

# SIP Trunking using the Optimum Business SIP Trunk Adaptor and the Toshiba IPedge IP-PBX



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#### **1. Overview**

The purpose of this configuration guide is to describe the steps needed to configure the Toshiba IPedge IP-PBX for proper operation with Optimum Business Sip Trunking.

#### 2. 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 optimumbusiness.com/sip to download a copy.

**Important**: The Optimum SIP Trunk Adaptor needs to convert out of band DTMF sent by the IP PBX to Inband. This is in step 3 of the Optimum Business SIP Trunk Setup Guide. Make sure you click the box next to "Convert Inband DTMF".

#### Table 1 – PBX Information

Manufacturer:	Toshiba
Model:	IPedge
Version:	1.6.0.26
Does the PBX send SIP Registration messages (Yes/No)?	Yes
Vendor Contact:	www.telecom.toshiba.com

#### 3. Toshiba IPedge PBX Configuration

The steps below describe the minimum configuration required to enable the PBX to use Optimum Business SIP Trunking for inbound and outbound calling for both PBX registration and static IP (or non-registration) modes of PBX operation. Please refer to the Toshiba IPedge product documentation for more information on other advanced PBX features.

The configuration described here assumes that the PBX is already configured and operational with station side phones using assigned extensions or DIDs. This configuration is based on Toshiba IPedge version 1.6.0.26. In this document the address of the Toshiba IPedge is 192.168.254.250 /24 and the Optimum Business Sip Trunk Adaptor is 192.168.254.1 /24.



#### 3.1 SIP Trunking

Navigate to **Trunk→Trunk Groups** and then click on the **New** icon to create SIP Trunk Groups for incoming and outgoing lines.

OSHIBA	Admi	n Administrator		Sep 25 2013, 12:17 PM	¥ 1.5.0-4	Logout	
Administration 5	stem Station Trunk	LCR/DR I IPedge Net	Maintenance	Application   Help			
Trunk Groups - Trunk Gro	New				]		
Servers: Pedge	Group Direction:	Incoming and Outgoing 💌					
Server Name 🔺	Group Number	Group Direction	Group Type	Trunk Type	Service Type		
Pedge	1	Outgoing	SIP	CONDID	Standard		
Pedge	1	Incoming	SIP	co	Standard		
		Total reco	rds found: 2				

Select **Incoming and Outgoing** from the pull-down menu of the **Select Group Direction** field and then click the **OK** button.

OSHIBA	Admir	Administrator		Sep 25 2013, 12:17 PM	¥ 1.5.0-4	Logout
Administration Sys	stem Station Trunk	LCR/DR IPedge Net	Maintenance Ap	plication Help		
Trunk Groups - Trunk Gro	4ps 🔰 🚺 🎼	]				
Servers: IPedge	Group Direction:	incoming and Outgoing 💌				
Server Name 🔺	Group Number	Group Direction	Group Type	Trunk Type	Service Type	
Pedge	1	Outgoing	SIP	CO/DID	Standard	
Pedge	1	Incoming	SIP	co	Standard	
		Group Direction	×			
		Salact Group Direct	tion			
		Incoming and Out				
			OK Cancel			



Select the **Common** tab, select a trunk group number, 8 was selected in the **Group Number** field. Select **SIP** in the **Group Type** field. Leave other fields as shown and then click the **Save** icon.

TOSHIBA	Admin Administrator		Sep 25 2013, 12:18 PM	¥ 1.5.0-4 Logout 🗵
Administration System Stat	ion Trunk LCR/DR IPedg	e Net   Maintenance	Application Help	
Trunk Groups - Incoming and Outgoing				
Servers: IPedge				
Common Incoming Outgoin	D			
Additional information to setup trunk gro	oup for iPedge Net			
Group Number:	CO Line Type:	*	GCO Key Number:	
Group Type:	O Private Service 1	Type:	O Pool Key Number:	
SIP	Standard		0	
Class Of Service				
O COS Day1:	0 C05 Day2:	COS Night:	-	
1				
FRL	0	0.000.00		
1	FRL Day2:	FRL Night:	×	
QPL	-			
O QPL Day1:	O QPL Day2:	O QPL Night:		



Select the **Incoming** tab, select DID in the **CO Service Type** field, select **4** in the **DID Digits** field, leave other fields as shown and then click the **Save** icon.

DSHIBA	Admin	Administrator		Sep 25 2	2013, 12:19 PM	¥ 1.5.0-4	Logout	
Administration System S	tation Trunk	LCR/DR   IPed	ge Net 👘 Maintenance	Application	Help			
Trunk Groups - Incoming and Outgoin	•							
rvers: IPedge 💌								
Common Incoming Outg	oing							
O Additional information to setup trunk	group for IPedge Net							
DRL					T			
ORL Day1:	ORL Day2:		ORL Night:					
1	1		1					
CO Service Type:	e	Auto Campon		Change C	05 Override Code:			
DID		Enable		Disable				
OID Digits:	6	Calling Number	ID:	Register	Speed Dial Codes:			
4	L	User Provided		Disable				
Speech/3.1KHz:	6	Intercept:		🛈 Originato	r Invoke OCA:			
Audio		Disable		Disable				
Oelay1 Ringing Timer:	6	Send Dial Tone :		Senderize	ed Tone Mode:			
12 💌	(	Disable		Dial Tone				
Delay2 Ringing Timer:	6	TGAC Override:		Emergenet Emergenet	y Call Group:			
24		Disable		1				
Interdigit 1 Timer:	9	Network COS:		Tenant N	umber:			
15	1	1	•	1				
Interdigit 2 Timer:	9	LCR Group:	_	Call-By-C	all Cause:			
5	1	1		UserBusy	-			
								-

**NOTE:** The PBX will route the incoming call to an extension based on the last 4 digits of the called number.



Select the **Outgoing** tab, leave all fields as default and then click the **Save** icon.

TOSHIBA	Admin	Administrator		Sep 25 2013, 12:21 PM	¥ 1.5.0-4	Logout	2
Administration System 9	Station Trunk	LCR/DR IPe	dge Net 🔢 Maintenance	Application Help			
Trunk Groups - Incoming and Outgoin	ng						
Servers: IPedge							
Common Incoming Outs	poing						
Additional information to setup trunk	k group for IPedge Net						
O Pool Key2 Number:		O Destination Re	striction:	O QSIG Sending Type:			
0		Disable		Cut Through			
O Speech/3.1KHz:		Credit Card Ca	lling:	Network COS:			
Audio 💌		Disable		1			
MOH Source:		Send CESID:		Recall on AC15:			
Music 1		Disable	-				
Account Code:							
Disable							
							_

Navigate to **Trunk→SIP Trunking** to set up SIP Trunk services via the Optimum Business SIP Trunk Adaptor. Select the **Channel Group** tab to create a Channel Group for SIP Trunking service. Choose a Channel group number, **16** was chosen in this example from the pull-down menu of the **SIP Trunk Channel Group** field. The number **3** was entered in the **SIP trunk Channels** field corresponding to 3 phones.

TOSHIBA	Admin Administrator	Sep 19 2013, 09:31 AM	¥ 1.5.0-4	Logout	×
Administration System Station	Trunk    LCR/DR    IPedge Net    Maintenance	Application Help			
Trunk - SIP Trunking	6 🖻 🖬				
Servers: IPedge					
Channel Group Service Definition	Service Assignment Service URI				
SIP Trunk Channel Group:	SIP Trunk Channels:				



Select the **Service Definition** tab and then click the **New** icon. Choose a SIP Trunk Service Definition Index from the pull-down menu of the **Service Definition Index** field. You can configure the PBX to communicate in Registration mode or Static IP mode. To configure the PBX for Registration mode select **Client** in the **Registration Mode** field. Enter the Optimum Business SIP Trunk Adaptor's IP address in both the **Domain Name** and **SIP Server** fields.

TOSHIBA	Admin Administrator	Sep 19 2013, 09:34 AM	V 1.S.0-4 Logout X
Administration System	Station   Trunk   LCR/DR   IPedge Net   Maintenance	Application Help	
Trunk - SIP Trunking			
Servers: IPedge	Data has been saved		
Service Definition Index:			
Registration Mode:	0 OLG:	O Domain Name:	
Client	8	192.168.254.1	
0 RG:	Effective Channel Number:	SIP Server:	_
8	4	192.168.254.1	
[+] Show advanced configuration			

For Static mode select **None**.

When done click **Save**.



Click the [+] Show advanced configuration link. Enter 700 in the Registration Period field. Select G.711a in the Secondary Audio Codecs field. Enter 0 in the SIP Trunk Options Interval field. Click Save.

TOSHIBA Admi	n Administrator	Sep 19 2013, 09:38 AM ¥ 1.5.0-4 Logout
Administration System Station Trun	k LER/DR IPedgeNet Maintenance	Application   Help
	3	
Trunk - SIP Trunking	<u> </u>	
Servers: IPedge		
[-] Show basic configuration		
Primary Voice Packet Configuration:	SIP Server Caches:	ODSCP for Signaling:
1	10 💌	0
Secondary Voice Packet Configuration:	O Diffserv for Media:	Call Release On QoS Failure:
3	Disable	Disable
Registration Period:	105 Field Type for Media:	OoS Failure Notification Timer:
700	TOS	10
O Times B:	105 Precedence Type for Media:	SIP Trunk Service Recovery Time:
S WINDER OK	Critical/ESP	60
	TOE Delay Type for Media	
Recovery Timer:	Normal	SIP Trunk Uptions Interval:
00		
• Network Transfer:	Us Inroughput Type for Media:	SIP Trunk Message Option:
Enable		FQDN 💌
O User Agent Header:	TOS Reliability Type for Media:	O SIP Trunk Message To Header Option:
Enable	Normal	FQ0N 💌
O Server Header:	OSCP for Media:	SIP Trunk Register Message From Header
Disable	0	Option:
O Protocol Option:	O Diffserv for Signaling:	PQON .
Disable	Disable	SIP Trunk Register Message To Header Options
Session Timer:	TOS Field Type for Signaling:	ECON -
1800	TOS	
O Primary Audio Coder:	105 Precedence Type for Signaling:	Assert Identity:
6.711u	Critical/ESP	
	105 Delay Type for Signaling:	Connection To Media Relay Server:
Secondary Audio Codec	Normal	Manual
	105 Throughout Type for Signaling	© RFC3311 UPDATE Method Support:
CRTCP Support:	Normal	Disable
Enable	105 Beliability Type for Signaling	IPedge Public IP Address And Port for
	Visional	NAT:

**Important**: The IPedge uses RFC2833 so its needed to check "Convert Inband DTMF" on the Optimum Business SIP Trunk Adaptor. This is step 3 in the Optimum Business SIP Trunk Set-up Guide.



Select the **Service Assignment** tab and then click the **New** icon. Select the group number in the **SIP Trunk Channel Groups** field. Select the Service Definition Index in the **Service Definition Index** field. Select **1** in the **Service Number** field. Click the **OK** button.

TOSHIBA	Admin Administrator	Sep 19 2013, 11:54 AM	/ 1.5.0-4 Logout	×
Administration System	n   Station   Trunk   LCR/DR   IPedge Net   Maintenance	Application Help		
Trunk - SIP Trunking				
Servers: IPedge	•			
Channel Group Service D	efinition Service Assignment Service URI			
SIP Trunk Channel Group	SIP Trunking	X		
16	SIP Trunk Channel Group:  Service Number:  Service Definition Index:  II	Cancel		
	Total records found: 1			

Select the **Service URI** tab and then click the **New** icon to create the SIP URI. Select the Service Definition Index in the **Service Definition Index** field. Enter the **SIP URI** string in the SIP URI field and Select **MAIN** in the **SIP URI Attribution** field. Enter the Authentication username in the **SIP URI User Name** field. Enter the Authentication password in the **SIP URI Password** field. The user name and password must match the user name and password specified in the Optimum Business SIP Trunk Adaptor. Leave other fields as default and then click the **OK** button.

IP Trunking	×
Service Definition Index:     11 ▼     SIP URI User Name:     4085555555	● SIP URI Number: 1 ▼ ● SIP URI: 408555555
<b>3 SIP URI Password:</b> 4085555555	O SIP URI Attribution: MAIN ▼

Repeat process for remaining DIDs similairly except but now only change **SIP URI** field to match remaing DIDs and select **SUB** under **SIP URI Attribution**. 3.2 Stations



#### 3.2 Stations

Navigate to **Station→Station Assignment** to create 3-digit extensions. Click **New**. Enter extension number under **Prime DN**. Select **IPT** under **Type**. Configure other fields as appropriate.

TOSHIBA	Admin Administrator	Sep 26 2013, 08:43 AM	¥ 1.5.0-4	Logout	×
Administration System S	Station   Trunk   LCR/DR   IPedge Net   Ma	intenance Application Help			
Station - Station Assignment	Save		1		_
View used station numbers Basic					
Prime DN: D00 Type: D7 America Display: D00 Network Calling Number:	Station SpDial Bins:     Nore     Set System Speed Dial:     Deable     w     VM MW Center Port:     SS     System Call Forward:     1     w	Create New malbox Voicemail Pass Soo Assign Personal Administration Role Select Role: EMPA Normal User	word:		
O Pedge Het Station     O Survivable Station     (+) Show advanced configuration	Survivability Secondary Server:				

Navigate to **Trunk→DID** and click **New**. This shows extension 200 as an example. Configure **DID Audio** column as shown. Change **DID Number** to match last 4 digits of this extensions DID.

ILG Group Number:     Normal Source:     Music 1		O DID Number:     S556     GCO Key Group:     0     ▼		Tenant Number:     1     V     Opoled Key Group:     0     V
DD Audo Audio Day1 Dist Type: Dating Digits  Audio Day2 Dist Type: Dating Digits  Audio Digits  Dating Digits  Audio Digits  Dating Digits  Audio Audi	Audio Day1 Dst Digits: 200     Audio Day2 Dst Digits: 200     Audio Day2 Dst Digits: 200     Audio Night Dst Digits: 200		DDD Data	Data Day1 Dst Digits:     Data Day2 Dst Digits:     Data Day2 Dst Digits:     Data Night Dst Digits:
O DID/DNIS No. VMID:		G DID/DNI5 Name:		• VM Application Digits:



Navigate to **Trunk→Calling Number→CNIS Presentation**. Map DIDs to extensions here.

OLG Number:	Source Type: Prime DN	
Source Number : 200	• Special Number Assignments: 555556	Special Name Assignments:     408555556x200

Navigate to **Trunk→Calling Number→Calling Number Identification** and enter the area code under **Number Prefix** and Pilot DID under **Default Number**.

<b>1 Default Number :</b> 408555555
\rm Default Number 2:

#### 3.3 Dial Plan

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Navigate to **System→Public Numbering Plan** to enable specific outgoing digits. Click **New**. Enter extension number under **Prime DN**. Select **IPT** under **Type**. Configure as needed.

Identifying Digits 🔺	Pattern Digit Length
1NXX	11
NXX	10



#### 3.4 Backup/Restore

To backup or restore navigate to **Application > Webmin >** and click on the **IPedge** tab. From here click **Backup and Restore**.

TOSHIBA Login: Advanced	Help Module Config	Backup and Restore Bacula 5.0.2.22 Contributed by Linmin <b>Contributed</b>		
Servers Others	Backup and Restore Actions			
<ul> <li>Networking</li> <li>Hardware</li> <li>IPedge</li> </ul>	*2	٢		
Backup and Restore Log Collection Make MBR in USB	Manual Backup	Restore	Director Status	Client Status
Program Update RPMS RAID Upload/Download MOH files	Storage Daemon	Label Volume	Volumes In Pool	Mount or Unmount
Search:	Štatus Director Configura	ation		