New Rock Technologies, Inc.

MX Voice-Fax Gateway Series

High Availability Configuration Guide

HX4
MX8
MX60
MX120

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Add instruction of load balancing feature

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Add instruction of REGISTER timeout configuration

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1 Overview

1.1 Function Definition

In the deployment of VoIP network, New Rock MX-Series VoIP Gateway (referred as *gateway* below) supports **high availability** architecture with **active-standby** mode and **load balancing** mode.

Active standby mode

In this mode, one SIP proxy server (referred as SIP server) functions as the primary server while other SIP servers function as standby servers.

Either of the following conditions could trigger the failover operation of the gateway:

- Not receiving response to the OPTIONS message from the current SIP server to which the gateway sends or receives call traffic; or
- Not receiving response to the REGISTER/INVITE message from the current SIP server to which the gateway send or receives call traffic

The administrator can manually switchover the gateway from the current SIP server to the next available one.

The gateway will redirect call traffic to the designated proxy server in responding to the re-INVITE from the server.

Load balancing mode

In this mode, the clustered SIP servers are all working in active status. Under the coarse grained scheme all endpoints of a gateway are allowed to register on one of the designated servers and under the fine grained scheme the endpoints of a gateway are allowed to register on multiple servers, according to the administrator's load balancing plan. The following features are supported with load balancing:

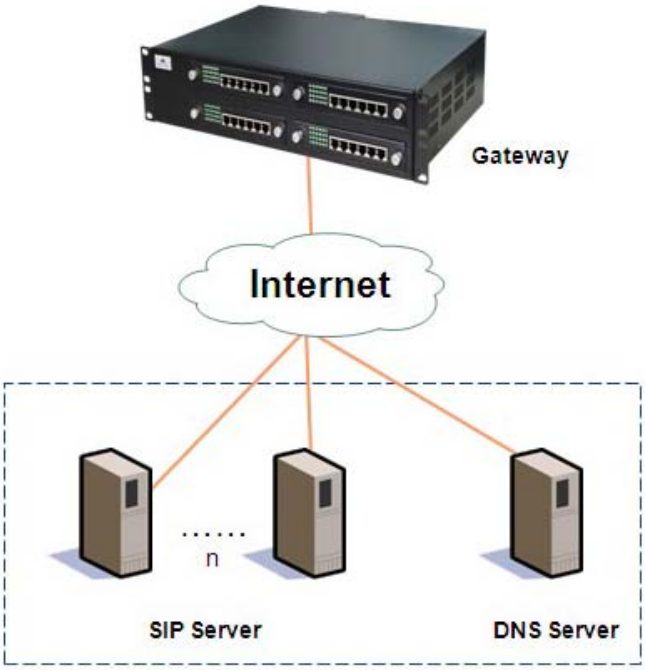
- The gateway as a whole or endpoints search for the designated sever in the server cluster (a list of servers) using REGISTER/INVITE message in forward circular scheme.
- Server failure detetion is supported by gateway sending OPTIONS to each servers, on which the gateway or endpoints are registered on.
- Upon the condition of no response to OPTIONS or REGISTER/INVITE, the gateway will search for the next available servers for the gateway or endpoints and move the calls to them accordingly

The gateway will redirect call traffic to the designated proxy server in responding to the re-INVITE from the server.

1.2 Server Cluster

The server cluster includes one primary SIP proxy server and up to *five* standby proxy servers under active-standby mode or six active servers under load balancing mode. The address of the SIP server can be configured manually by the administrator or obtained through DNS SRV record. Topology is shown as bellow:

Figure 1-1 Server cluster

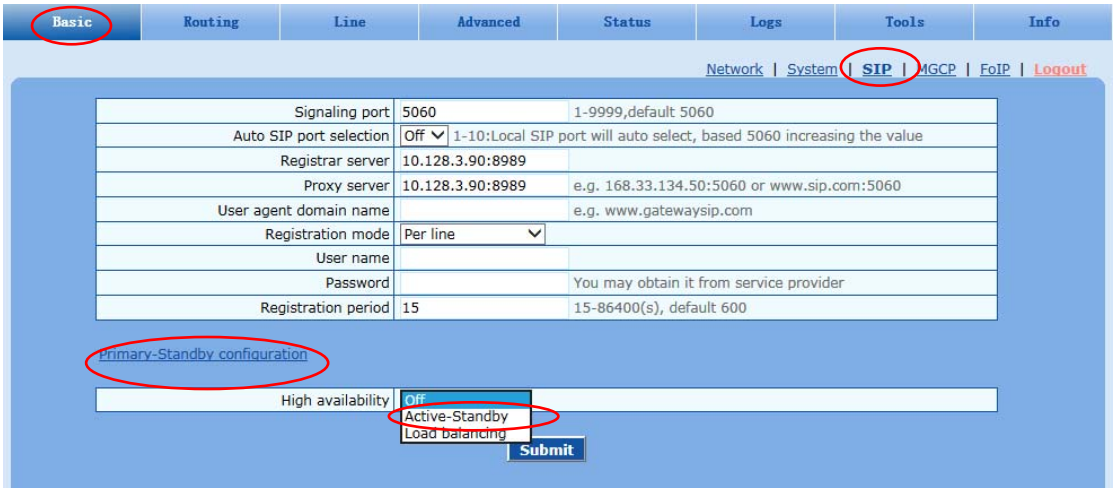


2 Configuring Active-Standby Mode

2.1 Enable Active-Standby Feature

Enter the SIP trunk setting page, and click **Basic > SIP > Primary-Standby configuration** and choose **Active-standby**, then submit.

Figure 2-1 Active-Standby configuration page



2.2 Set Standby SIP Servers

The gateway supports two ways to obtain standby SIP server address:

- IP address
- Domain name

2.2.1 Configuring the IP Address of SIP Servers

Note: the IP address of the primary SIP server is configured on the top half of the SIP page.

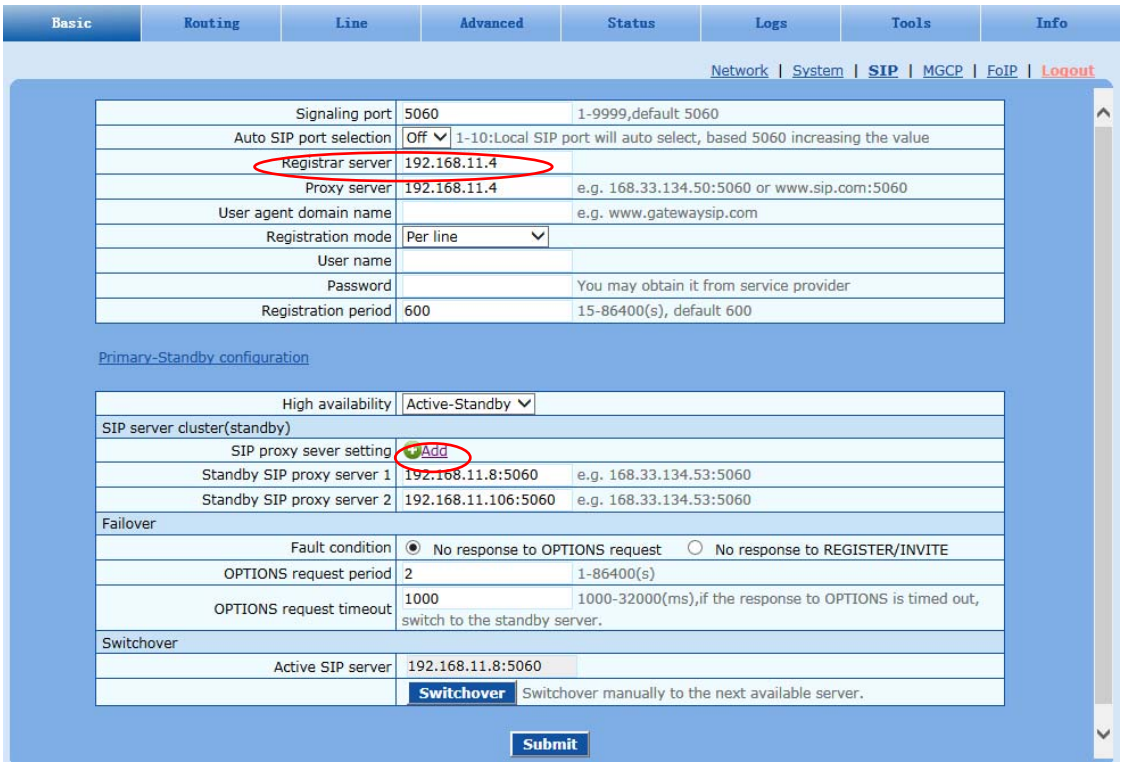
Here are the steps to configure the IP addresses of the standby SIP servers:

Step1 Ensure that active-standby feature is enabled.

Step2 Fill primary SIP server IP address in **Registrar serve**r, and then submit.

Step3 Click **Add** and fill the IP addresses for the standby SIP servers in **Standby SIP server**s.

Figure 2-2 Page to set registrar server



2.2.2 Configuring the Domain Name of the Primary Server

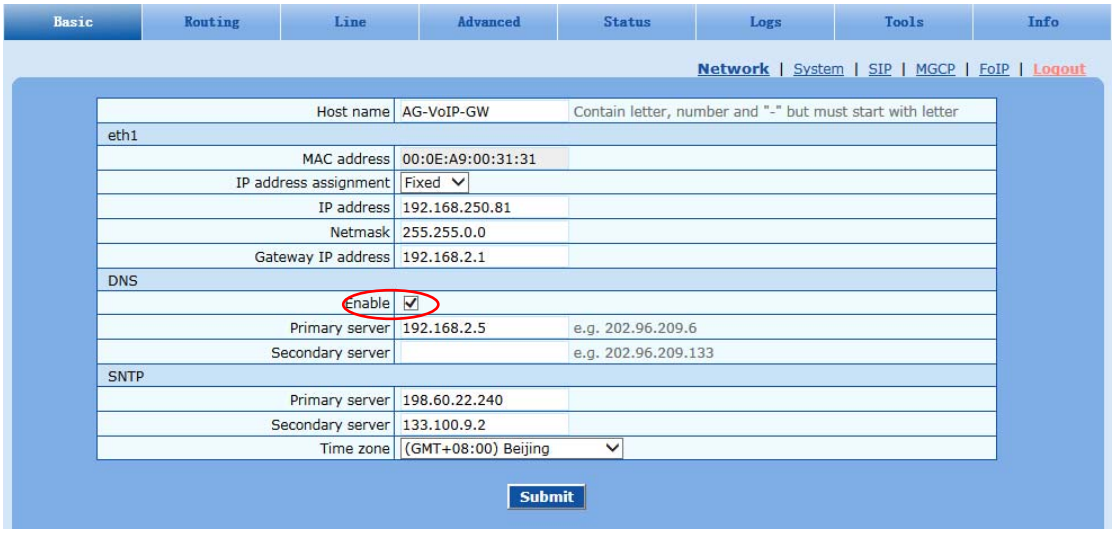
In case the primary SIP server is located through the domain name, the steps below should be follows:

Step1 Ensure that active-standby feature is enabled.

Step2 Fill registrar server domain name in **Registrar server**, then submit.

Step3 Click **Basic** > **Network**, check **Enable** in **DNS**， fill IP address in **Primary server**， and then submit.

Figure 2-3 Page to set DNS server



2.3 Set the Failover Condition

You should choose one of the following conditions:

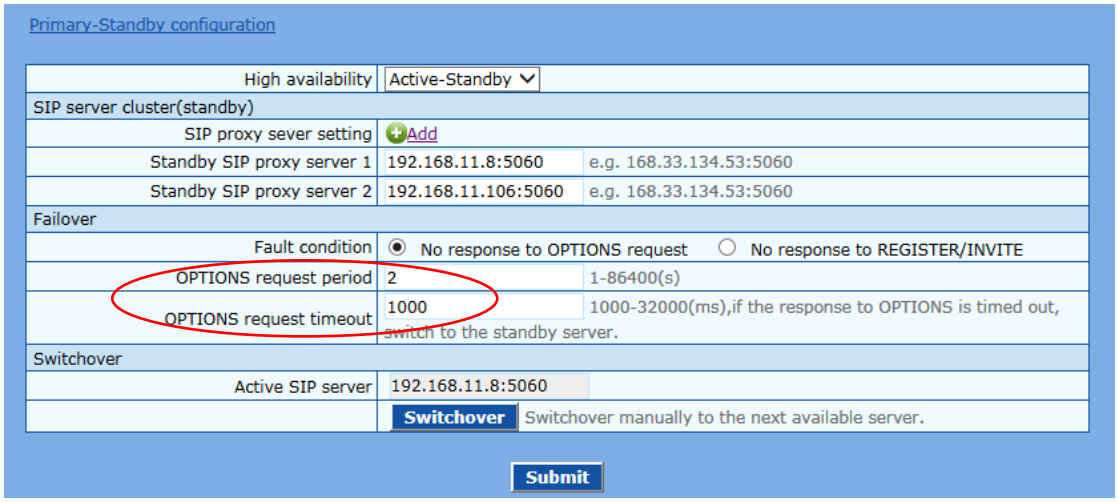
- No response to OPTIONS message
- No response to REGISTER/INVITE message

2.3.1 No Response to OPTIONS

When this condition is chosen the following timers need to be configured:

- **OPTIONS request period**: The interval between receiving the response (200) from the SIP server to the previous OPTIONS and sending the next OPTIONS.
- **OPTIONS request timeout**: The period since the sending of the last OPTIONS with no response by the SIP server.

Figure 2-4 Page to set failover condition



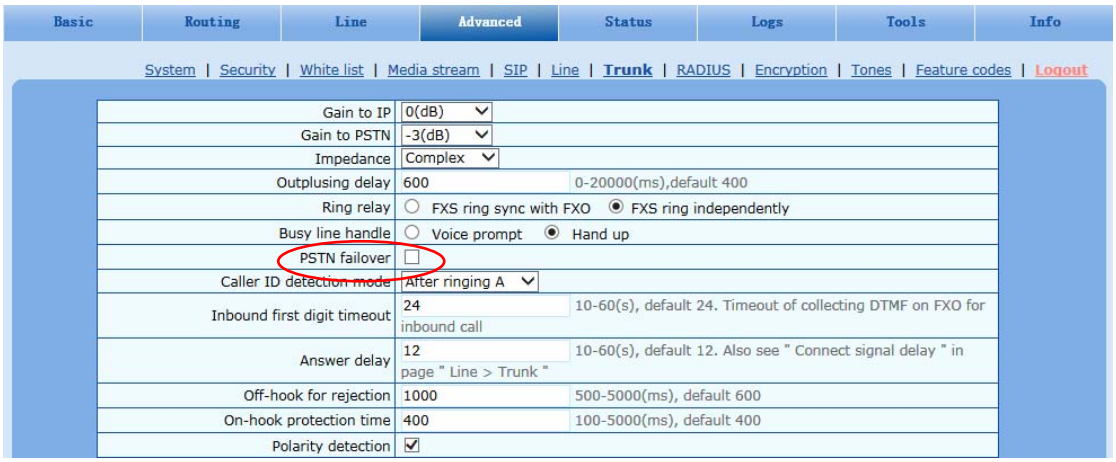
2.3.2 No Response to REGISTER/INVITE

When this condition is chosen, the gateway will failover to the standby SIP server if there is no response to the REGISTER or INVITE.

Note

When high availability feature is enabled, the PSTN failover feature in **Advanced > Trunk** should be disabled as shown in Figure 2-6.

Figure 2-5 Page to disable PSTN failover



2.4 How to Manually Perform Switchover

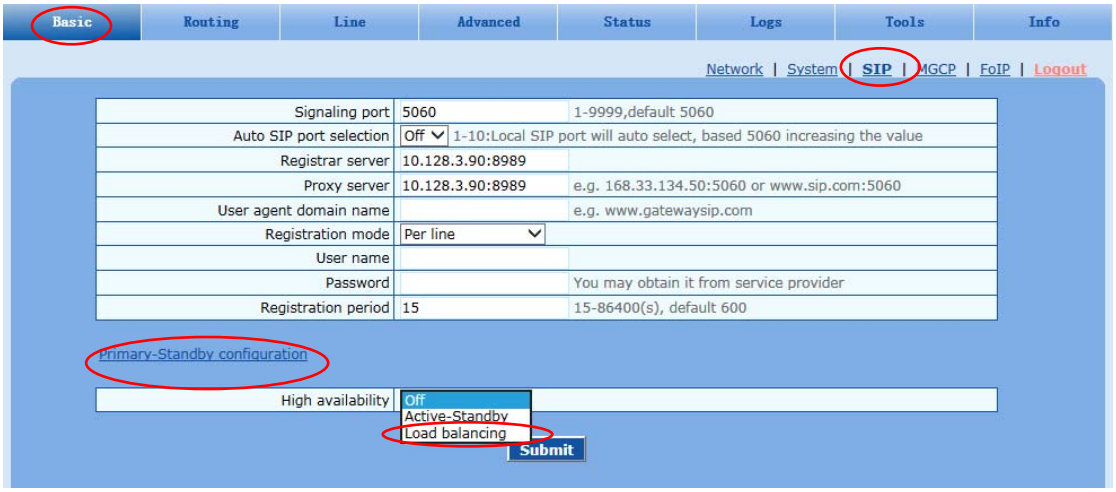
On the Wen GUI of the gateway, the **Switchover** button provides a means to manually switchover the call traffic from the current SIP server to the next available SIP server.

3 Configuring Load Balancing Mode

3.1 Enable Load Balancing Feature

Enter the SIP trunk setting page, and click **Basic > SIP > Primary-Standby configuration** and choose **Load balancing**, then submit.

Figure 3-1 Load balancing configuration page



3.2 Set SIP Servers

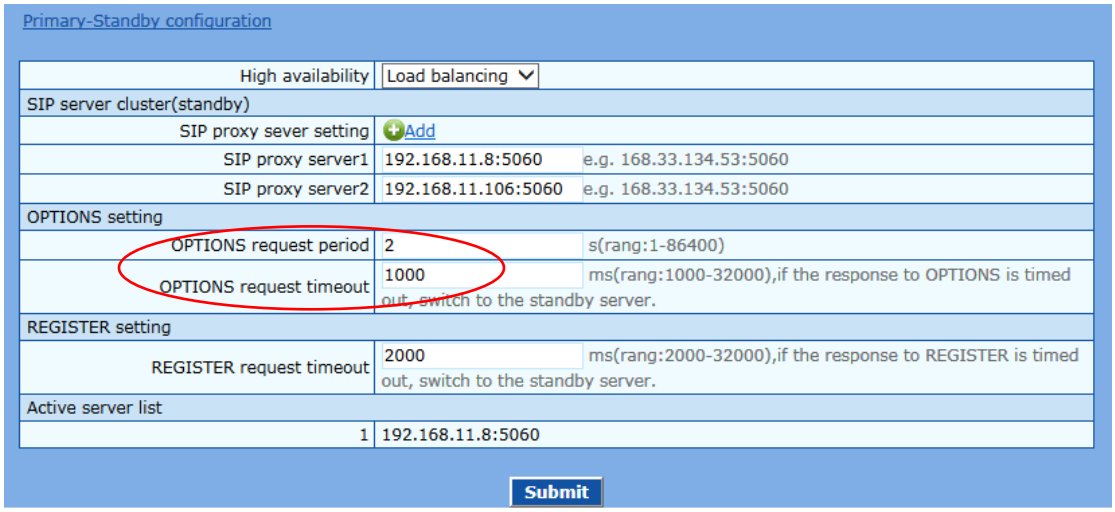
Refer to **2.2 Set Standby SIP Servers**.

3.3 Configure OPTIONS Settings

In the active balancing mode, the following timers need to be configured:

- **OPTIONS request period**: The interval between receiving the response (200) from the SIP server to the previous OPTIONS and sending the next OPTIONS.
- **OPTIONS request timeout**: The period since the sending of the last OPTIONS with no response by the SIP server.

Figure 3-2 Page to configure OPTIONS settings

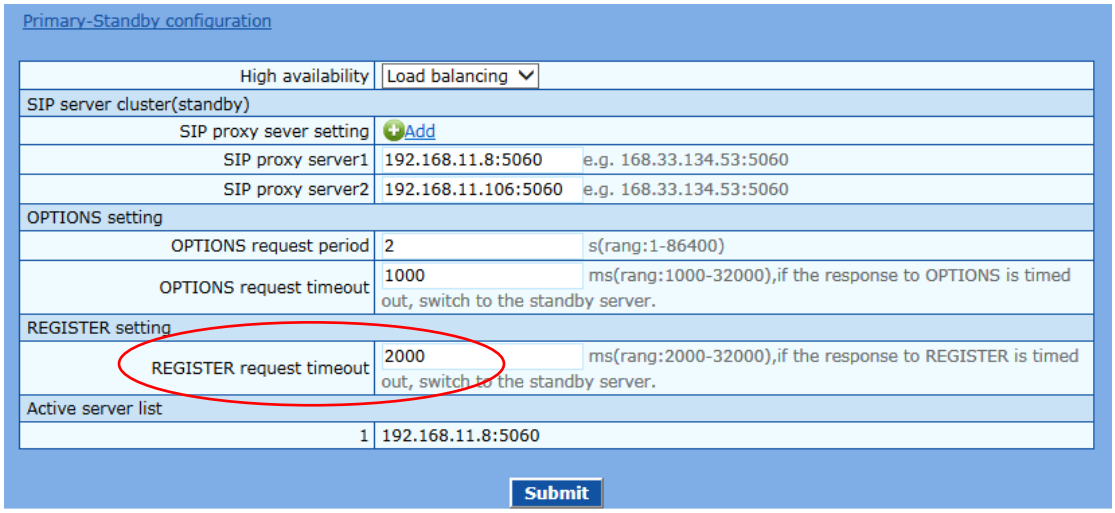


3.4 Configure REGISTER Settings

In the active balancing mode, the following time need to be configured:

- **REGISTER request timeout**: The period from the sending of the first REGISTER with no response by the previous SIP server to the sending of REGISTER to the next SIP server.

Figure 3-3 Page to configure REGISTER settings



3.5 Active Server List

All the SIP servers, on which the gateway or endpoints are registered on, will be listed in active server list.