Spectrum ENTERPRISE

Spectrum Enterprise SIP Trunking Service
AastraLink Pro 160 Firmware 1.2.2 build 1005
IP PBX Configuration Guide

About Spectrum Enterprise:

Spectrum Enterprise is a division of Charter Communications following a merger with Time Warner Cable and acquisition of Bright House Networks. Spectrum Enterprise is a national provider of scalable, fiber technology solutions. The Spectrum Enterprise portfolio includes networking and managed services solutions, including Internet access, Ethernet and Managed Network Services, Voice, TV and Cloud solutions. Our industry-leading team of experts works closely with clients to achieve greater business success.

About this document:

Spectrum Enterprise assures IP PBX compatibility by conducting interoperability testing to ensure any potential compatibility issues have been resolved prior to installation. Please review the IP PBX configuration instructions in this guide prior to your installation date.

Be advised that this document may contain references to Time Warner Cable Business Class. All references to Time Warner Cable Business Class, TWCBC or TWC should be read as Spectrum Enterprise.

Thank you,

Spectrum Enterprise

Document Purpose and Target Audience

This document will serve as a reference guide to configure the AastraLink Pro 160 IP PBX to interoperate with Time Warner Cable (TWC) SIP Trunk Service.

This guide is not intended to be a replacement of the PBX manufacture's user or configuration guide. It is intended to provide additional guidance on configuring the PBX in preparation to receive voice service from the SIP Trunk. It provides detailed instructions and best practices for a successful installation with TWC SIP Trunks.

There are many options for establishing and maintaining service using the AastraLink Pro series. This guide focuses on the minimum configurations essential for successful interoperability with Time Warner Cable Business Class SIP Trunks.

This configuration guide is based on:

Customer Premise Equipment:

Model	AastraLink Pro 160
Firmware	1.2.2 build 1005

TWC Network Equipment:

ESG	InnoMedia ESBC 9378-4B

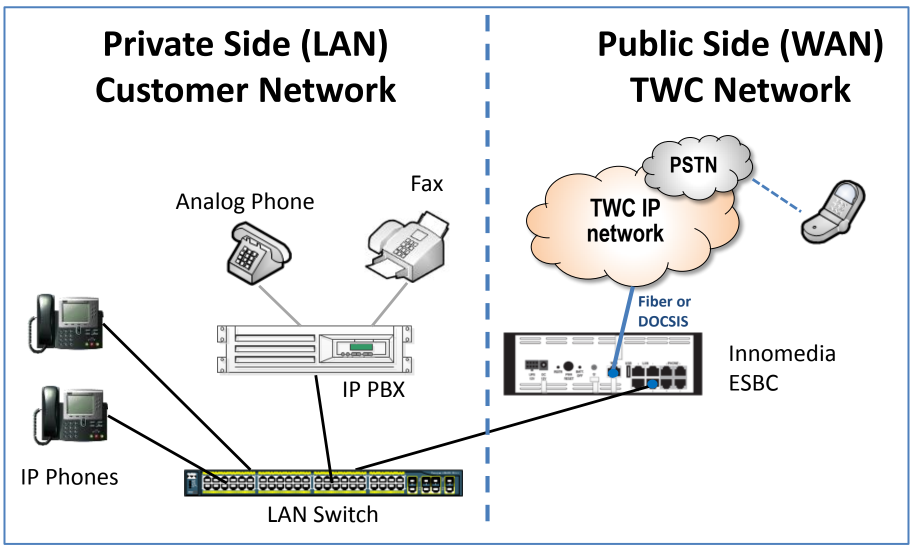
SIP Trunk Components

The Time Warner Cable Business Class (TWCBC) SIP Trunks product is an IP-based, voice only trunk that uses Session Initiation Protocol (SIP) to connect an IP PBX to the PSTN.   The IP PBX uses SIP to exchange signaling information with the service provider and to deliver and receive voice in IP packets.

The IP PBX is connected to the TWC Enterprise SIP Gateway (ESG), which provides network access for voice traffic. The customer is responsible for the LAN infrastructure and configuration, including the physical connection to the LAN port 2 on the ESG.

The ESG is the demarcation point to the TWC network. The ESG is connected to a dedicated router for SIP Trunks delivered over a fiber connection or to a cable modem when delivered over a DOCSIS connection.

SIP Trunk components located on the customer premise, including connections to the TWC network, are illustrated below.



All TWC SIP Trunk calls are routed over Time Warner Cable's IP network and are not routed over the public internet.

Getting Started

You will need to have the TWC "**SIP Trunk Questionnaire**" and "**Business Class (BC) SIP Trunks: Customer Cut Sheet**" in order to configure your IP PBX for TWC Business Class SIP Trunk service.

Confirm that your **IP PBX model number and software versions** recorded on the **Customer Cut Sheet** match those associated with your current equipment. If they do not, be sure to alert your TWC sales engineer or TWC project manager as this can impact how TWC designs your service configuration.

Example* from *Customer Cut Sheet for Cisco UC 560:

SERVICE INFORMATION	
PRODUCT	Business Class SIP TRUNK
IP-PBX MAKE	Cisco
IP-PBX MODEL	UC560
IP-PBX SOFTWARE VERSION	15.1(4)

While configuring your IP PBX for BC SIP Trunk service, you will need to know your Lead Telephone Number and the IP address of your IP PBX.

The **Lead Number** is confirmed on the **Customer Cut Sheet** as seen below:

Trunk Groups				
TWC TRUNK Group ID	DID Range	Lead Number	Inbound Call Blocking	Outbound Call Blocking

The **IP Address** of the IP PBX was recorded on the **SIP Trunk Questionnaire**, Section 5. Signaling and Media as shown below:

5- Signaling and Media		
IP Address for PBX or SBC To setup LAN configuration for signaling of voice traffic to the ESG	IP: xxx.xxx.xxx.xxx	
	Subnet: 255.255.xxx.xxx	

This document is intended as an aid to help configure a customer's IP PBX for interoperability with TWCBC SIP Trunk Service.

AastraLink Pro 160 Configuration

The instructions provided in this section are intended to help configure the AastraLink Pro 160 to connect to the ESG. They are not intended for advanced functionality setups. It is further assumed that the customer has knowledge of the AastraLink Pro 160 operations.

1. Connect Aastra IP phones to the same LAN as the AastraLink Pro 160 PBX, the IP Phones should automatically find the AastraLink Pro 160.
2. Login to the AastraLink Pro 160 PBX.

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Configure Extensions with Direct Inbound Dialing Numbers (DID)

1. Navigate to **Users -> User List**

2. **User List**: Choose the Operator Account (default account 200). (It is assumed you have configured your device with at least one Extension already)

Figure 1 Extension/User List

3. Enter the SIP DID Number that this extension will use – Since this is the Operator Extension I would recommend to use the Pilot Number/Main number

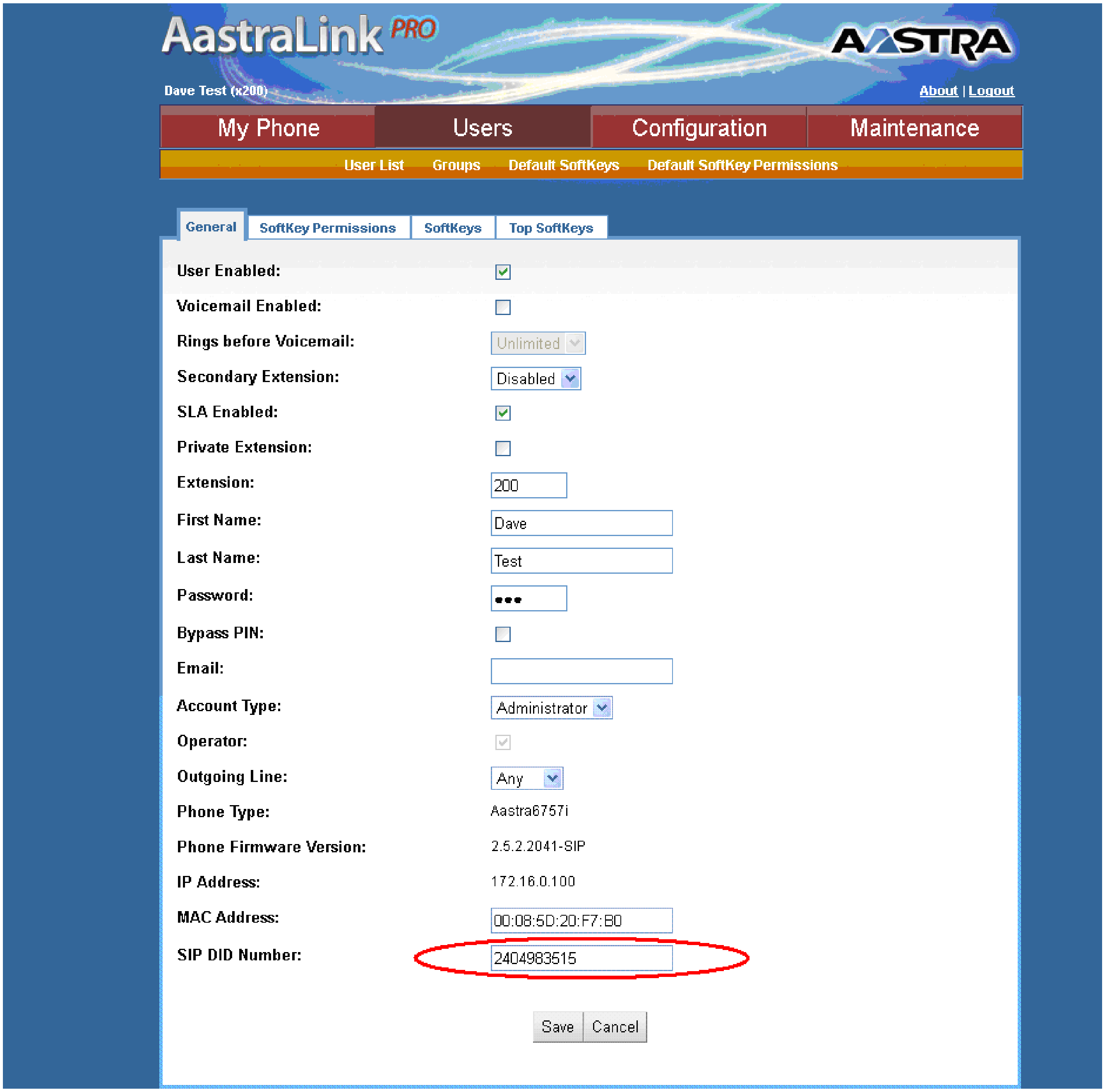

Figure 2 Extension/User Configuration

4. Continue this for each extension you wish to have Direct Inbound Dialing for

Add SIP Trunk

1. Navigate to **Configuration** -> **DialPlan -> Settings**

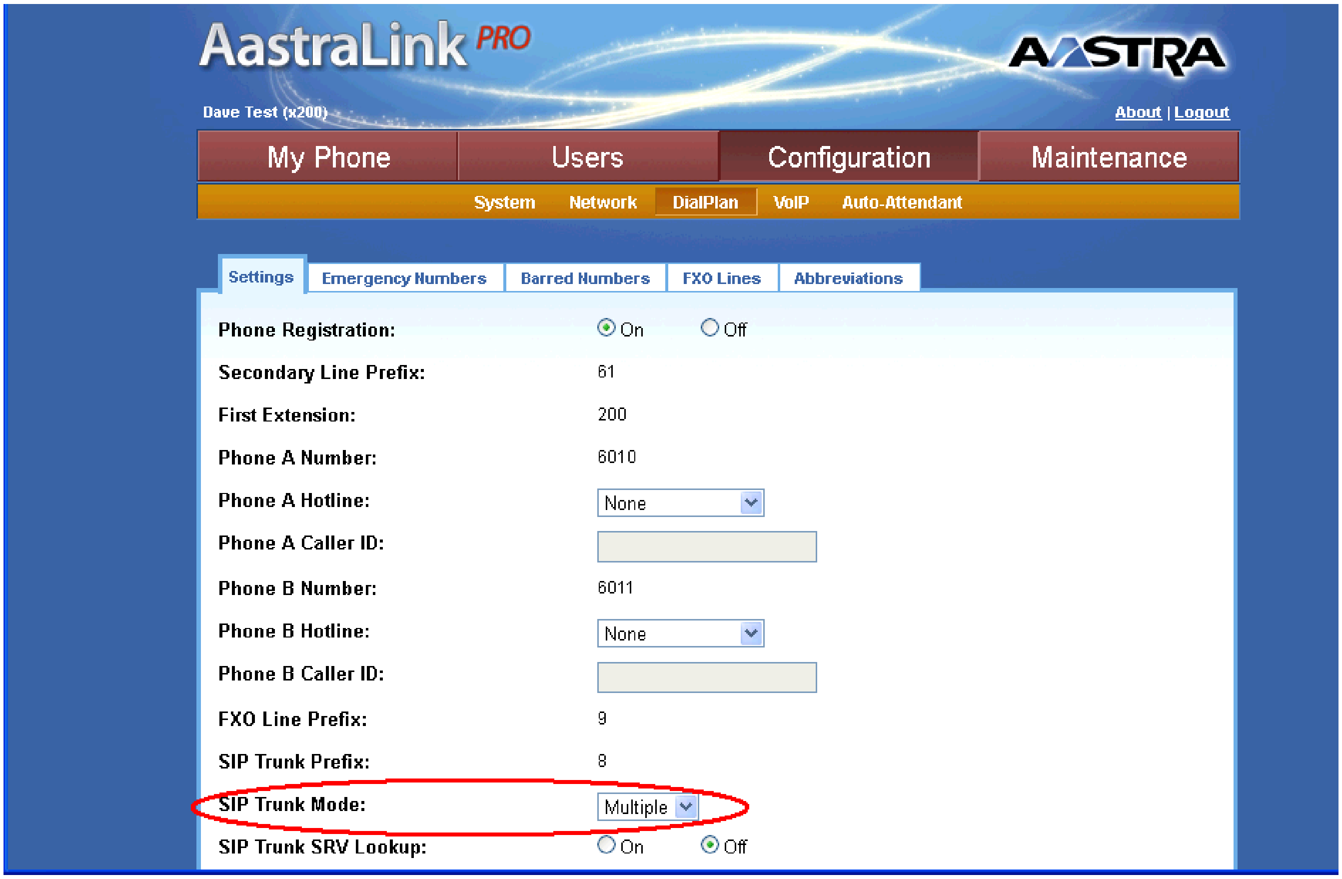

Figure 3 DialPlan Settings

- Configure for Multiple SIP Accounts
    i. Set the SIP Trunk Mode to be Multiple – this allows up to 10 DID's to be configured on the AastraLink Pro 160

Configure SIP Accounts

1. Navigate to **Configuration** -> **VoIP** -> **SIP Trunking**
2. Configure SIP accounts.
    3. Choose the first line 8 + 0 + (number) so you can configure your first account.

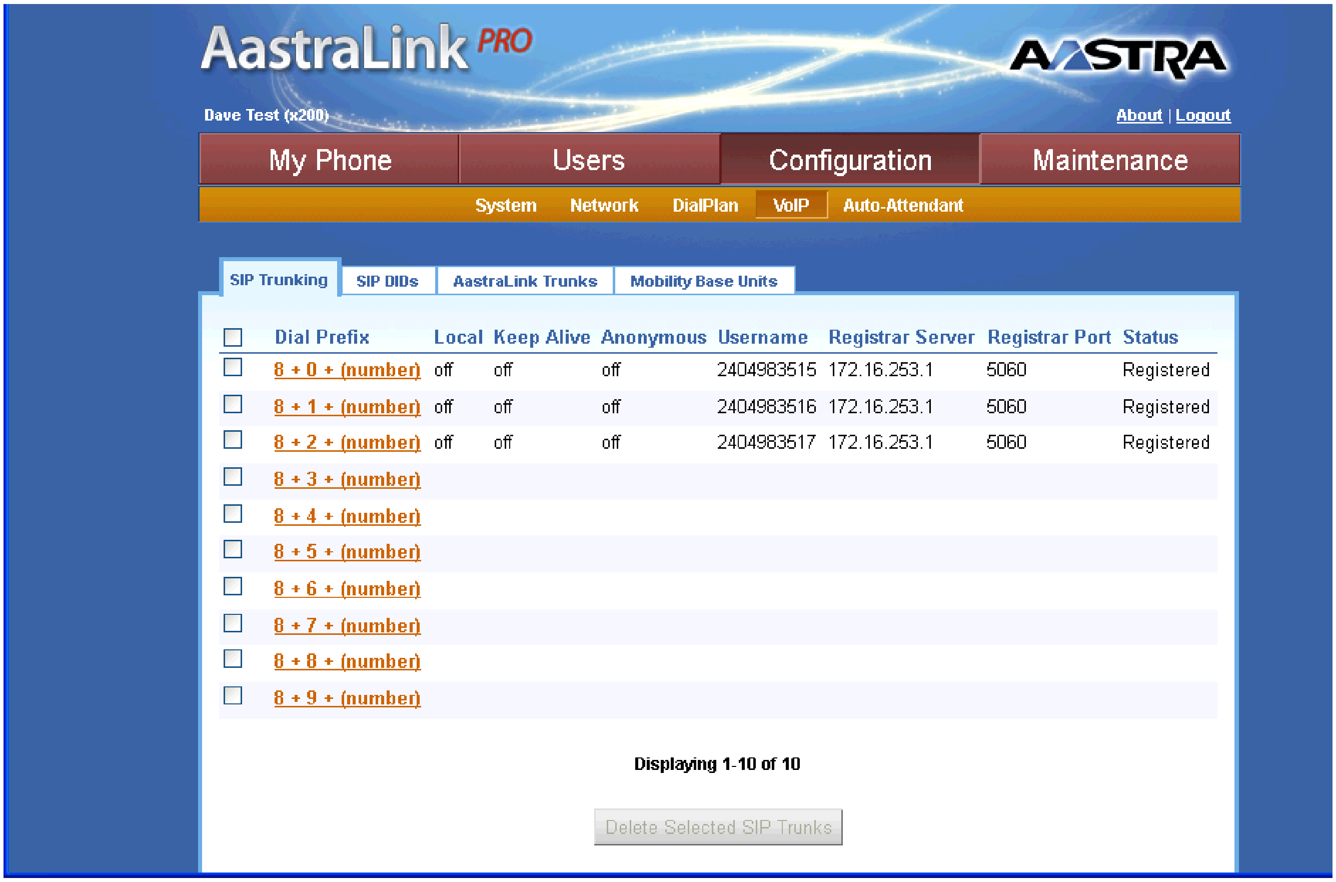

Figure 4 Sip Trunk Line Status

4. Enter the Registrar Server – This will be the ESG LAN IP – For our example here it is 172.16.253.1
5. Enter Username (Outgoing Caller ID) – This is your DID number
6. Enter Authentication Name and if required Password fields – This is the SIP Account Info that the service provider supplied for your accounts.
7. Save the settings

Figure 5 Sip Trunk Line Configuration

Appendix

TWC Turn-up Testing Procedure

To ensure proper service between the IP PBX and the TWC network, test calls from the IP PBX will be made. Typically, the following call types will be used (call testing varies depending on service configuration)

1. Outbound/Inbound call to a local number
2. Outbound/Inbound call to a long distance number
3. Calls to 411 and 611
4. Outbound calls to a blocked number to verify call blocking settings
5. Other calls based on customer request , e.g. FAX testing using T.38 or calls to an auto-attendant to verify DTMF

Questions

If you have questions, please contact your Time Warner Cable Business Class Account Executive.