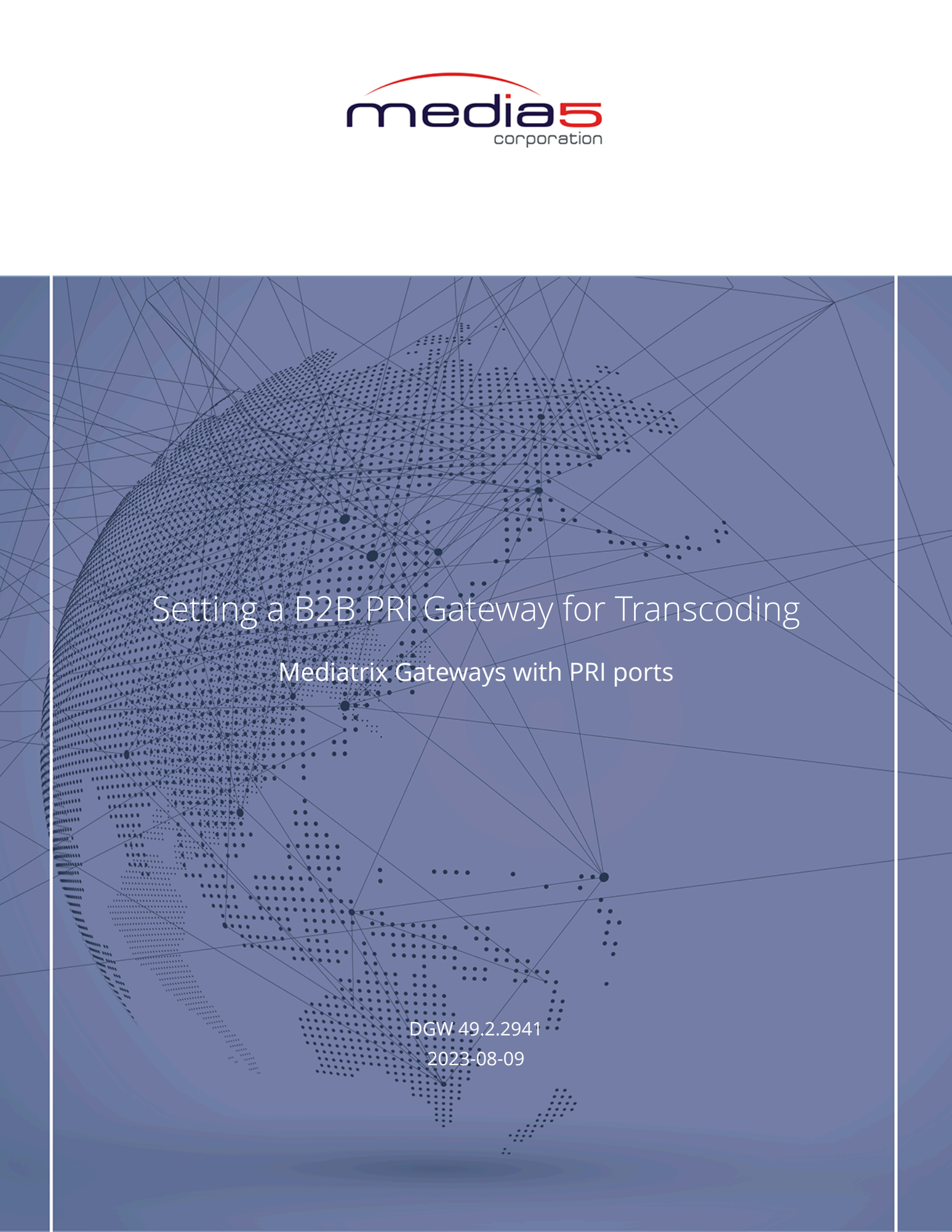


The background of the slide is a dark blue gradient with a complex, abstract graphic. It features a network of thin, light blue lines connecting various points, creating a web-like structure. Overlaid on this is a large, semi-transparent globe or sphere composed of a dense grid of small dots. The globe is tilted and appears to be part of the network structure.

Setting a B2B PRI Gateway for Transcoding Mediatrix Gateways with PRI ports

DGW 49.2.2941
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Table of Contents

1 Information to Know Before Starting	3
2 B2B PRI Gateway Used for Transcoding	4
2.1 Setting Up the Pair of PRI Ports	4
2.2 Selecting the Preferred Codec for Transcoding	6
2.3 Selecting the DTMF Transport Used for Transcoding	7
2.4 Creating a Trunk SIP Gateway on the LAN Network Interface	8
2.5 Assigning the SIP Servers to the SIP Trunk Gateways	8
2.6 Configuring Gateway Authentication	10
2.7 Creating the Routes from the PRI ports to the IP Gateways	11
2.8 Routing the SIP Proxy Traffic to the Appropriate Gateway	12
3 Configuring IPv6 and IPv4 Interworking (optional)	13
3.1 Creating the Uplinkv6 Network Interface	13
3.2 Assigning the IPv6 Network Interface to the Default2 Gateway	13
4 Online Help	14
5 DGW Documentation	15
6 Copyright Notice	16

1 Information to Know Before Starting

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

- 2 PRI ports must be physically connected with a straight RJ-48 cable.
- The SIP proxy 1 is on the WAN side
- The SIP proxy 2 is on the LAN side
- PRI ports are set to E1 for maximum capacity
- Routes
 - First set of routes is between PRI port 1 and the first SIP gateway, one for incoming and one for outgoing traffic.
 - Second set is between PRI port 2 and sip gateway 2, again one for incoming and one for outgoing traffic.
- Two Ethernet ports are used. Make sure IP routing is configured correctly for your setup. This is to avoid traffics towards the second proxy routed to the wrong network interface, and vice versa.
- To use IPv6, one of the SIP Proxy Servers must use the IPv6

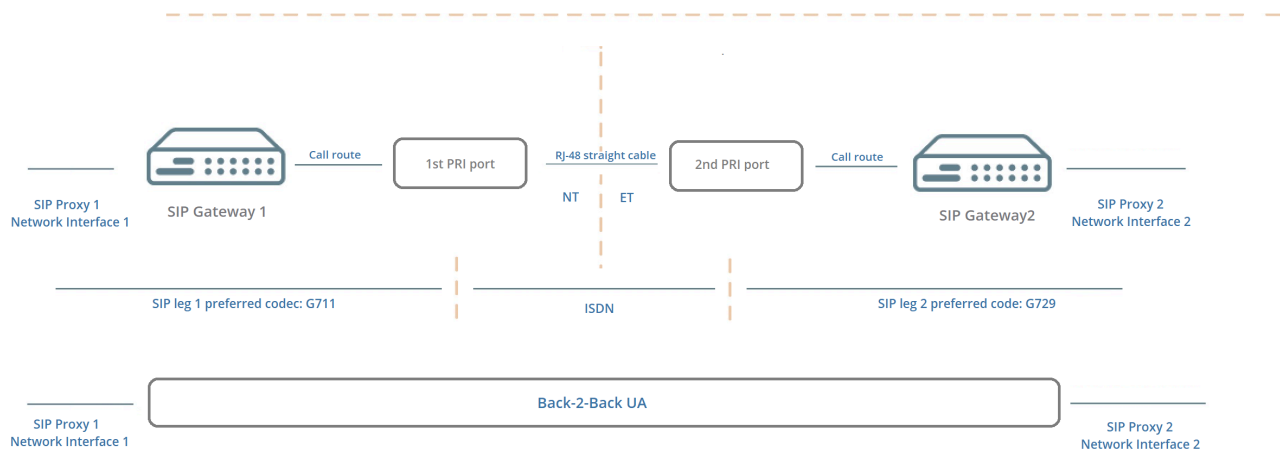
2 B2B PRI Gateway Used for Transcoding

This document describes a configuration which can be applied for codec transcoding.

Two PRI ports are looped to each other, forming a back-to-back user-agent (B2BUA) setup. The transcoding is performed by the DSP chip on the PRI card. Since the loopback link is a PRI circuit, it is fully digital. There is no A/D, nor D/A conversion. The end-to-end voice quality is therefore mostly preserved.

In terms of capacity, a Mediatrix G7 gateway equipped with 2 PRI ports can provide up to 30 transcoding channels. Whereas a fully loaded 8 PRI Sentinel 400 can provide up to 120 transcoding channels.

By default, the PRI port is set to E1, which has 30 bearer channels for voice. If the PRI was set to T1 (23B+D), it would only have 23 bearer channels for voice. To achieve the maximum capacity, set the PRI port to E1.



2.1 Setting Up the Pair of PRI Ports

Before you start

Physically connect 2 PRI ports with a straight RJ-48 cable.

Information

Steps

- 1) Go to **ISDN/Primary Rate Interface**.
- 2) From the **Select Interface** selection list, choose the first PRI port.
- 3) In the **Interface Configuration** table, set the **Endpoint Type** to **NT**.

Note: Make sure **Line Type** is set to **E1**.

- 4) From the **Select Interface** selection list, choose the second PRI port.
- 5) In the **Interface Configuration** table, set the **Endpoint Type** to **TE**.

Note: Make sure **Line Type** is set to **E1**.

- 6) Make sure that the other fields of the **Interface Configuration** table are configured the same way for both ports, i.e. same values.
- 7) Click **Apply**.

Result

Go to **ISDN/Status**. The status of the **Signaling** and **Physical Link** should be at **Up**.

PRI1 [Configure]				
Line Type: E1				
Physical Link: Up				
Signaling: Up				
Bearer Group				
Channel 1: Idle	Channel 9: Idle	Channel 17: Idle	Channel 25: Idle	
Channel 2: Idle	Channel 10: Idle	Channel 18: Idle	Channel 26: Idle	
Channel 3: Idle	Channel 11: Idle	Channel 19: Idle	Channel 27: Idle	
Channel 4: Idle	Channel 12: Idle	Channel 20: Idle	Channel 28: Idle	
Channel 5: Idle	Channel 13: Idle	Channel 21: Idle	Channel 29: Idle	
Channel 6: Idle	Channel 14: Idle	Channel 22: Idle	Channel 30: Idle	
Channel 7: Idle	Channel 15: Idle	Channel 23: Idle		
Channel 8: Idle	Channel 16: Idle	Channel 24: Idle		

PRI2 [Configure]				
Line Type: E1				
Physical Link: Up				
Signaling: Up				
Bearer Group				
Channel 1: Idle	Channel 9: Idle	Channel 17: Idle	Channel 25: Idle	
Channel 2: Idle	Channel 10: Idle	Channel 18: Idle	Channel 26: Idle	
Channel 3: Idle	Channel 11: Idle	Channel 19: Idle	Channel 27: Idle	
Channel 4: Idle	Channel 12: Idle	Channel 20: Idle	Channel 28: Idle	
Channel 5: Idle	Channel 13: Idle	Channel 21: Idle	Channel 29: Idle	
Channel 6: Idle	Channel 14: Idle	Channel 22: Idle	Channel 30: Idle	
Channel 7: Idle	Channel 15: Idle	Channel 23: Idle		
Channel 8: Idle	Channel 16: Idle	Channel 24: Idle		

Next Step

Selecting the Preferred Codec for Transcoding (p.6)

2.2 Selecting the Preferred Codec for Transcoding

Steps

- 1) Go to **Media/ Codecs**.

- 2) From the **Select Codec Bank**, choose the bank that includes the codec you wish to use.
- 3) From the **Select Endpoint** selection list, choose the first PRI port.
- 4) From the **Voice** column, enable the codec that is allowed for the first SIP leg.
- 5) Disable all other codecs for that PRI port.
- 6) If necessary, click  to adjust Packetisation time.
- 7) Click **Apply**.
- 8) From the **Select Endpoint** selection list, choose the second PRI port.
- 9) From the **Voice** column, enable the codec that is allowed for the second SIP leg.
- 10) Disable all other codecs for that PRI port.
- 11) If necessary, click  to adjust Packetisation time.
- 12) Click **Apply**.

Result

The selected Codec will be used for transcoding when traffic goes through the associated PRI port.

Next Step

[Selecting the DTMF Transport Used for Transcoding \(p.7\)](#)

2.3 Selecting the DTMF Transport Used for Transcoding

Steps

- 1) Go to **Media/Misc**.
- 2) From the **Select Endpoint** selection list, choose the first PRI port.
- 3) In the **DTMF Transport** table, set the **Endpoint Specific** selection list to **Enable**.
- 4) From the **Transport Method** selection list, choose the DTMF transport method used for transcoding.
- 5) Click **Apply**.
- 6) From the **Select Endpoint** selection list, choose the second PRI port.
- 7) In the **DTMF Transport** table, set the **Endpoint Specific** selection list to **Enable**.
- 8) From the **Transport Method** selection list, choose the DTMF transport method used for transcoding.
- 9) Click **Apply**.

Result

The selected DTMF transport type will be used when traffic passes through the associated PRI ports.

Next Step

[Creating a Trunk SIP Gateway on the LAN Network Interface \(p.8\)](#)

2.4 Creating a Trunk SIP Gateway on the LAN Network Interface

Information

IMPORTANT: The LAN interface may be used by a SIP gateway to be bound on the LAN. However, there is no routing between the LAN and the Uplink interface.

Steps

- 1) Go to **SIP/Gateways**.
- 2) In the **Gateway Configuration** table, in the **Name** field, enter the name of the new gateway (ex. default2).
- 3) Click **+**.
- 4) From the **Type** selection list, select **tTrunk**.
- 5) From the **Signaling Network** selection list, select **Lan1**.
- 6) In the **Port** and **Secure Port** fields, enter the gateway listening port to use.

Note: The default value is 0, which means it will use Port 5060 and Secure Port 5061. To have multiple gateways in the same Signaling Network, use different ports, for example Port 5062 and Secure Port 5063.

- 7) Click **Apply**.
- 8) Click **restart required services** located at the top of the page.

Result

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

Next Step

[Assigning the SIP Servers to the SIP Trunk Gateways \(p.8\)](#)

2.5 Assigning the SIP Servers to the SIP Trunk Gateways

Before you start

You can assign a specific Registrar Server to the default gateway, or to a gateway you have created.

Steps

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

- 2) In the **Registrar Servers** table, from the **Gateway Specific** drop down list, select **Yes** for both SIP Gateways.
- 3) In the **Registrar Host** field, for both SIP gateways, indicate the IP address or FQDN of the SIP proxy.
- 4) In the **Proxy Servers** table, from the **Gateway Specific** drop down list, select **Yes** for both SIP Gateways.
- 5) In the **Proxy Host** field, for both SIP gateways, indicate the IP address or FQDN of the SIP proxy.
- 6) In the **Outbound Proxy Host**, for both SIP gateways, indicate the SIP outbound proxy server FQDN and port for a specific SIP gateway.
- 7) Click **Apply**.

Result

The gateway(s) for which **Yes** was selected will use the specified IP address or FQDN instead of the default IP address or FQDN indicated in the **Proxy Host** field of the **Default Servers** table, under **SIP/Servers**.

Default Servers			
Registrar Host:	sip_domain		
Proxy Host:	sip_domain		
Messaging Server Host:			
Outbound Proxy Host:	session_border_controller_IP/FQDN		

Registrar Servers		
Gateway	Gateway Specific	Registrar Host
default	Yes	proxy1.com
default2	Yes	proxy2.com

Messaging Servers		
Gateway	Gateway Specific	Messaging Server Host
default	No	192.168.10.10:0
default2	No	192.168.10.10:0

Proxy Servers			
Gateway	Gateway Specific	Proxy Host	Outbound Proxy Host
default	Yes	proxy1.com	1.1.1.1:0
default2	Yes	proxy2.com	2.2.2.2:0

Next Step

[Configuring Gateway Authentication \(p.10\)](#)

2.6 Configuring Gateway Authentication

Before you start

The SIP gateway must be configured as a Trunk.

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 all gateways needing registration.
- 4) From the **Gateway** selection list, select the related gateway 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

Each gateway will be registered.

Authentication

Authentication									
Priority	Criteria	Endpoint	Gateway	Username Criteria	Validate Realm	Realm	User Name	Password	
1	Gateway		Gateway_name		Disable		user name	password	
2	Gateway		Gateway_name		Enable	provided realm	user name	password	

Next Step

Creating the Routes from the PRI ports to the IP Gateways (p.11)

2.7 Creating the Routes from the PRI ports to the IP Gateways

Steps

- 1) Go to **Call Router/Route Config**.
- 2) In the **Routes** table, click **+**.
- 3) In the **Configure New Route** table, complete the following fields as follows:
 - a) **Sources**: sip-default
 - b) **Criteria Property**: none
 - c) **Destination**: isdn-PRI1
- 4) Click **Save**.
- 5) In the **Routes** table, click **+**.
- 6) In the **Configure New Route** table, complete the following fields as follows:
 - a) **Sources**: isdn-PRI1
 - b) **Criteria Property**: none
 - c) **Destination**: sip-default
- 7) Click **Save**.
- 8) In the **Routes** table, click **+**.
- 9) In the **Configure New Route** table, complete the following fields as follows:
 - a) **Sources**: sip-default2
 - b) **Criteria Property**: none
 - c) **Destination**: isdn-PRI2
- 10) Click **Save**.
- 11) In the **Routes** table, click **+**.
- 12) In the **Configure New Route** table, complete the following fields as follows:
 - a) **Sources**: isdn-PRI2
 - b) **Criteria Property**: none
 - c) **Destination**: sip-default2
- 13) Click **Save**.
- 14) If numbering manipulations are required, refer to [Call Router Basic Routes](#) published on the Media5 documentation portal at <https://documentation.media5corp.com>

Result

Routes							
Index	Sources	Criteria Property	Criteria Rule	Transformations	Signaling Properties	Destination	
1	sip-default	None				isdn-PRI1	    
2	isdn-PRI1	None				sip-default	    
3	sip-default2	None				isdn-PRI2	    
4	isdn-PRI2	None				sip-default2	    
							

Next Step

[Routing the SIP Proxy Traffic to the Appropriate Gateway \(p.12\)](#)

2.8 Routing the SIP Proxy Traffic to the Appropriate Gateway

Before you start

Steps

- 1) Go to **Network/IP Routing**.
- 2) In the **Static IP Routes** table, click .
- 3) In the **Destination** field enter the IP address of the first SIP Proxy.

Note: the value must be the same as the one defined in the **Outbound Proxy Host** field for the default gateway in the [Assigning the SIP Servers to the SIP Trunk Gateways](#) (p.8) step.

- 4) From the **Link** selection list, choose **eth1**.
- 5) In the **Gateway** field, enter the Static IP address and port of the Network interface associated to the **eth1** port. (under **Network/Interfaces**.
- 6) Click .
- 7) In the **Destination** field enter the IP address of the second SIP Proxy.

Note: the value must be the same as the one defined in the **Outbound Proxy Host** field for the default2 gateway in the [Assigning the SIP Servers to the SIP Trunk Gateways](#) (p.8) step.

- 8) From the **Link** selection list, choose **eth2-5**.
- 9) In the **Gateway** field, enter the Static IP address and port of the Network interface associated to the **eth2-5** port. (under **Network/Interfaces**.
- 10) Click **Save & Apply**.

Result

The default gateway will be associated with the first SIP proxy server and the default2 gateway will be associated with the second SIP Proxy server.

3 Configuring IPv6 and IPv4 Interworking (optional)

3.1 Creating the Uplinkv6 Network Interface

Steps

- 1) Go to **Network/Interfaces**.
- 2) In the **Name** field located at the bottom of the **Network Interface Configuration** table, enter UplinkV6.
- 3) Click **+**.
- 4) From the **Link** selection list, choose, **eth1**.
- 5) From the **Type** selection list, choose **IP6autoConf (IPv6 Auto-Conf)**.
- 6) From the **Activation** selection list, choose **Enable**.

Result

The new IPv6 network interface will be available under the **SIP/Gateway** page to be assigned to a gateway.

Next Step

[Assigning the IPv6 Network Interface to the Default2 Gateway](#) (p.13)

3.2 Assigning the IPv6 Network Interface to the Default2 Gateway

Steps

- 1) Go to **SIP/Gateways**.
- 2) In the **Gateway Configuration** table, on the same line as **default2**, from the **Signaling Network** selection list, choose **eth1-LL**.
- 3) Click **Apply**.

Result

Traffic routed through the second SIP proxy server (default2) will use the IPv6 connection type.

4 Online Help

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.

5 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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