

UC HA Topic

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Foreword

- This course introduces the HA features of UC.

Course Objective

Through this course
you will be able to



Know what HA is.



Understand the logic of HA.



Know how UC configure HA.

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HA Introduction

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UC HA Configuration

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Active And Standby Switching

Chapter One Course Introduce

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1.1 What is HA



1.2 Logic of HA

1. HA Introduction

1.1 What is HA

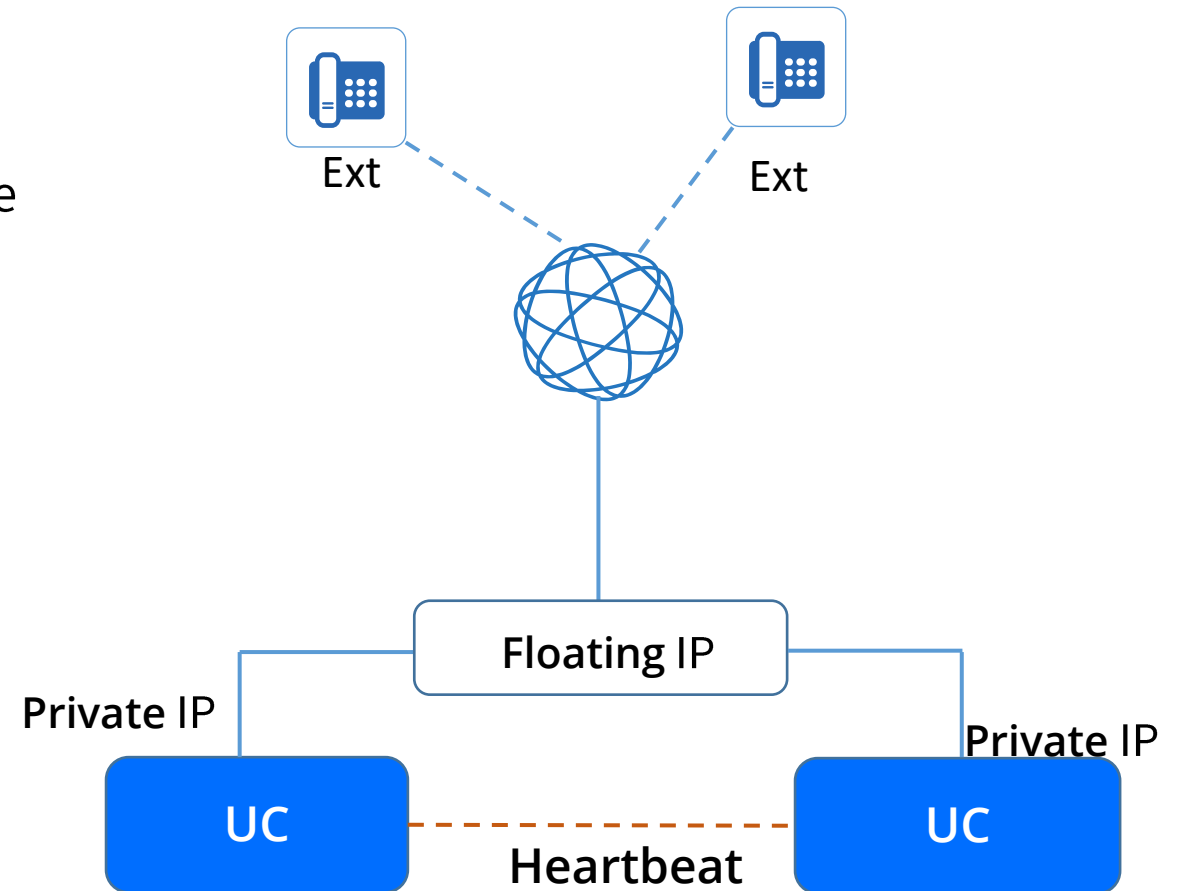
what is HA ?

Answer : High Availability Active-Standby.

HA (High Availability) solution, through the cooperative work of two devices, to ensure that the system can continue to working in the event of a single point of failure.

Logic of HA

1. The management ports of the two devices detect each other. By default, Device A is active and Device B is in Standby state.
2. When device A fails, device B does not detect the response from device A. Device B switches to the active state, and the service port is activated to provide service.
3. When A recovers, A&B will choose one of them to be active and the other to be Standby according to the policy.



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UC HA Configuration

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2.1 Basic Conditions for UC HA

2.2 Configuration of UC HA

2.3 Expand Configuration

Basic conditions for UC HA

- 1.Prepare two UC devices of the same model, such as UC350Pro.
- 2.The software of the two UC devices should be the same.
- 3.Copy the current license page information (Device SN, Hardware ID, etc.) of the two UC devices to us. We will generate a new license and upgrade the UC with the new license to support HA.
- 4.There must be multiple network segments in the working environment. Assign independent network segments to the management port of UCs for detecting each other's activity status

Basic conditions for UC HA



- 1. The model and version of the two UC devices need to be consistent

| Device Info | | View |
|------------------|----------------------------------|----------------------|
| Device Name | UC350 Pro | |
| Device Model | UC350 Pro | |
| Device SN | DD59-A210-350E-ED00 | |
| Firmware Version | 2.59.2.0 2025-05-20 15:23:47 CST | |
| Local Time | 2025-06-26 11:05:10 | |
| Uptime | 1 d 18 h 45 m 23 s | |

| Device Info | | View |
|------------------|----------------------------------|----------------------|
| Device Name | UC350 Pro | |
| Device Model | UC350 Pro | |
| Device SN | CCC1-0123-8986-0036 | |
| Firmware Version | 2.59.2.0 2025-05-20 15:23:47 CST | |
| Local Time | 2025-06-26 11:05:51 | |
| Uptime | 75761 | |

Basic conditions for UC HA

2. Check the License information and make sure that Hot Standby is Authorized

The screenshot shows the Dinstar web interface. On the left sidebar, the 'Maintenance' menu is expanded, and the 'License' option is highlighted with a red box. The main content area displays the 'License' page with a table of system parameters. The 'Hot Standby' status at the bottom is highlighted with a red box.

| License | |
|-------------------------|-------------------------------|
| Version | 1.0.1.14 |
| SN | 13 |
| E1/T1 Port | 2 |
| SS7 Protocol | enable |
| Valid Period | 90 d |
| Max Concurrency | 2000 |
| SIP Extensions | 20000 |
| Hotel Management | enable |
| Hotel Manager Extension | 70000 Setting |
| Attendant Console | enable |
| Agent Count | 5 |
| Agent Supervisor Count | 1 |
| Remain | 60 d |
| Hot Standby | Authorized |

The screenshot shows the Dinstar web interface. On the left sidebar, the 'Maintenance' menu is expanded, and the 'License' option is highlighted with a blue box. The main content area displays the 'License' page with a table of system parameters. The 'Hot Standby' status at the bottom is highlighted with a red box.

| License | |
|-------------------------|---------------------------------------|
| Version | 1.0.1.14 |
| SN | 12 |
| E1/T1 Port | 2 |
| SS7 Protocol | enable |
| Valid Period | 90 d |
| Max Concurrency | 1000 |
| SIP Extensions | 5000 |
| Hotel Management | enable |
| Hotel Manager Extension | Not Specified Setting |
| Attendant Console | enable |
| Agent Count | 5 |
| Agent Supervisor Count | 1 |
| Remain | 53 d |
| Hot Standby | Authorized |

Basic conditions for UC HA

3. **System--Network** page Modify the management port IP of UC, so that UC_A & UC_B have different management IPs and are connected under the same switch.

The screenshot displays the DINSTAR UC HA configuration interface, specifically the Network settings page. The interface is divided into two main sections: GE0 and GE1. The left sidebar contains a navigation menu with options like Status, Trunk & Route, Extension & Call Group, Advanced Service, PBX Global Settings, Address Book, CDR & Recording, System, Time, Network, Security, Storage, Hot Standby, Event Notification, Email, and Personalization. The 'Network' option is highlighted with a red box. The main content area shows the configuration for GE0 and GE1. The 'Setting' tab is selected, and the 'Network' sub-tab is active. The configuration for GE0 is shown in a table format, with columns for IPv4 and IPv6 settings. The 'Edit' button is visible next to the GE0 configuration. The configuration for GE1 is also shown in a table format, with columns for IPv4 and IPv6 settings. The 'Edit' button is visible next to the GE1 configuration.

| Setting | Value | Setting | Value |
|----------------------|--|---------------|------------|
| IPv4 | Enabled | IPv6 | Not Config |
| Type | Static | Type | Static |
| IP Address | 172.28.5.138 | IP Address | |
| Netmask | 255.255.0.0 | Prefix Length | |
| Gateway | 172.28.1.1 | Gateway | |
| Preferred DNS | 8.8.8.8 | Preferred DNS | |
| Alternate DNS | | Alternate DNS | |
| Mac Address | 6eaa0ad6a000 | | |
| RX / TX (Per Second) | 0 Bytes (0 Pkts.) / 0 Bytes (0 Pkts.) | | |
| RX / TX (Total) | 229.35 MB (2858596 Pkts.) / 190.01 MB (201922 Pkts.) | | |

| Setting | Value | Setting | Value |
|---------------|------------|---------------|------------|
| IPv4 | Not Config | IPv6 | Not Config |
| Type | DHCP | Type | Static |
| IP Address | | IP Address | |
| Netmask | | Prefix Length | |
| Gateway | / | Gateway | |
| Preferred DNS | 172.28.1.1 | Preferred DNS | |
| Alternate DNS | 8.8.8.8 | Alternate DNS | |

Configuration of UC HA

1. Click on System – Hot Standby- Hot Standby Profile
2. Fill in Local Management Port IP 、 Remote Management Port IP and Remote Device SN
3. Other configuration items can be configured by default

DINSTAR

Status

Trunk & Route >

Extension & Call Group >

Advanced Service >

PBX Global Settings >

Address Book >

CDR & Recording >

System >

Time

Network

Security

Storage

Hot Standby

Hot Standby Profile Floating IP Management Network Port Detection Switching Rules

Modifications with * options may affect the synchronization of Hot Standby for configurations other than HA. Please make separate modifications and apply the changes.

After enable / disable Hot Standby configuration, you need to reconfigure the SIP stack interface address!

*Status ☒

IPv4/IPv6 IPv4

*Local Management Port IP 172.28.5.138(GE0)

Local Port 4333

*Remote Management port IP 172.28.21.1

Remote Port 5333

*Remote Device SN DD59-A210-350E-ED00

Max Heartbeats for Detecting Hot Standby 10

Interval of Sending Heartbeat for Detecting Hot Standby(ms) 200

DINSTAR

Status

Trunk & Route >

Extension & Call Group >

Advanced Service >

PBX Global Settings >

Address Book >

CDR & Recording >

System >

Time

Network

Security

Storage

Hot Standby

Hot Standby Profile Floating IP Management Network Port Detection Switching Rules

Modifications with * options may affect the synchronization of Hot Standby for configurations other than HA. Please make separate modifications and apply the changes.

After enable / disable Hot Standby configuration, you need to reconfigure the SIP stack interface address!

*Status ☒

IPv4/IPv6 IPv4

*Local Management Port IP 172.28.21.1(GE0)

Local Port 4333

*Remote Management port IP 172.28.5.138

Remote Port 5333

*Remote Device SN DD59-A210-350E-AD00

Max Heartbeats for Detecting Hot Standby 10

Interval of Sending Heartbeat for Detecting Hot Standby(ms) 200

Max Heartbeats for Detecting Service 10

Configuration of UC HA

4. Click on System – Hot Standby- floating IP management, Configure the same floating IP address for two UCs

DINSTARAdministrator : admin

Status

Trunk & Route

Extension & Call Group

Advanced Service

PBX Global Settings

Address Book

CDR & Recording

System

Time

Network

Security

Storage

Hot Standby

Hot Standby

Hot Standby ProfileFloating IP ManagementNetwork Port DetectionSwitching Rules

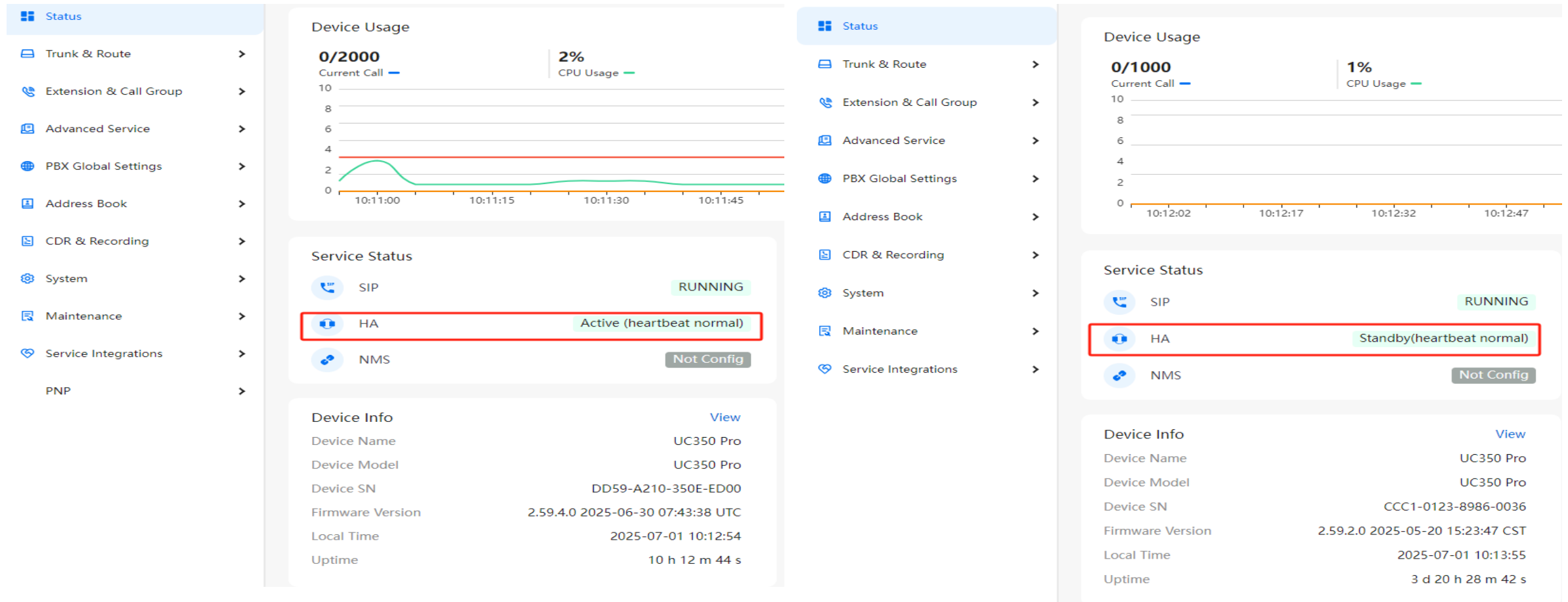
Floating IP only supports IPv4 and only takes effect after enabling Hot Standby configuration!

New

| Index | Interface | Interface Index | IP Address | Netmask | |
|-------|-----------|-----------------|--------------|-------------|------------|
| 1 | GE0 | 1 | 172.28.48.66 | 255.255.0.0 | EditDelete |

Ha status check

Click on the status to check if the HA status is normal



Expand configuration

Network Port Detection

1. Click on System - Hot Standby- Network Port Detection, Select network port
2. Click on System - Hot Standby-Switching Rules, Configure weight values
3. Both UC are configured

The screenshot shows the 'Hot Standby' configuration page with the 'Network Port Detection' tab selected. A blue banner at the top states: 'Network Port Detection only take effect when the Hot Standby configuration are enabled !'. Below this is a table with columns: Index, Interface, IPv4 Address, Netmask, IPv6 Address, and MAC Address. The first row shows Index 1, Interface GE3, IPv4 Address 192.168.11.67, Netmask 255.255.255.0, and MAC Address 4a:49:d3:f7:d9:03. A 'Delete' button is next to the row. A 'New' button is in the top right corner.

| Index | Interface | IPv4 Address | Netmask | IPv6 Address | MAC Address |
|-------|-----------|---------------|---------------|--------------|-------------------|
| 1 | GE3 | 192.168.11.67 | 255.255.255.0 | | 4a:49:d3:f7:d9:03 |

The screenshot shows the 'Hot Standby' configuration page with the 'Switching Rules' tab selected. A blue banner at the top states: 'Switching Rules only take effect when the Hot Standby configuration are enabled ! The larger the value, the higher the weight ! There is no network port detection to create a switching rule !'. Below this is a table with columns: Index, Name, and Weight. The first row shows Index 1, Name GE3, and Weight 10.

| Index | Name | Weight |
|-------|------|--------|
| 1 | GE3 | 10 |

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Active And Standby Switching

03

Active And Standby Switching

Automatic switching conditions:

1. Active UC power outage
2. Active UC restart
3. Active UC network disconnection

Active And Standby Switching

Network Port Detection-one network port

- Set the network port weight value to 0 when the active UC service network port is down
- When the active UC detects that the weight of the standby UC network port - the weight of the active UC network port is ≥ 10 , the active UC restart
- standby UC becomes active UC by judging that the HA heartbeat message timed out
- After the original active UC restarts, it becomes a standby machine

Switching Rules

Name

Weight

GE0

10

Active And Standby Switching

Network Port Detection-multiple network ports

- If the weight of each service network port is 10, as long as the active UC has one service network port down, the active and standby switches
- Both service network ports have a weight of 5: the active UC only has one service network port down, with a weight difference of 5, and there is no switch; If both service network ports are down, the weight difference will be ≥ 10 , and the switch will occur
- By analogy, switching will only occur when the weight difference between the two UC network ports is ≥ 10

| Switching Rules | |
|-----------------|--------|
| Name | Weight |
| GE0 | 10 |
| GE2 | 10 |

| Switching Rules | |
|-----------------|--------|
| Name | Weight |
| GE0 | 5 |
| GE2 | 5 |



THANKS



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