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XO SIP Service

Customer Configuration Guide for Toshiba Strata CIX IP-PBX

XO Communications

1. Overview

About This Document

This document **describes interoperability between XO SIP Packages 1 and 2 and the Toshiba Strata hardware versions CIX40, CIX100, CIX200, CIX670 and CIX1200 and software version R5.20 MT018 or higher,** deployed with an XO-provided Cisco 2432 IAD as the router/demarcation device. This document assumes the audience has a general understanding of network provisioning and the connectivity requirements of XO Communications SIP service offering.

Known Issues

While XO certifies interoperability between XO SIP service and the IP PBX as outlined herein, the following known issues were identified during Interoperability testing. The customer should be aware that certain features and functions may not be fully supportable. In some cases, special configurations and/or PBX software patches may be available from the vendor:

1) **Caller ID on Calls Forwarded Off-Net** – When incoming PSTN calls are delivered to desk phone with Call Forwarding enabled to an off-net PSTN phone, the calls will be forwarded but the originating caller ID will not be passed. The off-net PSTN phone will see the caller ID of the Toshiba Strata CIX IP PBX DID which has enabled the call forwarding function.
2) **Feature Code *67 for Outgoing Calling Line ID Delivery Blocking Per Call** is not supported
3) **Call Forward to PSTN at end of Hunt Group sequence** is not supported by the Toshiba Strata CIX IP PBX.

Registration Method

Toshiba Strata CIX utilizes static registration between IP phones and the IP PBX.

XO SIP Service Packages Supported

Pkg	Codec	DTMF	Fax
1	G.711	RFC2833 (in-band RTP DTMF fall-back)	T.38; G.711 pass-through
2	G.729a	RFC2833	T.38; G.711 pass-through

2. Testing of Toshiba Strata CIX

2.1. Software and Hardware Versions Tested

1. Cisco 2400 used as a router
   Cisco IOS Software, 2400 Software (C2430-IS-M), Experimental Version 12.4(20060718:201451) [acphan-V124_4_T2_1 104]
   System image file is "flash:c2430-is-mz.xo"

2. Juniper Networks ERX 1400
   System Release: erx_7-3-6.rel
   Version: 7.3.6 release-0.0 [BuildId 9060]

3. BroadSoft
   System Release: AS version Rel_14.sp7_1.112
   NS version Rel_14.sp4_1.165
   Hardware Version: NETRA 4250 with Linux

4. Sonus NBS
   Release: V06.04.06 S005

5. Sonus PSX and GSX
   Release: V06.04.03R000

6. TOSHIBA

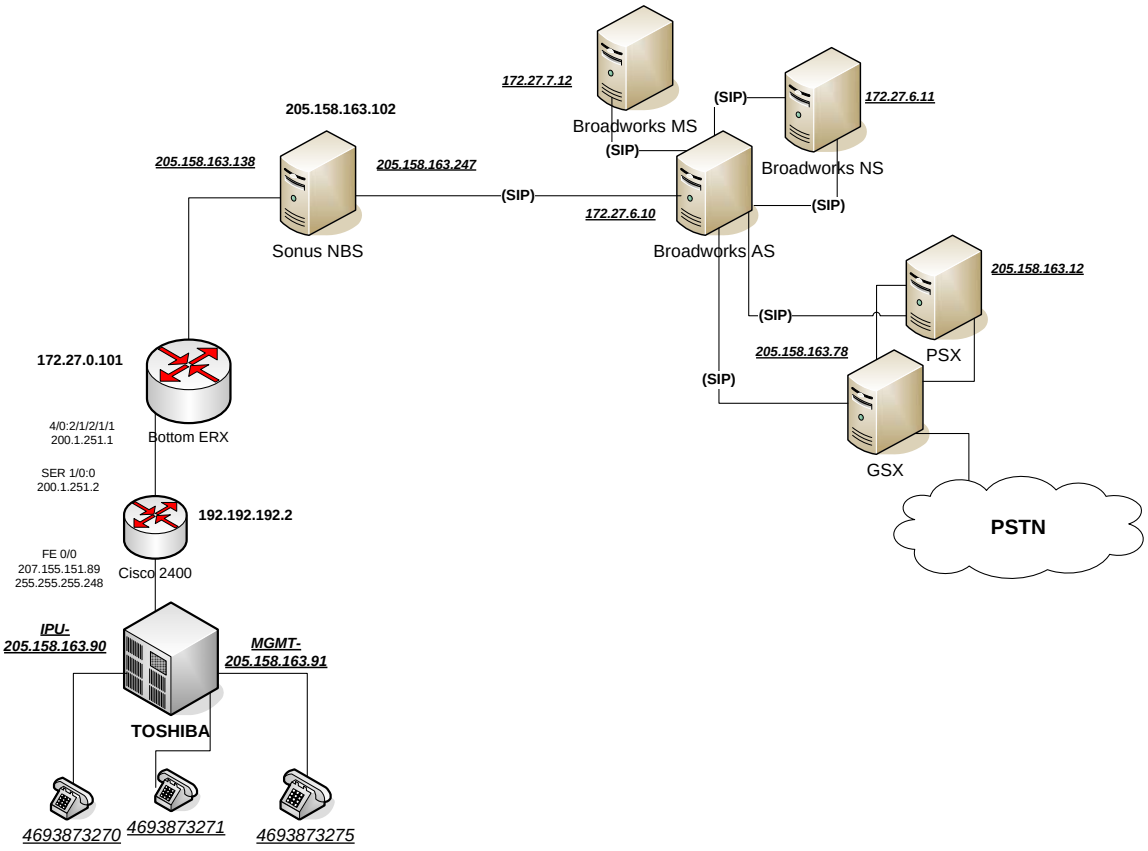
   a. Software version TOSHIBA : AR5.20 MT022.00
   b. Hardware version TOSHIBA: CIX40A2 : GCTU2

7. 1 - IP Phone & 1 Digital Phone
   Version: IP Phone – IPT2010-SD
   Digital Phone – DKT3020-SD

2.2. Diagram of XO Lab Test Set-Up of Toshiba Strata CIX

Figure 1, Lab Test LAN Topology

The following diagram is the configuration used during lab testing.



Note: Above lab setup only shows main lab network elements.

3. Toshiba Strata CIX Configuration

In This Section

XO performed the minimum amount of configuration required to achieve successful completion of test calls over XO SIP. It is beyond the scope of this document and the testing efforts to show a complete configuration, therefore screenshots of the GUI interface are provided only for the details of the SIP trunk configuration that are relevant to interfacing with XO's SIP product.

This section contains screenshots which detail the SIP trunk configurations.

Specific configuration suggested on TOSHIBA for XO SIP Trunk:

1. Make 'User Agent' and 'Server header' enable.

   Program 327:
   - Set FK[13] = enable
   - Set FK[14] = enable

2. Registration mode disabled. (for SIP Static trunk)

   Program 327
   - Set FK[01] = none

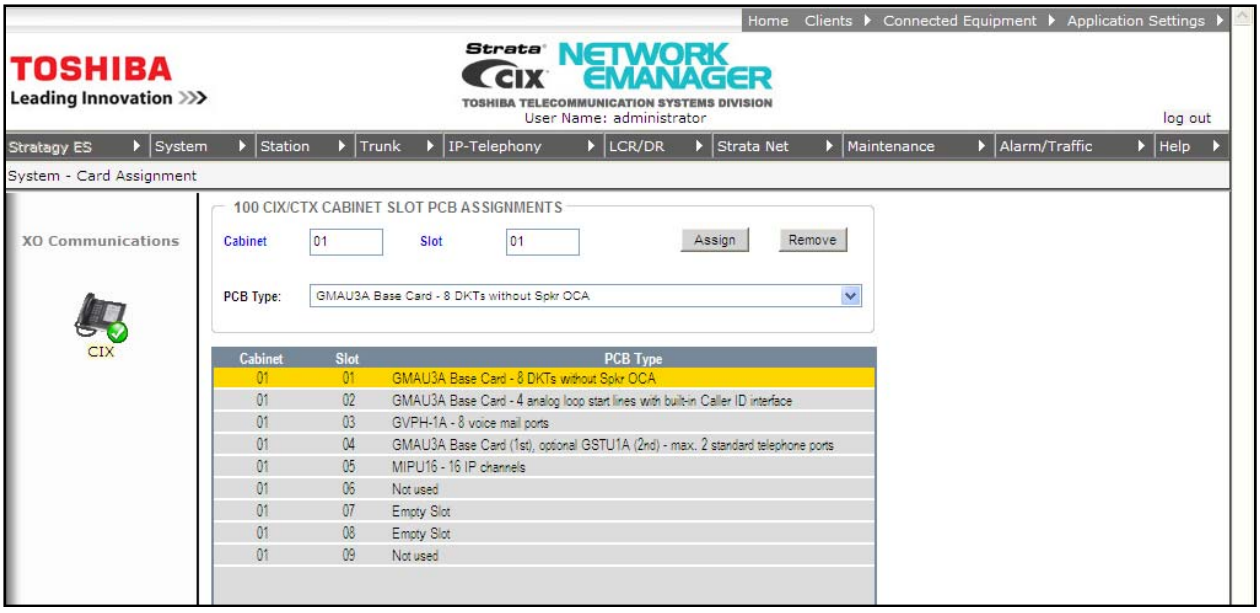
3. Make OPTION (keep alive) message disable

   Program 327
   - Set FK[34] = 0

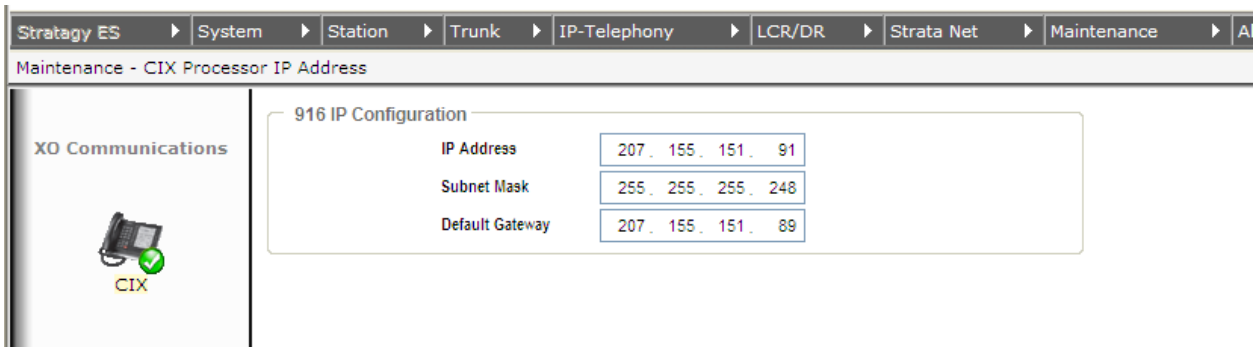
4. Make REFER message disabled.
   Program 327
   - Set FK[12] = disable

Toshiba event manager home page:

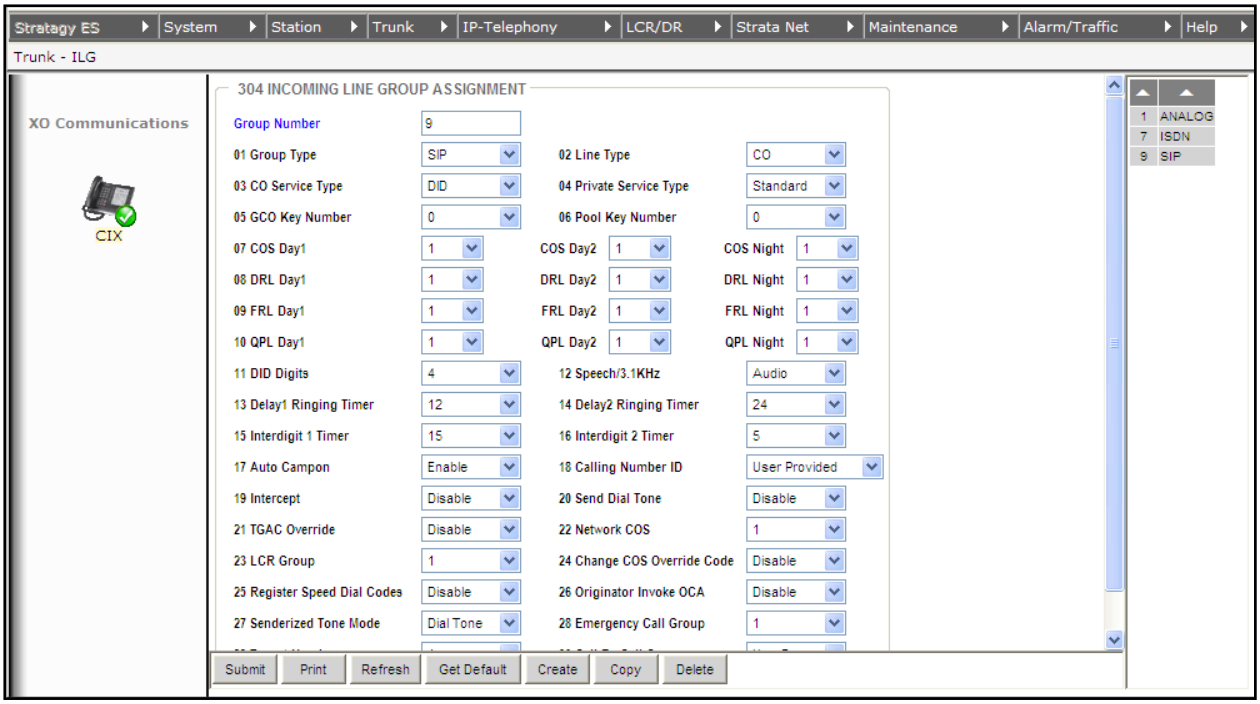
Set the card type for the slot holding MPU:



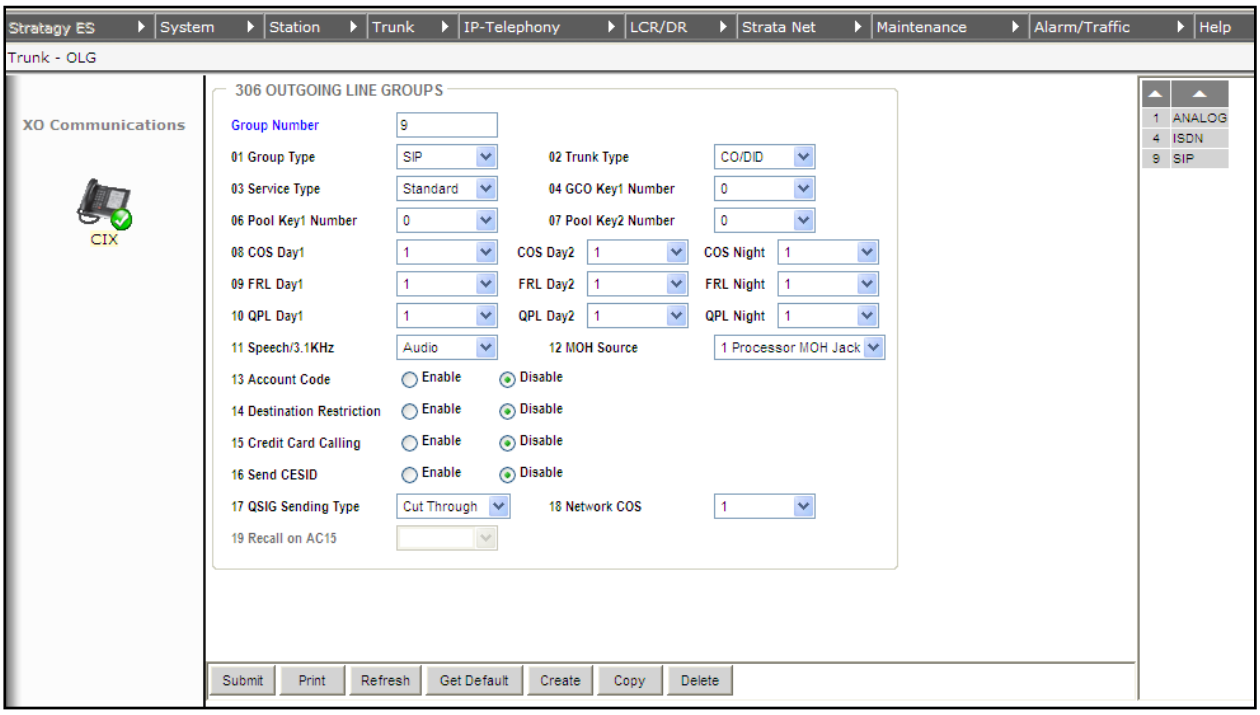
IPU IP configuration: (Maintenance >> CIX Processor IP address)



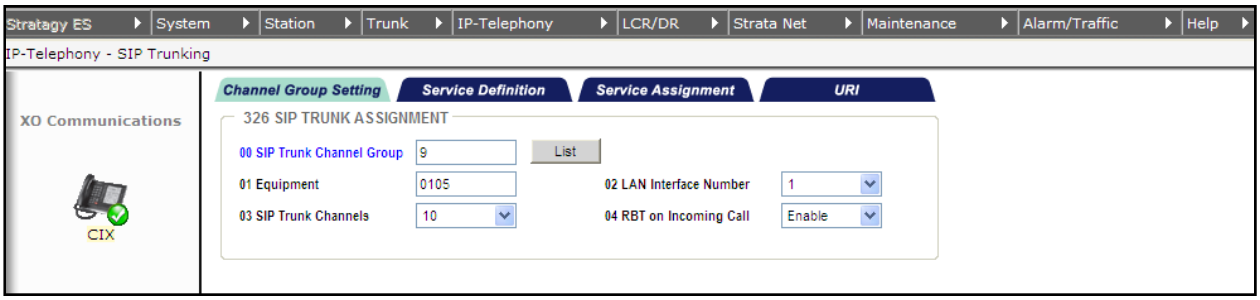
ILG (Incoming Line Group):



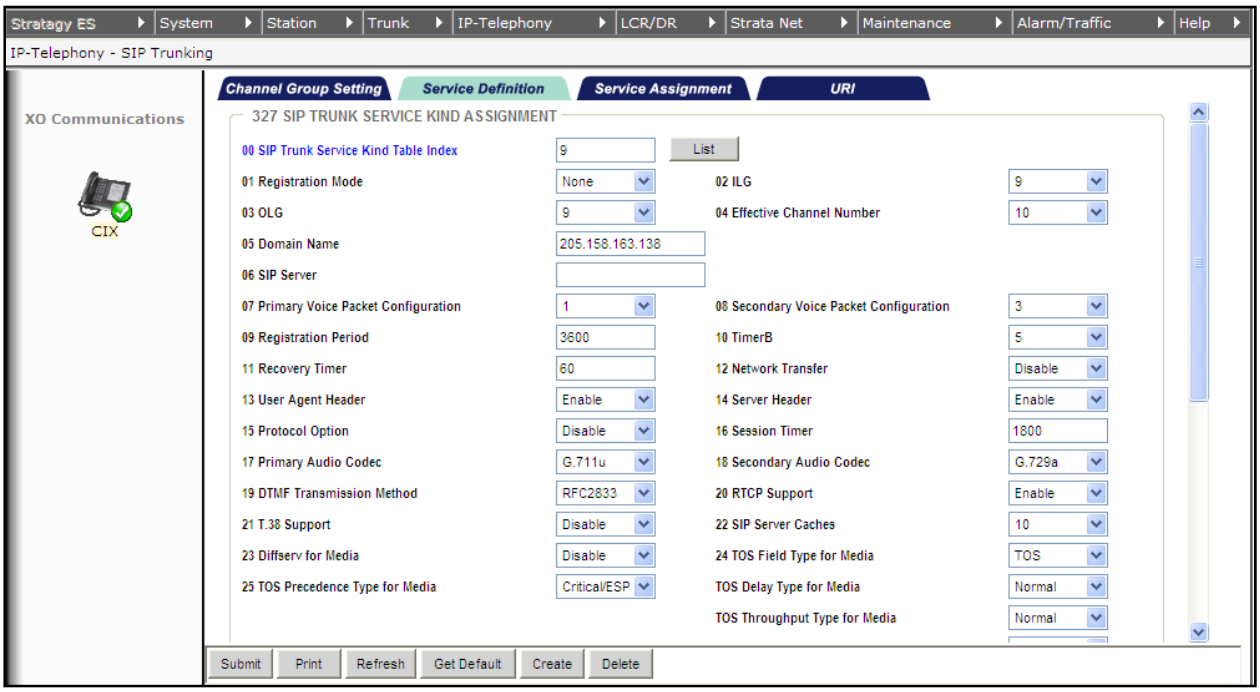
OLG (Outgoing Line Group):



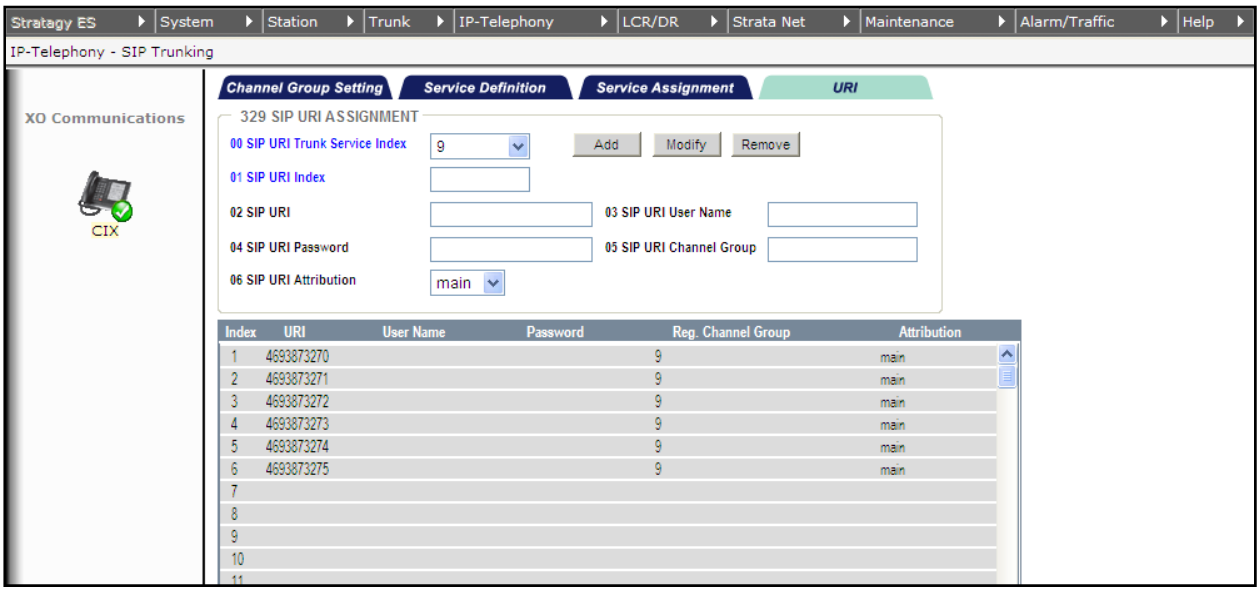
Define channel group for SIP Trunk: (IP-Telephony >> SIP Trunking)



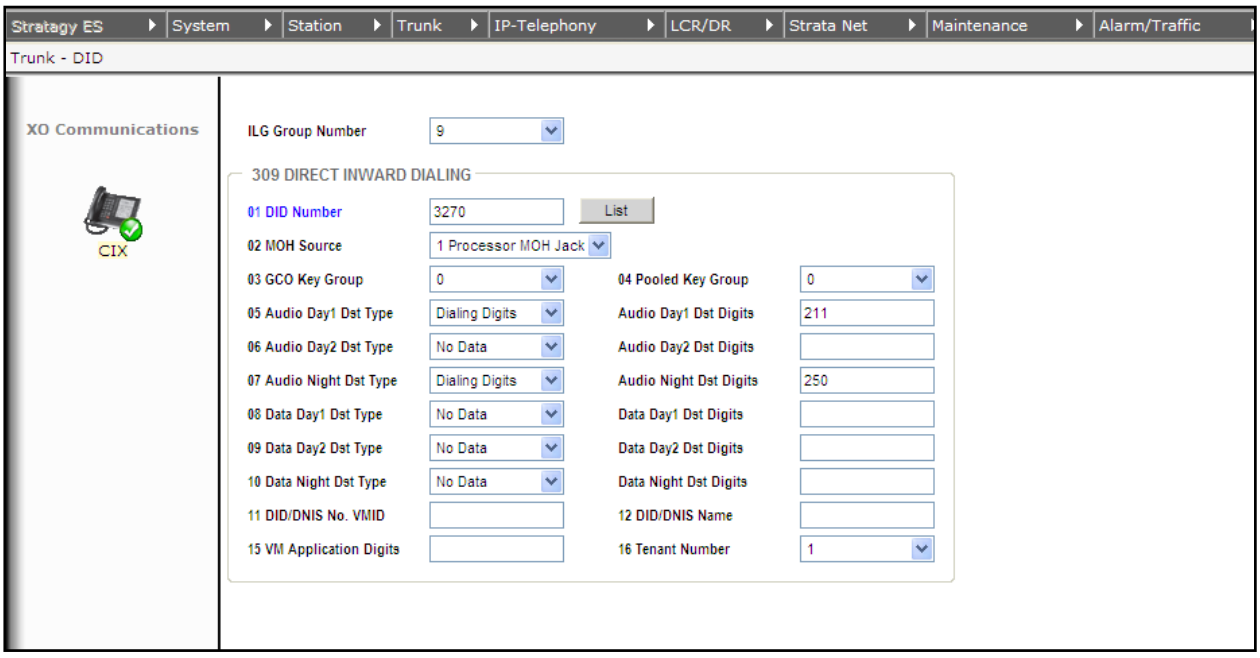
Service Definition for SIP Trunk: (IP-Telephony >> SIP Trunking)



URI for SIP Trunk: (IP-Telephony >> SIP Trunking)



DID mapping to extension: (Trunk >> DID)



Calling Party number configuration: (Trunk >> Calling number)