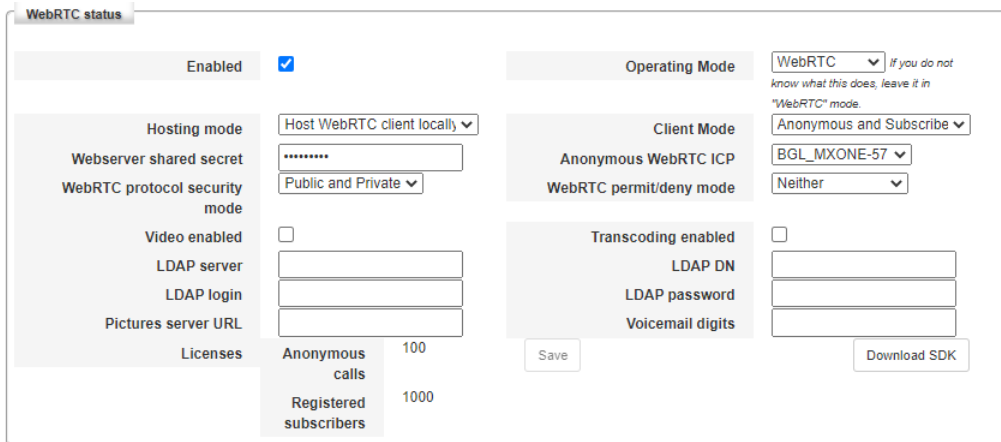
9. If the network profile is created successfully, you will see “Custom mode” beside the “Network profile” label.

10. Now we need to configure WebRTC, from the top menu, select “Teleworking->WebRTC”.



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“



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

The screenshot shows the Mitel Standard Linux configuration 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. On the left, there is a sidebar menu with 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 is titled "SIP options" and contains several configuration panels:

- SIP support Protocols:** A table with columns for Protocols and Access profile.

Protocols	Access profile
UDP	Public
TCP	Public
TCP/TLS	Public
- Device ↔ device local streaming:** A panel with checkboxes for "Device ↔ device local streaming" (checked) and "Device ↔ trunk local streaming" (checked). A dropdown menu for "Codec support" is set to "Restricted to G.729, G.711".
- PRACK support:** A panel with a checked "PRACK support" checkbox. "Send options keepalives" is set to "Always". "Options interval" is set to 180. "Challenge methods" includes Invite, Subscribe, Refer, and Prack.
- Set-side RTP security:** A panel with "Inbound" and "Outbound" sections. Both are set to "SRTP only". "Preferred cipher" is set to "AES_CM_128_HMAC_SHA1_32".
- Registration Mode:** A panel with "Registration Mode" set to "Max Set-Side" and "Set-side registration expiry time" set to 600.

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

The screenshot shows the Mitel Standard Linux dashboard. The top navigation bar includes the Mitel logo, the text "Mitel Standard Linux", and the user email "admin@mbg11-1.seclab.com". Below the navigation bar, there is a menu with items: System, Network, Teleworking, SIP trunking, Remote proxy, Call recording, and Troubleshooting. The main content area is titled "MBG status" and contains several panels:

- Network profile:** Custom mode
- Streaming addresses (IPv4):** Set-side: 10.70.128.226, ICP-side: 10.70.128.226
- Interface IPs:** WAN, LAN: 10.70.128.226, Third:
- Buttons:** A row of buttons for "MBG service", "WebRTC", "MiNet", "SIP", and "Call recording".

Below the "MBG status" panel, there is an "Application metrics" section with a bar chart showing "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 'admin@mbg11-1.seclab.com', and a 'Status: Clear' indicator. A left sidebar contains a menu with 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 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 columns are five service status buttons: 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:

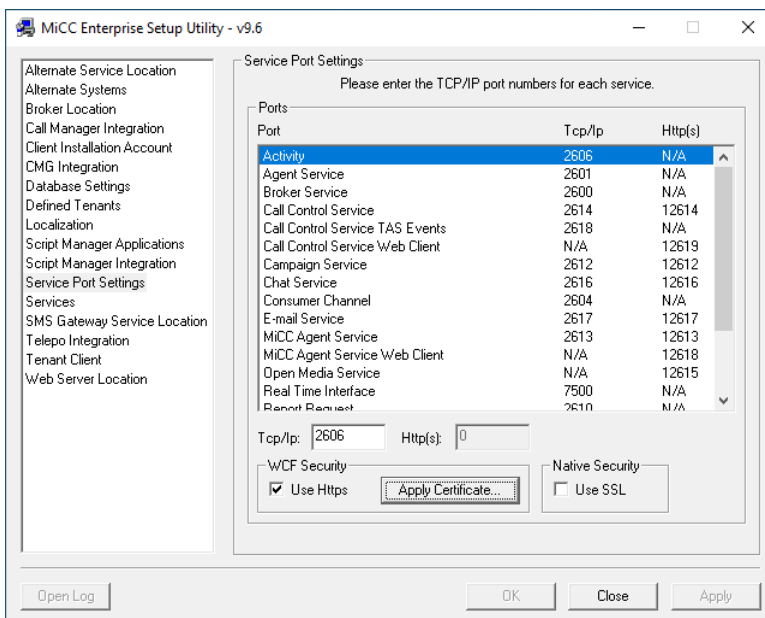
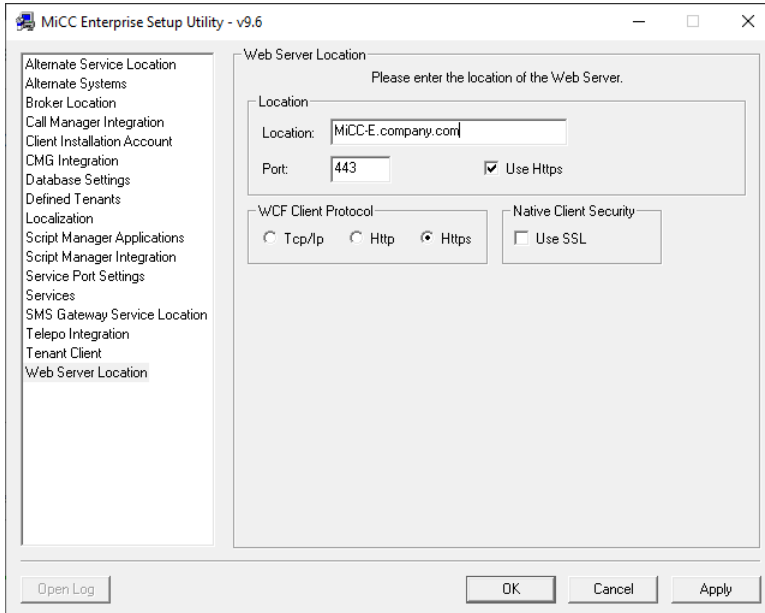
```
auth_code -i --dir 5291 --auth-code 5291 --csp 0 --cil 5291
auth_code --encrypt --dir 5291 --hash-type md5a1
auth_code -p --dir 5291
```

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.

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 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” entry in the “webRTCConfig” section to point to the location of the MBG server.

Example:

```
"webRTCConfig": {  
  
    "userAgent": "Mitel-UC-Endpoint",  
  
    "webSocketServerURL": "wss://vm-mbg11-1.seclab.com:5063",  
  
    "domain": "192.168.0.1"  
  
}
```

Leave the “domain” entry as is.

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:

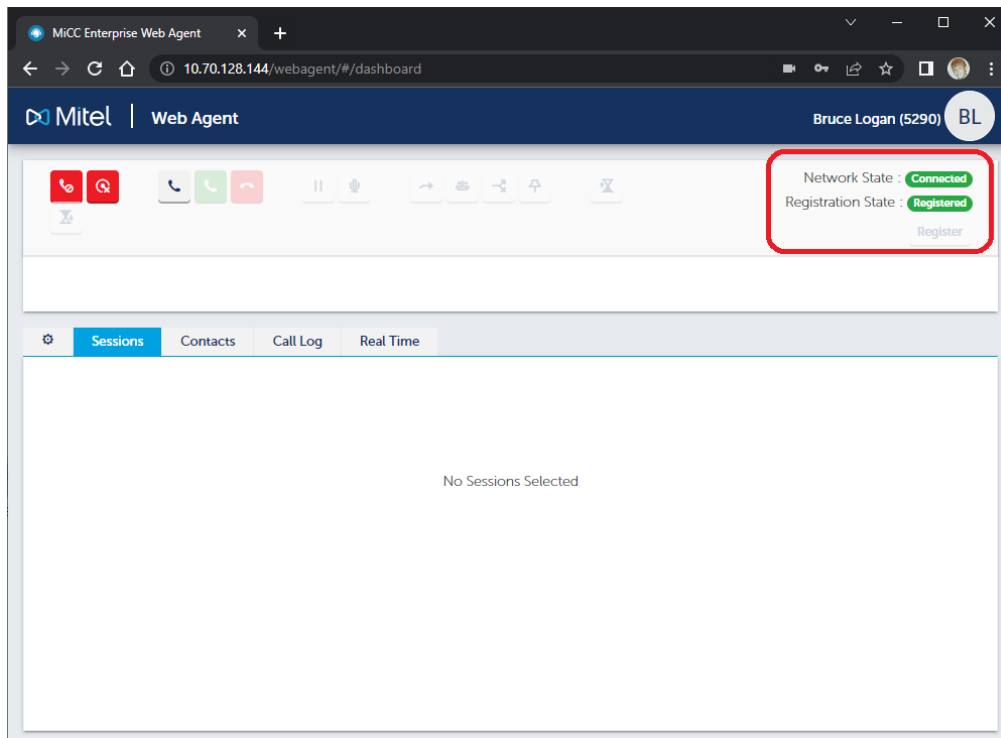
Logon ID
BruceL

Password

Extension
5290

Choose Extension Type
 Integrated Soft phone

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.

- Using MBG inbuilt app
 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.

The image shows 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, indicating a masked password. Below the input fields is a blue button with the text "Submit" in white.

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.

