

INS100

IP PBX

Administrator guide V1.0

Version 12.1.0.10

SC INSIDE TELECOM SRL

Table of Contents

1. Introduction	5
1.1 Overview	5
1.2 Product Features	5
1.3 Product Appearance.....	6
1.4 Scenario of Application.....	8
2. Installation Guide.....	9
2.1 Installation Notice.....	9
2.2 Installation Procedure	9
2.2.1 Connect Drawing.....	9
3. WEB Interface Configuration	10
3.1 Access INS100 unit.....	10
3.2 Parameters Configuration	11
3.3 System Information	12
3.3.1 System Information.....	12
3.3.2 Extensions Status.....	13
3.3.3 Trunk Status.....	13
3.4 Network Configuration	15
3.4.1 LAN Configuration	15
3.4.2 VLAN Configuration	16
3.4.3 ARP Configuration	18
3.4.4 VPN Configuration	19
3.4.5 DDNS Server.....	20
3.4.6 Static Route.....	21
3.4.7 DHCP Server.....	22
3.5 Trunks.....	23

Administrator guide

3.5.1 Physical Trunks(PSTN and GSM Trunks).....	23
3.5.2 IP Trunk (Peer to Peer Mode).....	26
3.5.3 VoIP Trunk	27
3.6 PBX Basic.....	29
3.6.1 Extensions.....	29
3.6.2 Feature Codes.....	38
3.6.3 Speed dial	40
3.6.4 Outbound Routes	41
3.6.5 Parking Lot	45
3.6.6 Time Groups.....	46
3.6.7 General Preferences	47
3.7 PBX Inbound Call Control	49
3.7.1 Inbound Routes	49
3.7.2 Blacklist.....	54
3.7.3 IVR	54
3.7.4 Queue.....	56
3.7.5 Ring Groups.....	61
3.7.6 Conferences	63
3.7.7 Callback	64
3.8 PBX Advanced Settings	66
3.8.1 SIP settings	66
3.8.2 IAX Setting	72
3.8.3 PIN Sets.....	73
3.8.4 PIN Users	74
3.8.5 DISA	75
3.8.6 Paging and Intercom	77
3.9 Voice Management	78
3.9.1 System Recordings.....	78

Administrator guide

3.9.2 Music on Hold	80
3.9.3 Voicemail Settings	81
3.9.4 System Prompts Settings	83
3.10 System Preferences	84
3.10.1 Firewall Rules.....	84
3.10.2 Firmware update	85
3.10.3 Data Backup	86
3.10.4 Data Restore.....	86
3.10.5 Password.....	87
3.10.6 Time & Date	87
3.10.7 Reset	89
3.10.8 Reboot	89
3.11 Phone Provisioning.....	90
3.11.1 General Settings.....	90
3.11.2 Phones	91
3.12 Reports.....	92
3.12.1 CDR Report.....	92
3.12.2 System Logs	93
3.12.3 Firewall Logs.....	94
3.12.4 Trace Logs.....	95
3.13 System tools	96
3.13.1 SMTP Parameter	96
3.13.2 Ping	97
3.13.3 Tracert	97
3.13.4 Packet Capture.....	98
3.13.5 Text to Wav	98
3.13.6 Certificates	99

1. Introduction

1.1 Overview

INS100-IP PBX for Small Business/Home Office

INS100 IP PBX is a standalone embedded hybrid PBX for small businesses and remote branch offices of larger organizations. It is designed to bring enterprise-grade Unified Communications and Security Protection in an easy-to-manage fashion.

1.2 Product Features

• Alert	• Firewalls
• Blacklist	• HTTPS
• Call Back	• Integrated built-in packet capture tools
• Call Detail Records(CDR)	• Interactive Voice Response (IVR)
• Call Forward,Call Parking	• Intercom/Zone Prompt
• Call Pickup	• Music On Hold
• Call Recording	• Open VPN
• Call Routing	• Paging/Intercom
• Call transfer	• Phone Provisioning
• Call Waiting	• PIN Users
• Caller ID	• QoS
• Conference	• Queue
• DDNS	• Ring Group

Administrator guide

• Define Office Time	• Speed Dial
• Direct Inward System Access (DISA)	• Spy functions
• Distinctive Ringtone	• Static Route
• Do Not Disturb(DND)	• VLAN
• External Storage	• Voicemail
• T.30,T.38 Faxes	

1.3 Product Appearance

The appearance of INS100 shows as follow

Figure 1-3-1 Front view of INS100



Table 1-3-1 Description of Front view

Index	Indicators	Description
1	RUN	On: Starting Off: Abnormal Blinking every 0.5s: Normal status
2	POWER	On: Power on Off: Power off
3	WAN,LAN	Green LED: indicates the Internet interface is in Link . Yellow LED: ON is indicates 100MBps Ethernet port.
4	1,2,3,4,5,6, 7,8	Red LED stands for FXO port Orange LED indicates presence of a BRI port. Green LED stands for FXS port Red LED blinks: FXO port isn't connected to PSTN line. Alternately blinks Red and Green: FXO port has an

Administrator guide

		incoming call. Alternately blinks Red and Green fast: FXO port is in a call. Alternately blinks Green and Red: FXS port is ringing. Alternately blinks Green and Red fast: FXS port is in a call.
--	--	---

Figure 1-3-2 Rear view of INS100



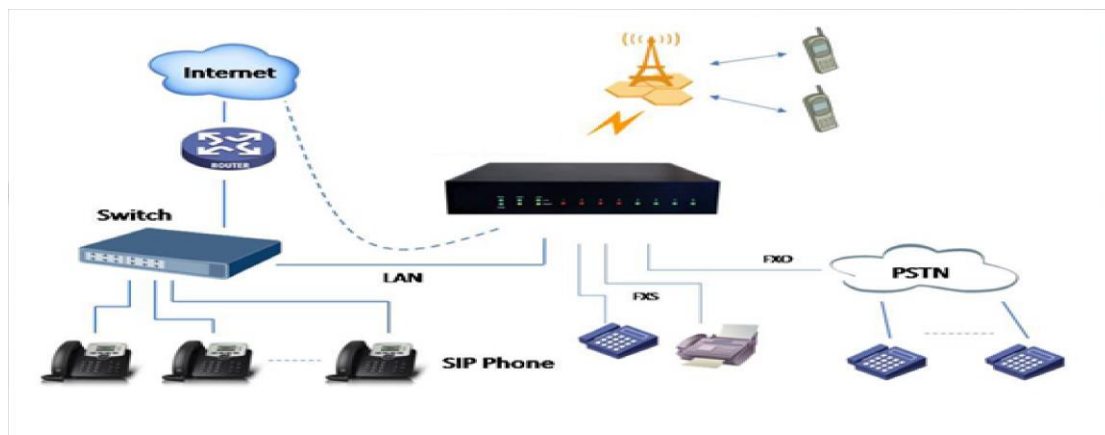
Table 1-3-2 Description of Rear view

Index	Interface	Description
1	RST	Reset button to restore default IP and password or restore factory setting. Hold RST button 8 seconds, RUN LED being ON during this time
2	Power Connector	Power connector of DC power. Input: DC12V 3A

1.4 Scenario of Application

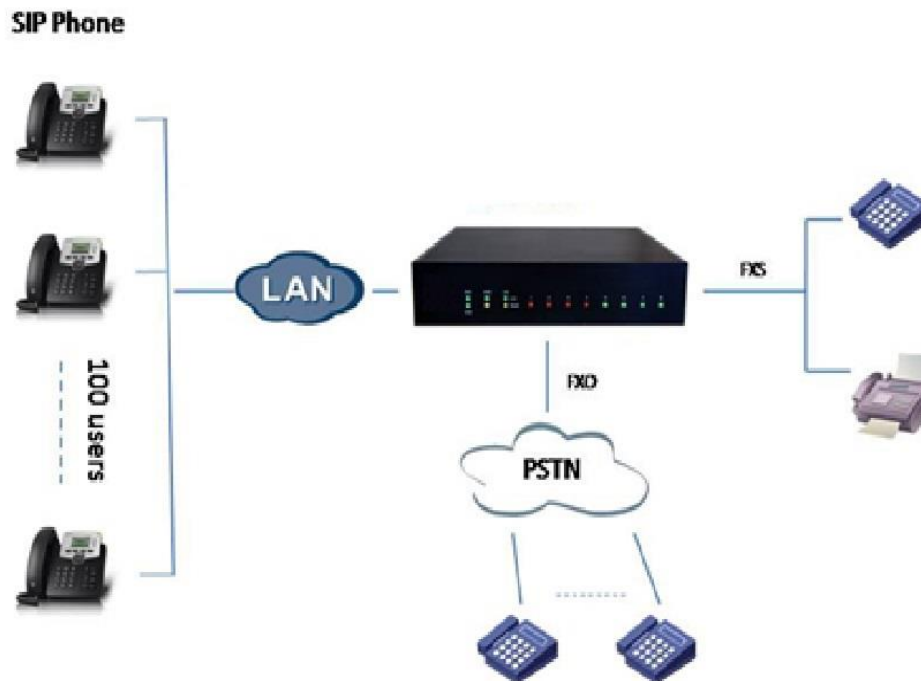
Application 1

Figure 1-4-1



Application 2

Figure 1-4-2



2. Installation Guide

2.1 Installation Notice

INS100 adapts 12VDC Power adapter, make sure AC power supply grounded well to ensure the reliability and stability;

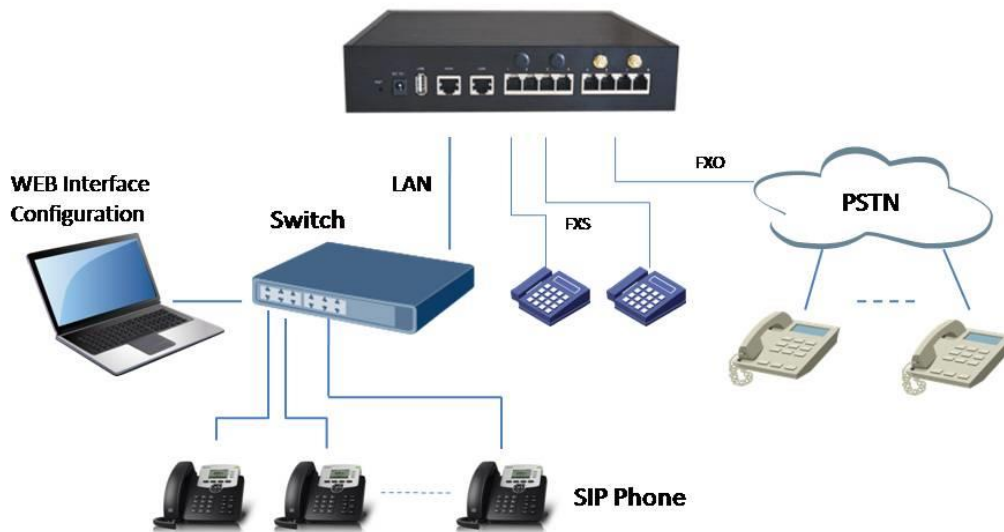
Notes: incorrect power connection may damage power adapter and device.

INS100 provides standard RJ45 with 10Mbps or 100Mbps interfaces.

2.2 Installation Procedure

2.2.1 Connect Drawing

Figure 2-2-1 Connect Drawing



3. WEB Interface Configuration

INS100 IP PBX has the same web interface. This chapter describes web configuration of INS100. The INS100 contains an embedded web server to set parameters by using the HTTP protocol. We are strongly recommend to access device with Google Chrome or Firefox Browser.

3.1 Access INS100 unit

Enter IP address of INS100 in IE/Google Chrome/Firefox Browser. The default IP of LAN port is 192.168.6.200. and the GUI shows as below:

In this example, the IP address is 192.168.6.91

Figure 3-1-1 WEB login interface

Administrator guide

Enter username and password and then click “Login” in configuration interface. The default username and password are “admin/admin”. It is strongly recommended, change the default password to a new password for system security .

3.2 Parameters Configuration

INS100 WEB configuration interface consists of the navigation tree and the detail configuration interfaces.

Figure 3-2-1 WEB introduction

System Information			
LAN Status			
MAC Address	70:b3:d5:9e:71:65		
Hostname	INS100		
Network	192.168.199.180	255.255.255.0	192.168.199.1
DNS Server	192.168.6.1		
Traffic Statistics	RX bytes: 139048 (135.7 KiB)		TX bytes: 1133972 (1.0 MiB)
System Time			
Current Server Time	September 7, 2016 04:17:59		
System Up Time	2 minutes 19 seconds		
System Resources			
Disk Usage(1K-blocks)	Used: 6180	Total: 389120	Use%: 2%
Memory Usage(1K-blocks)	Used: 109740	Total: 222896	Use%: 49%
Version Information			
Product	INS100		
Hardware Version	V1.1.00		
Firmware Version	12.1.40.15		

Administrator guide

Go through navigation tree, user can check, view, modify, and set the device configuration on the right of configuration interface.

3.3 System Information

System information interface shows the basic information of status information, mobile information and SIP information.

3.3.1 System Information

Figure 3-3-1 system Information

System Information			
LAN Status			
MAC Address	70:b3:d5:9e:71:65		
Hostname	INS100		
Network	192.168.199.180	255.255.255.0	192.168.199.1
DNS Server	192.168.6.1		
Traffic Statistics	RX bytes: 174576 (170.4 KiB)		TX bytes: 1143186 (1.0 MiB)
System Time			
Current Server Time	September 7, 2016 04:19:37		
System Up Time	3 minutes 59 seconds		
System Resources			
Disk Usage(1K-blocks)	Used: 6120	Total: 389120	Use%: 2%
Memory Usage(1K-blocks)	Used: 109628	Total: 222896	Use%: 49%
Version Information			
Product	INS100		
Hardware Version	V1.1 00		
Firmware Version	12.1.40.15		

Table 3.3-1 System Information

Parameters	Description
MAC Address	Displays the current MAC of the gateway, for example: 70-B3-D5-1B-3D-02
Network	Current IP address and subnet mask of gateway
DNS Server	Displays DNS server IP address in the same network with the gateway
System Up Time	Shows the time period of the device running. For example, :1h : 20m : 24s
Traffic Statistics	Calculates the net flow, including the total bytes of message received and sent.
Version info	Shows the current firmware version

3.3.2 Extensions Status

Figure 3.3-2 Extensions Status

Free Busy Hold Unavailable Ringing				
Extension Status				
Show Filter				
Extension	Extension	Extension	Extension	Extension
100(SIP)	101(SIP)	102(SIP)	104(SIP)	105(SIP)
106(SIP)	107(SIP)	108(SIP)	109(SIP)	110(SIP)
111(SIP)	112(SIP)	113(SIP)	114(SIP)	115(SIP)
116(SIP)	117(SIP)	118(SIP)	119(SIP)	603(FXS)
604(FXS)	1020(SIP)	1021(SIP)	1022(SIP)	1023(SIP)
1024(SIP)	1025(SIP)	1026(SIP)	1027(SIP)	1028(SIP)
1029(SIP)	1030(SIP)	1031(SIP)	1032(SIP)	1033(SIP)
1034(SIP)	1035(SIP)	1036(SIP)	1037(SIP)	1038(SIP)
1039(SIP)	1040(SIP)	1041(SIP)	1042(SIP)	1043(SIP)
1044(SIP)	1045(SIP)	1046(SIP)	1047(SIP)	1048(SIP)
1049(SIP)	1050(SIP)	1051(SIP)	1052(SIP)	1053(SIP)
1054(SIP)	1055(SIP)	1056(SIP)	1057(SIP)	1058(SIP)
1059(SIP)	1060(SIP)	1061(SIP)	1062(SIP)	1063(SIP)
1064(SIP)	1065(SIP)	1066(SIP)	1067(SIP)	1068(SIP)
1069(SIP)	1070(SIP)	1071(SIP)	1072(SIP)	1073(SIP)
1074(SIP)	1075(SIP)	1076(SIP)	1077(SIP)	1078(SIP)
1079(IAX)	--	--	--	--

3.3.3 Trunk Status

Figure 3-3-3 Trunk Status

Trunk Status						
					Page 1 of 1(6 Records)	
Status	Trunk Type	Trunk Name	SIP/IAX	Transport	User Name	Hostname/Port
Rejected	Trunk	test	SIP	udp		192.168.6.110
Unreachable	Service Povider	test	SIP	udp	--	192.168.6.253
OK (3 ms)	Service Povider	6150	SIP	udp	--	192.168.6.150
OK (3 ms)	Service Povider	192.168.6.110	SIP	udp	--	192.168.6.110
Unavailable	FXO	pstn1	--	--	--	Port 1
Idle	FXO	pstn2	--	--	--	Port 2

Administrator guide

Trunk Status Description:

VoIP Trunk:

Status

Rejected: Trunk registration failed.

Registered: Successful registration, trunk is ready for use.

Request Send: Registering.

Waiting: Waiting for authentication.

Service Provider:

Status

OK: Successful registration, trunk is ready for use.

Unreachable: The trunk is unreachable.

Failed: Trunk registration failed.

FXO Trunk:

Status

Idle: The port is idle.

Busy: The port is in use.

Unavailable: The port hasn't connected to the PSTN line.

More detail message, please refer to the LED indication of front panel.

Table 3-3-3 Trunk Status

Parameters	Description
Status	Shows the registration status of Trunk channel, including registered and unregistered.
Trunk Type	Trunk mode will allow IP phone or IPPBX to register or trunk mode to register to provider
Name	It describes this VoIP channel for the ease of identification. Its value is character string
SIP/IAX	Choose the type of this trunk, SIP or IAX
Transfer Protocol	This will be the transport method used by the trunk. The options are UDP (default) or TCP or TLS.
User Name	The number for this VoIP channel
Hostname/IP Address	Hostname or IP Address of this VoIP channel

3.4 Network Configuration

3.4.1 LAN Configuration

Figure 3-4-1 LAN Configuration

LAN Configuration

Network Parameters

☐ Dynamic(DHCP) ⓘ

☒ Static IP Address ⓘ

Hostname:

IP Address:

Subnet Mask:

Gateway:

IP Address2:

Subnet Mask2:

MTU:

DNS Server

☐ Dynamic DNS Address

☒ Static DNS Address

Primary DNS Server:

Secondary DNS Server:

Note: Purports to take effect, you need to restart the device.

Table 3-4-1 Description of Local network

Parameter	Description
Dynamic (DHCP)	Enable the device obtain IP Address automatically
Static IP Address	Configure the "IP Address", "Subnet Mask" and "Default Gateway" by manual
Hostname	Set the host name for INS100

Administrator guide

IP Address	Set the IP Address for INS100, It is recommended to configure a static IP address for INS100
Subnet Mask	Set the subnet mask for INS100
Gateway	Set the gateway for INS100
IP Address 2	Set the second IP Address for INS100
Subnet Mask2	Set the second subnet mask for INS100
MTU	Message transmit unit, default is 1500
Dynamic DNS Address	Obtain DNS Server Address Automatically
Static DNS Address	Obtain Primary DNS Server by manual
Primary DNS Server	Set the primary DNS Server for INS100
Secondary DNS Server	Set the Secondary DNS Server for INS100

Figure 3-4-1-2 WAN Configuration

WAN Configuration

Use WAN ☐

☐ DHCP

☐ Static IP Address

IP Address: 192.168.0.93

Subnet Mask: 255.255.254.0

Default Gateway: 192.168.6.1

Primary DNS:

Secondary DNS:

☒ PPPoE

User Name: myuser

Password: mypass

Save **Cancel**

3.4.2 VLAN Configuration

A VLAN (Virtual LAN) is a logical local area network (or LAN) that extends beyond a single traditional LAN to a group of LAN segments, given specific configurations.

Administrator guide

Note: INS100 is not the VLAN server, a 3-layer switch is still needed, please configure the VLAN information there first, then input the details in INS100, so that the packages via INS100 will be added the VLAN label before sending to that switch.

Figure 3-4-2 VLAN Configuration

VLAN

VLAN Parameters(LAN)

☒ No.1

IP Address:
 Subnet Mask:
 Gateway:

☐ No.2

IP Address:
 Subnet Mask:
 Gateway:

VLAN Parameters(WAN)

☒ No.1

IP Address:
 Subnet Mask:
 Gateway:

☐ No.2

IP Address:
 Subnet Mask:
 Gateway:

Note: Purports to take effect, you need to restart the device.

Save

Cancel

Table 3-4-2 Description of VLAN Configuration

Parameter	Description
NO.1	Click the NO.1 you can edit the first VLAN over LAN
IP Address	Set the IP Address for INS100 VLAN over LAN.
Subnet Mask	Set the Subnet Mask for INS100 VLAN over LAN.

Administrator guide

Gateway	Set the Default Gateway for INS100 VLAN over LAN
---------	--

3.4.3 ARP Configuration

The ARP function is mainly used to query and add the map of IP and MAC. There are static or dynamic ARP entries.

Like other routers, the gateway can automatically find the network device on the same segment. But, sometimes you don't want to use this automatic mapping, you'd rather have fixed (static) associations between an IP address and a MAC address. Gateway provides you the ability to add static ARP entries to:

- Protect your network against ARP spoofing
- Prevent network confusion as a result of misconfigured network device

Click "Dynamic ARP" to check ARP buffer

Figure 3-4-3a Dynamic ARP

ARP Configuration	
Dynamic	Static
IP Address	MAC Address
192.168.6.252	00:0c:29:58:79:b1
192.168.6.210	00:15:65:73:6b:87
192.168.6.110	f4:b5:49:01:38:96
192.168.6.6	74:d4:35:95:03:8d
192.168.6.202	00:15:65:73:65:db
192.168.6.2	74:d4:35:d4:12:8c
192.168.6.51	78:a5:04:bd:0c:f7

Figure 3-4-3 Add ARP

Administrator guide

3.4.4 VPN Configuration

A Virtual Private Network (VPN) is a method of computer networking-typically using the public internet-that allows users to privately share information between remote locations, or between a remote location and a business' home network. A VPN can provide secure information transport by authenticating users, and encrypting data to prevent unauthorized persons from reading the information transmitted. The VPN can be used to send any kind of network traffic securely. INS100 supports OpenVPN.

Figure 3-4-4 VPN Configuration

Table 3-4-4 Description of VPN Parameter

Parameters	Description
Import VPN Configuration Files	Import configuration file of OpenVPN.

Notes:

1. Don't configure "user" and "group" in the "config" file. You can get the config package from the OpenVPN provider.
2. INS100 works as VPN client mode only.

Administrator guide

3.Upload file *.tar with *.conf in it.

3.4.5 DDNS Server

DDNS(Dynamic DNS) is a method / protocol / network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a Domain Name System (DNS) name server to change, in real time, the active DNS configuration of its configured hostnames, addresses or other information.

Figure 3-4-5 DDNS Server

Table 3-4-5 Description of DDNS Server

Parameters	Description
DDNS Server	Select the DDNS server IP or domain name you sign up for service.
User Name	User name the DDNS server provides you.
Password	User account's password.
Host Name	The domain name you have got from the DDNS server

Note: DDNS allows you to access your network using domain names instead of IP address. The service manages changing IP address and updates your domain information dynamically. You must sign up for service through dyndns.org, freedns.afraid.org, www.no-ip.com, www.zoneedit.com

3.4.6 Static Route

INS100 will have more than one internet connection in some situations but it has only one default gateway. You will need to set some Static Route for INS100 to force it to go out through different gateway when access to different internet.

The default gateway priority of INS100 from high to low is VPN/VLAN-> LAN port.

1) Route Table

The current route rules of INS100.

Figure 3-4-6 Static Routing Table

Static Route				
Routing Table	Static Routing Rules			
Destination IP Address	Subnet Mask	Gateway	Metric	Interface
0.0.0.0	0.0.0.0	192.168.6.1	0	LAN
192.168.6.0	255.255.255.0	0.0.0.0	0	LAN

2) Static Route Rules

You can add new static route rules here.

Figure 3-4-6a Static Routing Rules

Static Route					
Routing Table	Static Routing Rules				
Destination IP Address	Subnet Mask	Gateway	Metric ⓘ	Interface	Options
				LAN ▾	Add
Destination IP Address	Subnet Mask	Gateway	Metric ⓘ	Interface	Options
192.168.7.0	255.255.255.0	192.168.6.1	--	LAN	X

Table 3-4-6 Description of Static Routing

Parameters	Description
Destination IP Address	The destination network to be accessed to by INS100.
Subnet Mask	Specify the destination network portion.
Gateway	Define which gateway INS100 will go through when access to the destination network.
Metric	The cost of a route is calculated by using what are called routing metric. Routing metrics are assigned to routes

Administrator guide

	by routing protocols to provide measurable statistic which can be used to judge how useful (how low cost) a route is.
Interface	Define which internet port to go through.

3.4.7 DHCP Server

Figure 3-4-7 DHCP Server

DHCP Server

Status

Inactive

DHCP Enable

☐

Start Address

192.168.6.100

End Address

192.168.6.254

Default Lease Time

7200

(Of 1 to 50000 Seconds)

Gateway

192.168.6.1

Subnet Mask

255.255.255.0

Primary DNS

192.168.6.1

Secondary DNS

Primary NTP Server

Secondary NTP Server

WINS Server Address

TFTP Server

Allow Bootp Clients

☐

Save

Cancel

3.5 Trunks

3.5.1 Physical Trunks(PSTN and GSM Trunks)

The public switched telephone network (PSTN) is the network of the world's public circuit-switched telephone networks.

Figure 3-5-1 Analog Trunks

Analog Trunk				
				Page 1 of 1(2 Records)
Trunk Name	Port	Rxgain	Ring Detect Timeout	Options
pstn113	3	40%	8001	
psntest112	4	40%	8002	

Figure 3-5-1a Analog Trunks Edit

Analog Trunk Edit

General

Port

3

Trunk Name

pstn113

Rxgain

40%

Answer On Polarity Detection

No

CID Settings

CID Detection

No

CID Start

Ring

CID Signalling

Bell - USA

Ring Detect Timeout

8001

ms

Hangup

Busy Detection

Yes

Busy Count

4

Busy Interval

1

Busy Pattern

Frequency Detection

No

Busy Frequency

Hangup On Polarity Detection

No

Save

Back

Table 3-5-1 Description of Analog Trunk

Parameters	Description
Trunk Name	A unique label used to identify this trunk when listed in outbound rules, incoming rules, etc.E.g. "pstn113".
Rxgain	Used to modify the volume level of this trunk. Normally, this setting does not need to be changed.
Answer on Polarity Detection	Use a polarity reversal to mark when a outgoing call is answered by the remote party
CID Detection	For FXO trunks, this option forces PBX to look for Caller ID on incoming calls.
CID Start	This option allows you to define the start of a Caller ID signal: Ring: Start when a ring is received (Caller ID Signaling: Bell_USA, DTMF). Polarity: Start when a polarity reversal is started (Caller ID Signaling: V23_UK, V23_JP,DTMF). Before Ring: Start before a ring is received (Caller ID Signaling: DTMF).
CID Signalling	This option defines the type of Caller ID signaling to use. It can be set to one of the following: Bell_USA: bell202 as used in the United States v23_UK: suitable in the UK v23_Japan: suitable in Japan v23-Japan pure: suitable in Japan DTMF: suitable in Denmark, Sweden, and Holland
Busy Detection	Busy Detection is used to detect far end hang-up or for detecting a busy signal. Select "Yes" to turn this feature on.
Budy Count	If Busy Detection is enabled, it is also possible to specify how many busy tones to wait for before disconnecting the call. The default is 4, but better results can be achieved if set to 6 or even 8. Remember, the higher the number, the more time will be required to release a channel. A higher setting lowers the probability that you will encounter random hang-ups.
Busy Interval	The busy detection interval
Busy Pattern	If Busy Detection is enabled, it is also possible to specify the cadence of your busy signal.In many Countries, it is

Administrator guide

	500msec on, 500msec off. If a Busy Pattern is not specified, The system will accept any regular sound-silence pattern that repeats <Busy Count> times as a busy signal. If you specify Busy Pattern, then the system will further check the length of the tone and silence, which will further reduce the chance of a false positive disconnection.
Frequency Detection	Used for Frequency Detection (Enable detecting the busy signal frequency or not).
Busy Frequency	If the Frequency Detection is enabled, you must specify the local frequency.
Hangup Polarity Reversal Detection	The call will be considered as "hang up" on a polarity reversal.

Figure 3-5-1b GSM Trunks

Gsm Trunk					
				Page 1 of 1(1 Records)	
Trunk Name	Port	Type	Tx Gain	Rx Gain	Options
GSM1	1	GSM	40%	40%	

Figure 3-5-1c GSM Trunks Edit

Gsm Trunk Edit(1)

Port	1	
Trunk Name	GSM1	
Mobile Number		
CLIR	No	
Rx Gain	40%	
Tx Gain	40%	
Call Progress Tone	No	
DTMF Detect Mode	Echo Before	
DTMF Detect Sensitive	Yes	
PIN		

Note: If you failed to enter your correct PIN code 3 times in succession, the SIM card will be blocked.

Save
 Back

3.5.2 IP Trunk (Peer to Peer Mode)

Figure 3-5-2 IP Trunk

IP Trunk				
+ Add		Page 1 of 1(1 Records)		
Trunk Name	Type	Hostname/IP	Transport	Options
test	SIP	192.168.6.252	udp	✎ ✕

Figure 3-5-2a Add IP Trunk

IP Trunk Add	
Trunk Name ⁱ	
Type	SIP ^v
Outbound Caller ID ⁱ	
Hostname/IP ⁱ	
Port ⁱ	5060
Transport ⁱ	UDP ^v
DTMF Mode ⁱ	rfc2833 ^v
Qualify ⁱ	Yes ^v
Allowed Audio Codecs ⁱ	ulaw,alaw,gsm
Save Back	

Table 3-8-2 Description of IP Trunk

Parameters	Description
IP Trunk	Add remote IP of Softswitch, SIP server which will send call traffics to gateway.
Trunk Name	It describes the trunk for the ease of identification.
Type	Choose the type of this trunk, SIP or IAX
Outbound Caller ID	Caller ID for calls placed on out this trunk
Hostname/IP Address	Service provider's hostname or IP address,5060 is the standard port number used by SIP protocol. Don't change

Administrator guide

	this part if it is not required.
Transport	This will be the transport method used by the SIP Trunk. This method is given by the SIP trunk provider. The options are UDP (default) or TCP or TLS.
DTMF Mode	Set default mode for sending DTMF of this trunk. Default setting: rfc2833, Info, Shortinfo, Inband, Auto
Qualify	Send checking alive packets to the SIP provider. when it's disabled, INS100 will ignore the reachability and the status of this account will be unmonitored.
Allow codecs	ulaw, alaw, gsm

3.5.3 VoIP Trunk

In this page, we can configure VoIP trunk (SIP/ IAX) you have got from provider with the authorization name and password.

Figure 3-5-3 VoIP Trunk

VoIP Trunk					
+ Add			Page 0 Of 0		
Index	Description	Type	Hostname/IP	Transport	Options
30	5646546	SIP	192.168.6.4	udp	✎ ✕
31	123123	SIP	192.168.6.4	udp	✎ ✕

Figure 3-5-3a Add VoIP Trunk

Table 3-5-3 Description of VoIP Trunk

[Http://www.insidetelecom.ro](http://www.insidetelecom.ro)

Administrator guide

DTMF Mode	RFC2833, Info, Shortinfo, Inband, Auto.
Qualify	Send check alive packets to IP phones, when it's disabled, INS100 will ignore the reachability and the status of this account will be unmonitored.
Allow codecs	ulaw,alaw,gsm
Domain	VoIP provider's server domain name
Proxy Address	A proxy that receives requests from a client, even though it may not be the server resolved by the Request-URI.

3.6 PBX Basic

3.6.1 Extensions

3.6.1.1 FXS Extensions

There are three types of extensions supported in INS100: SIP, IAX and analog extension(FXS).

Figure 3-6-1-1 Extensions

Administrator guide

FXS Extensions						
Port	Extension Number	Display Name	Caller ID	RX Gain	TX Gain	Detail
1	601	601	601	40%	40%	
2	602	602	602	40%	40%	

VoIP Extensions						
Add Extension		Delete the selected Extensions		Page 1 of 1(5 Records)		
☐	Extension Number	Register Name	Type	Display Name	Caller ID	Options
☐	100	100	SIP	100	100	
☐	101	101	SIP	101	101	
☐	102	102	SIP	102	102	
☐	105	105	SIP	105	105	
☐	600	600	SIP	600	600	

Figure 3-6-1-1a Fxs Extensions Edit

Edit FXS Extension

General

Voicemail

Options

Other

User Information

Extension Type

FXS

Port

1

Extension Number

601

Display Name

601

Caller ID

601

Outbound CID

Emergency CID

Save

Back

Table 3-6-1-1a FXS Extensions

Parameters	Description
Port	The extension correspond port.
Extensions Number	The numbered extension, e.g. 601, that will be associated with this particular User/Phone.
Display Name	A character-based name for this user, e.g. "Han Jones".
Call ID	The Caller ID (CID) string will be used when this user calls another internal user.

Administrator guide

Outbound CID	Overrides the caller ID when dialing out a trunk. Any setting here will override the common outbound caller ID set in the trunks admin . Format: "caller name" <#####> Leave this field blank to disable the outbound caller ID feature for this user
Emergency CID	This Caller ID will always be set when dialing out an outbound route flagged as emergency. The emergency CID overrides all other callerID Settings.

Figure 3-6-1-1b Fxs Extensions Vociemail

Edit FXS Extension

General Voicemail Options Other

Voicemail Configuration

- Enable Voicemail ☒ ⓘ
- Disable PIN ☐ ⓘ
- PIN Number ⓘ
- Email Address ⓘ
- Email Attachment No ⓘ
- Play CID No ⓘ
- Play Envelope No ⓘ
- Delete Voicemail No ⓘ

Save Back

•Enable Voicemail

Check this box if the user should have a voicemail account.

•Voicemail Access PIN

Voicemail Password for this extension, e.g. "601".

•Email Address

This option defines whether or not voicemails/Fax is sent to the Email address as an attachment.

Note: Please ensure that all voicemail settings are properly configured on the System.

•Play Envelope

Envelope controls whether or not the Voicemail system will play the message envelope (date/time) before playing the voicemail message.

Administrator guide

Figure 3-6-1-1c FXS Extensions Options

Edit FXS Extension

General
Voicemail
Options
Other

Call Forward

☐ Always
☒ On Unavailable
☒ When Busy

Send Call to:
☒ Voicemail
☐ Number
☐ Hang Up

Volume Settings

RX Gain
40%
TX Gain
40%

Options

Ring Time
90
Call Waiting
Disable
Pinless Dialing
Disable
Call Group
Pickup Group
Do Not Disturb
☐

Save
Back

Figure 3-6-1-1d Fxs Extensions Other

Administrator guide

Edit FXS Extension

General Voicemail Options Other

Spy Setting

Allow Being Spied ⓘ

Spy Modes ⓘ

Flash

Hook Flash Detection ⓘ

Web Login

Enable ☒ ⓘ

Login Name ⓘ

Password ⓘ Weak

•Call Forwarding(Follow Me)

This function sets inbound call forwarding on an extension. An administrator can configure Call Forward for this extension.

• Volume Settings

Rxgain: The Volume sent to FXS extension.

Txgain: The Volume sent out by the FXS extension

•Call Waiting

Check this option if the extension should have Call Waiting capability. If this option is checked, the "When busy" follow me options will not be available.

•Pickup Group

If this extension belongs to a pickup group, any calls that ring this extension can be picked up by other extensions in the same pickup group by dialing the Call Pickup feature code(the default is *8).

Note: *8 is the default setting, it can be changed under Feature Codes -> General -> Call Pickup.

•Spy Settings

INS100 allows extension to monitor/barge in other conversation. Once this feature is enabled, the extension has the ability to monitor/barge in other calls using the feature codes for each spy mode. Refer to "Feature Codes"

Administrator guide

section for more information.

•spy modes

There are 4 spy modes available:

General spy: you have the permission to use the following 3 modes.

Quiet spy: you can only hear the call, but can't talk.

Whisper spy: you can hear the call, and can talk with the monitored extension.

Barge spy: you can hear the call and talk with them both.

•Hook Flash Detection

Sets the amount of time, in milliseconds, that must pass since the last hook-flash event received by INS100 before it will recognize a second event. If a second event occurs in less time than defined by Hook Flash Detection, then INS100 will ignore the event. The default value of Flash is 1000ms, and it can be configured in 1ms increments.

3.6.1.2 VoIP Extensions

A VoIP extension is a SIP/IAX Account that allows an IP Phone or an IP soft phone client to register on INS100.

Figure 3-6-1-2 VoIP Extensions Edit/Add

VoIP Extensions						
+ Add Extension		X Delete the selected Extensions		Page 1 of 1(12 Records)		
☐	Extension Number	Register Name	Type	Display Name	Caller ID Number	Options
☐	100	100	SIP	100		✎ ✕
☐	101	101	SIP	101	101	✎ ✕
☐	102	102	SIP	102	102	✎ ✕
☐	103	103	SIP	103	103	✎ ✕
☐	104	104	SIP	104	104	✎ ✕
☐	105	105	SIP	105	105	✎ ✕
☐	106	106	IAX	106	106	✎ ✕
☐	107	107	IAX	107	107	✎ ✕
☐	108	108	IAX	108	108	✎ ✕
☐	555	555	SIP	555	555	✎ ✕
☐	556	556	SIP	556	556	✎ ✕
☐	600	600	SIP	600	600	✎ ✕

Figure 3-6-1-2a VoIP Extensions Edit/Add

Administrator guide

Edit VoIP Extension

General
Voicemail
Options
Other

User Information

Extension Type
SIP

Extension Number
100

Display Name
100

Caller ID
100

Outbound CID

Emergency CID

Authentiaction

Register Name
100

Password
.....
Medium

VoIP Setting

Transport
UDP

RTP Encryption(SRTP)
No

DTMF Mode
RFC2833

Qualify
Yes

NAT

Save
Back

•Extension Type

Extension type: SIP, IAX or SIP/IAX.

SIP—The extension sends and receives calls using the VoIP protocol SIP.

IAX—The extension sends and receives calls using the VoIP protocol IAX.

•Extension Number

The numbered extension, e.g. 100, that will be associated with this particular User/Phone.

•Display Name

A character-based name for this user, e.g. "Han Jones".

•Caller ID

The Caller ID will be used when this user calls another internal extension.

•Register Name

It is for extension registration validation. Users will not be able register the extension if the authorization name is incorrect even though the username

Administrator guide

and password are correct.

•Password

The password for this extension, but it is not a fixed one. When you add new extension, a random and robust password will be generated like "0e3lx9Iz".

•Transport

This will be the transport method used by the extension. The options are UDP (default) or TCP or TLS.

•Enable SRTP

Enable extension for SRTP (RTP Encryption).

•**DTMF Mode**—RFC2833, Info, Short Info, Inband, Auto.

•Qualify

Send check alive packets to IP phones.

•NAT

This setting should be used when the system is using a public IP address to communicate with devices hidden behind a NAT device (such as a broadband router). If you have one-way audio problems, you usually have problems with your NAT configuration or your firewall's support of SIP and/or RTP ports.

Figure 3-6-1-2b VoIP Extensions Voicemail

Edit VoIP Extension

General Voicemail Options Other

Voicemail Configuration

Enable Voicemail	☒	i
Disable PIN	☐	i
PIN Number	100	i
Email Address		i
Email Attachment	No ▾	i
Play CID	No ▾	i
Play Envelope	No ▾	i
Delete Voicemail	No ▾	i

Save Back

Figure 3-6-1-2c VoIP Extensions Options

Edit VoIP Extension

General
Voicemail
Options
Other

Call Forward

☐ Always
☒ On Unavailable
☒ When Busy

Send Call to:

☒ Voicemail
☐ Number
☐ Hang Up

Options

Ring Time
Call Waiting
Pinless Dialing
Allow Reinvite
Call Group
Pickup Group
Do Not Disturb

Default
Disable
Disable
Yes

☐

i
i
i
i
i
i
i

Save
Back

Figure 3-6-1-2d VoIP Extensions Other

Edit VoIP Extension(100)
General
Voicemail
Options
Other

Spy Setting

Allow Being Spied
Disable

Spy Modes
Disable

IP Restriction

Deny

Permit

Web Login

Enable
☒

Login Name
100

Password

Weak

Fax Configuration

Associated Email

Note: **SMTP Parameter** must be configured correctly before Voicemail to E-mail will work.

Save
Back

3.6.2 Feature Codes

Administrator guide

There are many feature codes available in INS100, which allow users to dial from extension side to realize the exact feature.

General			
Call Pickup	*8	☒	Enable ▼
Call Trace	*69	☒	Enable ▼
Directed Call Pickup	*08	☒	Enable ▼
Attended Transfer	*2	☒	Enable ▼
Blind Transfer	##	☒	Enable ▼
One Touch Record	*1	☒	Enable ▼
Call Forward			
Call Forward All Activate	*72	☒	Enable ▼
Call Forward All Deactivate	*73	☒	Enable ▼
Call Forward Busy Activate	*90	☒	Enable ▼
Call Forward Busy Deactivate	*91	☒	Enable ▼
Call Forward No Answer Activate	*52	☒	Enable ▼
Call Forward No Answer Deactivate	*53	☒	Enable ▼
Call Forward to Voicemail	*900	☒	Enable ▼
Call Forward to Number	*901	☒	Enable ▼
Call Forward Hang Up	*902	☒	Enable ▼
Call Waiting			
Call Waiting - Activate	*70	☒	Enable ▼
Call Waiting - Deactivate	*71	☒	Enable ▼
Do-Not-Disturb (DND)			
DND Activate	*78	☒	Enable ▼
DND Deactivate	*79	☒	Enable ▼
DND Toggle	*76	☒	Enable ▼
Speed Dial			
Speed Dial Prefix	*0	☒	Enable ▼
Voicemail			
Voicemail Main Menu	*97	☒	Enable ▼
Dial Voicemail	*98	☒	Enable ▼
Direct Dial Prefix	#	☒	Enable ▼
Parking Lot			
Call Parking	*85	☒	Enable ▼
ChanSpy			
Quiet Mode	*93	☒	Enable ▼
Whisper Mode	*94	☒	Enable ▼
Barge Mode	*95	☒	Enable ▼
Paging and Intercom			
Intercom Prefix	*80	☒	Enable ▼
User Intercom Allow	*54	☒	Enable ▼
User Intercom Disallow	*55	☒	Enable ▼
PIN User			
Access Code	*99	☒	Enable ▼

3.6.3 Speed dial

Figure 3-6-3 Speed Dial

Speed Dial				
Dial 'speeddial prefix *0 + Source Number' to turn into the 'Destination Number', speeddial prefix is configured through Feature Codes .				
+ Add Speed Dial		X Delete the selected Speed Dial		Page 1 of 1(1 Records)
☐	Description	Source Number	Destination Number	Options
☐	60001	61	60001	 

Figure 3-6-3a Speed Dial Add

Add Speed Dial	
Description	60002
Source Number	62
Destination Number	60002
Save Back	

Table 3-6-3 Description of Speed Dial

Parameters	Description
Source Number	The speed dial number.
Destination Number	The number you want to call. E.g. the source number is "33". The destination number is 5528369. The prefix number is *90. You can use an extension with any type to dial *9033, then it will call the number 5528369. The prefix of Speed dial is setting on "feathur codes" Note: Don't forget to add the outbound dial prefix if you would like to dial the speed dial number through trunk.

3.6.4 Outbound Routes

In this page, we can configure the outbound rules to control the outgoing calls.

Notes:

1. The max number of outbound route is 32.
2. If the dial patterns are the same in several routes, INS100 will choose the available routes from top to the last one.
3. When you have created a new extension, please edit the outbound route so that it can dial out too.

Figure 3-6-4 Outbound Routes

Outbound Routes							
+ Add Route		X Delete the selected Routes			Page 1 of 1(1 Records)		
☐	Route Name	Route CID	Dial Patterns	Emergency	Office Hours Mode	Sort	Options
☐	9_outside		9.	No	None		✓ X

We can create outbound route or use the default route "9_outside" (dial 9+numbers to dial out). Also you can delete multiple outbound routes at once as required.

Figure 3-6-4a Outbound Routes Edit

Edit Outbound Route

Settings
Dial Patterns
Office Hours

Route Settings

Route Name

Route CID

Route Password

PIN Set
[PIN Sets](#)

Route Type
☐ Emergency
☐ Intra-Company

Allow Extensions

Disable Extensions

600 <SIP>
105 <SIP>
100 <SIP>

Add >
< Remove

Enable Extensions

101 <SIP>
102 <SIP>
602 <FXS>
601 <FXS>

Up ↑
Down ↓

Allow Trunks

Disable Trunks

test <SPS>

Add >
< Remove

Enable Trunks

frompstn1222 <FXO>
frompstn23333333 <FXO>

Up ↑
Down ↓

Save
Back

Figure 3-6-4b Outbound Routes Edit

Administrator guide

Edit Outbound Route

Settings | **Dial Patterns** | Office Hours

Dial Patterns

Prepend ⓘ Match Pattern ⓘ Strip ⓘ

Prepend 9. 1 +

Save Back

Figure 3-6-4c Outbound Routes Edit

Edit Outbound Route

Settings | Dial Patterns | **Office Hours**

Office Hours

Office Hours Mode None ⓘ

Specific Office Hours Configure ⓘ

Save Back

•Route Name

Name of this Outbound Route. E.g. "Local" or "Long Distance".

•Password

The route password can be used to protect this route from being accessed without a password. You can choose one of the passwords in the PIN list that you can click the "Pin Settings" to edit it in "Pin Settings" page.

•PIN set

Optional: Select a PIN Set to use.If using this option,Leave the route password field blank.

•Office Hours

When a specific office hour is selected, this outbound route can only be used during this office hour, and can't be used in non-office hours.

•Dial Pattern

Outbound calls that match this dial pattern will use this outbound route.

Administrator guide

There are a number of dial pattern characters that have special meanings:

X: Any Digit from 0-9

Z: Any Digit from 1-9

N: Any Digit from 2-9

[12345-9] : Any digit in the brackets (in this example, 1,2,3,4,5,6,7,8,9)

The "." Character will match any remaining digits. For example, "9011." will match any phone number that starts with "9011", excluding "9011" itself.

The "!" will match none remaining digits, and causes the matching process to complete as soon as it can be determined that no other matches are possible.

Example 1: **1[5-8]6** will match 156,166,176,186.

Example 2: **1NXXNXXXXXX** will match a phone number starting with a 1, followed by a 3-digit area code, and then 6-digit number.

•Strip

Allows the user to specify the number of digits that will be stripped from the front of the phone number before the call is placed. For example, if users must press 0 before dialing a phone number, one digit should be stripped from the dial string before the call is placed.

•Prepend

These digits will be prepended to the phone number before the call is placed. For example, if a trunk requires 10-digit dialing, but users are more comfortable with 7-digit dialing, this field could be used to prepend a 3-digit area code to all 7-digit phone numbers before calls are placed.

•Add

Add multiple dial patterns in this outbound route.

•Allow Extensions

Define the extensions that will be permitted to use this outbound route.

•Allow Trunks

Define the trunks that can be used for this outbound route.

3.6.5 Parking Lot

Figure 3-6-5 Parking Lot

Parking Lot

Call parking feature code (*85) is configured through [Feature Codes](#)

General

Parking Lot Extension

700

Parking Lot Starting Position

701

Number of Slots

8

(701-708)

Options

Parking Timeout(sec)

60

Alert Info

Find Slot

Next

Parked Music Class

calmriver

Transfer Capability

Caller

Re-Parking Capability

Caller

Destination for Orphaned Parked Calls

Destination

End Call

Save

Cancel

3.6.6 Time Groups

Figure 3-6-6 Time groups configure

Time Groups

Day/Night Mode Control

Status: **Normal Mode**

	Use Default?	Feature Status
Switch To Day Mode	*34 ☒	Enable v
Switch To Night Mode	*35 ☒	Enable v
Switch To Normal Mode	*034 ☒	Enable v

Global Time Groups

Configure Time Groups

Configure Holidays

Save

Cancel

Administrator guide

	From:	To:		Time of Day
Monday	08:00	17:00	Add > < Remove	
Tuesday	08:00	17:00	Add > < Remove	
Wednesday	08:00	17:00	Add > < Remove	
Thursday	08:00	17:00	Add > < Remove	
Friday	08:00	17:00	Add > < Remove	
Saturday	08:00	17:00	Add > < Remove	
Sunday	08:00	17:00	Add > < Remove	

OK Cancel

3.6.7 General Preferences

Figure 3-6-7 General Preferences

Administrator guide

General

General

Select Language

English

Max Account of Calls

0

Ring Timeout

30

Country Tonezone

United States / North America

Music on Hold

calmriver

Follow Me Play Music on Hold

Ring

FXO Mode

FCC

Global Office Hours

Configure Office Hours

Configure Holidays

Services

FTP Parameter

Enable FTP

Port

21

SSH Parameter

Enable SSH

Port

22

Web Parameter

Enable HTTP

Port

80

Enable HTTPS

Port

443

Extension Parameters

Extension Number

100

-

588

IVR Extensions

620

-

639

Conference Extensions

740

-

749

Queue Extensions

820

-

839

Ring Group Extensions

920

-

939

Paging Group Extensions

720

-

730

Save

Cancel

3.7 PBX Inbound Call Control

3.7.1 Inbound Routes

Inbound routing processes incoming call traffic to destination extensions during office hours or outside office hours.

Figure 3-7-1 Inbound Routes

Inbound Routes						
+ Add Route		X Delete the selected Routes			Page 1 of 1(1 Records)	
☐	Route Name	DID Number	Caller ID Number	Enable Callback	Sort	Options
☐	default	6xxx	136060	OFF		 

There is a default inbound route for all the trunks and set IVR as the destination, you can edit it or create a new one for your demands or you can delete multiple outbound routes at once as required. When an incoming call arrives, the system will first check "Holidays".

Figure 3-7-1a Inbound Routes Edit

Edit Route(default)

Settings

Advanced Setting

General

Route Name

default

DID Number

Extension

Caller ID Number

Alert Info

Incoming Trunks

All Trunks

252IP_sip <SPS>

to151IP_IAX <SPX>

to110VoIP_IAX <IAX>

to110VoIP_SIP <SIP>

pstn5 <FXO>

pstn6 <FXO>

GSM1 <GSM>

Add >

< Remove

Allow Trunks

pstn8 <FXO>

Up ↑

Down ↓

Time Conditions

Time Groups Mode

None

Specific Time Groups

Configure

Day Destination

IVR

Night Destination

End Call

<620> Welcome

Holidays Settings

Holiday Mode

None

Specific Holiday

Configure

Holiday Destination

End Call

Fax Detection

Destination

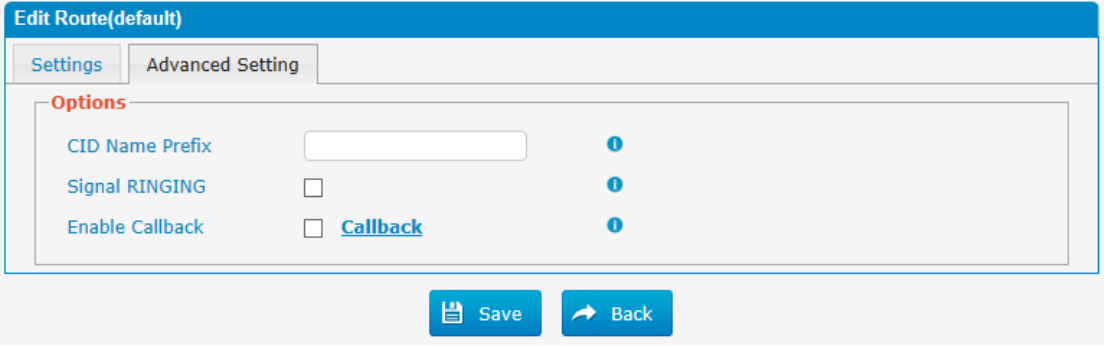
No Detect

Save

Back

Figure 3-7-1b Inbound Routes Edit

Administrator guide



1) General

•Route Name

A name for this inbound route. E.g. "default".

•DID Number

Define the expected DID Number if this trunk passes DID on incoming calls. Leave this field blank to match calls with any or no DID info. You can also use pattern matching to match a range of numbers. The following patterns may be used:

X: Any Digit from 0-9

Z: Any Digit from 1-9

N: Any Digit from 2-9

[12345-9]: Any digit in the brackets (in this example, 1, 2, 3, 4, 5, 6, 7, 8, 9)

The "." Character will match any remaining digits. For example, "9011." will match any phone number that starts with "9011", excluding "9011" itself.

The "!" will match none remaining digits, and causes the matching process to complete as soon as it can be determined that no other matches are possible.

Example 1: **NXXXXXX** will match any 7-digit phone number.

Example 2: **1NXXNXXXXXX** will match a phone number starting with a 1, followed by a 3-digit area code, and then 6-digit number.

•Extension

Define the extension for DID number. This field is only valid when you use BRI, SIP, SPS or SPX trunk for this inbound router. You can only input number and "-" in this field and the format can be xxx or xxx-xxx. The count of the number must be only one or equal to the count of the DID number.

•Caller ID Number

Define the Caller ID Number to be matched on incoming calls. Leave this field

Administrator guide

blank to match any or no DID info.

You can also use a pattern match (e.g. 2[345]X) to match a range of numbers.

The following patterns may be used:

X: Any Digit from 0-9

Z: Any Digit from 1-9

N: Any Digit from 2-9

[12345-9]: Any digit in the brackets (in this example, 1, 2, 3, 4, 5, 6, 7, 8, 9)

The "." Character will match any remaining digits. For example, "9011." will match any phone number that starts with "9011", excluding "9011" itself.

The "!" will match none remaining digits, and causes the matching process to complete as soon as it can be determined that no other matches are possible.

Example 1: **NXXXXXX** will match any 7 digits phone number.

Example 2: **1NXXNXXXXXX** will match a phone number starting with a 1, followed by a 3-digit area code, and then 6-digit number.

•Alert info

Alert info can be used for distinctive ring with SIP devices.

2) Incoming Trunks

This area allows you to select which trunks will be member trunks for this route. To make a trunk a member of this route, please move it to the "Selected" box.

3) Office hours

Select one defined business days office hours.

•Office Hours Mode

Optional office hours mode to be used for this route.

None: Disable office hours for this route.

Global office hours: It is configured through general preferences.

Specific office hours: Use the specific office hours settings.

•Office Hours Destination

Configure where to route the incoming calls during office hours.

•End Calls

Administrator guide

Route the incoming calls to end calls, the system will auto hang up the call.

- Extension

Route the incoming calls to a specific extension.

- Voicemail

Route the incoming calls to extension's voicemail.

- IVR

Route the incoming calls to a specific IVR.

- Ring Group

Route the incoming calls to a specific Ring Group.

- Conference Room

Route the incoming calls to a specific Conference Room.

- DISA

Route the incoming calls to a specific DISA.

- Queues

Route the incoming calls to a specific Queue.

- Outbound Routes

Route the incoming calls to a specific outbound route.

This function is mainly used for the connection of two branches.

For example: Company A locates headquarters in the USA with a branch B in China. A and B both have a INS100 phone system.

Now if staff of A would like to make a call to a telephone or mobile phone in China from the extension of A but via the FXS line of B, that can be done by this configuration.

- Non-office Hours Destination**

Configure where to route the incoming calls during non-office hours.

4) Holidays Settings

Define where the calls will be routed during Holidays.

- Holiday Mode**

Select which defined Holiday to use.

None: Disable holiday for this route.

Global holiday: It is configured through general preferences.

Specific holiday: Use the holiday settings.

- Holiday Destination**

Administrator guide

Configure where to route the incoming calls during holidays.

3.7.2 Blacklist

Blacklist is used to block an incoming/outgoing call. If the number of incoming/outgoing call is listed in the number blacklist, the caller will hear the following prompt: "The number you have dialed is not in service. Please check the number and try again". The system will then disconnect the call.

Figure 3-7-2 Blacklist

Blacklist	
+ Add	Page 1 of 1 (1 Records)
Number	Options
5608344	×

We can add a number to blacklist

Figure 3-7-2a Blacklist Add

Blacklist Add	
Number	5984624 ×
Save Back	

3.7.3 IVR

When there's an inbound call aims at Auto Attendant, INS100 will play an IVR recording and route the caller to the requested destination (for example, "Welcome to XX company, for sales press 1, for technical support press 2, for operator press 0", etc.). The system will transfer the call to corresponding extension according to DTMF digits input by the user.

Figure 3-7-3 IVR

IVR					
+ Add IVR	× Delete the selected IVR	Page 1 of 1(1 Records)			
☐	Number	Description	Timeout	Call Direct Extensions	Options
☐	620	Welcome	3	Yes	✎ ×

There is a default IVR here, we can edit it directly or add IVR by yourself.

Figure 3-7-3a IVR Add

•Number

INS100 treats IVR as an extension; you can dial this extension number to

the

Add IVR

General

IVR Number: 621

IVR Description: 621

Announcement: default

Enable Direct Dial: No

Timeout: 3

Invalid Retries: 3

Invalid Destination: End Call

Timeout Retries: 3

Timeout Destination: End Call

CID Name Prefix:

IVR Entries

Key	Destination	Delete
digits pressed	==choose one==	

Save **Back**

reach
IVR
from

Administrator guide

internal extensions.

•Description

Description of this IVR.

•Announcement

Greeting to be played on entry to the IVR.

•Enable Direct Dial

Allow the caller to dial other extensions number directly.

•Timeout

The number of times that the selected IVR prompt will be played.

•Invalid

Define the invalid action. The invalid action is triggered if the user enters a DTMF digit that is not defined for this IVR.

•Key

The Key pressed when the callers hear the IVR prompt.

•Destination

Where will INS100 route the call when the action occurs.

3.7.4 Queue

Call Queues give users (e.g. call centers) an efficient means to have their calls answered in the order they were received to deliver top tier customer service.

Figure 3-7-4 Queue

Queues							
Dial 'Queue number + '*' to log in or 'Queue number + '*#' to log out the queue. For example, if the queue number is '820', then the agent can dial '820*' to log in or '820*#' to log out							
+ Add Queue		X Delete the selected Queues			Page 1 of 1(1 Records)		
☐	Queue Number	Queue Name	Password	Strategy	Timeout Queue	Timeout Agents	Options
☐	820	Queue820		ringall	Unlimited	10	☒ ☐

Figure 3-7-4a Queue General

Administrator guide

Edit Queue

General
Options
Advanced Settings

General

Queue Number

820

Queue Name

Queue820

Queue Password

Max Time Caller in Queue

Unlimited

Agents Timeout

10seconds

CID Name Prefix

Queue820-

Ring Strategy

ringall

Restrict Dynamic Agents

No

Static Agents

Extensions

601 <FXS>
602 <FXS>
600 <SIP>
100 <SIP>
103 <SIP>

Add >
< Remove

Allow Members

101 <SIP>
102 <SIP>
105 <SIP>

Up ↑
Down ↓

Dynamic Agents

Extensions

601 <FXS>
602 <FXS>
101 <SIP>
102 <SIP>
600 <SIP>
105 <SIP>
100 <SIP>
103 <SIP>

Add >
< Remove

Allow Members

Up ↑
Down ↓

Save

Back

Figure 3-7-4b Queue Options

Administrator guide

Edit Queue

General Options Options Advanced Settings

General Options

Queue Weight	0	?
Music on Hold Class	test	?
Ringing Instead of Moh	No	?
Agent Announcement	None	?
Join Announcement	None	?
Retry	30seconds	?
Warp-Up-Time	30seconds	?
Ring in Use	Yes	?
Report Hold Time	No	?
Auto Pause	No	?

Capacity Options

Max Callers	15	?
Join Empty	No	?
Leave When Empty	Yes	?

Save Back

Figure 3-7-4c Queue Advanced Settings

Edit Queue

General Options Advanced Settings

Caller Position Announcements

Frequency	1minute,15seconds	?
Announce Position	Yes	?
Announce Hold Time	Yes	?

Periodic Announcements

Prompt	default	?
Frequency	30seconds	?

Events,Stats

Event When Called	No	?
Member Status Event	No	?
Service Level	1minute	?

Fail Over Destination

Destination	End Call	?
-------------	----------	---

Save Back

Administrator guide

•Queue Number

Use this number to dial into the queue, or transfer callers to this number to put them into the queue.

•Queue Name

A name for the Queue.

•Queue Password

You can require agents to enter a password before they can log in to this queue.

•Queue Max Caller Time

The maximum number of seconds a caller can wait in a queue before being pulled out (0 for unlimited).

•Queue Agent Timeout

The number of seconds an agent's phone can ring before we consider it a timeout.

•Queue Ring Strategy

This option sets the Ringing Strategy for this Queue. The options are

RingAll: Ring all available Agents simultaneously until one answers.

LeastRecent: Ring the Agent which was least recently called.

FewestCalls: Ring the Agent with the fewest completed calls.

Random: Ring a Random Agent.

RRmemory: Round Robin with Memory, Remembers where it left off in the last ring pass.

Linear: Rings agents in the order specified, for dynamic agents in the order they logged in.

•Static Agents

This selection shows all users. Selecting a user here makes them an agent of the current queue.

•Music on Hold

Select the "Music on Hold" Class for this Queue.

•Agent Announcement

Announcement played to the Agent prior to bridging in the caller.

•Join Announcement

Announcement played to callers once prior to joining the queue.

•Retry

The number of seconds we wait before trying all the phones again.

Administrator guide

•Wrap-up time

How many seconds after the completion of a call an Agent will have before the Queue can ring them with a new call. The default is 30.

•Join Empty

This option controls whether callers can join a call queue that has no agents.

There are two options,

Yes: Callers can join a call queue without agents or only unavailable agents

No: Callers cannot join a queue when there are no agents in the queue.

The default option is No.

•Leave When Empty

This option controls whether callers already on hold are forced out of a queue that has no agents. There are two options.

Yes: Callers are forced out of a queue when no agents are logged in.

No: Callers will remain in a queue with no agents.

.Caller Position Announcements

•Frequency

How often to announce queue position and estimated hold time.

Note: "0 seconds" means disabling the announcement.

•Announce Position

Announce position of caller in the queue

•Announce Hold Time

Enabling this option causes INS100 to announce the hold time to the caller periodically based on the frequency timer. Either yes or no; hold time will not be announced if <1 minute.

.Periodic Announcements

•Prompt

Select a prompt file to play periodically.

•Frequency

How often to announce a prompt to the caller.

Administrator guide

•Events

If a caller presses the key while waiting in the queue, this setting selects which action should process the key press.

•Fail over destination

Define the failover action. A failover occurs after the user reach the Queue max wait time.

3.7.5 Ring Groups

Ring groups can be configured to balance the call traffic for multiple users and give callers a higher level of availability for incoming calls. Multiple ring methods and voicemail are supported.

Note: Call forward(follow me) feature in extension page will not take effect when it's ringing as an agent.

Figure 3-7-5 Ring Groups

Ring Groups					
+ Add Ring Group		X Delete the selected Ring Groups		Page 1 of 1(1 Records)	
☐	RG Number	RG Name	Ring Strategy	Ring Time	Options
☐	920	RingGroup920	Ring all Selection	45	☒ ☐

Figure 3-7-5a Ring Groups Edit

Administrator guide

Edit Ring Group

General

RG Number
920

RG Name
RingGroup920

Ring Strategy
Ring all Selection

Ring Time
45

Music on Hold
calmriver

Ring Instead Of Moh
☐

CID Name Prefix
RingGroup920-

Alert Info

Ring Group Members

Extensions

600 <SIP>
105 <SIP>
100 <SIP>
103 <SIP>

Add >

< Remove

Members

101 <SIP>
102 <SIP>
601 <FXS>
602 <FXS>

Up ↑

Down ↓

Destination If No Answer

Destination
End Call

Save

Back

•Ring Group Number

This option defines the numbered extension that can be dialed to reach this group.

•Ring Group Name

This option defines a name for this group, e.g. "Sales". "Ring Group Name" is a label to help you identify this group in the group list.

•Ring Strategy

This option sets the Ringing Strategy for this Group. The options are as follows:

1. Ring All Simultaneously: Ring all available Extensions simultaneously.
2. Ring Sequentially: Ring each extension in the group one at a time.

•Ring time

Administrator guide

1. If the strategy is "Ring All Simultaneously", it means the number of seconds to ring this group before routing the call according to the "Destination if No Answer" settings.
2. If the strategy is "Ring Sequentially", it means the number of seconds to ring a single extension before moving onto the next one.

•Music on hold

If you select a music on hold class to play, instead of "ring", they will hear that instead ringing while they are waiting for someone to pick up

•Ring Group Members

An extension can be made a member of this ring group by moving it into the "Selected" box.

•Destination If No Answer

When all members on this group fail to answer the call, system will handle the call according to the selected destination.

•CID name prefix

You can optionally prefix the caller ID name when ringing extensions in this group, ie: if you prefix with "Sales:", a call from John doe would display as "Sales:John doe" on the extensions that ring.

3.7.6 Conferences

Conference Calls increase employee efficiency and productivity, and provide a more cost-effective way to hold meetings. Conference agents can dial * to access the settings options and the admin can kick the last user out and can lock the conference room.

Figure 3-7-6 Conferences

Conferences							
+ Add Conference		X Delete the selected Conferences			Page 1 of 1(1 Records)		
☐	Room Number	Room Name	User PIN	Admin PIN	Participants	Allow Menu	Options
☐	740	Conference740		740	Unlimited	OFF	[icon] [X]

Figure 3-7-6a Conferences Edit/Add

Edit Conference

General

Conference Number

740

Conference Name

Conference740

User PIN

Admin PIN

740

Room Options

Join Prompt

None

Max Participants

Unlimited

Allow Menu

☒

Music on Hold

☒

Music on Hold Class

calmriver

Quiet Mode

☐

User Count

☐

User join/leave

☒

Leader Wait

☐

Save

Back

•Conference Number

This is the number dialed to reach this Conference Room.

•User PIN

Set a PIN that must be entered in order to access this conference room (e.g. 1234).

•Admin PIN

Enter a PIN number for the admin user

3.7.7 Callback

INS100 allows caller A to dial an inbound route number, and after hearing the ring, A can hang up the call or wait for INS100 to cut off the call, then INS100

Administrator guide

will call A with this number. When A picks up the call, A can dial the number he wants to call; INS100 will call the number with its outbound route.

Notes:

1. If you'd like to use callback feature, please make sure it's enabled on the inbound route setting panel.
2. No callback rules needed to be set if the trunk supports call back with the caller ID directly.

Figure 3-7-7 Callback

Callback			
+ Add Callback	X Delete the selected Callback	Page 1 of 1(1 Records)	
☐	Callback Description	Callback Number	Options
☐	callback6001	6001	Edit Delete

Follow the steps below to use this function.

Step 1: Enable Callback.

Inbound Routes—Choose "Yes" on "Enable Callback" to enable this function.

Edit Route

Settings

Advanced Setting

Options

CID Name Prefix

sales

Signal RINGING

☐

Enable Callback

☒

Callback

Save

Back

Step 2: Create Callback number.

Figure 3-7-7 Callback Edit/Add

Administrator guide

Edit Callback

Callback Description	callback6001	
Callback Number	6001	
Delay Before Callback	45	

Save
 Back

3.8 PBX Advanced Settings

3.8.1 SIP settings

This is the SIP settings in INS100, including General settings, NAT, Codecs, Qos, Response code and Advanced settings.

This section describes how to configure SIP server and SIP parameters

3.8.1.1 General

Figure 3.8.1.1 SIP General Setting

Administrator guide

SIP Setting

General

Network

QOS

Codecs

T38

Allow Guest ? No

Allow Overlap ? Yes

Pedantic ? No

Alwaysauthreject ? Yes

DNS SRV Look Up ? No

Register Timers

Max Registration Time ? 3600

Default Registration Time ? 120

Qualify Freq ? 60

Outbound SIP Registrations

Register Timeout ? 20

RTP Timers

RTP Timeout ? 60

RTP Keepalive ? 0

Status Notifications

Notify Ringing ? Yes

Notify Hold ? Yes

Advance Settings

Session-timers ? Accept

Session-expires ? 1800

DTMF Mode ? rfc2833

Trust RPID ? No

Contact Deny ?

Allow Re-invite ? yes

Get From Field ? From

Enable Prack ? No

Send user=phone ? No

User Agent ?

Custom Settings

= +

Min Registration Time ? 60

Qualify Gap ? 100

Register Attempts ? 0

RTP Hold Timeout ? 300

Session-refresher ? Uas

Session-minse ? 90

Relax DTMF ? No

Send RPID ? No

Contact Permit ?

Trunk Codec Priority ? Yes

Get To Field ? INVITE

Save

Cancel

Table 3.8.1.1

Parameters	Description
Allowguest	Whether allow anonymous registration extension. Default: no. It's recommended to be disabled for

[Http://www.insidetelecom.ro](http://www.insidetelecom.ro)

67 / 99

Administrator guide

	security.
Allowoverlap	Disable overlap dialing support.(Default is yes)
Pedantic	Enable pedantic parameter. Default: no.
Always authreject	If enabled, when INS100 rejects "Register"or "Invite" packets, INS100 always respond the packets using "SIP404 NOT FOUND". It's recommended to be enabled for security.
DNS SRV Look Up	Please enable this option when your SIP trunk contains more than one IP address.
Maxexpiry	Maximum duration (in seconds) of a SIP registration.Default is 3600 seconds.
Minexpiry	Minimum duration (in seconds) of a SIP registration. Default is 60 seconds.
Defaultexpiry	Default Incoming/Outgoing Registration Time: Default duration (in seconds) of incoming/outgoing registration.
Qualifyfreq	How often to check for the host to be up in seconds and reported in milliseconds with sip show settings.
Qualifygap	Number of milliseconds between each group of peers being qualified.
Register Timeout	Number of seconds to wait for a response from a SIP registrar before timed out. Default is 20 seconds.
Register Attempts	The number of SIP REGISTER messages to send to a SIP Registrar before giving up. Default is 0 (no limit).
RTPtimeout	Terminate call if set # seconds of no RTP or RTCP activity on the audio channel when we're not on hold.
RTPholdtimeout	Both ends of the call time
RTPkeepalive	Time of packaging
Notifyringing	Control whether subscriptions already INUSE get send RINGING when another call is sent.
Notifyhold	Notify subscriptions on HOLD state.(default:no)
Session -timers	Enable session-timer mode, default: yes. If you found the call is cut off every 15 minutes every time, please disable this.
Session-refresher	Choose session-refresher, the default is Uas
Session-expires	The max refresh interval
Session-minse	The min refresh interval, which mustn't be shorter than 90s.
DTMF mode	Set default mode for sending DTMF. Default setting: rfc2833
Relaxdtmf	Relax dtmf handing
Trustpid	If Remote-Party-ID should be trusted
Sendrpidd	If Remote-Party-ID should be sent

Administrator guide

Contactdeny Contactpermit	Use contactpermit and contactdeny to restrict at what IPs your users may register their phones.
Canreinvite	Asterisk by default tries to redirect the RTP media stream to go directly from the caller to the callee. Some devices do not support this (especially if one of them is behind a NAT). The default setting is YES
Audioprefcodec	Once enabled, When the caller call out via SIP/SPS trunks, the audio codec of calling channel should be selected in preference.
usereqphone	This provider requires, User=phone on URI
User agent	To change the user agent parameter of asterisk, the default is "INS100", you can change it if needed.

3.8.1.2 Network

Note: Configuration of this section is required when using remote extensions generally.

Figure 3.8.1.2 SIP Network Configuration

The screenshot shows the 'SIP Setting' window with the 'Network' tab selected. The interface includes several configuration fields and dropdown menus:

- Enable STUN:** A dropdown menu set to 'No'.
- STUN Address:** An empty text input field.
- STUN Port:** An empty text input field.
- External IP Address:** An empty text input field.
- External Refresh Interval:** An empty text input field.
- External Host:** An empty text input field.
- Local Network:** An empty text input field.
- NAT Mode:** A dropdown menu set to 'yes'.
- Transport Section:**
 - RTP Port Start:** A text input field containing '8000'.
 - UDP Port:** A text input field containing '5060'.
 - Enable TCP:** A dropdown menu set to 'Yes'.
 - Enable TLS:** A dropdown menu set to 'No'.
 - TCP Port:** A text input field containing '5060'.
 - TLS Port:** A text input field containing '5061'.
 - TLS Verify Server:** A dropdown menu set to 'No'.
 - TLS Ignore Common Name:** A dropdown menu set to 'Yes'.
 - TLS Client Method:** A dropdown menu set to 'sslv2'.

At the bottom of the window, there are 'Save' and 'Cancel' buttons.

Table 3.8.1.2

Parameters	Description
------------	-------------

Administrator guide

Enable STUN	STUN (Simple Traversal of UDP through NATs) is a protocol for assisting devices behind a NAT firewall or router with their packet routing.
STUN Address	The STUN server allows clients to find out their public address, the type of NAT they are behind and the internet side port associated by the NAT with a particular local port. This information is used to set up UDP communication between the client and the VOIP provider and so establish a call.
External IP Address	The IP address that will be associated with outbound SIP messages if the system is in a NAT environment.
External Refresh Interval	Used to identify the local network using a network number/subnet mask pair when the system is behind a NAT or firewall. Some examples of this are as follows: "192.168.0.0/255.255.0.0": All RFC 1918 addresses are local networks; "10.0.0.0/255.0.0.0": Also RFC1918; "172.16.0.0/12": Another RFC1918 with CIDR notation; "169.254.0.0/255.255.0.0": Zero conf local network. Please refer to RFC1918 for more information.
External host	Alternatively you can specify an external host, and the system will perform DNS queries periodically. This setting is only required when your public IP address is not static. It is recommended that a static public IP address is used with this system. Please contact your ISP for more information.
NAT mode	Global NAT configuration for the system; the options for this setting are as follows: Yes = Use NAT. Ignore address information in the SIP/SDP headers and reply to the sender's IP address/port. No = Use NAT mode only according to RFC3581. Never = Never attempt NAT mode or RFC3581 support. Route = Use NAT but do not include report in headers.
RTP Port Start	Beginning of RTP port range
UDP port	Port used for SIP registrations, Default is 5060
TCP port	Port used for SIP registrations, Default is 5060
TLS port	Port used for SIP registrations, Default is 5061
TLS Verify Server	When using INS100 as a TLS client, whether or not to verify server's certificate. It is "No" by default.
TLS Ignore Common Name	Set this parameter as "No", then common name must be the same with IP or domain name.
TLS Verify Client	When using INS100 as a TLS server, whether or not to verify client's certificate. It is "No" by default.

Administrator guide

TLS Client Method	When using INS100 as TLS client, specify the protocol for outbound TLS connections. You can select it as tlsv1, sslv2 or sslv3.
-------------------	---

3.8.1.3 Qos

Figure 3.8.1.3 Qos

3.8.1.4 Codecs

We can choose the allowed codec in INS100, a codec is a compression or decompression algorithm that used in the transmission of voice packets over a network or the Internet. More information about codec, you can refer to this page: http://en.wikipedia.org/wiki/List_of_codecs

Figure 3.8.1.4 codecs

If you want to use codec G729, we recommend buying a license key and input it here.

3.8.1.5 T.38

Figure 3.8.1.5 T.38

Administrator guide

SIP Setting

General Network QOS Codecs T38

Max Rate 14400

Error Correction FEC

Save Cancel

3.8.2 IAX Setting

IAX is the Internal Asterisk Exchange protocol, you can connect to INS100 or register IAX trunk to another IAX server. It's supported by the asterisk-based IPPBX.

Figure 3.8.2 IAX setting

IAX Settings

delayreject No

Bind Port 4569

Band Width low

maxregexpire 1300

minregexpire 60

Codec Priority host

Codecs

Disable Codecs

Enable Codecs

Custom Audio Settings

Save Cancel

Table 3.8.2

Parameters	Description
------------	-------------

Administrator guide

Delayreject	Which will delay the sending of authentication reject for REGREQ or AUTHREP if there is a password
Bind port	Port used for IAX2 registrations. Default is 4569.
Bandwidth	Low/medium/high with this option you can control which codec to be used.
Max Registration Time	Maximum duration (in seconds) of an IAX2 registration. Default is 1300 seconds.
Min Registration Time	Minimum duration (in seconds) of an IAX2 registration. Default is 60 seconds.
Codec priority	Codec priority controls the codec negotiation of an inbound IAX call. This option is inherited to all user entities
Codec	Enable the codec you want for IAX communication.

3.8.3 PIN Sets

In this page users can manage all the passwords of outbound routes, PIN User, and DISA.

Figure 3.8.3 PIN sets

PIN Sets				
PIN Sets are used to manage lists of PINs that can be used to access restricted features such as Outbound Routes. The PIN can also be added to the CDR record's 'accountcode' field.				
+ Add PIN Set		X Delete the selected PIN Sets		Page 1 of 1(1 Records)
☐	PIN Set Name	Record in CDR	PIN List	Options
☐	test	ON	1234	

Figure 3.8.3a PIN Set Edit

Edit PIN Set

PIN Set Name

Record in CDR
☒

PIN List

1234

Save

Back

•PIN Set Name

Administrator guide

A character-based name for this PIN list, e.g. "testPIN"

•Record in CDR

If set yes, the PIN code will be displayed in call log.

•PIN list

PIN list is a numeric field. Letters and punctuation are not allowed in this field. Fill in one PIN and if you end with enter for each PIN, you could create multiple PINs.

3.8.4 PIN Users

Figure 3.8.4 PIN Users

PIN Users

Dial 'Access Code' *99 to enter the PIN User. 'Access Code' is configured through [Feature Codes](#)

General

Authentication Retries

3

Digit Timeout

5

Join Announcement

None

Fail Announcement

None

Save

Cancel

PIN Users

Add PIN User

Delete the Selected PIN Users

	Name	Password	PIN Set	Options
☐	--	--	--	--

Add PIN User

General

PIN User Name

Password

PIN Set

None

[PIN Sets](#)

Allow Outbound Routes

Disable Outbound Routes

to151IP_IAX
to110ip_sip
pstn4
pstn6

Add >

< Remove

Enable Outbound Routes

Up ↑

Down ↓

Save

Back

Administrator guide

PIN User

INS100 can store a number of PIN Users. PIN Users may be used to keep track of calls in relation to particular activities or clients. They can also be used to keep track of calls by particular users or sets of users.

- PINs entered are checked against those stored by the system. If an invalid PIN is entered, the PIN is requested again.
- The system administrator can configure certain numbers or types of numbers to require entry of a PIN before users can continue making a call to such a number.
- The system administrator can also configure to require users to enter a PIN before making any external call.

•Name

A character-based name for this PIN list, e.g. "INSPIN"

•PIN

The password for this PIN list

•PIN Sets

Click to add, delete or edit PIN list.

•Allow Outbound Routes

PIN User can use those outbound route to make call out.

3.8.5 DISA

DISA (Direct Inward System Access) allows someone calling in from outside the telephone switch (PBX) to obtain an "internal" system dial tone and make calls as if they were using one of the extensions attached to the telephone switch. To use DISA, a user calls a DISA number, which invokes the DISA application. The DISA application in turn requires the user to enter a PIN number, followed by the pound sign (#). If the PIN number is correct, the user will hear dial tone on which a call may be placed. Obviously, this type of access has serious security implications, and great care must be taken not to compromise your security.

Figure 3.8.5 DISA

Administrator guide

DISA				
+ Add DISA		X Delete the selected DISA		Page 1 of 1(1 Records)
☐	DISA Name	Response Timeout	Digit Timeout	Options
☐	disa001	10	5	 

Figure 3.8.5 DISA Edit

Edit DISA

General

DISA Name

disa001

Password

1234

PIN Set

None

Response Timeout

10

Digit Timeout

5

Caller ID

5526333

Allow Outbound Routes

Disable Outbound Routes

Add >

< Remove

Enable Outbound Routes

9_outside

Up ↑

Down ↓

Save

Back

•DISA Name

Give this DISA application a name to help you identify it.

•Password

The password for this DISA.

•PIN Set

Optional: select a PIN set to use.If using this option,leave the password field blank

•Response Timeout

The maximum amount of time the system will wait before hanging up the call if the user has dialed an incomplete or invalid number. The default is 10 seconds.

•Digit Timeout

The maximum amount of time permitted between each digit when the user is

Administrator guide

dialing an extension number. The default is 5 seconds.

•Allow Outbound Routes

Used to set the outbound routes that can be accessed from this DISA.

3.8.6 Paging and Intercom

Paging is used to make an announcement over the speakerphone to a phone or group of phones. Targeted phones will not ring, but instead answer immediately into speakerphone mode. Please note that this section is for configuring paging groups. If you would like to configure Intercom settings, please open the PBX Basic -> Feature Codes screen.

Note: A paging group can have a maximum of 20 members.

Figure 3.8.6 Paging and Intercom

Paging and Intercom				
This module is for specific phones that are capable of Paging or Intercom. This section is for configuring group paging, intercom is configured through Feature Codes. This module should work with Aastra, Grandstream, Linksys/Sipura, Mitel, Polycom, SNOM , and possibly other SIP phones (not ATAs). Any phone that is always set to auto-answer should also work (such as the console extension if configured). For example *80xxx: Intercom extension xxx. *54: Enable all extensions to intercom you.*55: Disable all extensions from intercom you.				
+ Add Paging Group		X Delete the selected Paging Group		Page 1 of 1(1 Records)
☐	Number	Description	Extension List	Options
☐	720	720	102 -104	 

Figure 3.8.6a Paging and Intercom Edit/Add

Edit Paging Group

Number

720

?

Description

720

?

Force if Busy

☐

?

Duplex

☒

?

Extensions

101 <SIP>
600 <SIP>
105 <SIP>
100 <SIP>
103 <SIP>

Add >
< Remove

Members

102 <SIP>
104 <SIP>

Up ↑
Down ↓

Save

Back

Administrator guide

•Paging Group Number

Define the numbered extension that may be dialed to reach this group.

•Duplex

Paging is typically one way for announcements only. Checking this will make paging duplex, allowing all users in the group to talk and be heard by all.

•Force if busy

If selected, will not check if the device is in use before paging it, This means conversations can be interrupted by a page (depending on how the device handles it). This is useful for "emergency" paging groups.

3.9 Voice Management

3.9.1 System Recordings

We can record or upload the prompts in this page; you can also play it directly to confirm if it's a valid one, you can also download it and save it as a backup.

Figure 3-9-1 Voice prompt Recording

Voice Prompt Management			
☐ Record New Prompt		Upload	
		Page 1 of 1(1 Records)	
Index	File Name	Description	Options
1	default		Play Upload Download Delete

1. Record New Prompt

Figure 3-9-1a Record New Prompt

Administrator guide

The administrator can record custom prompts by doing the following:

- 1) Click "Record New Custom Prompt".
- 2) Input the desired file name on the popup window and choose an extension to call for recording (such as vp500).
- 3) Click "Record". The selected extension will ring and you can pick up the phone to start recording.

2. Upload Prompt

Click "Upload"

Figure 3-9-1b Upload Voice Prompt

The administrator can also upload prompts by doing the following:

- 1) Click "Upload Prompt".
- 2) Click "Browse" to choose the desired prompt.

Administrator guide

3) Click "Save" to upload the selected prompt.

Note: The file size must not be larger than 1.8 MB, and the file must be WAV format.

3.9.2 Music on Hold

Figure 3-9-2 Music on Hold

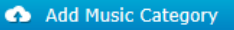
Music on Hold		
		
Name	Random Play	Options
calmriver	ON	 
test	OFF	 

Figure 3-9-2a Music on Hold Edit

Edit Music on Hold

Category Name

Random Play

The administrator can upload on hold music as follows:

- 1) Click "Browse" to choose the desired audio file.
- 2) Click "Upload" to upload the selected file.

Note: The file size must not be larger than 1.8 MB, and the file must be WAV format:

GSM 6.10 8 kHz, Mono, 1 Kb/s;

Alaw/Ulaw 8 kHz, Mono, 1 Kb/s;

PCM 8 kHz, Mono, 16 Kb/s.

3.9.3 Voicemail Settings

In this page, we can configure some settings for voicemail feature, including general voicemail settings and SMTP settings, which is used for "voicemail to email".

Figure 3-9-3 Voicemail Setting

Administrator guide

Vicemail Settings

Max # of Message Per Folder

50

Max # of Login Attempts

3

Max Length VM in Sec

5minutes

Min Length VM in Sec

3seconds

Max Length Greetings in Sec

1minute

Review Message

No

Email Settings

From

INS300 Voicemail

Email Subject

New message from \${VM_CALLERID} for \${VI}

Email Body

Dear \${VM_NAME}:\n\n\tjust wanted to let you know you were just left a \${VM_DUR} long message (number \${VM_MSGNUM})\nin mailbox \${VM_MAILBOX} from \${VM_CALLERID}, on \${VM_DATE}.\n\n

Advance Settings

Play CID

No

Play Envelope

No

Say Duration

No

Move Message to Old

Yes

Skip Message Ms

3000

Direct Dial to Voicemail Message Type

Unavailable

Do Not Play "please leave message after tone" to Caller

☐

Save

Cancel

•Max # of Messages per Folder

Set the maximum number of messages that can be stored in a single voicemail box.

•Max # of Login Attempts

Max number of failed login attempts

•Max Length VM in Sec

Set the maximum length of a single voicemail message.

•Min Length VM in Sec

Set the minimum length of a single voicemail message. Messages below this threshold will be automatically deleted.

•Max Length Greetings in Sec

Max length of greeting in seconds.

•Review Message

Administrator guide

Allow sender to review/record their message before save it(No by default)

•Play CID

Say the called ID information before the message

•Play envelope

Turn on/off envelope playback before message playback.

•Say Duration

Turn on/off the duration information before the message.

•Move message to old

Move heard messages to the "old" folder automatically

•Direct dial to voicemail message type

Default message type to use when dialing direct to an extensions voicemail

3.9.4 System Prompts Settings

Upgrading of the system prompts package is possible through the Administrator Web interface using a TFTP Server or an Upload
Enter your TFTP Server IP address and file location, then click start to update the system prompts package

System Prompts Settings

Upload

TFTP Server

Local Prompts

English

File Name

Browse...

Start

System Prompts Settings

Upload

TFTP Server

Local Prompts

English

TFTP Server

File Name

Start

Administrator guide

3.10 System Preferences

3.10.1 Firewall Rules

Figure 3.10.1 Firewall Rules

Firewall Rules

General

Status

Active

Enable Firewall

☒

Enable Log

☒ [Firewall Logs](#)

Drop All

☐

Save

Cancel

Rules

Add Rule

Delete the selected Rules

☐	Name	Protocol	IP	Port	MAC	Target	Sort	Options
☐	HTTPS	TCP		443		ACCEPT		
☐	test	TCP		123:124		DROP		
☐	Ping	ICMP				ACCEPT		
☐	SIP	UDP		5004:5082		ACCEPT		
☐	RTP	UDP		8000:20000		ACCEPT		
☐	DNS	UDP		53		ACCEPT		
☐	TFTP	UDP		69		ACCEPT		
☐	SMTP	TCP		25		ACCEPT		
☐	POP3	TCP		110		ACCEPT		
☐	test1	TCP		80		ACCEPT		

Defence

Add Rule

Delete the selected Rules

☐	Name	Protocol	IP	Port	Rate	Hit	Options
☐	SIP5060H20S	UDP		5060		120/min	
☐	SIP5060H120S	UDP		5060		20/sec	
☐	SSH8022H5M	TCP		8022		5/min	

Figure 3.10.1a Firewall Rules Edit/Add

Administrator guide

The screenshot shows the 'Edit Rule' window with the 'General' tab selected. The form contains the following fields:

- Name:** HTTPS
- Protocol:** TCP
- IP:** Two empty input fields separated by a slash.
- Port:** 443 followed by an empty input field.
- MAC:** An empty input field.
- Target:** ACCEPT

Each field has a blue information icon to its right. At the bottom of the form are two buttons: 'Save' (with a floppy disk icon) and 'Back' (with a curved arrow icon).

Figure 3.10.1b Firewall Defence Edit/Add

The screenshot shows the 'Edit Rule' window with the 'Defence' tab selected. The form contains the following fields:

- Name:** SIP5060H20S
- Protocol:** UDP
- IP:** Two empty input fields separated by a slash.
- Port:** 5060 followed by an empty input field.
- Limit Rate:** Two empty input fields followed by a dropdown menu set to 'sec'.
- Limit Hit:** 120 followed by a slash and an empty input field, followed by a dropdown menu set to 'min'.

Each field has a blue information icon to its right. At the bottom of the form are two buttons: 'Save' (with a floppy disk icon) and 'Back' (with a curved arrow icon).

3.10.2 Firmware update

Upgrading of the firmware is possible through the Administrator Web interface using a TFTP Server or an Upload. Enter your TFTP Server IP address and firmware file location, then click start to update the firmware.

Notes:

1. If enabled "Reset configuration to Factory Defaults", System will restore to factory default settings.
2. When update the firmware, please don't turn off the power. Or the system will get damaged.

Figure 3.10.2

Administrator guide

Table 3.10.2

Parameters	Description
Firmware update	Send package file from your computer to the device
File name	firmware
Factory reset	Reset Configuration to Factory Defaults
Browse	Choose File

3.10.3 Data Backup

We can backup up the configurations before reset INS100 to factory defaults.

Figure 3.10.3

Click 'Backup' to download configuration file to your computer.

Notes:

1. Only configurations, custom prompts will be backed up.
2. When you have updated the firmware version, it's not recommended to restore using old package.

3.10.4 Data Restore

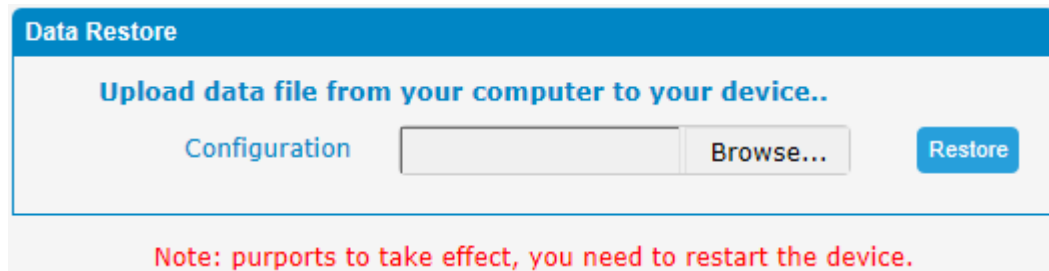
You can restore this configuration in case the unit loses it for any reason or to clone a unit with the configuration of another unit. The configuration backup configurations are in txt format. Please note that you can use a backup file from an older firmware version and use it in a unit with a more recent firmware version. However, a backup file from a newer firmware version than the one actually in the unit cannot be used for a restore operation on the unit.

Administrator guide

Notes:

1. The upload process will last about 30s.
2. When you have updated the firmware version, it's not recommended to restore using old package.

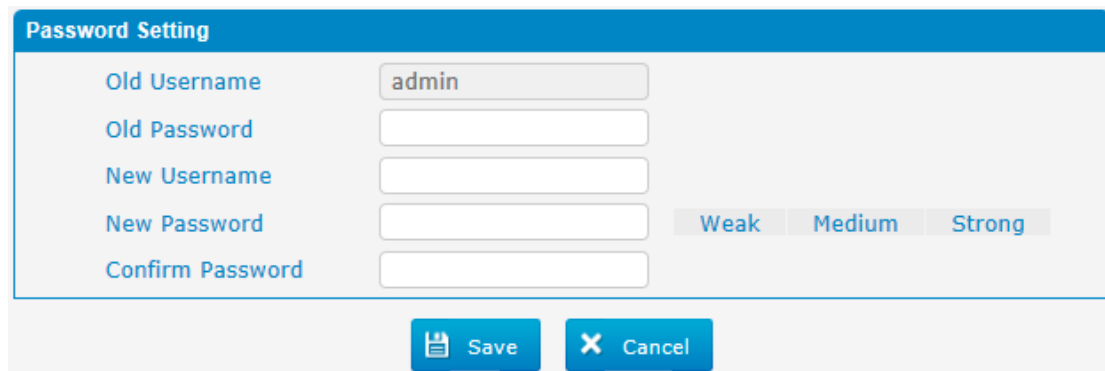
Figure 3.10.4



3.10.5 Password

When using web Configuration, please enter default user name and password. User can modify the login name and password.

Figure 3.10.5 Password Setting



3.10.6 Time & Date

The Network Time Protocol (NTP) is a protocol and software implementation for synchronizing the clocks of computer systems over packet-switched, variable-latency data networks.

User need to fill the NTP Server Address and select Time Zone.

Figure 3.10.6 Time & Date parameter

Time & Date

Current time: January 22, 2015 00:52:59

☒ Automatically Synchronize With An Internet Time Server

Time Zone

-8 United States - Pacific Time

Primary Server

pool.ntp.org

Secondary Server

pool.ntp.org

Synchronism (16~86400s)

64

Daylight Saving Time

Disabled

☐ Manual Time

Date Time

Note: purports to take effect, you need to restart the device.

Save

Cancel

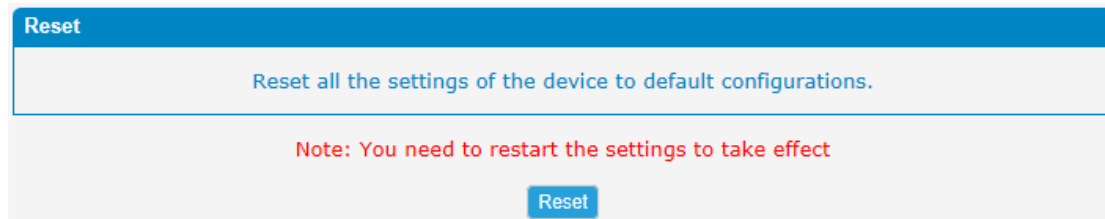
Table 3.10.6 Time & Date parameter

Parameters	Description
Time zone	You can choose your time zone here.
Primary server	Primary NTP Server Address
Secondary server	Secondary NTP Server Address
Synchronism	Set the time interval for checking local appliance's time with the server
Daylight Saving Time	Set the mode to Automatic or disabled

3.10.7 Reset

Be careful do this operation, after restore factory setting, all the parameters will be changed to the factory default.

Figure 3.10.7 factory reset

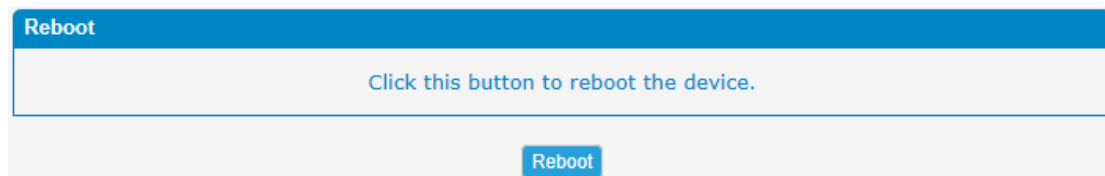


Reset to Factory Defaults

Click this button to reset Factory Default settings

3.10.8 Reboot

Figure 3.10.8 Reboot



Warning: Rebooting the system will terminate all active calls!

3.11 Phone Provisioning

The Phone Provisioning provides users a method to Centralized config IP Phone.

3.11.1 General Settings

Figure 3.11.1 General Settings

General Settings

Time Settings

Time Server

pool.ntp.org

Time Zone for Aastra Phones

US-Eastern EST

Time Zone for Akuvox Phones

-9 United States-Alaska Time

Time Zone for Cisco SPA Phones

GMT-9:00 (US Alaska Time)

Time Zone for Cisco 7940/7960 Phones

GMT-9:00 (US Alaska Time)

Time Zone for Fanvil Phones

GMT-9:00 United States-Alaska Time

Time Zone for Grandstream Phones

GMT-9:00 (US Alaska Time)

Time Zone for Panasonic Phones

GMT-9:00 (US Alaska Time)

Time Zone for Polycom Phones

GMT-9:00 (US Alaska Time)

Time Zone for Snom Phones

-9 United States - Alaska Time

Time Zone for Yealink Phones

GMT-9:00 United States-Alaska Time

Daylight Saving Time

Enable

Disable

Start Time

Month/Day/Hour

Month/Day/Hour

End Time

Month/Day/Hour

Month/Day/Hour

Offset

0

minutes

Save

Cancel

3.11.2 Phones

Figure 3.11.2 Configured Phones

Configured Phones							
+ Add Phone		X Delete the selected Phones					
	MAC	IP	Phone Model	Extension	Active	Name	Options
--	--	--	--	--	--	--	--

Not Configured Phones			
Refresh		页码 1 / 1(8条记录)	
MAC	IP	Phone Model	Options
000B826C7D08	192.168.6.162	Grandstream GXP1450 1.0.8.6	
000B826C7D0E	192.168.6.219	Grandstream GXP1450 1.0.6.11	
001565736B87	192.168.6.76	Yealink T21P 34.72.0.20	
001565828AFA	192.168.6.164	Yealink T19P 31.72.0.75	
00A859D2919E	192.168.6.72	Fanvil	
0C110500388C	192.168.6.167	Akuvox SP-R53 53.0.3.41	
0C1105026B54	192.168.6.160	Akuvox SP-R59 59.0.3.41	
0C110502BFD8	192.168.6.71	Akuvox SP-R50 50.0.3.41	

Figure 3.11.2a Edit Phone

Administrator guide

Edit Phone

General Keys Settings

General

Active ☒ ⓘ

Name ⓘ

MAC ⓘ

Manufacturer ⓘ

Phone Type ⓘ

Network Parameters ⓘ

☒ Use Phone's Setting

☐ Dynamic(DHCP)

☐ Static IP Address

IP Address

Subnet Mask

Gateway

DNS

Auto Answer ☐ ⓘ

Call Waiting ☒ ⓘ

Key As Send ⓘ

Account

	Line	Extension	Label	Display Name	Active
☐	Line1	100			☐
☐	Line2	100			☐

3.12 Reports

3.12.1 CDR Report

The call log captures all call details, including call time, caller number, callee number, call type, call duration, etc. An administrator can search and filter call data by call date, caller/callee, trunk, duration, billing duration, status, or communication type.

Figure 3.12.1 CDR Report

Administrator guide

CDR Report

Delete the records

Hide Filter

Download the records

Page 1 of 5 (96 Records)

Start Date30 Jul 2015

Source

Call DirectionAll

End Date31 Jul 2015

Destination

StatusAll

Minimum Duration

Maximum Duration

Search

Date	Source	Destination	Src. Trunk	Account Code	Dst. Trunk	Call Direction	Status	Duration
2015-07-30 16:26:27	100	601				Internal	ANSWERED	3s
2015-07-30 16:26:11	100	601				Internal	ANSWERED	2s
2015-07-30 16:26:01	100	601				Internal	ANSWERED	4s
2015-07-30 16:25:53	100	601				Internal	ANSWERED	2s
2015-07-30 16:24:33	100	601				Internal	ANSWERED	3s
2015-07-30 16:24:26	100	601				Internal	ANSWERED	1s
2015-07-30 16:24:18	100	601				Internal	ANSWERED	3s
2015-07-30 16:23:57	100	601				Internal	ANSWERED	3s
2015-07-30 16:05:21	100	#100				Internal	ANSWERED	8s
2015-07-30 15:53:17	100	102				Internal	ANSWERED	7s
2015-07-30 15:53:10	100	102				Internal	ANSWERED	1s

Table 3.12.1 CDR Report

Parameters	Description
Date	start and end time of calls
Source	Call number
Destination	Called number
Src channel	Source channel
Dst channel	Destination channel
Call direction	IP to GSM: outbound calls from softswitch/IPPBX to mobile network GSM to IP: incoming calls from mobile network to IPPBX/Softswitch
Status	Answered: the call was established successful Canceled: the call was canceled by calling party No Carrier: the call was rejected by mobile network Not Answered: no body to answer the call Busy: user busy
Duration	Call duration of the call.

3.12.2 System Logs

Syslog is a standard for network device data logging. It allows separation of the software that generates messages from the system that stores them and the software that reports and analyzes them. It also provides devices which would otherwise be unable to communicate a means to notify administrators

Administrator guide

of problems or performance. There are 6 levels of syslog, including DEBUG, NOTICE, WARNING and ERROR, EMERG,ALERT,CRIT,INFO.

Figure 3.12.2 system logs

Syslog

Export System Log ⓘ

☒ Local
 ☐ Server

Log File Size ⓘ

1M ▼

Log File Count ⓘ

4 ▼

Export

Syslog Level ⓘ

ERROR ▼

Note: Purports to take effect, you need to restart the device.

Save

Cancel

3.12.3 Firewall Logs

Figure 3.12.3 Firewall logs

Administrator guide

Firewall Logs					
Delete the Records	Show Filter	Download the Records	Firewall Rules	Page 1 of 16 (304 Records)	
Date	Protocol	IP	MAC Address	Dst Port	Options
2016-03-02 14:34:13	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:34:12	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:34:12	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:34:11	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:34:10	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:34:09	udp	192.168.6.45	FC:AA:14:BC:D0:A5	137	X
2016-03-02 14:33:51	udp	192.168.6.45	FC:AA:14:BC:D0:A5	5060	X
2016-03-02 14:33:51	udp	192.168.6.45	FC:AA:14:BC:D0:A5	5060	X
2016-03-02 14:33:43	udp	192.168.6.45	FC:AA:14:BC:D0:A5	5060	X
2016-03-02 14:33:43	udp	192.168.6.45	FC:AA:14:BC:D0:A5	5060	X

3.12.4 Trace Logs

Figure 3.12.4 Trace logs

DAHDI Monitor Tool

Status

Monitor Stopped

Trunk

pstn5

Start

Stop

Reset

Asterisk Logs

Enable Log

☒

Log File Size

2M

Log File Count

8

Export

Log Level

☒Error

☒Warning

☒Notice

☒Verbose

10

☒Debug

6

☐Enable SIP Debug

IP:

☐Enable RTP Debug

IP:

Save

Cancel

3.13 System tools

3.13.1 SMTP Parameter

To send the SMS or system alert to email address, please configure the Email settings first, and make sure SMTP test is successful.

Figure 3.13.1

SMTP Parameters

Username ⓘ maxincom@yeah.net Ex. example@domain.com

Password ⓘ

SMTP Server smtp.yeah.net ☐ SSL Port 25

☐ If the server supports, use STARTTLS encrypted transmission (T)

Test E-mail ⓘ [E-mail Me](#)

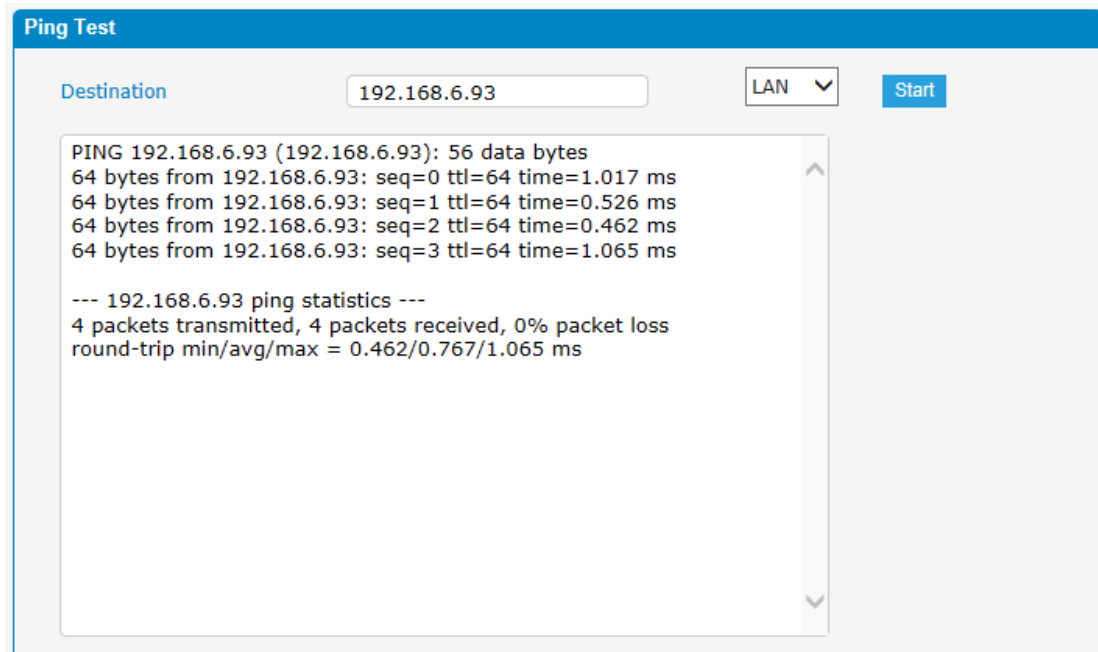
[Save](#) [Cancel](#)

Table 3.13.1

Parameters	Description
Username	The E-mail Address that INS100 will use to send voice mail.
Password	The password for the email address used above
SMTP Server	The IP address or hostname of an SMTP server that the INS100 will connect to in order to send voice mail messages via email, i.e.mail.yourcompany.com.
SSL	If the server of sending email needs to authenticate the sender, you need to enable this. Note: Must be selected for Gmail or exchange server.
Port	SMTP Port: the default value is 25.
Use SSL/TLS to send secure message to server	If the server of sending email needs to authenticate the sender, you need to enable this. Note: Must be selected for Gmail or exchange server.

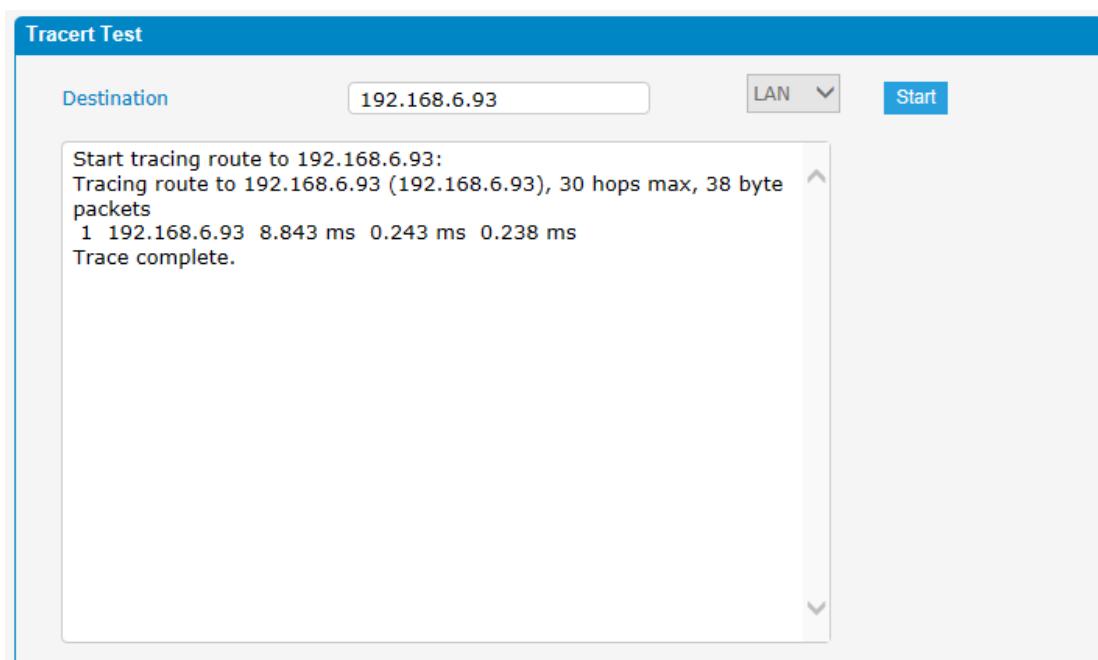
3.13.2 Ping

Figure 3.13.2 Ping



3.13.3 Tracert

Figure 3.13.3 Tracert



3.13.4 Packet Capture

Figure 3.13.4 Packet Capture

The screenshot shows the 'Packet Capture' interface. At the top, there's a blue header with the text 'Packet Capture'. Below this, the status is 'Packet Capture Stopped' in red. The interface includes several input fields: 'Interface' (a dropdown menu showing 'LAN'), 'Source' (a text box), 'Destination' (a text box), 'Port' (a text box), and 'Protocol' (a row of checkboxes for TCP, UDP, RTP, RTCP, ICMP, and ARP). At the bottom, there are three buttons: 'Start' (blue), 'Stop' (grey), and 'Reset' (blue).

3.13.5 Text to Wav

Figure 3.13.5 Text to wav

The screenshot shows the 'Text to Wav' interface. It has a blue header with the text 'Text to Wav'. Below the header, there's a 'Format' section with two radio buttons: 'wav' (selected) and 'gsm'. Below that is a 'Text to Convert' section with a large text input box. At the bottom, there's a red note that says 'Note: Text can not be longer than 80 characters'. Below the note is a blue button with a floppy disk icon and the text 'Save'.

3.13.6 Certificates

INS100 can support TLS trunk. Before you register TLS trunk to INS100, you should upload certificates first.

Figure 3.13.6 Certificates

Certificate					
 Upload					
Index	Filename	Type	Issued To	Expiration	Operation
--	--	--	--	--	--

Note: After a successful upload server certificate, please reboot the device to take effect.

Trusted Certificate

This certificate is a CA certificate. When selecting "TLS Verify Client" as "Yes", you should upload a CA. The relevant IPPBX should also have this certificate.

Gateway Certificate

This certificate is server certificate. No matter selecting "TLS Verify Client" as "Yes" or "NO", you should upload this certificate to INS100. If IPPBX enables "TLS Verify server", you should also upload this certificate on IPPBX.