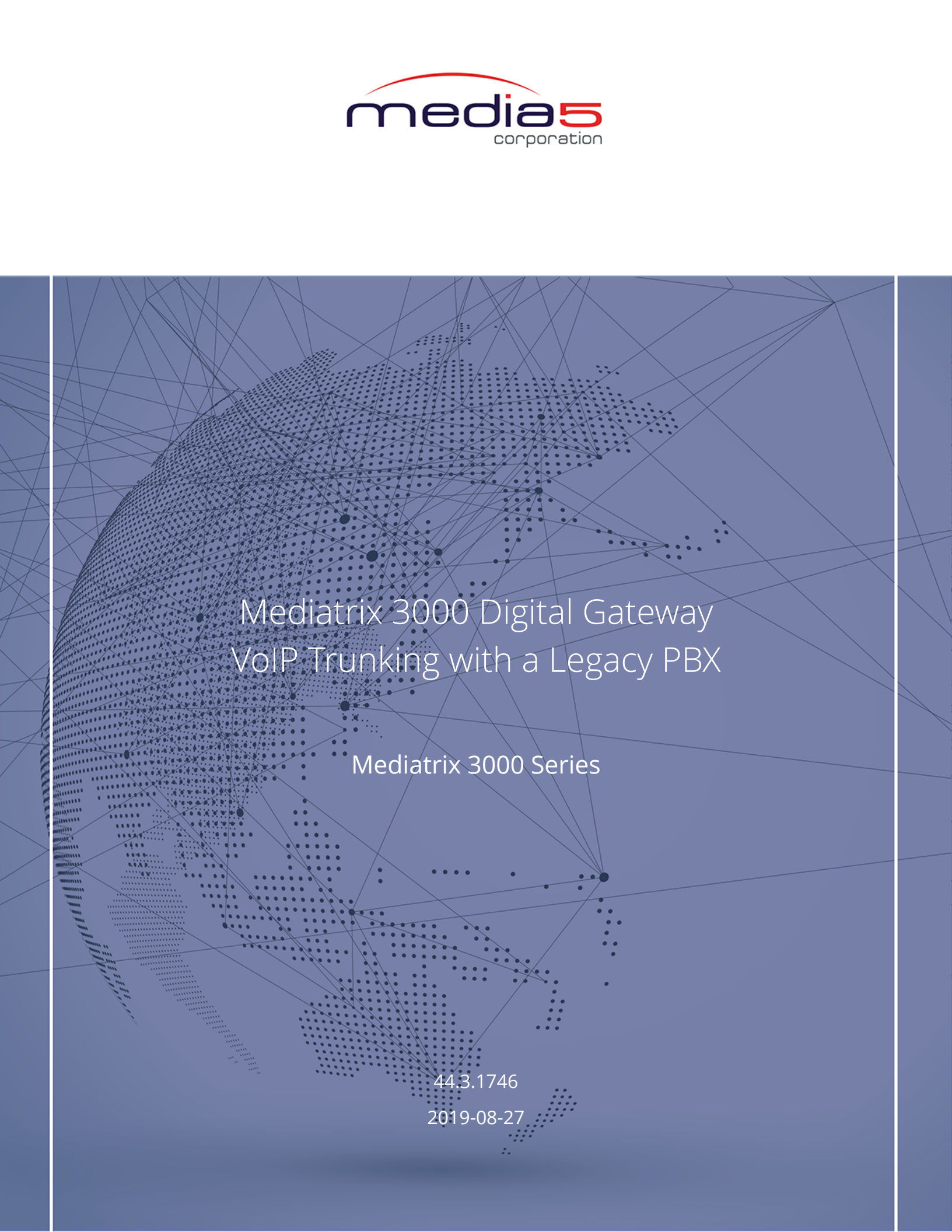


The background of the slide is a dark blue field filled with a complex network of thin, light blue lines connecting numerous small black dots. These dots are arranged in a way that suggests a globe or a large-scale network map, with higher concentrations of dots in certain areas.

# Mediatrix 3000 Digital Gateway VoIP Trunking with a Legacy PBX

Mediatrix 3000 Series

44.3.1746

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# Mediatrix 3000 Digital Gateway VoIP Trunking with a Legacy PBX

This configuration note is a step-by-step guide to set up one Mediatrix 3632 Series digital gateway to provide VoIP trunking with a legacy PBX.

The Mediatrix 3632 is used to connect a branch office's PBX to an existing VoIP network. The configuration starts with the Mediatrix 3632 default configuration but can be easily customized for the 3631, 3531, and 3532, so from now on, the device will be referred to as the **Mediatrix 3000 DG (Digital Gateway)**.

The steps described in the following pages will show you how to setup the Mediatrix 3000 DG so it can:

- Receive calls from the PBX and route them to a remote branch through the VoIP network. (e.g., from Office A to Office B):
  - A user from Office A picks up a phone and dials a number.
  - The PBX uses one of its trunk lines to route the call to the Mediatrix 3000 DG.
  - The Mediatrix 3000 DG forwards the call to the appropriate Mediatrix 1102.
  - The Mediatrix 1102 makes the appropriate analog phone ring.
  - A user in Office B picks up the analog phone and the call is established.
- Receive calls from remote branches through the VoIP network and route them on one of the local branch s PBX lines (e.g., from Office B to Office A):
  - A user from Office B picks up an analog phone and dials a number.
  - The appropriate Mediatrix 1102 routes the call to the Mediatrix 3000 DG.
  - The Mediatrix 3000 DG decides to which ISDN PRI interface route this call.
  - The Mediatrix 3000 DG routes the call to the PBX.
  - The PBX makes the appropriate phone ring.
  - A user from Office A picks up the phone and the call is established.

# Requirements

- Extension numbers behind the PBX correspond to registered users in the SIP server (without authentication);
- Mediatrix 3000 Digital Gateway in Office A is connected to two E1 trunk lines in the PBX;
- Office B setup is functional, and the SIP users are correctly registered to the SIP server

# Configuration of the Mediatrix 3000 DG Digital Gateway

## Using IPv4 to Directly Connect the Mediatrix Unit without a DHCP Server

### Before you start

- Your computer must be set to use the 192.168.0.11 private IP address on subnet 255.255.255.0.
- Make sure that your network connection is working.

### Steps

- 1) Make sure an adequate earth ground connection has been made between the Mediatrix unit and an appropriate grounding point in your site.



**Warning:** Adequate earth grounding connection of the Mediatrix unit is mandatory to avoid any damage or injuries.

- 2) Wear an ESD wrist strap, ensuring it makes good contact with your bare skin.
- 3) Attach the ESD wrist strap end to an earth ground (grounding screw on the back on the Mediatrix unit or unpainted bare metal spot of a grounded equipment rack)
- 4) Make sure the unit's power switch is OFF.
- 5) Make sure the circuit breakers of power sources used to power the Mediatrix unit are OFF.
- 6) Make sure the provided AC Power Cord is connected into the POWER 1 connector located on the back of the Mediatrix unit and in an appropriate AC electrical outlet.
- 7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH5/EXT Ethernet connector of the Mediatrix Sentinel.
- 8) Connect the other end of the cable into your PC.
- 9) Validate the installation.
- 10) Turn ON the power sources that are used to power the Mediatrix unit at the circuit breaker.

**Note:** When the unit is brought from a cold to a warm environment, condensation, that might be harmful to the unit, may occur. If this is the case, wait one hour before connecting the power cord.

- 11) Turn On the power switch of the Mediatrix.

**Note:** Please note that Redundant Power Supply units do not have a power switch.

## Result

You can now use the 192.168.0.10 IP address to access your unit's management interface.

## Next Step

[Logging on to the Mediatrix Unit Web Interface \(p. 7\)](#)

# Using IPv4 to Connect the Mediatrix Unit to a Network with a DHCP Server

## Before you start

- Make sure that your network connection is working.
- If your unit does not have an FXS port, or if you do not have access to the DHCP server's logs, then use the [Using IPv4 to Directly Connect the Mediatrix Unit without a DHCP Server \(p. 5\)](#) procedure.

## Steps

- 1) Make sure an adequate earth ground connection has been made between the Mediatrix unit and an appropriate grounding point in your site.



**Warning:** Adequate earth grounding connection of the Mediatrix unit is mandatory to avoid any damage or injuries.

- 2) Wear an ESD wrist strap, ensuring it makes good contact with your bare skin.
- 3) Attach the ESD wrist strap end to an earth ground (grounding screw on the back on the Mediatrix unit or unpainted bare metal spot of a grounded equipment rack)
- 4) Make sure the unit's power switch is OFF.
- 5) Make sure the circuit breakers of power sources used to power the Mediatrix unit are OFF.
- 6) Make sure the provided AC power cord is connected into the POWER 1 connector located on the back of the Mediatrix unit and in an appropriate AC electrical outlet.
- 7) Connect a 10/100/1000 BaseT Ethernet RJ-45 cable into the ETH1 connector of the Mediatrix Sentinel.
- 8) Connect the other end of the cable to a router/switch connected to your Network.
- 9) Validate the installation.
- 10) Turn ON the power sources that are used to power the Mediatrix unit at the circuit breaker

**Note:** When the unit is brought from a cold to a warm environment, condensation, that might be harmful to the unit, may occur. If this is the case, wait one hour before connecting the power cord.

- 11) Turn On the power switch of the Mediatrix.

**Note:** Please note that Redundant Power Supply units do not have a power switch.

- 12) If you have an FXS port, dial **\*#\*0** to get the IP address or consult the DHCP server's logs to find out your IP address.

## Result

The Power LED on the unit will be flashing when the unit performs a DHCP server query. It will become solid once it successfully gets an IP address from the DHCP server. At this point, you can now use the DHCP server IP address to access your unit's management interface.

## Next Step

[Logging on to the Mediatrix Unit Web Interface \(p. 7\)](#)

# Logging on to the Mediatrix Unit Web Interface

## Before you start

The computer IP address must be in the same TCP/IP network as the Mediatrix unit.

## Information

For better performances, it is recommended to use the latest available version of Microsoft Internet Explorer, Google Chrome, or Mozilla Firefox.

**Note:** You may not be able to log on to the Mediatrix unit Web interface if you are using older browser versions.

## Steps

- 1) In your Web browser, enter the IP address at which the Web interface of your Mediatrix unit can be reached.
  - If your network has an IPv4 DHCP server, connect the primary Ethernet port of the Mediatrix unit to the network (ETH1 port), use the provided DHCP server IP address.
  - You can also connect your computer to the secondary Ethernet port of the Mediatrix unit (ETH2), use the 192.168.0.10 IP address. however, the computer must also own an IP address in the 192.168.0.0/24 network.
- 2) Enter **admin** as your username and **administrator** as the password.

**Note:** You can also use **public** as a username and leave the password field empty. it has the full administration rights by default.

- 3) Click **Login**.

## Result

The **Information** page of the Web interface is displayed.

## Next Step

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

# Configuring the Default SIP Servers

## Information

In some instances, the configuration of the default servers may already be completed.

## Steps

- 1) Go to **SIP/Servers**.
- 2) In the **Registrar Host** field, indicate the server IP address or FQDN to use for this gateway.
- 3) In the **Proxy Host** field, indicate the server IP address or FQDN to use for this gateway.
- 4) In the **Messaging Server Host** field, indicate the server IP address or FQDN to use for this gateway, 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:        | <input type="text" value="sip.registrarserver.com"/> |
| Proxy Host:            | <input type="text" value="sip.proxyserver.com"/>     |
| Messaging Server Host: | <input type="text"/>                                 |
| Outbound Proxy Host:   | <input type="text"/>                                 |

## Next Step

[Registering a Unit to All Gateways \(p. 9\)](#)

## Registering a Unit to All Gateways

### Steps

- 1) Go to **SIP/Registrations**.
- 2) In the **Unit Registration** table, enter in the **User Name**, a username to uniquely identify the user in the domain.
- 3) From the **Gateway Name** selection list, choose **All**.
- 4) Click **Apply and Refresh**.
- 5) Click **restart required services** located at the top of the page.

### Result

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

| Unit Registration |                                           |                                    |   |
|-------------------|-------------------------------------------|------------------------------------|---|
| Index             | User Name                                 | Gateway Name                       |   |
| 1                 | <input type="text" value="default_user"/> | <input type="text" value="all"/> ▼ | – |
| 2                 | <input type="text" value="other_user"/>   | <input type="text" value="all"/> ▼ | – |
|                   |                                           |                                    | + |

## Next Step

[Configuring ISDN \(p. 9\)](#)

## Configuring ISDN

### Steps

- 1) Go to **ISDN/Primary Rate Interface**.
- 2) From the **Select Interface** dropdown, select the interface for which you want to make modifications.

**Note:** Depending on the Mediatrix model, there may be several interfaces.

- 3) In the **Interface Configuration** table, set the **Endpoint Type** to **NT**.

- 4) Leave all the other parameters to their default values.
- 5) Click **Apply**.
- 6) Repeat the tasks **2** to **5** for each interfaces.

## Next Step

[Restarting Services \(p. 10\)](#)

## Restarting Services

### Steps

- 1) Go to **System/Services**.
- 2) In the **restart required services** table, click **restart required services**.

## Next Step

[Creating a Hunt Group - PBX \(p. 10\)](#)

## Creating a Hunt Group - PBX

### Steps

- 1) Go to **Call Router > Route Config**.
- 2) In the **Hunt** table, click **+**
- 3) In the **Configure New Hunt** table, set the following:
  - a) Set the **Name** field to **hunt\_PBX**.
  - b) Using the **Destinations'** dropbox, add the Mediatrix's ISDN PRI interfaces such as **isdn-Slot1/E1T1**.
  - c) Leave the other fields with their default value.
- 4) Click **Save**.

## Result

| Configure Hunt End  |                                                   | Suggestion           |
|---------------------|---------------------------------------------------|----------------------|
|                     | Value                                             |                      |
| Name                | hunt_PBX                                          |                      |
| Destinations        | isdn-Slot3/E1T1, isdn-Slot4/E1T1, isdn-Slot5/E1T1 | --- Suggestion --- ▼ |
| Selection Algorithm | Sequential ▼                                      |                      |
| Timeout (seconds)   | 0                                                 |                      |
| Causes              | 31, 34, 38, 41, 42, 43, 44, 47                    | --- Suggestion --- ▼ |
| Config Status       |                                                   |                      |

## Next Step

Creating a Route from Sip-Default to hunt-hunt\_PBX (p. 11)

## Creating a Route from Sip-Default to hunt-hunt\_PBX

### Steps

- 1) Go to **Call Router > Route Config.**
- 2) In the **Routes** table, click **+**
- 3) In the **Configure Route** table, set the following:
  - a) Set the **Sources** field to **sip-default**.
  - b) Set the **Destination** field to **hunt-hunt\_PBX**.
  - c) Leave the other fields with their default value.
- 4) Click **Save**.

### Result

| Configure Route End  |               | Suggestion           |
|----------------------|---------------|----------------------|
|                      | Value         |                      |
| Sources              | sip-default   | --- Suggestion --- ▼ |
| Properties Criteria  | None ▼        |                      |
| Expression Criteria  |               | --- Suggestion --- ▼ |
| Mappings             |               | --- Suggestion --- ▼ |
| Signaling Properties |               | --- Suggestion --- ▼ |
| Destination          | hunt-hunt_PBX | --- Suggestion --- ▼ |
| Config Status        |               |                      |

Next Step

[Creating a Route From ISDN to SipDefault \(p. 12\)](#)

Creating a Route From ISDN to SipDefault

Steps

- 1) Go to **Call Router > Route Config.**
- 2) In the **Routes** table
  - click **+** located on the same row as an existing route to add a route above or,
  - click **+** located at the bottom of the table to add a route at the end of the table.
- 3) Set the **Sources** field to **isdn-Bri1**.
- 4) Set the **Destination** field to **sip-default**.
- 5) Leave the other fields empty.
- 6) Click on **Save**.
- 7) Repeat the tasks **2** to **7** for the routes.

Result

| Configure Route End  |                                          |                                                 |  |
|----------------------|------------------------------------------|-------------------------------------------------|--|
|                      | Value                                    | Suggestion                                      |  |
| Sources              | <input type="text" value="isdn-Bri1"/>   | <input type="text" value="--- Suggestion ---"/> |  |
| Properties Criteria  | <input type="text" value="None"/>        |                                                 |  |
| Expression Criteria  | <input type="text"/>                     | <input type="text" value="--- Suggestion ---"/> |  |
| Mappings             | <input type="text"/>                     | <input type="text" value="--- Suggestion ---"/> |  |
| Signaling Properties | <input type="text"/>                     | <input type="text" value="--- Suggestion ---"/> |  |
| Destination          | <input type="text" value="sip-default"/> | <input type="text" value="--- Suggestion ---"/> |  |
| Config Status        |                                          |                                                 |  |

## Validation

### Performing a Basic Call - Scenario A

#### Steps

- 1) Pickup Phone A .
- 2) Dial Phone B's number.
- 3) Phone B rings
- 4) Pickup Phone B.

#### Result

The call is established.

### Performing a Basic Call - Scenario B

#### Steps

- 1) Pickup Phone B.
- 2) Dial Phone A's number..
- 3) Phone A rings.
- 4) Pickup Phone A..

#### Result

The call is established.

## 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.

# DGW Documentation

Mediatrix units are supplied with an exhaustive set of documentation.

Mediatrix user documentation is available on the [Documentation Portal](http://documentation.media5corp.com) at <http://documentation.media5corp.com>

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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