

SIP Failover to Secondary Static Gateway

All Mediatrix units

DGW 49.2.2941

2023-08-09

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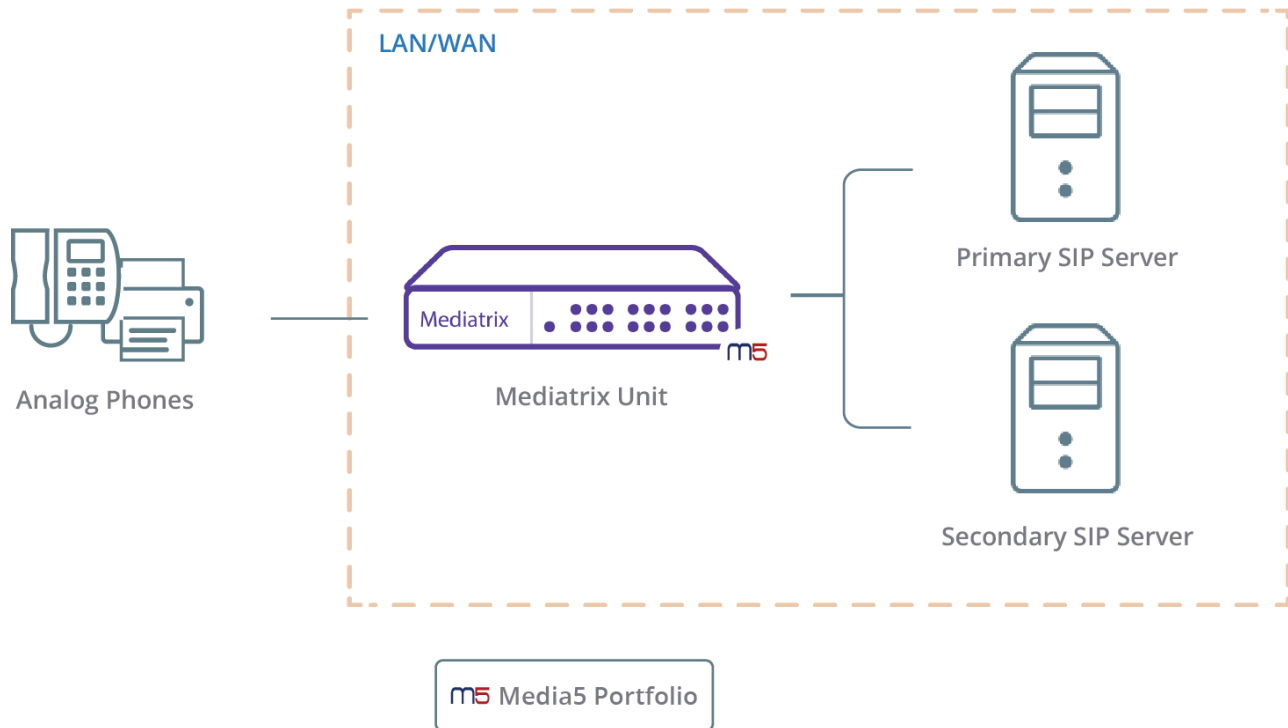
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1 Second SIP Gateway Failover

This scenario describes how to use the Mediatrix unit multiple SIP gateways, keep alive and call routing features in order to set a failover scenario to a secondary SIP gateway when the primary SIP gateway is down.



2 Information to Know Before Starting

Before starting to use these configuration notes, complete the following table to make sure you have the required information to complete the different steps.

IMPORTANT: If you are not familiar with the meaning of the fields and buttons, click **Show Help**, located at the upper right corner of the Web page. When activated, the fields and buttons that offer online help will change to green and if you hover over them, the description will be displayed.

Note: The Mediatrix unit must be reinitialised to its factory default settings to make sure the configuration can be successfully executed.

Information	Value	Used in Step
IP address or FQDN of the Proxy Host		Configuring the Default SIP Servers
IP address or FQDN of the SIP Registrar Host		Configuring the Default SIP Servers
IP address or FQDN of the SIP Proxy Host of Messaging Server Host (if required)		Configuring the Default SIP Servers
IP address or FQDN of the server for the failover gateway		Assigning a Specific Registrar Server to the Failover Gateway (p.9) , Assigning a Specific Proxy Server to the Failover Gateway (p.8) and Configuring the Keep Alive Feature for Primary and Failover SIP Servers (p.10)

3 Requirements

- Network configuration (default router, DNS server, etc.)
- Factory default settings

4 SIP Configuration

4.1 Adding the Failover Gateway

Before you start

To create a second gateway on the same IP address, you will need to use different listening ports. In this example, we use 5066 and 5067.

Steps

- 1) Go to **SIP/Gateways**.
- 2) In the **Gateway Configuration** table, in the **Name** field, enter **failover**.
- 3) Click **+**.
- 4) Complete the fields as follows:

- From the **Type** selection list, select **Trunk**
- From the **Signaling Network** selection list, select **Uplink**
- In the **Port** field, enter 5066
- In the **Secure Port** port field, enter 5067

Note: To create a second gateway on the same IP address, you will need to use different listening ports. In this example, we use 5066 and 5067.

- 5) Click **Apply**.
- 6) Click **restart required services** located at the top of the page.

Result

The **failover** gateway will be available under the **SIP/Servers** page.

Gateway Configuration							
Name	Type	Signaling Network	Media Networks	Media Networks Suggestion	Port	Secure Port	
default	Trunk	Uplink		--- Suggestion ---	0	0	-
failover	Trunk	Uplink		--- Suggestion ---	5066	5067	-
							+

Next Step

[Configuring the Default SIP Servers \(p.8\)](#)

4.2 Configuring the Default SIP Servers

Steps

- 1) Go to **SIP/Servers**.
- 2) In the **Registrar Host** field, indicate the server IP address or FQDN to use for the primary (default) SIP server.
- 3) In the **Proxy Host** field, indicate the server IP address or FQDN to use for the primary (default) SIP server.
- 4) In the **Messaging Server Host** field, indicate the server IP address or FQDN to use for the primary (default) SIP server, if needed.
- 5) Leave the **Outbound Proxy Host** field empty, unless specifically instructed to set a value.

Note: Setting the address to 0.0.0.0:0 or leaving the field empty disables the outbound proxy host.

- 6) Click **Apply**.
- 7) Located at the top of the page, click **restart required services**.

Result

Default Servers		
Registrar Host:	sip.registrarserver.com	
Proxy Host:	sip.proxyserver.com	
Messaging Server Host:		
Outbound Proxy Host:		

Next Step

[Assigning a Specific Proxy Server to the Failover Gateway \(p.8\)](#)

4.3 Assigning a Specific Proxy Server to the Failover Gateway

Steps

- 1) Go to **SIP/Servers**.

- 2) In the **Proxy Servers** table, from the **Gateway Specific** drop down located on the same row as **failover**, select **Yes**.
- 3) In the **Proxy Host** field, indicate the server IP address or FQDN of the failover server.
- 4) In the **Outbound Proxy Host** field, leave 0.0.0.0:0

Note: Setting the address to 0.0.0.0:0 or leaving the field empty disables the outbound proxy host.

- 5) Click **Apply**.

Result

The gateway will now use the specified server IP address or FQDN instead of the default server address.

Proxy Servers				
Gateway	Gateway Specific	Proxy Host	Outbound Proxy Host	
default	No ▾	192.168.0.10:0	0.0.0.0:0	
failover	Yes ▾	sip.failover.com	0.0.0.0:0	

Next Step

[Assigning a Specific Registrar Server to the Failover Gateway \(p.9\)](#)

4.4 Assigning a Specific Registrar Server to the Failover Gateway

Before you start

These steps are only required if using registration.

Steps

- 1) Go to **SIP/Servers**.
- 2) In the **Registrar Servers** table, from the **Gateway Specific** drop down located on the same row as **failover**, select **Yes**.
- 3) In the **Registrar Host** field, indicate the server IP address or FQDN.

Note: This must be consistent with the value used for the **failover** server.

- 4) Click **Apply**.

Result

The gateway will now use the specified the server IP address or FQDN instead of the default server address.

Registrar Servers			
Gateway	Gateway Specific	Registrar Host	
default	No v	192.168.0.10:0	
failover	Yes v	sip.failover.com	

Next Step

Configuring the Keep Alive Feature for Primary and Failover SIP Servers (p.10)

4.5 Configuring the Keep Alive Feature for Primary and Failover SIP Servers

Steps

- 1) Go to **SIP /Servers**.
- 2) In the **Keep Alive** table, from the selection list, select **SIP OPTIONS**.
- 3) In the **Keep Alive Interval** field, enter 30.

Note: This is the recommended value.

- 4) From the **Keep Alive Destination** selection list, select **Alternate Destination**.
- 5) In the **Keep Alive Destination** table, in the **Alternate Destination** field, enter the server IP address or FQDN for the primary gateway.
- 6) In the **Alternate Destination**, enter the server IP address or FQDN for the **failover** gateway.
- 7) Click **Apply**.

Result

Keep-Alive	
Keep-Alive Method:	SIP OPTIONS ▼
Keep-Alive Interval (s):	30
Keep-Alive Retry:	3
Keep-Alive Destination:	Alternate Destination ▼

Keep Alive Destination Gateway	Alternate Destination
default	sip.proxyserver.com
failover	sip.fallbackserver.com

Next Step

[Configuring OPTIONS Method Support \(p.11\)](#)

4.6 Configuring OPTIONS Method Support

Information

Note: This step is required if your server is configured to only receive 200 OK by the Mediatrix unit, when it polls the Mediatrix with SIP OPTIONS.

Note: This is not supported by all SIP servers, this feature is not mandatory in most use cases.

Steps

- 1) Go to **SIP/Interop**.
- 2) In the **SIP Interop** table, from the **OPTIONS Method Support** selection list, select **Always 200 OK**.
- 3) Click **Apply**.

Result

The unit will always answer 200 OK to SIP OPTIONS messages received (Keep Alive).

SIP Interop	
Secure Header:	Disable
Default Username Value:	Anonymous
OPTIONS Method Support:	Always 200 OK
Ignore OPTIONS on no Usuable Endpoints:	Disable
SIP URI User Parameter Value:	
Behavior on Machine Detection:	Re-INVITE on Fax T38 Only
Registration Contact Matching:	Strict
Transmission Timeout:	32

Next Step

[Creating a Hunt Group for Second SIP Gateway Failover \(p.12\)](#)

4.7 Creating a Hunt Group for Second SIP Gateway Failover

Steps

- 1) Go to **Call Router/Route Config**.
- 2) In the **Hunt** table, click **+** located at the bottom of the table.
- 3) In the **Configure New Hunt** table, in the **Name** field, enter **SIP**.
- 4) In the **Destinations** field enter:
 - sip_default
 - sip_failover

Note: The order is important.

- 5) From the **Selection Algorithm** selection list, select **Sequential**.
- 6) In the **Causes** field, leave the default values.
- 7) Click **Save**.
- 8) Click **Save** again.

Result

The Hunt-SIP will be available in the **Suggestion** selection list of the **Auto-Routing Destination** field, in the **Call Router/Auto-Routing** page.

Configure New Hunt		
	Value	Suggestion
Name	SIP	
Destinations	sip_default, sip_failover	--- Suggestion ---
Selection Algorithm	Sequential	
Timeout (seconds)	0	
Causes	31, 34, 38, 41, 42, 43, 44, 47	--- Suggestion ---
Config Status		

4.8 Modifying Auto-Routing for Second SIP Gateway Failover

Steps

- 1) Go to **Call Router/Auto-Routing**.
- 2) In the **Endpoints auto-routing** table, click  next to the first FXS port.
- 3) In the **Configure Auto-Routing**, in the **Auto-Routing Gateway** field, enter **default, failover**.
- 4) In the **Auto-Routing Destination** field, enter hunt-SIP.
- 5) Check all FXS endpoints.
- 6) Click **Apply**.

Result

Endpoint Auto-routing		Auto-routing Gateway	Auto-routing Destination	E164	SIP Username	Name	
Endpoint	Auto-routable						
FXS1	H/W Dependent	default, failover	hunt-SIP				
FXS2	H/W Dependent	default, failover	hunt-SIP				
FXS3	H/W Dependent	default, failover	hunt-SIP				
FXS4	H/W Dependent	default, failover	hunt-SIP				
FXS5	H/W Dependent	default, failover	hunt-SIP				
FXS6	H/W Dependent	default, failover	hunt-SIP				
FXS7	H/W Dependent	default, failover	hunt-SIP				
FXS8	H/W Dependent	default, failover	hunt-SIP				
PRI1	H/W Dependent	default					

Next Step

[Saving the Routes](#) (p.14)

4.9 Saving the Routes

Steps

- 1) Go to **Call Router/Route Config**.
- 2) Scroll to the bottom of the page.
- 3) Click **Save**.

Result

At the top of the page, make sure **Config.Modified** is set to **No**.

5 SIP Registration and Authentication for SIP Failover

For the most common scenarios, the SIP server will require the Mediatrix unit to register and to provide authentication.

Note: if you do not use registration, you can continue to the [Testing Second SIP Gateway Failover](#) (p.19) Section.

The most common configuration is Endpoint Registration, where every FXS port needs to be registered separately. For more details refer to [Registering Endpoints to All Gateways](#) (p.15) and [Configuring Endpoint Authentication](#) (p.16)

However there is also a use-case where Unit Registration is done on different username for each gateway, often used with PBX trunks. For more details refer [Registering a Unit to a Specific Gateway for Second SIP Gateway Failover](#) (p.17)

5.1 Endpoint Registration

5.1.1 Registering Endpoints to All Gateways

Steps

- 1) Go to **SIP/Registrations**.

Note: If two or more endpoints have the same user name, a single registration request and/or subscription request will be performed under that user name.

- 2) For each endpoint requiring registration, repeat the following 2 steps.
- 3) From the **Register** selection list, select **Enable**.
- 4) From the **Gateway Name** selection list, select **All** for each endpoint.
- 5) Click **Apply and Refresh**.

Result

Endpoints Registration						
Endpoint	User Name	Friendly Name	Register	Messaging	Gateway Name	
Endpoint 1	user_name1		Enable ▾	Disable ▾	all ▾	
Endpoint 2	user_name2		Enable ▾	Disable ▾	all ▾	
Endpoint 3	user_name3		Enable ▾	Disable ▾	all ▾	
Endpoint 4	user_name4		Enable ▾	Disable ▾	all ▾	

Next Step

[Configuring Endpoint Authentication](#) (p.16)

5.1.2 Configuring Endpoint Authentication

Steps

- 1) Go to **SIP/Authentication**.
- 2) Click **Edit All Entries** located at the bottom of the page.
- 3) In the **Authentication** table, from the **Criteria** selection list, select **Endpoint** for all endpoints needing registration.
- 4) From the **Endpoint** selection list, select the related FXS port for each entry.
- 5) From the **Realm** field, enter the provided realm and from the **Validate Realm** selection list, select **Enable**. If no **Realm** was provided, leave the field empty and from the **Validate Realm** selection list, select **Disable**.
- 6) In the **User Name** field, enter the SIP user name for each entry.
- 7) In the **Password** field, enter the appropriate password for each entry.
- 8) Click **Apply and Refresh Registration**.

Result

The endpoints will be registered.

Authentication								
Priority	Criteria	Endpoint	Gateway	Username Criteria	Validate Realm	Realm	User Name	Password
1	Endpoint	Endpoint 1			Disable		SIP user_name	*****
2	Endpoint	Endpoint 2			Disable		SIP user_name	*****
3	Endpoint	Endpoint 3			Disable		SIP user_name	*****
4	Endpoint	Endpoint 4			Disable		SIP user_name	*****

5.2 Registering Unit with a Different Authentication for Each Gateway

5.2.1 Registering a Unit to a Specific Gateway for Second SIP Gateway Failover

Steps

- 1) Go to **SIP/Registrations**.
- 2) In the **Unit Registration** table, click **+**.
- 3) In the **User Name** field, enter the username that will be used to authenticate with the primary (default) SIP gateway,
- 4) From the **Gateway Name** selection list, select **default**.
- 5) In the **Unit Registration** table, click **+**.
- 6) In the **User Name** field, enter the username that will be used to authenticate with the failover SIP gateway.
- 7) From the **Gateway Name** selection list, select **failover**.
- 8) Click **Apply and Refresh**.

Result

The information will be displayed in the **Unit Registration Status** table.

Unit Registration			
Index	User Name	Gateway Name	
1	default_user	default	-
2	fallback_user	fallback	-
			+

Next Step

[Configuring Authentication for Second Sip Gateway Failover \(p.17\)](#)

5.2.2 Configuring Authentication for Second Sip Gateway Failover

Steps

- 1) Go to **SIP/Authentication**.
- 2) Click **Edit All Entries** located at the bottom of the page.
- 3) In the **Authentication** table, from the **Criteria** selection list, select **Gateway** for two entries.

- 4) From the **Gateway** selection list, select **default** for the first entry, and **failover** for the second entry.
- 5) From the **Validate Realm** selection list, select **Disable** for both entries.
- 6) In the **User Name** field, enter the appropriate username for the default server in the first entry, and the username for the failover server in the second entry.
- 7) In the **Password** field, enter the appropriate password for each entry.
- 8) Click **Apply and Refresh Registration**.

Result

The unit will register to the default and failover servers.

Authentication									
Priority	Criteria	Endpoint	Gateway	Username	Criteria	Validate Realm	Realm	User Name	
1	Gateway		default			Enable		default_user	    
2	Gateway		failover			Enable		failover_user	    

6 Testing Second SIP Gateway Failover

Steps

- 1) Make an outbound call from an endpoint. It will be routed via the primary server.
- 2) Make the primary server unreachable, by dropping its SIP service or adding a firewall rule that will block communications between the Mediatrix and the primary SIP server. Calls will be routed via the failover SIP server.

7 DGW Documentation

Mediatrix devices are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Media5 Documentation Portal](#).

Several types of documents were created to clearly present the information you are looking for. Our documentation includes:

- **Release notes:** Generated at each GA release, this document includes the known and solved issues of the software. It also outlines the changes and the new features the release includes.
- **Configuration notes:** These documents are created to facilitate the configuration of a specific use case. They address a configuration aspect we consider that most users will need to perform. However, in some cases, a configuration note is created after receiving a question from a customer. They provide standard step-by-step procedures detailing the values of the parameters to use. They provide a means of validation and present some conceptual information. The configuration notes are specifically created to guide the user through an aspect of the configuration.
- **Technical bulletins:** These documents are created to facilitate the configuration of a specific technical action, such as performing a firmware upgrade.
- **Hardware installation guide:** They provide the detailed procedure on how to safely and adequately install the unit. It provides information on card installation, cable connections, and how to access for the first time the Management interface.
- **User guide:** The user guide explains how to customise to your needs the configuration of the unit. Although this document is task oriented, it provides conceptual information to help the user understand the purpose and impact of each task. The User Guide will provide information such as where and how TR-069 can be configured in the Management Interface, how to set firewalls, or how to use the CLI to configure parameters that are not available in the Management Interface.
- **Reference guide:** This exhaustive document has been created for advanced users. It includes a description of all the parameters used by all the services of the Mediatrix units. You will find, for example, scripts to configure a specific parameter, notification messages sent by a service, or an action description used to create Rulesets. This document includes reference information such as a dictionary, and it does not include any step-by-step procedures.

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