



Grandstream Networks, Inc.

GRP26XX Carrier-Grade IP Phones

Server Redundancy Guide



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SUPPORTED DEVICES

Model	Supported	Firmware
Carrier-Grade IP Phones GRP26XX Series		
GRP2612/GRP2612P/ GRP2612W	Yes	1.0.0.31 or higher
GRP2613		
GRP2614		



INTRODUCTION

A redundant server is mostly used to assure the reliability of an end point's service when it loses connectivity with the primary server.

Configuring a redundant server is recommended for medium and large VoIP deployment installations.

Users can then keep using the service on their end points when the main server cannot be reached, service is down or when administrators need to do maintenance tasks on it.

This guide will outline the use and configuration of redundant SIP server on Grandstream GRP26XX.

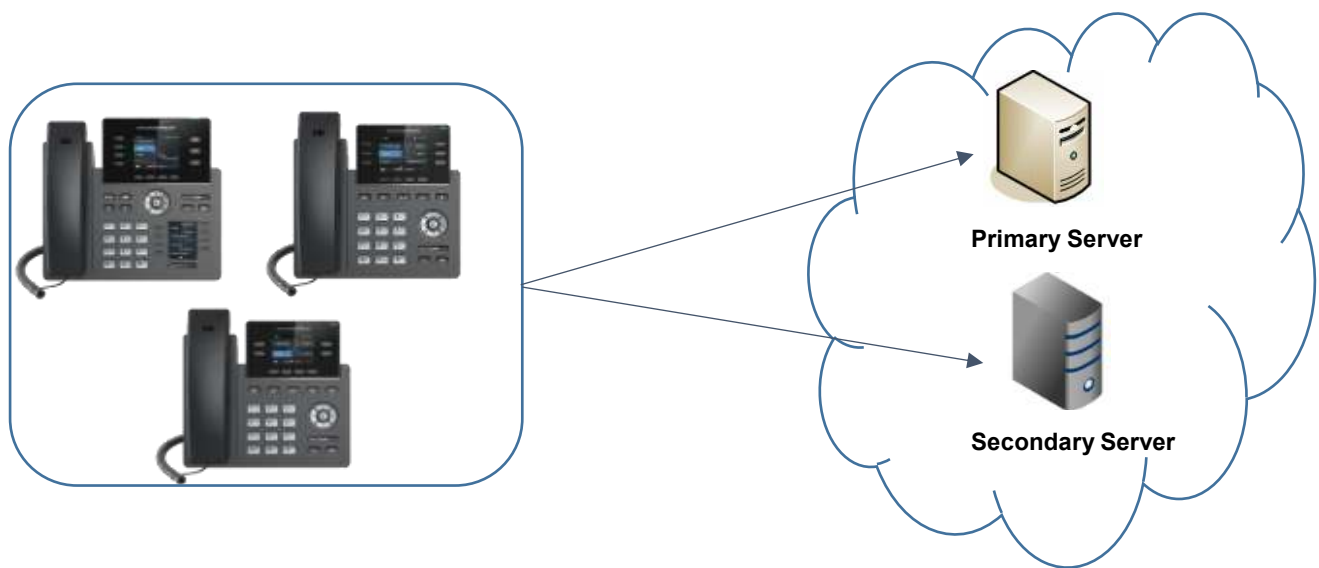


Figure 1: Server Redundancy Diagram



SIP SERVER REDUNDANCY

The GRP26XX will send REGISTER requests and SUBSCRIBE messages (except for message waiting) to both primary and secondary SIP servers for the same account, when both primary and secondary SIP servers are configured.

When making a call, the phone will use the registered primary SIP server first. If not available, the secondary SIP server will be used instead.

Requirements

- A SIP end point supporting primary and secondary SIP server configuration options under its SIP account(s)/Profile(s).
- Two SIP servers having the same extension's credentials.

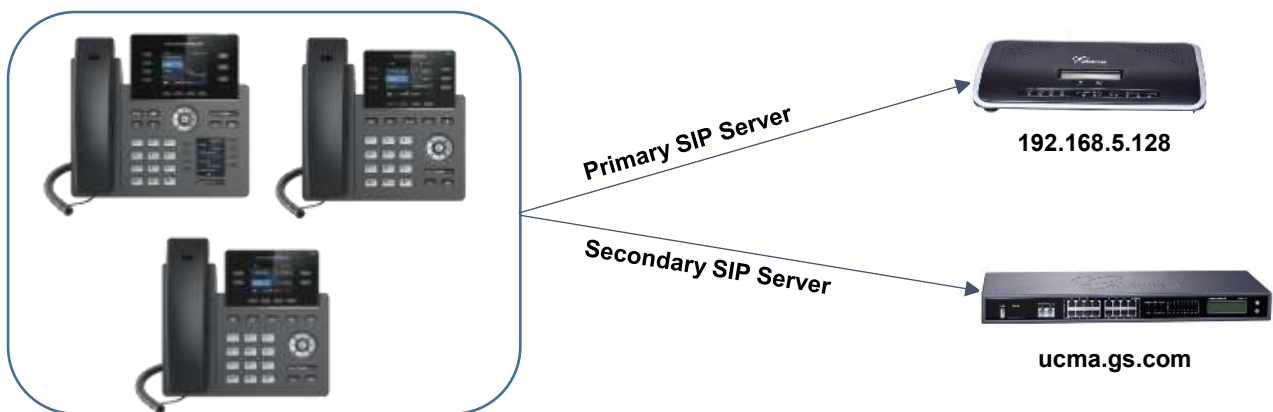


Figure 2: SIP Server Redundancy Diagram

Configuration on GRP26XX

The following shows usage and configuration of primary and secondary SIP server from the Web GUI:

1. Go to **Accounts → Account X → General Settings**.
2. Enter the "IP Address: Port" or "FQDN: Port" of your primary SIP server in **SIP Server** field.
3. Enter the "IP Address: Port" or "FQDN: Port" of your secondary SIP server in **Secondary SIP Server** field.



Note: Do not configure same SIP Server address in Primary and Secondary SIP Servers fields.



The screenshot shows the 'General Settings' page for 'Account 1'. The left sidebar lists various settings categories: Accounts, General Settings, Dialplan, Network Settings, SIP Settings (highlighted with a plus icon), Audio Settings, and Call Settings. The main content area displays the following settings:

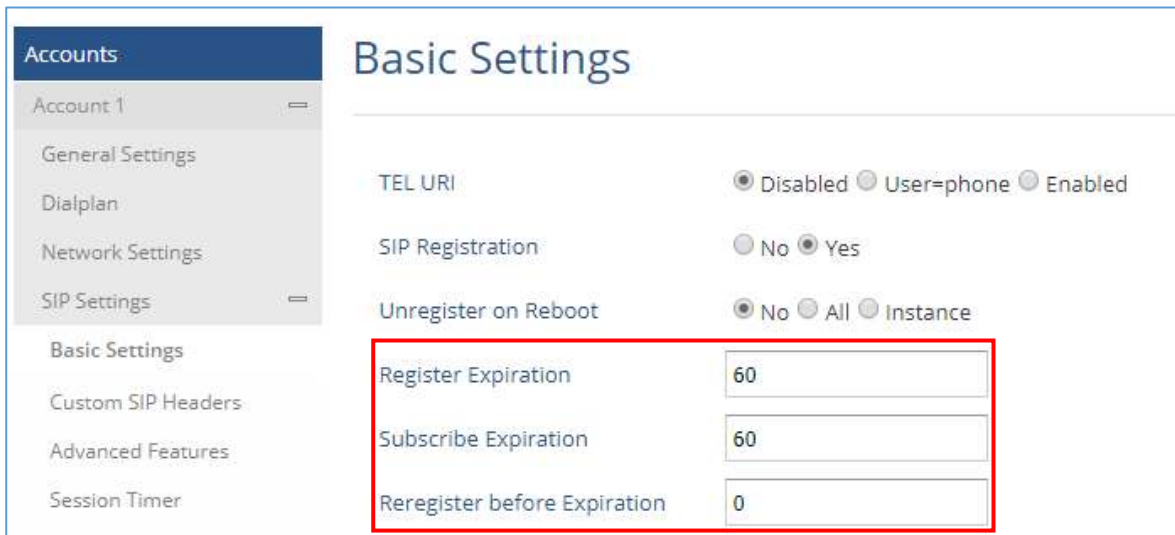
- Account Active: ☐ No ☒ Yes
- Account Name: 1004
- SIP Server: 192.168.5.128
- Secondary SIP Server: ucma.gs.com:3000

The SIP Server and Secondary SIP Server fields are highlighted with a red rectangular box.

Figure 3: Account General Settings

- (Optional) Administrator can also change **Register Expiration** and **Reregister before Expiration** values so the end point can check and refresh its registration accordingly with set values (in minutes for Register Expirations and in seconds for Reregister before Expiration).

In the below figure *Register Expiration* is set to 60 minutes, while *Reregister before Expiration* will not be used (set to 0 second).



The screenshot shows the 'Basic Settings' page for 'Account 1'. The left sidebar lists various settings categories: Accounts, General Settings, Dialplan, Network Settings, SIP Settings, Basic Settings (highlighted with a minus icon), Custom SIP Headers, Advanced Features, and Session Timer. The main content area displays the following settings:

- TEL URI: ☒ Disabled ☐ User=phone ☐ Enabled
- SIP Registration: ☐ No ☒ Yes
- Unregister on Reboot: ☒ No ☐ All ☐ Instance
- Register Expiration: 60
- Subscribe Expiration: 60
- Reregister before Expiration: 0

The Register Expiration, Subscribe Expiration, and Reregister before Expiration fields are highlighted with a red rectangular box.

Figure 4: SIP Basic Settings



Phone Behavior against Servers Availability

In above example, GRP26XX will send two SIP REGISTER requests to the IP/FQDN configured in **SIP Server** and **Secondary SIP server** fields.

Case1: Both Servers Reachable

If both SIP Server and Secondary SIP Server are reachable, the phone will register on both servers.

The phone will always use the primary server for calls and refresh its registration each *Register Expiration* period (60 minutes in above example) to ensure that both servers are still reachable.

Case 2: Primary Server Not Responsive

If primary **SIP Server** is not responsive, the phone will use **Secondary SIP Server** for phone services instead (including making/receiving calls).

Flow Examples

The following figure shows SIP flow example between Grandstream IP phone (GRP2613 in this example) and primary/secondary SIP Servers. The flow shows successful registration on both primary and secondary SIP servers (*case 1: both servers reachable*) also when the primary SIP server becomes unresponsive (*case 2: primary SIP server not responsive*) to the SIP INVITE.



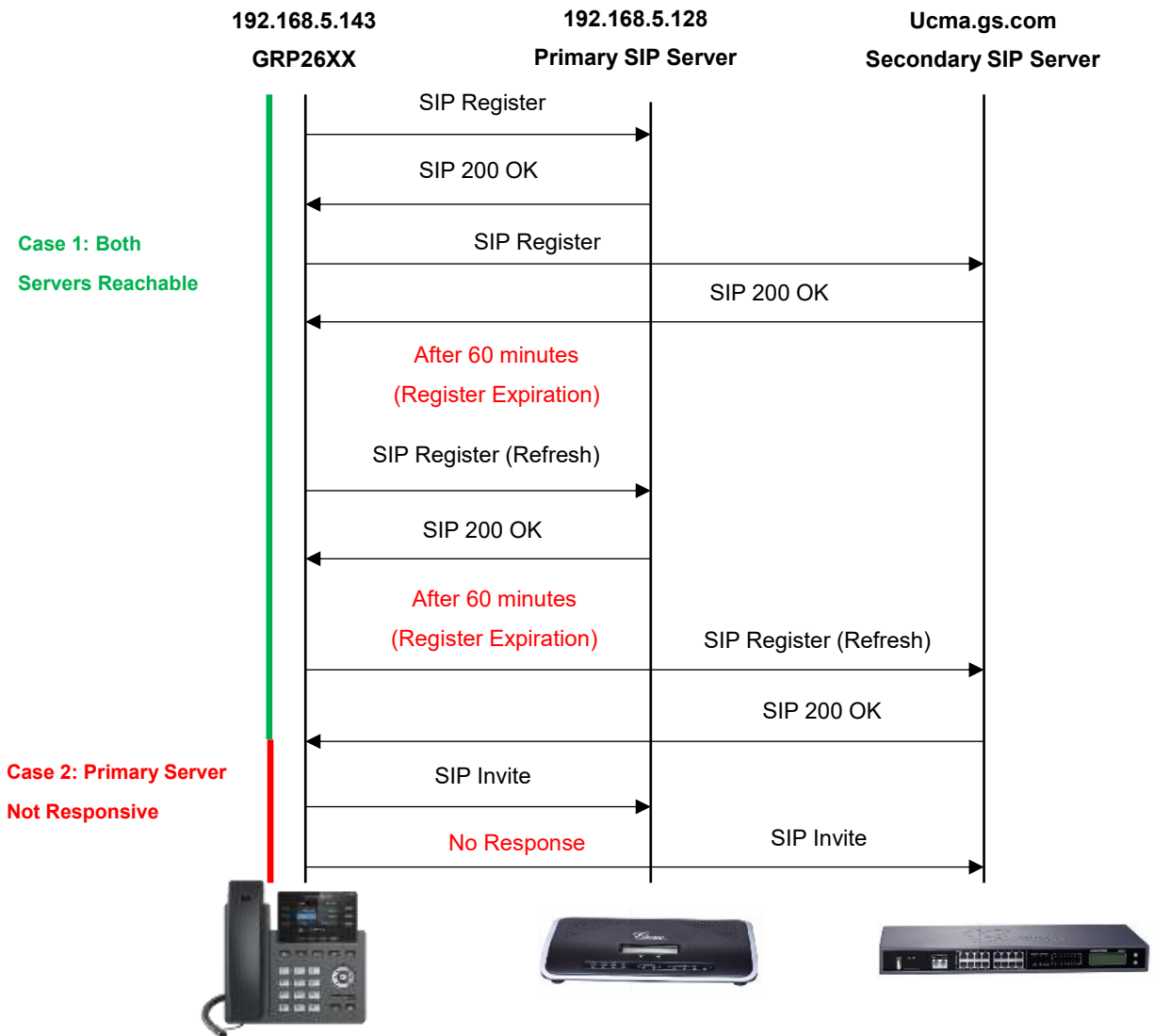


Figure 5: SIP Registration and Invite with Primary and Secondary SIP Servers Flow

Note: We assume in above scenarios that SIP servers are not challenging the SIP register with 401 or 407.

