Telstra SIP Trunk Guide for the OfficeServ

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Overview

Telstra IP Telephony's SIP Connect provides the facility for the delivery of SIP trunks via the Telstra network to the Samsung OfficeServ 7000 series PABXs. This technical bulletin explains how to configure the OfficeServ to work with these trunks.

Telstra SIP trunk service and the OfficeServ

The OfficeServ SIP trunks link it to the Telstra SIP service in carrier mode. Telstra supplies the router that connects to their core network. Addition LAN connections may be required in the customer network if the OfficeServ is equipped with OAS or MGI cards.

Overview of the Telstra Service

- Requires SIP registration from the OfficeServ
- DTMF is sent using RFC2833
- Hold music is sent by the OfficeServ
- G.711a is the preferred codec and G.729 is also available
- T.38 fax is ***not*** supported
- DID is provided
- The CLI must be sent on outgoing calls
- CLI privacy is supported

Software release versions

Version 4.6 and later is required in the OfficeServ. Earlier versions are not certified for Telstra SIP trunks.

Configuration

Basic settings

Please ensure that you have prepared the system properly before attempting to get the SIP trunks to work.

Licenses: Make sure that the OfficeServ has sufficient SIP trunk and MGI licenses.

Hardware and Network settings: Configure the IP address, gateway and subnet settings in the MP and OAS/MGI cards (if any).

Telstra account information

The critical data for programming the SIP trunks is provided in the Telstra order information.

Authentication User ID
Authentication Password
Trunk Pilot Number
SIP Realm/Domain
Number Range
Number of SIP channels

SIP Carrier Options (DM 5.2.13)

Telstra uses a single account number to register the SIP trunks, even if there are other numbers linked to the account.

SIP Carrier: 1

SIP Carrier Name: This is field is information only, “Telstra” is sufficient.

SIP Server Enable: Enable

Outbound Proxy: This is the URL of the local Telstra SBC. Each state has its own SBC, they are listed below.

Victoria	sbc-vic.nipt.telstra.com
NSW	sbc-nsw.nipt.telstra.com
Qld	sbc-qld.nipt.telstra.com
NT	sbc-nt.nipt.telstra.com
WA	sbc-wa.nipt.telstra.com
SA	sbc-sa.nipt.telstra.com
Tas	sbc-tas.nipt.telstra.com
ACT	sbc-act.nipt.telstra.com

Proxy Domain Name: This is the *SIP Realm/Domain* provided in the Telstra order information.

DNS Server 1: 203.52.0.221 (Telstra Primary DNS for TIPT)

DNS Server 2: 203.52.1.222 (Telstra Secondary DNS for TIPT)

Username: This is the *Trunk Pilot Number* provided in the Telstra order information.

Note: When entering the Pilot Number for Registration ONLY 9 digits are required. The leading "0" is dropped. (i.e. 0396241990 use 396241990 to register)

Auth Username: This is the *Authentication User ID* provided in the Telstra order information.

Auth Password: This is the *Authentication Password* provided in the Telstra order information.

Hold Mode: This is set to "Send Receive".

SIP Trunk Max Channel: This is the *Number of SIP channels* and is provided in the Telstra order information.

SIP Trunking Codec PR1: G.711a

SIP Trunking Codec PR2: G.729

System Options (DM 2.1.5)

VoIP RTP Option – DTMF Type is set to "Inband(RFC2833)".

SIPT >> SIPT MGI Use should be set to "On".

MPS Service. The use of this option depends on a special call case. If the customer is expecting make outbound calls via the Telstra SIP trunks which are then re-routed by Telstra back through the same trunks into the OfficeServ this option should be sent to "Off". This is to prevent possible voice path problems that may occur in this call scenario. Otherwise, set it to "On".

VoIP Options (DM 5.2.18)

Real Ringback must be "On". This makes sure that any recorded announcements sent by Telstra before a call is answered are passed through to the calling phone.

MGI Options (DN 5.2.16)

The **Fax Option** must be set to "Pass Through" because Telstra does not support the T.38 fax protocol.

Configuration for Incoming and Outgoing calls

Calling Line ID

The **Calling Line ID** sent for outgoing calls must match a number in the SIP account number range. Note that the numbers are 9 digits long because the leading "0" has to be removed. The CLI is typically programmed in **Send CLI number (DM 2.4.3)**, but there are other options. Please see the SIP Trunking Manuals for more detail about the other methods of sending CLI on SIP trunks.

Calling Line ID Privacy

To enable privacy for an station you set its "CID Send" parameter in **Station Data (DM 2.5.1)** to "No"

Incoming call routing

Telstra SIP trunks send 9 digit destination numbers for calls to the OfficeServ. Make sure that the DID **Ringing Table (DM 3.2.3)** is programmed with the 9 digit numbers.

Configuring Least Cost Routing

SIP trunks use 'en-block' sending for outgoing calls; which means that the OfficeServ will wait for all digits to be dialled before setting up a call. Since, by default, the system does not know how long a dialled number will be, it waits for the *ISDN Inter Digit Time* to expire before processing the call. This waiting period is unacceptable for many customers.

This delay can be eliminated by pressing '#' to indicate the end of dialling. The LCR feature can append the "#" to the end of the number so that the user does not have to manually dial it.

Use the following steps to program the LCR feature to add the '#' digit to the end of the outgoing number. The programming described below is provided as a guide only, as it is expected that the customer system will use a far more detailed numbering plan for outgoing calls.

Step 1: In **Numbering Plan (DM 2.8.0)** program the LCR feature access code.
(This is usually set to '0')

Step 2: In **LCR Options (DM 3.1.1)** set the *LCR Enable* parameter to "On".

Step 3: In **Routing Digits (DM 3.1.2)** configure the *LCR Digit*, *Length* and *Route Table* parameters. The *Length* must be equal to the expected amount of digits that will be dialled when dialling the *LCR Digit*. The *Route Table* parameter contains the number of the route table that will be used in the **Routing Table (DM 3.1.4).**

Step 4: In **Routing Table (DM 3.1.4)** assign the trunk group access code. The *Modify* parameter contains the *Entry Number* that will be used in the **Modify Digits (DM 3.1.5)** table.

Step 5: In **Modify Digits (DM 3.1.5)** put the "#" code in the *Append Digits* field for the table entry.

Configure the trunk group for ISP 1 access

The OfficeServ supports four SIP carriers as well as peering. To enable the system to identify which carrier to use for a call, each carrier is assigned to a trunk group. In **Trunk Group (DM 4.1.2)** make sure that the trunk group is allocated to the ISP number used for the Telstra SIP service and that there are SIP trunks in the group.

By default, SIP carrier 1 (ISP1) is linked to the default SIP trunk group ("802" in the OS7030, "805" in the other models).