

## SIP Trunking using Optimum Business® SIP Trunk Adaptor and the Cisco UC520 PBX Version 12.4

### Goal

The purpose of this configuration guide is to describe the steps needed to configure the Cisco UC520 PBX for proper operation with Optimum Business SIP Trunking.

### Prerequisites

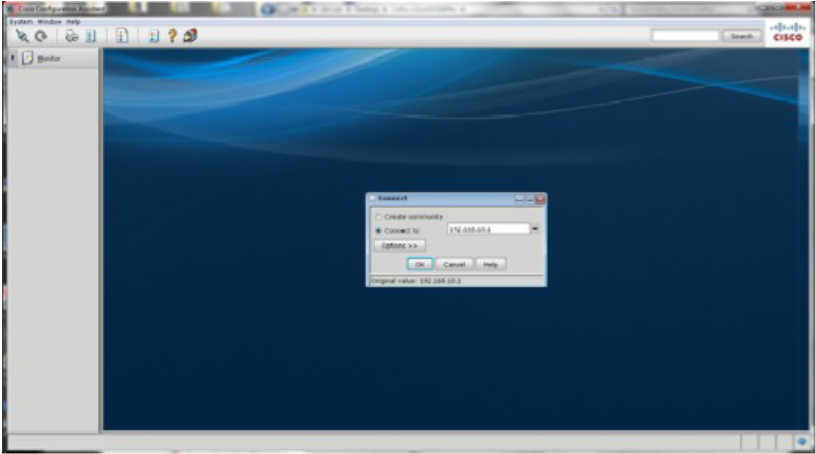
Please follow the instructions in the Optimum Business SIP Trunk Set-Up Guide. The Set-Up Guide was left by the Optimum Business technician at installation. If you do not have the Set-Up Guide, go to [www.optimumbusiness.com/SIP](http://www.optimumbusiness.com/SIP) to download a copy.

### Cisco UC520 Configuration

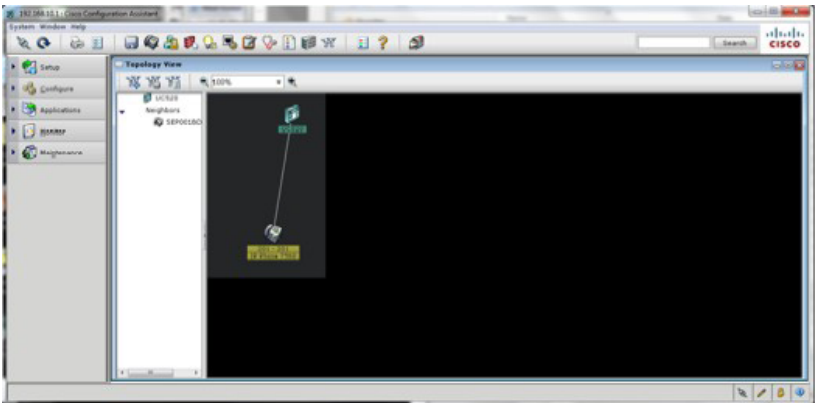
The steps on the next pages describe the minimum configuration required to enable the Cisco UC520 PBX to use Optimum Business SIP Trunking for inbound and outbound calling. Please refer to the Cisco UC520 product documentation for more information on other advanced PBX features.

The configuration described here assumes that the Cisco UC520 is already configured and operational with station side phones using assigned extensions or DIDs. This configuration is based on Cisco UC520 version 12.4.

1. Install the Cisco Configuration Assistant on a PC connected to one of the LAN ports on the Cisco UC520.
2. The default configuration for the Cisco UC520 is to use the logical interface VLAN 1 with the assigned IP address of 192.168.10.1 for management/configuration connections. Start the Cisco Configuration Assistant on the PC, and from the initial screen enter "192.168.10.1" in the "Connect to" field.

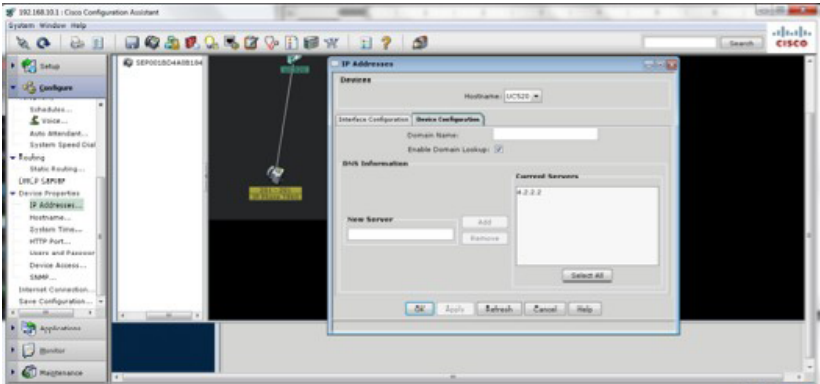


3. Press "OK".
4. Enter "cisco" for both the user name and password. The UC520 should display the main configuration screen below.



5. The Cisco UC520 should be configured with a valid IP address for a DNS server. Select "Main".
6. Select "Configure".

7. Select **“Device Properties”**.
8. Select **“IP Addresses”**.
9. Select **“Device Configuration”**.
10. Enter a **valid DNS Server IP address** in the **“New Server”** field.

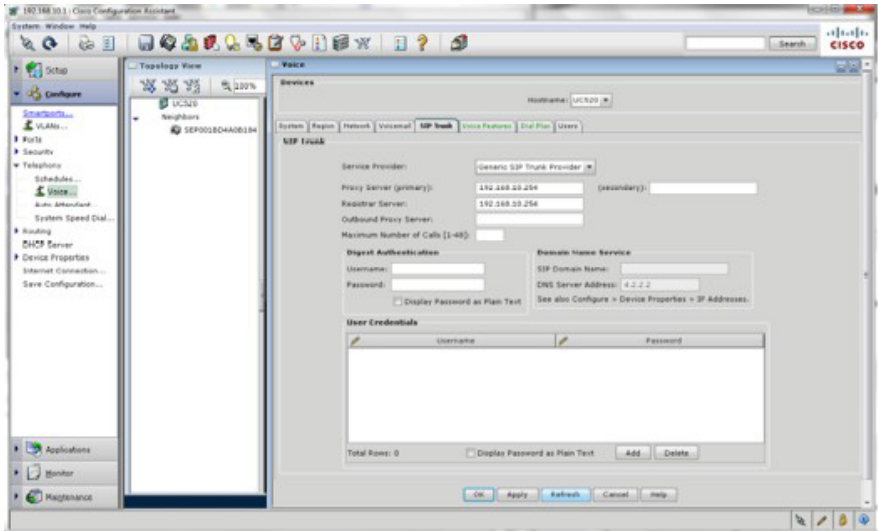


11. Configure the Cisco UC520 SIP Trunk.  
**NOTE:** In SIP Registration mode on the Cisco UC520, all calls must go out with a Caller ID matching the Pilot DID. To display the individual DID as the Caller ID, you must use non-registration mode.

**For PBX registration mode:**

- a. Select **“Main”**.
- b. Select **“Configure”**.
- c. Select **“Telephony”**.
- d. Select **“Voice”**.
- e. Select **“Generic SIP Trunk Provider”** from the **Service Provider** pulldown menu.
- f. Enter the **“Proxy Server (primary)”** IP address. Use the IP address that was assigned to the Optimum Business SIP Trunk Adaptor LAN interface. This address was configured in step 2 in the Optimum Business SIP Trunk Set-up Guide (in the “LAN Interface Settings” section).
- g. Enter the **“Registrar Server”** IP address. Use the IP address that was assigned to the Optimum Business SIP Trunk Adaptor LAN interface. This address was configured in step 2 in the Optimum Business SIP Trunk Set-up Guide (in the “LAN Interface Settings” section).
- h. Enter the **“Digest Authentication Username”**. This value should match the **User ID** configured in the Optimum Business SIP Trunk Adaptor. This was configured in step 3 in the Optimum Business SIP Trunk Set-up Guide.
- i. Enter the **“Digest Authentication Password”**. This value should match the **Password** configured in the Optimum Business SIP Trunk Adaptor. This was configured in step 3 in the Optimum Business SIP Trunk Set-up Guide.

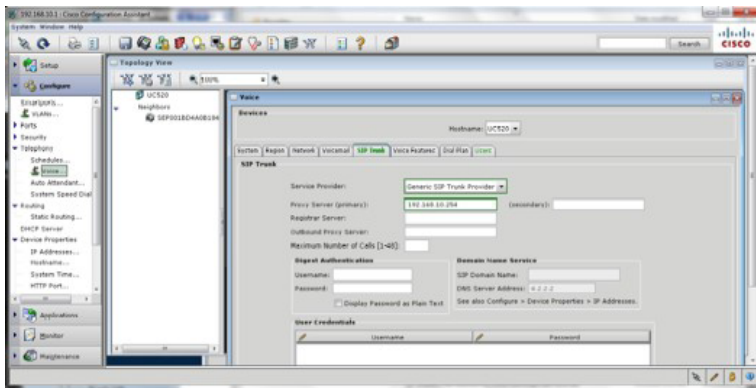
- j. To set the Caller-ID on all calls to match the Pilot DID, do the following:
  - (a) Select **"Dial Plan"**
  - (b) Select **"Other"** from the **Caller ID Main PSTN Number** pull-down menu
  - (c) Enter the **Pilot TN** into the Caller ID Main PSTN Number field.



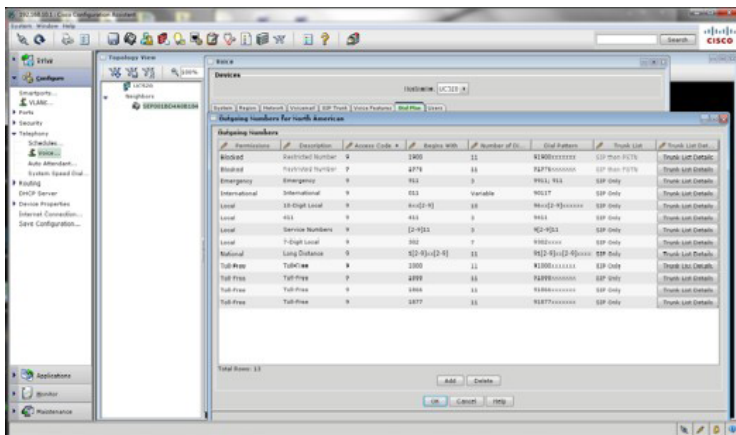
**For static or non-registration mode:**

- a. Select **"Main"**.
- b. Select **"Configure"**.
- c. Select **"Telephony"**.
- d. Select **"Voice"**.
- e. Select **"Generic SIP Trunk Provider"** from the **Service Provider** pull-down menu.
- f. Enter the **"Proxy Server (primary)"** IP address. Use the IP address that was assigned to the Optimum Business SIP Trunk Adaptor LAN interface. This is step 2 in the Optimum Business SIP Trunk Set-Up guide.

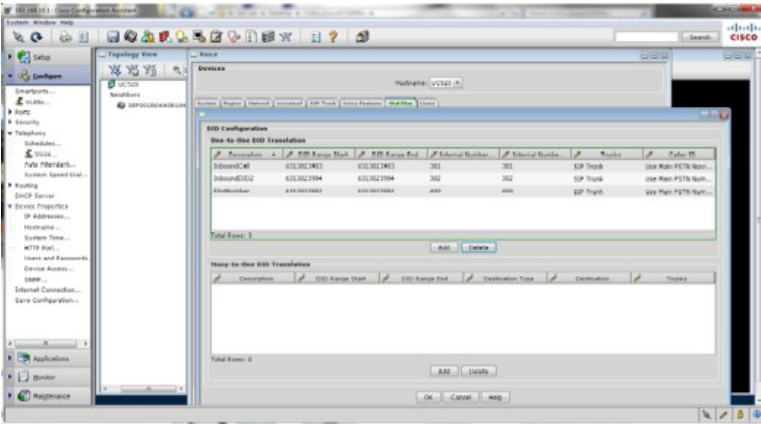
**Note:** To ensure the Cisco UC520 does not attempt to register with the Optimum Business SIP Trunk Adaptor, leave the **Registrar Server** and **Digest Authentication** username and Password fields empty.



12. Configure the local dial plan and caller ID setting. In this example, we are using the **"North American"** dial plan. Select **"Main"**.
13. Select **"Configure"**.
14. Select **"Telephony"**.
15. Select **"Voice"**.
16. Select **"Dial Plan"**.
17. Select the **"Numbering Plan Locale"** as **North American**.
18. Enter the **"Caller ID Main PSTN Number"**. This can be the Pilot DID or an individual DID. It will be used for caller ID purposes by the PBX.
19. Configure outgoing call handling according to the specifics of your installation. Outgoing call configuration can be found by selecting **"Main"**, **"Configure"**, **"Telephony"**, **"Dial Plan"**, **"Configure Outgoing Numbers"**. An example is provided below.



20. Configure incoming call handling according to the specifics of your installation. Incoming call configuration can be found by selecting **"Main"**, **"Configure"**, **"Telephony"**, **"Dial Plan"**, **"Configure Direct Inward Dial"**. A typical example is provided below that maps the Optimum Business SIP Trunk DIDs to the desired internal extensions.



**Note:** The Cablevision network only supports inband DTMF tones. The Cisco UC520 PBX only supports out-of-band DTMF tones. In order for the Cisco UC520 PBX to operate correctly with the Cablevision network, the Optimum SIP Trunk Adaptor must be configured to convert out-of-band DTMF tones sent by the Cisco UC520 PBX to inband DTMF tones.

21. To enable this conversion, log into the Optimum Business SIP Trunk Adaptor using the login and password specified in the Optimum Business SIP Trunk Adaptor Set-up Guide. Screen Shot of GUI provided below. On the **SIP Trunk Configuration** page, you **must** check the **Convert Inband DTMF** checkbox.
22. Click the **Submit** button to update this setting.

**Configuration Menu**
**SIP Trunk Configuration** [Help](#)

- Customer
- LAN Settings
- SIP Trunk Configuration
- Diagnostics
- System

Select your PBX: Cisco UC 500 v12.4

Passive connection using the local, private IP address of the PBX  
 This address must be on the same subnet as the IP Address that is specified for the LAN interface  
 PBX Address:

Active connection using registration  
 User Id:   
 Password:

Convert Inband DTMF:

Submit

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**Status:**

Trunk Status:

DID's

6316769522 ( Pilot number )  
 6316769523  
 6316769524  
 6316769525