

Network Host Parameters
All Mediatrix units

DGW 49.2.2941
2023-08-09

Table of Contents

Basic Concepts	3
DNS Servers	3
Simple Network Time Protocol (SNTP)	3
Time Format	3
Basic Tasks	6
Choosing the Network Providing the IPv4 Automatic configuration	6
Choosing the Network Providing the IPv6 Automatic configuration	6
Configuring the Host Name and Domain Name of the Mediatrix Unit	6
Configuring the Default Network Gateway to a Static IP Address	7
Configuring the Default Network Gateway to an Automatic IP Address	7
Configuring DNS Servers - Automatically	8
Configuring DNS Servers - Manually	9
Configuring the SNTP Server to a Static IP Address	10
Configuring the SNTP Server to an Automatic IP Address	11
Configuring the SNTP Server to an Automatic IP Address with Fallback	12
Selecting the Unit's Time Zone	13
Advanced Network Host Parameters	14
Online Help	15
DGW Documentation	16
Copyright Notice	17

Basic Concepts

DNS Servers

The DNS server list is the ordered list of DNS servers that the device uses to resolve network names.

Up to four servers can be used. The DNS servers can be specified statically or obtained automatically (for example through DHCP or PPP). DNS query results are cached on the system to optimise name resolution time. For more details, refer to [DGW Configuration Guide - DNS Behavior with Mediatrix Gateways](#) published on the [Media5 Documentation Portal](#).

Simple Network Time Protocol (SNTP)

The Simple Network Time Protocol (SNTP) is used to update and synchronise the clock of the Mediatrix unit (day, month, time) when it is restarted.

Mediatrix units do not all include a real time clock allowing them to maintain accurate time when they are shutdown. Your system needs to have access to accurate time, for example if you are using HTTPS or for the caller ID feature. The Mediatrix unit implements a SNTP client, which can synchronise the local clock with remote NTP/SNTP servers. The configuration can be automatic (through DHCP for example), with fallback, or static, with up to four servers.

Time Format

The time format (also known as 'TZ' format) is based on the format described by the IEEE 1003.1 standard (i.e. POSIX specification).

The Time Format contains two parts separated by a semicolon:

- The first part, mandatory, is the system timezone expressed in the IEEE 1003.1 POSIX format (also known as 'TZ' format).
- The second part, available since 46.0 is optional. It is the timezone used for the time displayed in some of the SBC Web pages (Live Calls, Events, and Registration). This part is only useful for units with the Sbc service. This string must be expressed in the IANA format. If this part is not present, the UTC time zone is used on the SBC Web pages.

The first part of the time format has this POSIX syntax:

```
STD OFFSET [ DST [ OFFSET ] , [ START [ / TIME ] , END [ / TIME ] ] ]
```

where:

- **STD / DST:** Three or more characters for the standard (STD) or alternative daylight saving time (DST) time zone. Only STD is mandatory. If DST is not supplied, the daylight saving time does not apply. Lower and upper case letters are allowed. All characters are allowed except:
 - digits
 - leading colon (:)
 - comma (,)
 - minus (-)
 - plus (+), and
 - ASCII NUL.
- **OFFSET:** Difference between the GMT time and the local time. The offset has the format h[h][:m[m]][:s[s]]]. If no offset is supplied for DST, the alternative time is assumed to be one hour ahead of standard time. One or more digits can be used; the value is always interpreted as a decimal number.
 - The hour value must be between 0 and 24.

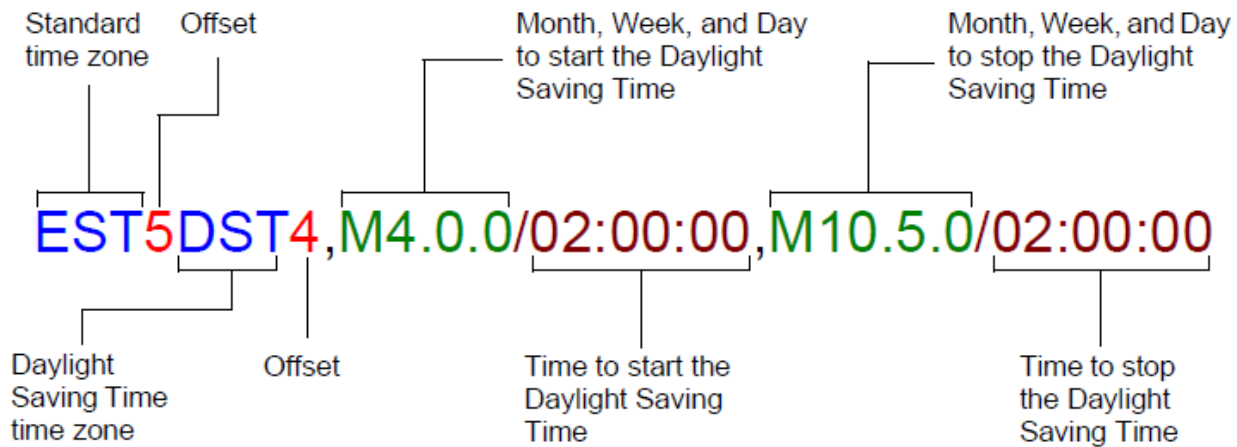
IMPORTANT: If preceded by a minus sign (-), the time zone is east of the prime meridian, otherwise it is west, which can be indicated by the preceding plus sign (+). For example, New York time is GMT 5.

 - The minute and second values, if present, must be between 0 and 59.
- **START / END** Indicates when to change to and return from the daylight saving time. The START argument is the date when the change from the standard to the daylight save time occurs; END is the date for changing back. If START and END are not specified, the default is the US Daylight saving time start and end dates. The format for start and end must be one of the following:
 - **n** where n is the number of days since the start of the year from 0 to 365. It must contain the leap year day if the current year is a leap year. With this format, you are responsible to determine all the leap year details.
 - **Jn** where n is the Julian day number of the year from 1 to 365. Leap days are not counted. That is, in all years – including leap years – February 28 is day 59 and March 1 is day 60. It is impossible to refer to the occasional February 29 explicitly. The TIME parameter has the same format as OFFSET but there can be no leading minus (-) or plus (+) sign. If TIME is not specified, the default is 02:00:00.
 - **Mx[x].y.z** where x is the month, y is a week count (in which the z day exists) and z is the day of the week starting at 0 (Sunday). For instance: M10.4.0 is the fourth Sunday of October. It does not matter if the Sunday is in the 4th or 5th week. M10.5.0 is the last Sunday of October (5 indicates the last z day). It does not matter if the Sunday is in the 4th or 5th week. M10.1.6 is the first week with a Saturday (thus the first Saturday). It does not matter if the Saturday is in the first or second week. The TIME parameter has the same format as OFFSET but there can be no leading minus (-) or plus (+) sign. If TIME is not specified, the default is 02:00:00.

More information on time zones are available at:

- https://en.wikipedia.org/wiki/List_of_time_zone_abbreviations
- https://en.wikipedia.org/wiki/List_of_tz_database_time_zones
- https://www.gnu.org/software/libc/manual/html_node/TZ-Variable.html

Time Format Examples



Time Zone	String	IANA format (Optional, 46.0+)
Atlantic Time (Canada)	AST4ADT,M3.2.0,M11.1.0	America/Halifax
Australia Eastern Standard Time	AEST-10AEDT,M10.1.0,M4.1.0/3	Australia/Sydney
Central European Time	CET-1CEST,M3.5.0,M10.5.0/3	Europe/Brussels
Central Time (Canada & US)	CST6CDT,M3.2.0,M11.1.0	America/Chicago
China Standard Time	CST-8	Asia/Shanghai
Eastern Time Canada & US)	EST5EDT,M3.2.0,M11.1.0	America/Toronto
Greenwich Mean Time	GMT0BST,M3.5.0/1,M10.5.0	Europe/London
Mountain Time (Canada & US)	MST7MDT,M3.2.0,M11.1.0	America/Denver
Pacific Time (Canada & US)	PST8PDT,M3.2.0,M11.1.0	America/Los_Angeles
Japan Standard Time	JST-9	Asia/Tokyo
UTC (Coordinated Universal Time)	UTC0	Etc/UTC
Western Europe Time	WET0WEST,M3.5.0/1,M10.5.0	Europe/Lisbon

Basic Tasks

Choosing the Network Providing the IPv4 Automatic configuration

Steps

- 1) Go to **Network/Host**.
- 2) In the **Automatic Configuration Interface** table, from the **Automatic IPv4 config source network** selection list, choose a network.
- 3) Click **Apply**.

Choosing the Network Providing the IPv6 Automatic configuration

Steps

- 1) Go to **Network/Host**.
- 2) In the **Automatic Configuration Interface** table, from the **Automatic IPv6 config source network** selection list, choose a network.
- 3) Click **Apply**.

Configuring the Host Name and Domain Name of the Mediatrix Unit

Steps

- 1) Go to **Network/Host**.
- 2) In the **Host Name Configuration** table, from the **Configuration Source** selection list, choose the source.

Note: When switching from the Static to Automatic IPv4 or Automatic IPv6 configuration source, the last value correctly obtained from the network (if any) is applied to the system.

- 3) If you are using a Static configuration source, in the **Domain Name** field, enter the domain name of your unit.

Note: The domain name is the network domain to which the unit belongs. For instance: example.com.

- 4) In the **Host Name** field, enter the host name of your unit.

Note: The host name is the unique name by which the unit is known on a network.

- 5) Click **Apply**.

Result

Host Name Configuration	
Domain Name	
Configuration Source:	Static
Domain Name:	domain name of unit
Host Name	
Host Name:	host name of the unit

Configuring the Default Network Gateway to a Static IP Address

Steps

- 1) Go to **Network/Host**.
- 2) In the **Default Gateway Configuration** table, from the **IPv4/Configuration Source** selection list, select **Static**.
- 3) In the **IPv4/Default Gateway** field, enter the IP address used as the **Static Default Router** for the Uplink Network Interface.
- 4) In the **Default Gateway Configuration** table, from the **IPv6/Configuration Source** selection list, select **Static**.
- 5) In the **IPv6/Default Gateway** field, enter the IP address used as the **Static Default Router** for the Uplink Network Interface.
- 6) Click **Apply**.

Result

The specified address is used as the current default router address.

Default Gateway Configuration	
IPv4	
Configuration Source:	Static
Default Gateway:	IP address
IPv6	
Configuration Source:	Static
Default Gateway:	IP address

Configuring the Default Network Gateway to an Automatic IP Address

Steps

- 1) Go to **Network/Host**.

- 2) In the **Default Gateway Configuration** table, from the **IPv4/Configuration Source** selection list, select **Automatic IPv4**.
- 3) In the **Default Gateway Configuration** table, from the **IPv6/Configuration Source** selection list, select **Automatic IPv6**.

Note: When switching from the Static to Automatic configuration source, the last value correctly obtained from the network (if any) is applied to the system.

- 4) Click **Apply**.

Result

Default Gateway Configuration	
IPv4	
Configuration Source:	Automatic IPv4
Default Gateway:	192.168.10.10
IPv6	
Configuration Source:	Automatic IPv6
Default Gateway:	

Configuring DNS Servers - Automatically

Steps

- 1) Go to **Network/Host**.
- 2) In the **DNS Configuration** table, from the **Configuration Source** selection list, choose **Automatic IPv4** or **Automatic IPv6**.
- 3) Click **Apply**.

Result

DNS Configuration	
Configuration Source:	Automatic IPv4 ▾
Primary DNS:	
Secondary DNS:	
Third DNS:	
Fourth DNS:	

Configuring DNS Servers - Manually

Steps

- 1) Go to **Network/Host**.
- 2) In the **DNS Configuration** table, from the **Configuration Source** selection list, choose **Static**.
- 3) For each DNS server, enter the IP address.

Note:

The best practice is to use the servers supplied by your Internet Service Provider (usually the primary and secondary DNS), then complement with publicly accessible DNS servers from a different network.

For example, when using IPv4: Google (8.8.8.8 and 8.8.4.4), CloudFlare (1.1.1.1 and 1.0.0.1), OpenDNS (208.67.222.222 and 208.67.220.220), Level3 (209.244.0.3 and 208.244.0.4), etc.

Or when Using IPv6: Google (2001:4860:4860::8888 and 2001:4860:4860::8844), CloudFlare (2606:4700:4700::1111 and 2606:4700:4700::1001), etc.

- 4) Click **Apply**.

Result

DNS Configuration		
Configuration Source:	Static ▼	
Primary DNS:	Example (Google): 8.8.8.8	
Secondary DNS:	Example (Cloudflare): 1.1.1.1	
Third DNS:	Example (OpenDNS): 208.67.222.222	
Fourth DNS:	Example (Level3): 209.244.0.3	

Configuring the SNTP Server to a Static IP Address

Before you start

Make sure there is an SNTP server available.

Steps

- 1) Go to **Network/Host**.
- 2) In the **SNTP Configuration** table, from the **Configuration Source** selection list, select **Static**.
- 3) Provide an IP address or domain name and port numbers for each SNTP server you are using.

Note: The best practice is to use the servers supplied by your Internet Service Provider, then complement with servers from a different network close to your geographical area. For example: time.nist.gov (USA), ntp4.sptime.se (Sweden), time1.isu.net.sa (Saudi Arabia), ntp.nict.jp (Japan), time.google.com (Worldwide), pool.ntp.org or one of their regional server pools (see <https://www.ntppool.org/> for more information).

- 4) If necessary, change the value of the **Synchronisation Period**.
- 5) If necessary, change the value of the **Synchronisation Period on Error**.
- 6) Click **Apply**.

Result

The SNTP host name and port will be displayed in the **Host Status** table under **Network/Status**.

SNTP Configuration	
Configuration Source:	Static v
Primary SNTP:	address of primary SNTP server
Secondary SNTP:	address of secondary SNTP server
Third SNTP:	address of third SNTP server
Fourth SNTP:	address of fourth SNTP server
Synchronization Period:	1440
Synchronization Period On Error:	60

Configuring the SNTP Server to an Automatic IP Address

Before you start

Make sure there is an SNTP server available.

Steps

- 1) Go to **Network/Host**.
- 2) In the **SNTP Configuration** table, from the **Configuration Source** selection list, select **Automatic IPv4** or **Automatic IPv6**.

Note: Some Uplink connection types (for example Static and PPPoE) cannot obtain SNTP information from the network, and therefore lead to no SNTP parameters being applied to the system.

- 3) If necessary, change the value of the **Synchronisation Period**.
- 4) If necessary, change the value of the **Synchronisation Period on Error**.
- 5) Click **Apply**.

Result

SNTP Configuration	
Configuration Source:	Automatic IPv4 v
Static Servers:	
Primary SNTP:	192.168.10.10:123
Secondary SNTP:	
Third SNTP:	
Fourth SNTP:	
Synchronization:	
Synchronization Period:	1440
Synchronization Period On Error:	60

Configuring the SNTP Server to an Automatic IP Address with Fallback

Before you start

Make sure there is an SNTP server available.

Steps

- 1) Go to **Network/Host**.
- 2) In the **SNTP Configuration** table, from the **Configuration Source** selection list, select **Automatic IPv4** or **Automatic IPv6**.

Note: Some Uplink connection types (for example Static and PPPoE) cannot obtain SNTP information from the network, and therefore lead to no SNTP parameters being applied to the system.

- 3) Provide an IP address or domain name and port numbers for each SNTP server you are using.

Note:

The best practice is to use the servers supplied by your Internet Service Provider, then complement with servers from a different network close to your geographical area. For example: time.nist.gov (USA), ntp4.sptime.se (Sweden), time1.isu.net.sa (Saudi Arabia), ntp.nict.jp (Japan), time.google.com (Worldwide), pool.ntp.org or one of their regional server pools (see <https://www.ntppool.org/> for more information).

- 4) If necessary, change the value of the **Synchronisation Period**.
- 5) If necessary, change the value of the **Synchronisation Period on Error**.
- 6) Click **Apply**.

Result

SNTP Configuration	
Configuration Source:	Automatic With Fallback ▾
Static Servers:	
Primary SNTP:	IP Address
Secondary SNTP:	
Third SNTP:	
Fourth SNTP:	
Synchronization:	
Synchronization Period:	1440
Synchronization Period On Error:	60

Selecting the Unit's Time Zone

Information

Time Servers should be configured under Network/Host/SNTP Configuration. For more details refer to the [DGW Configuration Guide - Vlan Configuration](#) published on the [Media5 Documentation Portal](#).

Steps

- 1) Go to **Network/Host**.
- 2) In the **Time Configuration** table, in the **Static Time Zone** field, specify the time zone in which the Mediatrix unit is located.

Note: If preceded by a minus sign (-), the time zone is east of the prime meridian, otherwise it is west, which can be indicated by the preceding plus sign (+). For example, New York time is GMT 5.

- 3) Click **Apply**.

Result

Any DGW parameter referring to a time value will use the local time described by this time zone reference. The **Hoc.SystemTime** will return the unit local time in accordance with the configured time zone.

Advanced Network Host Parameters

Although the services can be configured in great part in the Web browser, some aspects of the configuration can only be completed with the configuration parameters by either:

- using a MIB browser
- using the CLI
- creating a configuration script containing the configuration parameters

For more details on the following parameters, refer to the [DGW Configuration Guide - Reference Guide](#) published on the [Media5 Documentation Portal](#).

Configuring Dns Cache Randomisation:

- **Hoc.DnsCacheRandomization**

Configuring Pre-resolved Static FQDNs

Up to 10 pre-resolved FQDNs can be configured. The StaticHosts table allows configuring FQDNs with static IP addresses. When a device attempts to reach a FQDN configured in this table, the static IP addresses will be used instead of resolving the FQDN.

- **Hoc.InsertStaticHost:** To insert a new static host
- **Hoc.StaticHosts.Delete:** To delete a static host:

Updating the system name or system location

The name and location of the Mediatrix unit can be specified. This information is for display purposes only and does not affect the behavior of the unit.

- Hoc.SystemName: To set the system name
- Hoc.SystemLocation: Set the system location

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 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.

Copyright Notice

Copyright © 2023 Media5 Corporation.

This document contains information that is proprietary to Media5 Corporation.

Media5 Corporation reserves all rights to this document as well as to the Intellectual Property of the document and the technology and know-how that it includes and represents.

This publication cannot be reproduced, neither in whole nor in part, in any form whatsoever, without written prior approval by Media5 Corporation.

Media5 Corporation reserves the right to revise this publication and make changes at any time and without the obligation to notify any person and/or entity of such revisions and/or changes.



media5corp.com