

SBC Basic Configuration Practice Guide

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- This document is used to introduce the basic functions of SBC, application scenarios, basic configuration, basic maintenance.

Course Objective

Through this course
you will be able to



Understanding SBC models
and interfaces



Understand the principle
and scenarios of SBC



Understanding the basic
configuration of SBC

Contents

- 1 Web Access to SBC
- 2 SBC Basic Configuration
- 3 SBC Basic Maintenance

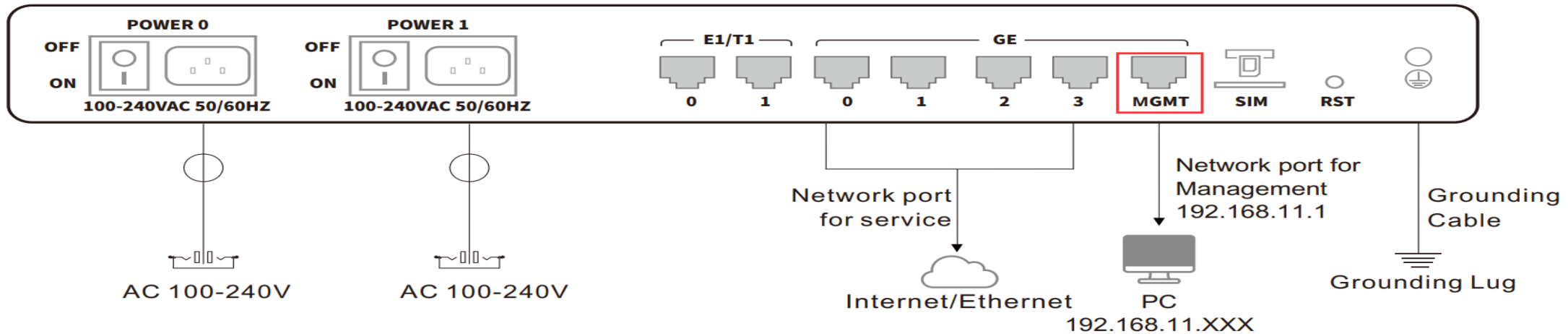
Web Access to SBC

01

Web Access to SBC

Here we use the SBC1000 connection as a case study

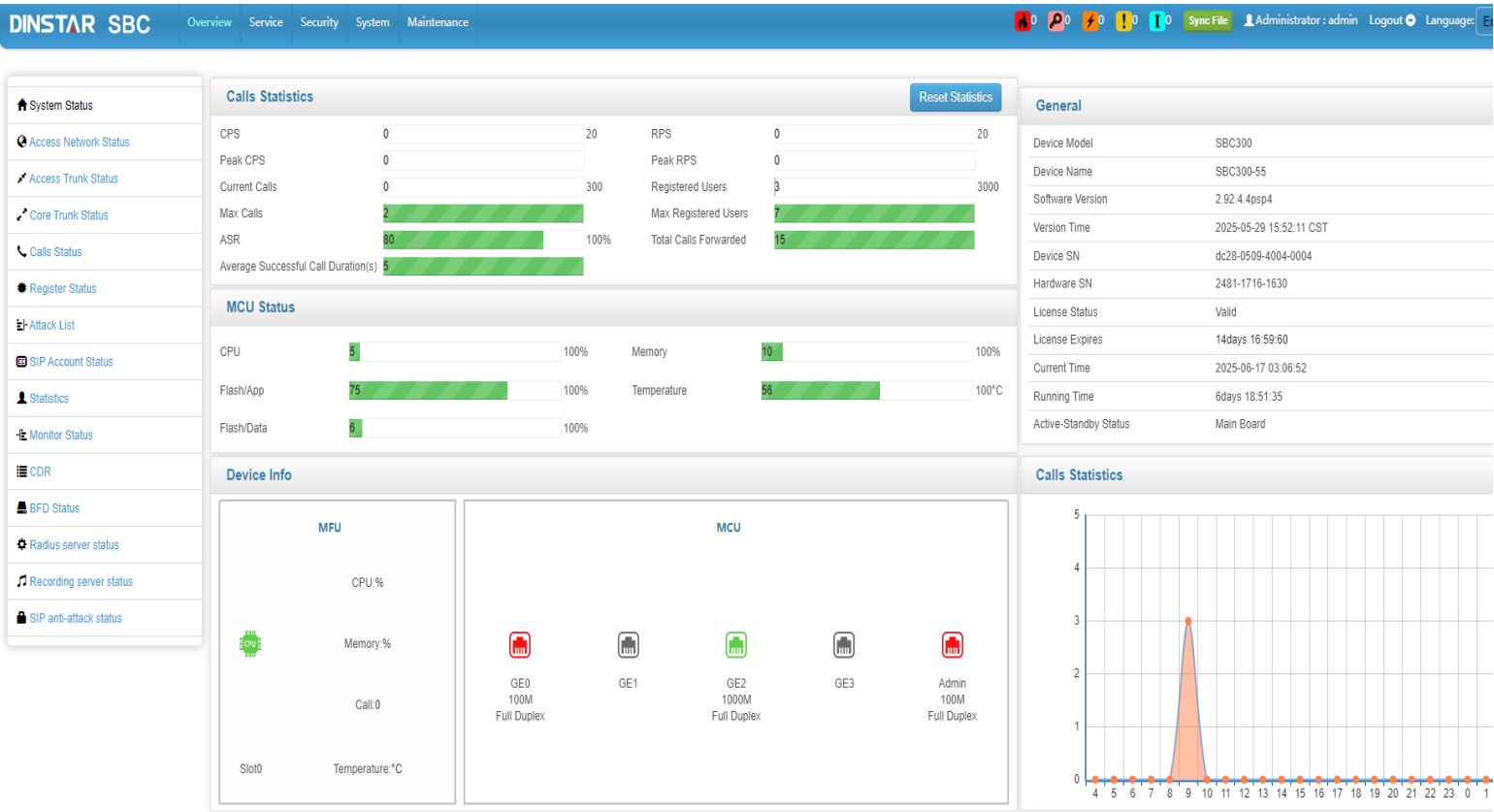
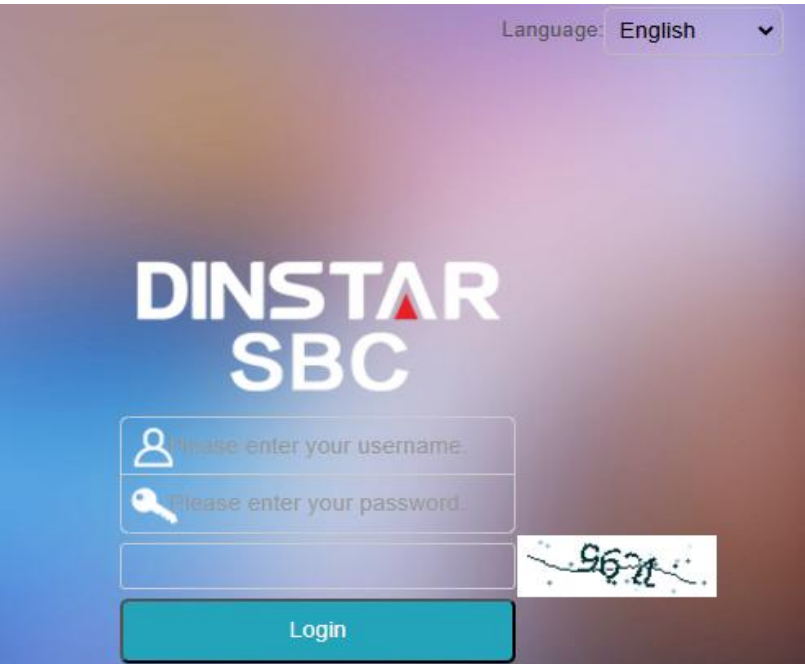
1. Connect the computer's Ethernet cable to the network management port of SBC
2. Set the PC's IP to 192.168.11.x, e.g. 192.168.11.3



Web Access to SBC



- 3. Web access to the management port IP of the SBC using HTTPS.
- 4. Default username: admin password: admin@123#



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- 1 Web Access to SBC
- 2 SBC Basic Configuration
- 3 SBC Basic Maintenance

SBC Basic Configuration

02

Setting Up Network Information

1. Click on System – Network
2. Select the network port to be used, configure IP address and other information

Note:

If the SBC Ethernet port does not enough, you can use the VLAN and additional switch to extend it

The screenshot displays the DINSTAR SBC web interface. The top navigation bar includes 'Overview', 'Service', 'Security', 'System', and 'Maintenance'. The left sidebar lists various system management options, with 'Network' selected and highlighted by a red box and a circled '1'. The main content area, titled 'Network', contains a table of network ports. The first row, representing port GE0, is highlighted with a red box. Within this row, the 'IPv6 Address' column is circled with a red '2'.

Name	Service or Management Port	MTU	Mac	IPv4 Address	Subnet Mask	IPv4 Gateway	IPv4 DNS	IPv6 Address	IPv6 Gateway	IPv6 DNS	Priority
GE0	Service Port	1500	F8:A0:3D:40:75:90	172.28.3.11	255.255.0.0	172.28.1.1	172.28.1.1				20
GE1	Service Port	1500	F8:A0:3D:40:75:91	192.168.13.1	255.255.255.0		/				30
GE2	Service Port	1500	F8:A0:3D:40:75:92	192.168.5.10	255.255.255.0		/				40
GE3	Service Port	1500	F8:A0:3D:40:75:93	192.168.15.1	255.255.255.0		/				50
Admin	Management Port	1500	F8:A0:3D:40:75:94	172.28.3.10	255.255.0.0	172.28.1.1	/				100
GE3.102	Service Port	1500		172.28.3.3	255.255.0.0		/				512

Setting Up Access Control

1. By default, enable web access permissions for the management port
2. Click on Security - Access Control, set web access permissions for other network ports

The screenshot displays the DINSTAR SBC web interface. The top navigation bar includes tabs for Overview, Service, Security, System, and Maintenance. The left sidebar shows a menu with System Security, Access Control (highlighted with a red box), Security Policy, and Web authentication configuration. The main content area is titled 'Access Control' and features a 'Web Server' tab (also highlighted with a red box). Below this tab, the 'HTTPS Port' is set to 443. A list of checkboxes allows enabling access for various network interfaces: GE0, GE1, GE2, GE3.102, and GE3. At the bottom, there is a 'Web ACL IP whitelist' section with input fields and a 'Delete' button. A red warning message at the bottom right states: 'Please configure carefully to prevent configuration errors from making it inaccessible'.

DINSTAR SBC Overview Service Security System Maintenance

System Security
Access Control
Security Policy
Web authentication configuration

Access Control

Web Server

HTTPS Port 443

Allowed to access GE0 ☐

Allowed to access GE1 ☐

Allowed to access GE2 ☐

Allowed to access GE3.102 ☐

Allowed to access GE3 ☐

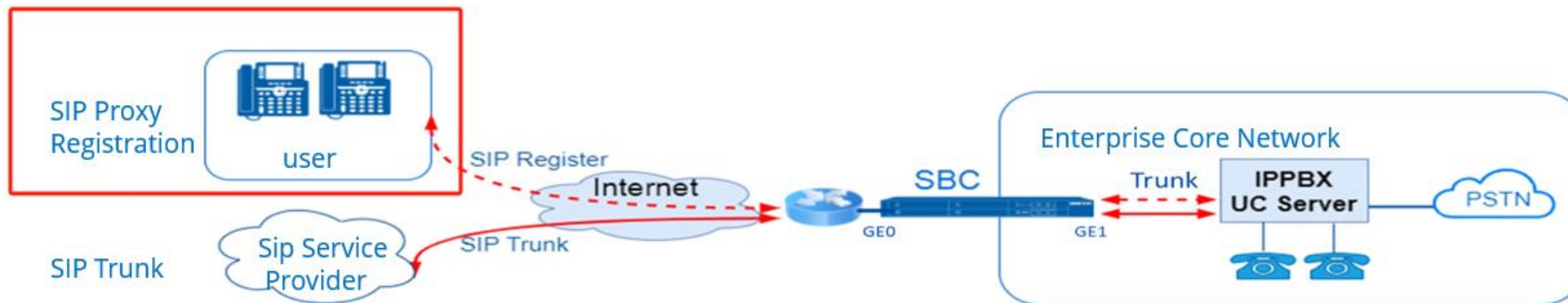
Web ACL IP whitelist ~ Please configure carefully to prevent configuration errors from making it inaccessible

SIP Proxy Register Configuration

- Usage Scenarios

The IPPBX is on the corporate intranet and is required to accept registrations from other extensions coming from the public network. For security reasons, extensions are not allowed to connect directly to the IPPBX and the SBC acts as a proxy server. The logical structure is as follows:

Extension - (access network) SBC (Core SIP Trunk) - IPPBX



SIP Proxy Register Configuration

TransPort Endpoint

Access Network

Core SIP Trunk

Call Routing

1. Click on Service - Transport Endpoint
2. Custom name
3. Select Dedicated To Access Network
4. Select interface, transport and port
5. Using the same method, uncheck the Dedicated To Access Network and create a Transport Endpoint for core SIP Trunk

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

TransPort Endpoint 1

2 Name Public

3 Dedicated To Access Network

4 Interface GE0 Transport UDP Port 5060

Save Cancel

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! ! 28 579 0 0 0 Sync File Admin

ID	Name	Description	Interface	Port	IPv4/IPv6	Transport	Dedicated To Access Network
1	Public		GE0	5060	ip4	udp	true
2	Local		GE1	5060	ip4	udp	false

SIP Proxy Register Configuration



1. Click on **Service - Access Network**
2. Custom name
3. Select media interface and Transport Endpoint

DINSTAR SBC

Overview Service Security System Maintenance

Access Network

TransPort Endpoint

Access SIP Trunk

Core SIP Trunk

Routing Profile

Media Detection

CDR

Codec Profile

TLS Configuration

Active And Standby

Recording configuration

Advanced

ID: 4

Name: PublicNetwork

Description:

Valid: ☒

Enable radius: ☐

media interface: GE0

Transport Endpoint: public

IP Range: ~

Subnet Mask:

+ IP Range:

Codec: default

DTMF Priority: local

DTMF: RFC2833

RFC2833: 101

Advanced

Submit Cancel

SIP Proxy Register Configuration



1. Click on Service – Core SIP Trunk
2. Custom name
3. Select media interface and Transport Endpoint
4. Configure the IP and port of PBX

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

Core SIP Trunk

ID * 7

Name * pbx

Description

Valid ☒

Enable radius ☐

media interface GE1

Transport Endpoint Local

Codec default

DTMF Priority local

DTMF RFC2833

RFC2833 * 101

Trunk Mode Static

Remote IP :Port * 172.28.7.49:5060

Advanced

Submit Cancel

SIP Proxy Register Configuration



1. Click on **Service – Call Routing**
2. Select routing source and destination
3. Create another outbound route using the same method

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! !!

TransPort Endpoint
Access Network
Access SIP Trunk
Core SIP Trunk
Routing Profile
SIP Trunk Group
Call Routing
Media Detection
CDR
Codec Profile
TLS Configuration
Recording configuration
Advanced

Call Routing

Time Profile: [Dropdown]
Caller SIP URL: [Text]
Callee SIP URL: [Text]
Source: Access Network [Dropdown] *The destination route of register proxy r*
1<PublicNetwork> [Dropdown] [Del]
+ Add
SIP Methods: [Text]
Request URI: [Text]
The source of ring back tone: remote [Dropdown]
Destination: Core SIP Trunk [Dropdown]
7<pbx> [Dropdown]
Outbound Manipulation: [Dropdown]
SIP Header Passthrough: [Dropdown]
request-uri Username: to inManipulation user [Dropdown]
request-uri IP Addr.: remote address [Dropdown]
to Username: to inManipulation user [Dropdown]

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! !! 28 579 0 0 0 Sync File Administrator: admin Logout Language: English

The configurations has been applied successfully.

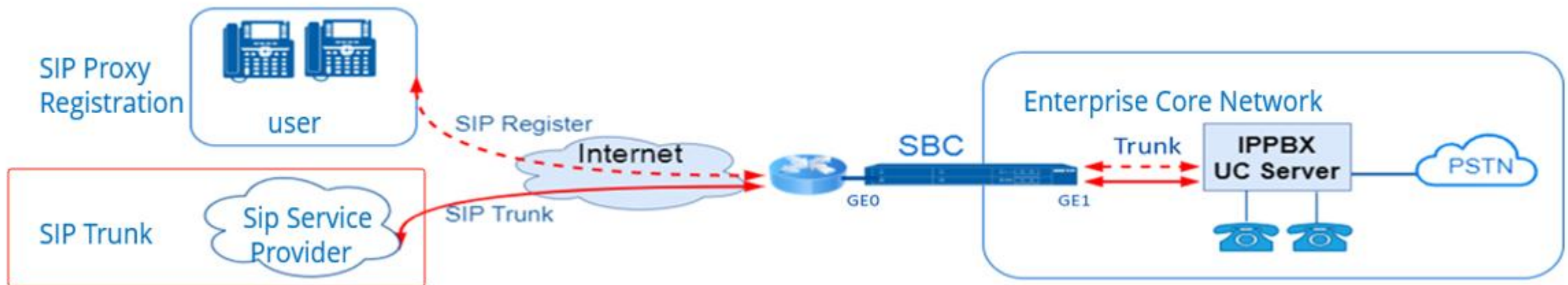
Call Routing + Add

Priority	Description	Condition	Destination/Manipulation Rule
1008		7<pbx>	1<PublicNetwork> / -
1009		1<PublicNetwork>	7<pbx> / -
1010		5<11fuwuq>	4<Skou> / -

SIP Trunk Configuration

- Usage Scenarios

The SBC connect a SIP trunk to an external SIP service provider through an access trunk. The SBC connects to the Intranet server through SIP trunk on the LAN and core trunk is configured on the SBC



SIP Trunk Configuration

TransPort Endpoint

Access SIP Trunk

Core SIP Trunk

Call Routing

1. Click on **Service - Transport Endpoint**
2. Custom name
3. Select interface, transport and port
4. Using the same method, create a Transport Endpoint for GE1

DINSTAR SBC Overview Service Security System Maintenance Urgent Note !!!

TransPort Endpoint

1

2

3

ID * 3

Name * GE0_5070

Description

Valid ☒

Dedicated To Access Network ☐

Interface GE0

Transport UDP

Port 5070

SRTP ☐

IPv4/IPv6 IPV4

Signaling DSCP BE

Save Cancel

TransPort Endpoint

+ Add

ID	Name	Description	Interface	Port	IPv4/IPv6	Transport	Dedicated To Access Network	
1	Public		GE0	5060	ip4	udp	true	 
2	Local		GE1	5060	ip4	udp	false	 
3	GE0_5070		GE0	5070	ip4	udp	false	 

SIP Trunk Configuration



1. Click on **Service – Access SIP Trunk**
2. Custom name
3. Select media interface and Transport Endpoint
4. Configure the IP and port of SIP Service provider

SBC Overview Service Security System Maintenance Urgent Note! ! !

You have Access S Acces

TransPort Endpoint

Access Network

Access SIP Trunk ①

Core SIP Trunk

Routing Profile

Media Detection

CDR

Codec Profile

TLS Configuration

Recording configuration

Advanced

ID 7

Name service ②

Description

Valid ☒

Enable radius ☐

media interface ③

Transport Endpoint

GE1

Local

Codec default

DTMF Priority local

DTMF RFC2833

RFC2833 101

Trunk Mode Static

Remote IP :Port ④

172.28.51.105:20900

Advanced

Save Cancel

SIP Trunk Configuration



1. Click on **Service – Core SIP Trunk**
2. Custom name
3. Select media interface and Transport Endpoint
4. Configure the IP and port of PBX

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

Core SIP Trunk

TransPort Endpoint

Access Network

Access SIP Trunk

Core SIP Trunk ①

Routing Profile

Media Detection

CDR

Codec Profile

TLS Configuration

Recording configuration

Advanced

ID * 7

Name * pbx ②

Description

Valid ☒

Enable radius ☐

media interface ③ GE0

Transport Endpoint GE0_5070

Codec default

DTMF Priority local

DTMF RFC2833

RFC2833 * 101

Trunk Mode Static

Remote IP :Port * 172.28.7.49:5060 ④

Advanced

Save Cancel

SIP Trunk Configuration



1. Click on **Service – Call Routing**
2. outbound Routing: source -- Core SIP Trunk/ pbx, destination-- Access SIP Trunk/service
3. outbound Routing: source -- Access SIP Trunk/service, destination-- Core SIP Trunk/ pbx

Priority	Description	Condition	Destination/Manipulation Rule
1008	-	7<pbx>	7<service> /
1009	-	7<service>	7<pbx> /
1010		5<11fuwug>	4<Skou> / -
1011		4<Skou>	5<11fuwug> / -

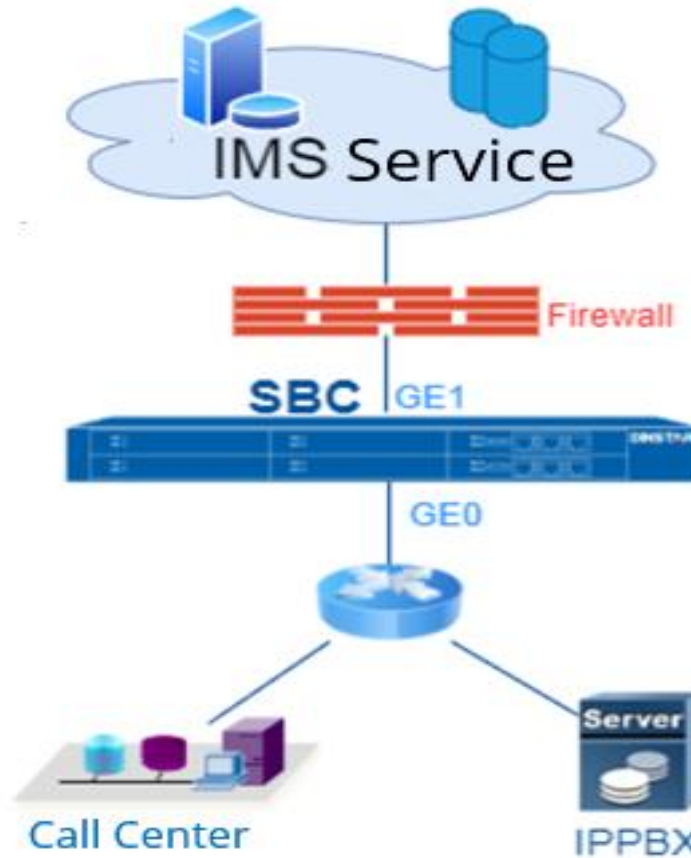
IMS Configuration

- Usage Scenarios

SBC supports adding SIP accounts to register with the IMS core network as outgoing landing lines (by adding access trunk and binding IMS account registration).

Call center system such as the IPPBX create SIP trunk to SBC

Call center sends an outbound call to the SBC and SBC selects IMS account to make an outbound call.



IMS Configuration



- 1. Click on Service - Transport Endpoint
- 2. Custom name
- 3. Select interface、 transport and port
- 4. Using the same method, create a Transport Endpoint for GE1

DINSTAR SBC

OverviewServiceSecuritySystemMaintenance

Urgent Note! ! !

TransPort Endpoint

Access Network

Access SIP Trunk

Core SIP Trunk

Routing Profile

Media Detection

CDR

Codec Profile

TLS Configuration

Recording configuration

Advanced

ID

Name

Description

Valid

Dedicated To Access Network

Interface

Transport

Port

SRTP

IPv4/IPv6

Signaling DSCP

Save

Cancel

3

GE0_5070

☒

☐

GE0

UDP

☐

5070

IPv4

BE

TransPort Endpoint

+ Add

ID	Name	Description	Interface	Port	IPv4/IPv6	Transport	Dedicated To Access Network	
1	Public		GE0	5060	ip4	udp	true	
2	Local		GE1	5060	ip4	udp	false	
3	GE0_5070		GE0	5070	ip4	udp	false	

IMS Configuration



1. Click on Service – Sip Account
2. Custom name, Fill in registration flow control
3. Click 'add' to add IMS accounts, and fill in the username, authentication ID, and password according to the data provided by the operator

③

Username * +865987506740

Authentication ID * +865987506740@ims.fi.chinamobile.com

Password *

Registered Interval * 1800

Max Media Sessions * 1

Start Number * 1

Increment * 1

Number of SIP Accounts * 1

Submit Cancel

Note: If you want to add SIP accounts by batch, you can use the variable symbol \$1 to fill in the fields of 'Username' 'Authentication ID' 'Password'

Rule: Except \$1, all other characters filled in the fields of 'Username' 'Authentication ID' 'Password' will remain unchanged. \$1 will vary based on the configured start number, step and number of SIP accounts

Example: if you want to batch add SIP accounts from 10001000 to 10003000, you can enter 1000\$1 in the fields of 'Username' 'Authentication ID' 'Password' 1000 in the 'Start Number' filed, 1 in the 'Step' field and 3000 in the Number of SIP Accounts

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

②

Name * ims

Description

Flow Count * 60

Unit Time for Flow Control * 60

Note: (Total number of accounts/flow control number) * flow control unit time < 50%~90% of the registration cycle. Otherwise, some users aren't registered, and the flow control only applies to register message.

Account Delete All Modify All

Username	Authentication ID	Registered Interval	Max Media Sessions
+865987506740	+865987506740@ims.fi.chinamobile.com	1800	1

1

Submit Cancel

③

IMS Configuration



1. Click on **Service – Access SIP Trunk**
2. Custom name
3. Select TransPort Endpoint and media interface
4. Fill in the proxy registration IP address and port provided by the operator
5. Select SIP account and matching mode
6. Fill in the remote server domain provided by the operator

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

Access SIP Trunk (1)

② **Name**: ims

③ **media interface**: GE1

④ **Remote IP :Port**: 172.27.10.10:5060

⑤ **Sip Account**: ims

⑥ **Remote Server Domain**: ims.fl.chinamobile.com

IMS Configuration



1. Click on **Service – Core SIP Trunk**
2. Custom name
3. Select media interface and Transport Endpoint
4. Configure the IP and port of PBX

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! !!

Core SIP Trunk

ID * 7

2 Name * pbx

Description

Valid ☒

Enable radius ☐

3 media interface GE0

Transport Endpoint GE0_5070

Codec default

DTMF Priority local

DTMF RFC2833

RFC2833 * 101

Trunk Mode Static

4 Remote IP :Port * 172.28.7.49:5060

Advanced ☐

Save Cancel

IMS Configuration



1. Click on **Service – Call Routing**
2. Select routing source is Core SIP Trunk/pbx
3. Select destination is Access SIP Trunk/ims
4. Select remote domain
5. Select remote domain
6. Select remote domain

DINSTAR SBC Overview Service Security System Maintenance Urgent Note! ! !

Call Routing

Routing Profile

- TransPort Endpoint
- Access Network
- Access SIP Trunk
- Core SIP Trunk
- SIP Trunk Group**
 - Call Routing** ①
- Media Detection
- CDR
- Codec Profile
- TLS Configuration
- Recording configuration
- Advanced

Call Routing

Callee SIP URL

② **Source** Core SIP Trunk

7<pbx> Del

+ Add

SIP Methods

Request URI

The source of ring back tone remote

③ **Destination** Access SIP Trunk

6<ims>

Outbound Manipulation

SIP Header Passthrough

request-uri Username to inManipulation user

④ **request-uri IP Addr.** remote domain

to Username to inManipulation user

⑤ **to IP Addr.** remote domain

to Username Displayed to display

from Username from inManipulation user

⑥ **from IP Addr.** remote domain

from Username Displayed from display

Save Cancel

IMS Configuration



1. Click on **Service – Call Routing**
2. Select routing source is Access SIP Trunk/ims
3. Select destination is Core SIP Trunk/pbx

The screenshot displays the 'Call Routing' configuration page in the DINSTAR web interface. The left sidebar shows the navigation menu with 'Call Routing' selected under the 'Routing Profile' section. The main configuration area is divided into two sections: 'Source' and 'Destination'. The 'Source' section includes fields for 'Number Profile', 'Caller Username', 'Callee Username', 'Time Profile', 'Caller SIP URL', and 'Callee SIP URL'. The 'Destination' section includes fields for 'SIP Methods', 'Request URI', 'The source of ring back tone', 'Outbound Manipulation', and 'SIP Header Passthrough'. The 'Source' dropdown is set to 'Access SIP Trunk' and the 'Destination' dropdown is set to 'Core SIP Trunk'. The 'Number Profile' dropdown is set to '6<ims>' and the 'Request URI' dropdown is set to '7<pbx>'. The 'The source of ring back tone' dropdown is set to 'remote'.

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SBC Basic Maintenance

03



Get Network Capture

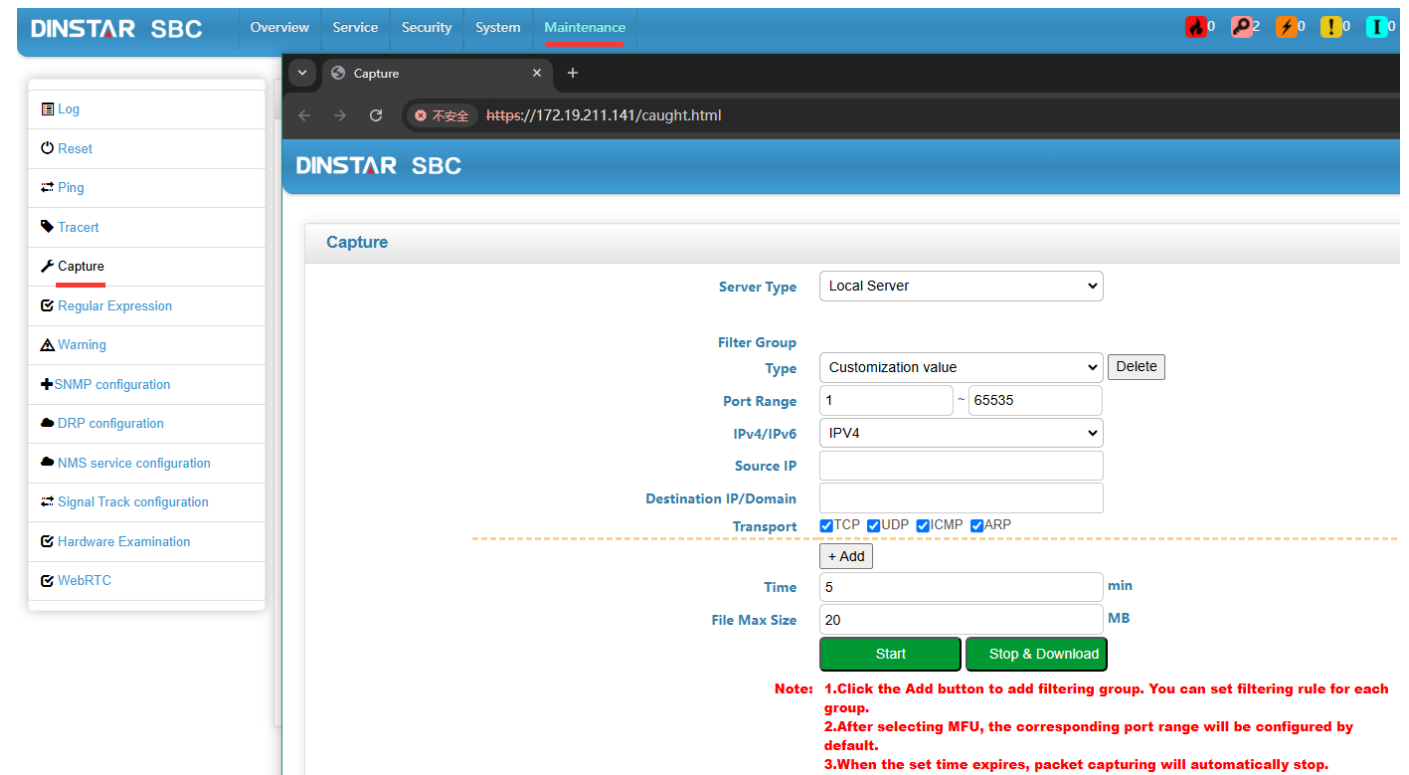


Getting The Log

SBC Basic Maintenance

- Get Network Capture

1. Click on Maintenance – Capture
2. Click Start
3. Reproduce the problem, click Stop& Download after reproducing



SBC Basic Maintenance

- Getting The Log

1. Click on Maintenance – Log - Log Management
2. Level selection debug and click Start
3. Reproduce the problem, click Export after reproducing

The screenshot shows the DINSTAR SBC web interface. The top navigation bar includes tabs for Overview, Service, Security, System, and Maintenance (which is active). To the right of the tabs are status indicators for various services (Fire, Person, Lightning, Exclamation mark, T) and a Sync File button. The user is logged in as Administrator: rambo. On the left sidebar, under the 'Log' section, the 'Log Management' option is selected. The main content area is titled 'Log Management' and contains two sections: 'Log Record' and 'Log Export'. In the 'Log Record' section, the 'Level' is set to 'Debug' and the 'Time' is set to '5 min'. A green 'Start' button is located below these settings. In the 'Log Export' section, there is a green 'Export' button.

Summary

- This course we already learn:
 - Understanding the SBC interface
 - Understand the basic connection of SBC
 - Understand the application scenarios of SBC
 - Understand the basic configuration of SBC



THANKS



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