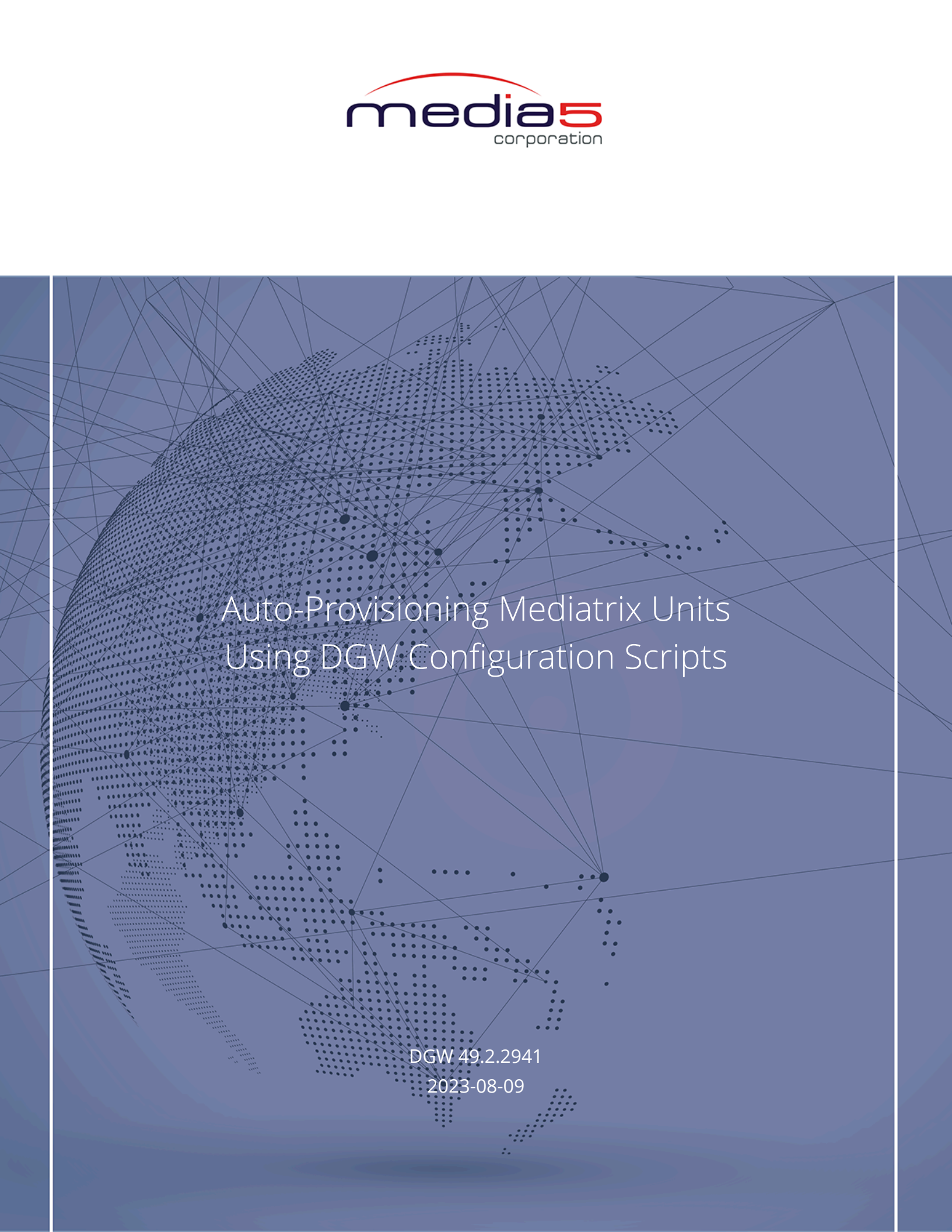




Auto-Provisioning Mediatrix Units Using DGW Configuration Scripts

DGW 49.2.2941

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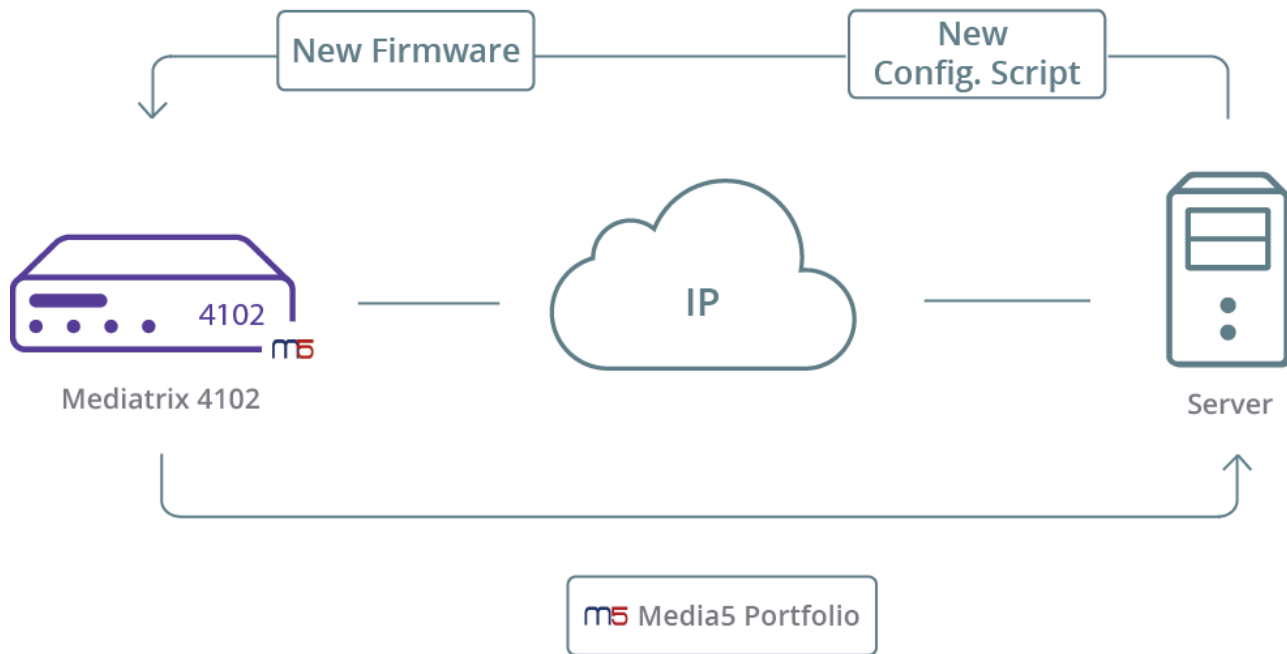
Table of Contents

Auto-Provisioning Mediatrix Units with Configuration Scripts	4
Overview of the Server Configuration	5
Preparing Windows Server IIS	5
Preparing the Pumpkin TFTP Server	6
Configuration Scripts	8
Configuration Scripts	8
Configuring the FTP Server	9
Configuring the TFTP Server	9
Configuring the HTTP Server	10
Configuring the HTTPS Server	10
Exporting a Configuration Script Using a File Server	11
Encryption	13
Securing Configuration Scripts	13
Securing the configuration scripts using AES-256 GCM	13
Securing the configuration scripts using Blowfish	14
Preparation of the Configuration Files and Firmware	16
Executing Configuration Scripts from a File Server Periodically	16
Executing Configuration Scripts from the Unit File Management System Periodically	18
Executing Configuration Scripts from a File Server Each Time the Unit is Started	19
Executing Configuration Scripts from the Unit File Management System Each Time the Unit is Started	21
Configuring the Mediatrix Unit to Use an SNTP Server	23

Configuration of the Mediatrix Unit	24
Importing a Configuration Script Using a File Server	24
Importing a Configuration Script to the Unit File Management System	25
Configuring the DHCP to Trigger Configuration Script Execution	26
DHCPv4 Auto-Provisioning	27
Unit Macros	29
Online Help	30
Available Documentation	31
Copyright Notice	32

Auto-Provisioning Mediatrix Units with Configuration Scripts

This configuration describes how to use the Mediatrix unit's functionality that allows it to fetch the firmware and configuration files automatically from a provisioning server by using FTP, TFTP, HTTP or HTTPS.



Note: Mediatrix units can also be provisioned with the Virtuo Element Management System (EMS). For more details on using the Virtuo EMS, refer to the Virtuo documentation published on the Media5 documentation portal at <https://documentation.media5corp.com/>.

Overview of the Server Configuration

Preparing Windows Server IIS

Before you start

If using Windows, ensure that the HTTP Server functionality is activated and that the configuration files and binaries are located under (default location): C:\inetpub\wwwroot

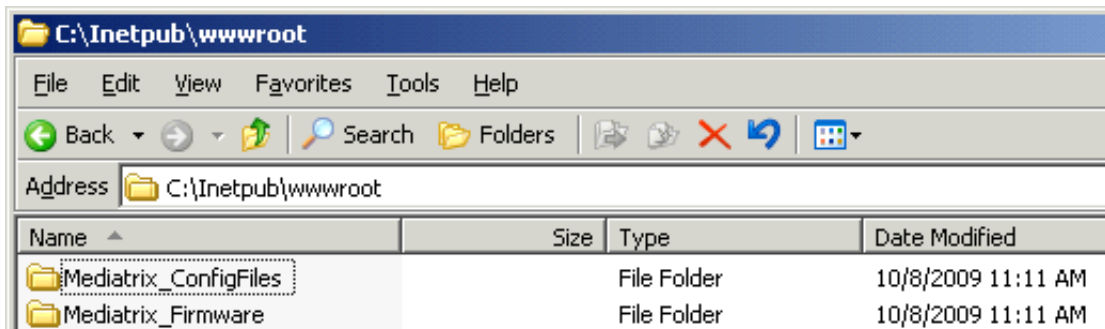
Information

Media5 recommends that the administrator creates a subdirectory for the firmware and another subdirectory for the configuration files under the Web Server root directory.

Steps

- 1) Create a subdirectory for the firmware under the Web Server root directory.
- 2) Create a subdirectory for the configuration files under the Web Server root directory.

Result



Next Step

[Exporting a Configuration Script Using a File Server \(p.11\)](#)

Preparing the Pumpkin TFTP Server

Before you start

If you are using the Pumpkin TFTP server, ensure that it allows proper permission. For the PumpKIN TFTP server, please make sure that the options are selected as shown in the figure below.

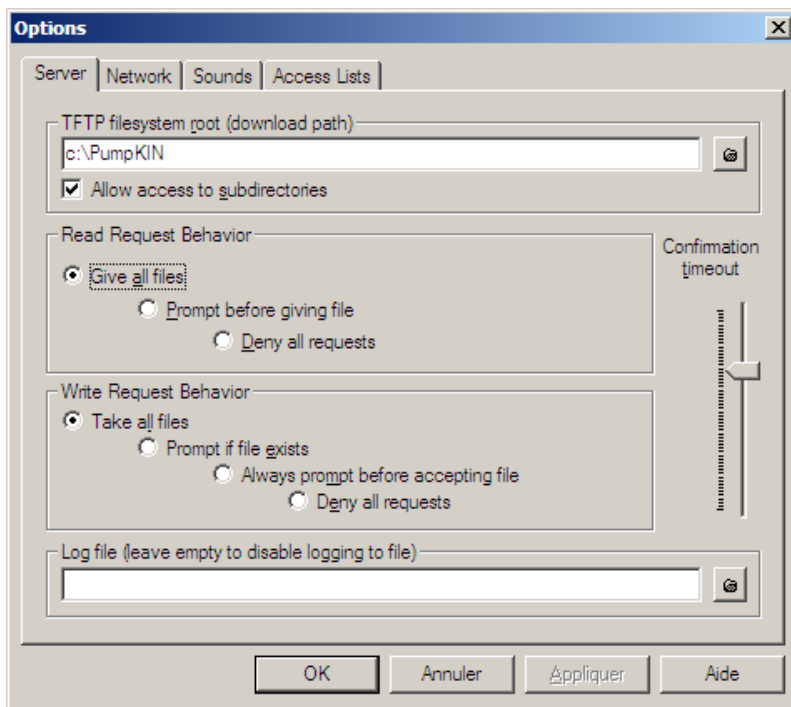
Information

Media5 recommends that the administrator creates a subdirectory for the firmware and another subdirectory for the configuration files under TFTP root.

Steps

- 1) Create a subdirectory for the firmware under C:\PumpKIN\
- 2) Create a subdirectory for configuration files under C:\PumpKIN\

Result



Next Step

[Exporting a Configuration Script Using a File Server \(p.11\)](#)

Configuration Scripts

Configuration Scripts

Configuration scripts are files containing textual commands that are sent from the ACS over the network to a Mediatrix unit.

Configuration scripts support all configuration parameters and can be created for a group of units or for a specific unit of the Network.

The automated importation of configuration scripts can be performed with the use of a Customer Profile or using a DHCP server indicating the location of the file server with options 66 or 67. The automated importation to a unit is what is referred to as zero-touch, as the unit is automatically updated with the latest configuration without manual intervention.

When the configuration scripts are received, the unit executes each command line in sequence. Script commands can assign values to configuration parameters, or execute configuration commands. Scripts are written by the system administrator and can be used to accomplish various tasks, such as automating recurrent configuration tasks or batch-applying configuration settings to multiple devices. They can also be scheduled to be executed when the Mediatrix unit restarts.

They can, for example, update the value of parameters, initiate a firmware upgrade, service restart, or unit reboot. The scripts can be imported by the unit in different situations:

- When the unit is restarted
- According to a pre-determined schedule
- Initiated by a DHCP server indicating where the script files are located using options 66 and 67

Scripts can be sent using the following protocols:

- FTP
- TFTP
- HTTP
- HTTPS

The configuration script download feature allows updating the Mediatrix unit configuration by transferring a configuration script from a remote server or from the local file system. The Mediatrix unit is the session initiator, which allows NAT traversal. You can also configure the Mediatrix unit to automatically update its configuration or you can generate a configuration script from the running configuration of the Mediatrix unit.

Configuring the FTP Server

Before you start

If you are not familiar with the procedure on how to set the FTP root path, please refer to your FTP server's documentation.

Information

Perform this procedure if you plan to use the FTP transport protocol.

Steps

- 1) Set an FTP service on the assigned server.
- 2) Make sure the FTP server can be reached by the Mediatrix unit.

Note: If the file server is located behind a firewall, make sure that TCP port 21 is open.

Configuring the TFTP Server

Before you start

If you are not familiar with the procedure on how to set the TFTP root path, please refer to your TFTP server's documentation.

Information

Perform this procedure if you plan to use the TFTP transport protocol.

Steps

- 1) Set a TFTP service on the assigned server.

- 2) Make sure the TFTP server can be reached by the Mediatrix unit.

Note: If the file server is located behind a firewall, make sure the UDP port 69 is open.

Configuring the HTTP Server

Before you start

If you are not familiar with the procedure on how to set the HTTP root path, refer to your HTTP server's documentation.

Information

Perform this procedure if you plan to use the HTTP transport protocol.

Steps

- 1) Set an HTTP service on the assigned server.
- 2) Make sure the HTTP server can be reached by the Mediatrix unit.

Note: If the file server is located behind a firewall, make sure the TCP port 80 is open.

Configuring the HTTPS Server

Before you start

If you are not familiar with the procedure on how to set the HTTPS root path, please refer to your HTTPS documentation.

Make sure the unit is set to the proper date (refer to [Configuring the Mediatrix Unit to Use an SNTP Server](#) (p.23)).

Information

Perform this procedure if you plan to use the HTTPS transport protocol.

Steps

- 1) Set an HTTPS service on the assigned server.
- 2) Make sure the HTTPS server can be reached by the Mediatrix unit.

Note: If the file server is located behind a firewall, make sure the TCP port 443 is open.

- 3) Make sure that in the **Management/Certificates** tab, in the **Certificate Import Through Web Browser** table, there is a certificate that authenticates the HTTPS server selected in the **Path** field, and that **Other** is selected in the **Type** field.
- 4) Set the configuration parameters.

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 MIB parameters by:

- using a MIB browser, such as the Mediatrix Unit Manager Network (UMN);
- using the CLI;
- creating a configuration script containing the configuration parameters.

Exporting a Configuration Script Using a File Server

Before you start

Depending on the type of transport protocol used, one of the following procedures must be completed:

- [Configuring the FTP Server](#) (p.9)
- [Configuring the TFTP Server](#) (p.9)
- [Configuring the HTTP Server](#) (p.10)
- [Configuring the HTTPS Server](#) (p.10)

Steps

- 1) Go to **Management/Configuration Scripts/Export**.
- 2) In the **Export Script** table, from the **Content** selection list, choose if you wish to export only what is different from the factory configuration script or the complete configuration.
- 3) From the **Service Name** selection list, choose if you wish to export the configuration script of a specific service or of all services.
- 4) In the **Send To URL** field, enter the `protocol://[user[:password]@]hostname[:port]/[path/]filename` where to export the configuration file.

Note: This must be consistent with the file server you have configured. The file name may be replaced by a macro. For more details, refer to the [Unit Macros](#) (p.29) section. As a best practice, add the *.cfg extension to the file name.

Note: Remember, if you have several units with several configurations and plan to reuse the configuration on another unit, the name must be explicit. Indicate the date of your script, the interfaces used, the device model, etc.

- 5) If you wish to use encryption for transfer operations, enter a encryption key in the **Privacy Key** field.

Note: Media5 corp strongly recommends to use encryption to protect certificates and passwords.

- 6) Make sure the file server is started.
- 7) Click **Export and Download**.

Result

The configuration script will be exported to the specified file server.

Export Script	
Content:	Modified Config
Service Name:	All --- Suggestion ---
Send To URL:	tftp://file.server.com/folder/yymmdd_device_name.cfg
Privacy Key:	

Next Step

[Executing Configuration Scripts from a File Server Periodically \(p.16\)](#)

[Executing Configuration Scripts from the Unit File Management System Periodically \(p.18\)](#)

[Executing Configuration Scripts from a File Server Each Time the Unit is Started \(p.19\)](#)

[Executing Configuration Scripts from the Unit File Management System Each Time the Unit is Started \(p.21\)](#)

Encryption

Securing Configuration Scripts

Media5 provides an encryption tool (MxCryptFile) to secure the configuration scripts on the server.

There are two encryption algorithms available:

- *AES-256 GCM* (recommended, available since DGW 47.0)
- *Blowfish ECB* (legacy).

Once the file is encrypted, the transfer of the information over the network is secure. The encryption key must be configured on the Mediatrix units in order to decipher the information. The unit detects automatically the encryption algorithm from the file.

Ensure that the Mediatrix unit is configured with the correct Privacy key in order to decipher the information. Without the proper key, the parameters in the encrypted script would not be applied to the Mediatrix unit.

In any case, the same key is used to decrypt both the generic and specific configuration scripts. When a key is defined, unencrypted configuration scripts are not allowed to be executed.

Securing the configuration scripts using AES-256 GCM

Before you start

Note: You may need to install python and the cryptography module for python:

- For MacOS, python3 is already pre-installed on recent MacOS versions.
- For Linux, some distribution already pre-install python3. Otherwise use the appropriate package manager to install python3 and pip3.
- For Windows, use an installation package from <https://www.python.org/downloads/windows/> or install from the Windows Store on a clean install of Windows 10. Make sure to add application to PATH to facilitate usage.

Once python is installed use the pip package manager to install the cryptography module. Execute the following in a command prompt/terminal: `pip3 install cryptography`

Information

To secure the configuration scripts using *AES-256*, the python script `MxCryptFileAes.py` is available. The key is a password of variable-length ASCII characters. For optimal security, it is recommended to use a password of at least 42 characters. The maximum length is 256 characters.

This is an example of the python script:

```
Usage:
MxCryptFileAes.py -in <input file> -out <output file> -k <key> [-enc|-dec]
  where:
    -in <input file>
      Specifies the file to read from
    -out <output file>
      Specifies the file to write to
    -k <key>
      The key in variable size.
    -enc
      Perform encryption (default).
    -dec
      Perform decryption.
```

The following are some examples of MxCryptFileAes.py commands:

- `MxCryptFileAes.py -in mediatrix.cfg -out mediatrix_encrypted.cfg.bin -k MyPassword -enc`
- `MxCryptFileAes.py -in mediatrix_encrypted.cfg.bin -out mediatrix.cfg -k MyPassword -dec`

Note: This python script also support decrypting backup image files.

Securing the configuration scripts using Blowfish

Information

To secure the configuration scripts using *Blowfish*, the perl and exe scripts (`MxCryptFile.pl` and `MxCryptFile.exe`) are available. The key is encoded in hexadecimal notation, meaning only characters in the range 0-9 and A-F can be used. The maximum key length is 64 hex characters, which gives a binary key of 256 bits. It is the maximum key size accepted by the MxCryptFile external tool. For example, a 32-bit key could look like: A36CB299.

This is an example of the tool running on Windows:

```
MxCryptFile version 1.0.3.5
Copyright(c) 2009 Media5 Corporation
Usage:
  MxCryptFile -h  Display online help
  or
  MxCryptFile -in <input file name>
                -out <output file name>
                -k <key string>
                  [-s]
                  [-enc|-dec]
```

A-F) where:
 <input file name>: name of the file to read
 <output file name>: name of the file to write
 <key string>: key string (allowed characters are 0-9, a-f,
 -s: run in silent mode (no display)
 -enc: encrypt (default)
 -dec: decrypt

The following are some examples of MxCryptFile.exe commands:

- `MxCryptFile.exe -in Mediatrix_4102_unencrypted.cfg -out Mediatrix4102.cfg.bin -k 12345678`
- `MxCryptFile.exe -in 0090F8XXXXXX_unencrypted.cfg -out 0090F8XXXXXX.cfg.bin -k 89bb6758ac895f56`

Preparation of the Configuration Files and Firmware

Executing Configuration Scripts from a File Server Periodically

Before you start

Depending on the type of transport protocol used, one of the following procedures must be completed:

- [Configuring the FTP Server](#) (p.9)
- [Configuring the TFTP Server](#) (p.9)
- [Configuring the HTTP Server](#) (p.10)
- [Configuring the HTTPS Server](#) (p.10)

Mediatrix units do not all include a real time clock allowing them to maintain accurate time when they are shutdown. You must have a time server SNTP that is accessible and properly configured or the automatic configuration update feature may not work properly. Refer to [Configuring the Mediatrix Unit to Use an SNTP Server](#) (p.23).

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.
- 2) In the **Execute Scripts** table, in the **Generic File Name** and/or **Specific File Name** field, indicate the name of the files you wish to import.

Note: The file name is case sensitive, and may be replaced by a macro. For more details, refer to the [Unit Macros](#) (p.29) section. Make sure to add the *.cfg. file extension.

- 3) From the **Transfer Protocol** selection list, select the type of protocol you wish to use to transfer your script.

Note: This must be consistent with the file server you have configured.

- 4) In the **Host Name** field, enter the file server IP address or FQDN.
- 5) In the **Location** field, enter the path relative to the root of the file server where the script is saved.
- 6) If your server requires authentication, enter your username and password.
- 7) If the files are encrypted, provide the privacy key in the **Privacy Parameters** section.

Note: The privacy key must match the privacy key used to encrypt the file.

- 8) Make sure the file server is started.

- 9) In the **Automatic Script Execution** section, from the **Execute Periodically** selection list, choose **Enable**.
- 10) Complete the **Time Unit**, **Period** and **Time Range** fields according to your needs.

Note: The time range (hh[:mm[:ss]] or hh[:mm[:ss]] - hh[:mm[:ss]]) is based on the **Static Time Zone** field, under the **Network > Host** page.

- 11) As a best practice, enable the **Allow Repeated Execution** field.
- 12) Click **Apply**.

Result

The configuration script will be imported from the file server at the specified time or at a random time within the specified interval and thereafter at the period defined by the **Period** field. Any change to the script will be applied to the running configuration. The unit configuration is only updated if at least one parameter value defined in the imported configuration scripts is different from the actual unit configuration. Keep in mind that if you import a generic and a specific file, the commands of the specific file will override the commands of the generic file.

Execute Scripts		
Transfer Parameters		
Generic File Name:	%product%.cfg	--- Suggestion ---
Specific File Name:	%mac%.cfg	--- Suggestion ---
Transfer Protocol:	HTTPS	
Host Name:	0.0.0.0:0	
Location:	Downloads	
User Name:	username	
Password:		
Execution Parameters		
Privacy Key:		
Allow Repeated Execution:	Enable	
Automatic Script Execution		
Execute On Startup:	Disable	
Execute Periodically:	Enable	
Time Unit:	Hours	
Period:	1	
Time Range:	3:00:00	
Allow DHCP to Trigger Scripts Execution:	Enable	
		Apply Apply & Execute

Next Step

[Importing a Configuration Script Using a File Server \(p.24\)](#)

[Configuring the DHCP to Trigger Configuration Script Execution \(p.26\)](#)

The Mediatrix unit can be configured to automatically import new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer. A DHCP answer includes both Bound and Renew.

Executing Configuration Scripts from the Unit File Management System Periodically

Before you start

You must have a time server SNTP that is accessible and properly configured or the automatic configuration update feature may not work properly. Refer to [Configuring the Mediatrix Unit to Use an SNTP Server](#) (p.23). Configuration scripts files must be available in the unit's file management system. Refer to [Importing a Configuration Script to the Unit File Management System](#) (p.25).

A configuration script must have been imported to the unit's file management system. Refer to [Importing a Configuration Script to the Unit File Management System](#) (p.25).

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.
- 2) In the **Execute Scripts** table, in the **Generic File Name** and/or **Specific File Name** field, indicate the name of the files you wish to import or use the **Suggestion** selection list.

Note: The file name is case sensitive, and may be replaced by a macro. For more details, refer to the [Unit Macros](#) (p.29) section. Make sure to add the *.cfg. file extension.

- 3) From the **Transfer Protocol** selection list, select **File**.
- 4) If the files are encrypted, provide the privacy key in the **Privacy Key** field.

Note: The privacy key must match the privacy key used to encrypt the files.

- 5) In the **Automatic Script Execution** section, from the **Execute Periodically** selection list, choose **Enable**.
- 6) Complete the **Time Unit**, **Period** and **Time Range** fields according to your needs.

Note: The time range (hh[:mm[:ss]] or hh[:mm[:ss]] - hh[:mm[:ss]]) is based on the **Static Time Zone** field, under the **Network > Host** page.

- 7) As a best practice, enable the **Allow Repeated Execution** field.
- 8) Click **Apply**.

Result

The configuration script will be imported from the system's file management system at the specified time or at a random time within the specified interval and thereafter at the period defined by the **Period** field. Any change to the script will be applied to the running configuration. The unit configuration is only updated if at least one parameter value defined in the imported configuration scripts is different from the actual unit configuration. Keep in mind that if you import a generic and specific file, the commands of the specific file will override the commands of the generic file.

Execute Scripts		
Transfer Parameters		
Generic File Name:	%product%.cfg	--- Suggestion ---
Specific File Name:	\$mac%.cfg	--- Suggestion ---
Transfer Protocol:	File	
Host Name:	0.0.0.0:0	
Location:		
User Name:		
Password:		
Execution Parameters		
Privacy Key:		
Allow Repeated Execution:	Enable	
Automatic Script Execution		
Execute On Startup:	Disable	
Execute Periodically:	Enable	
Time Unit:	Hours	
Period:	1	
Time Range:	3:00:00	
Allow DHCP to Trigger Scripts Execution:	Enable	
		Apply Apply & Execute

Next Step

[Importing a Configuration Script Using a File Server \(p.24\)](#)

[Configuring the DHCP to Trigger Configuration Script Execution \(p.26\)](#)

The Mediatrix unit can be configured to automatically import new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer. A DHCP answer includes both Bound and Renew.

Executing Configuration Scripts from a File Server Each Time the Unit is Started

Before you start

Depending on the type of transport protocol used, one of the following procedures must be completed:

- [Configuring the FTP Server \(p.9\)](#)
- [Configuring the TFTP Server \(p.9\)](#)
- [Configuring the HTTP Server \(p.10\)](#)
- [Configuring the HTTPS Server \(p.10\)](#)

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.

- 2) From the **Execute Scripts** table, in the **Generic File Name** and/or **Specific File Name** field, indicate the name of the files you wish to import.

Note: The file name is case sensitive, and may be replaced by a macro. For more details, refer to the [Unit Macros](#) (p.29) section. Make sure to add the *.cfg. file extension.

- 3) From the **Transfer Protocol** selection list, select the type of protocol you wish to use to transfer your script.

Note: This must be consistent with the file server you have configured.

- 4) In the **Host Name** field, enter the file server IP address or FQDN.
- 5) In the **Location** field, enter the path relative to the root of the file server where the script is saved.
- 6) If your server requires authentication, enter your username and password.
- 7) If the files are encrypted, provide the privacy key in the **Privacy Parameters** section.

Note: The privacy key must match the privacy key used to encrypt the files.

- 8) Make sure the file server is started.
- 9) In the **Automatic Script Execution** section, from the **Execute on Startup** selection list, choose **Enable**.
- 10) As a best practice, enable the **Allow Repeated Execution** field.
- 11) Click **Apply**.

Result

When the unit is restarted, the configuration script will be imported from the file server, and any changes to the script will be applied to the running configuration. Keep in mind that if you import a generic and a specific file, the commands of the specific file will override the commands of the generic file.

Execute Scripts		
Transfer Parameters		
Generic File Name:	%product%.cfg	--- Suggestion ---
Specific File Name:	%mac%.cfg	--- Suggestion ---
Transfer Protocol:	HTTPS	
Host Name:	0.0.0.0	
Location:	Downloads	
User Name:	username	
Password:		
Execution Parameters		
Privacy Key:		
Allow Repeated Execution:	Enable	
Automatic Script Execution		
Execute On Startup:	Enable	
Execute Periodically:	Disable	
Time Unit:	Hours	
Period:	1	
Time Range:		
Allow DHCP to Trigger Scripts Execution:	Enable	
		Apply Apply & Execute

Next Step

[Importing a Configuration Script Using a File Server \(p.24\)](#)

[Configuring the DHCP to Trigger Configuration Script Execution \(p.26\)](#)

The Mediatrix unit can be configured to automatically import new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer. A DHCP answer includes both Bound and Renew.

Executing Configuration Scripts from the Unit File Management System Each Time the Unit is Started

Before you start

A configuration script must have been imported to the unit's file management system. Refer to [Importing a Configuration Script to the Unit File Management System \(p.25\)](#).

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.
- 2) From the **Execute Scripts** table, in the **Generic File Name** and/or **Specific File Name** field, indicate the name of the files you wish to import or use the **Suggestion** selection list.

Note: The file name is case sensitive, and may be replaced by a macro. For more details, refer to the [Unit Macros \(p.29\)](#) section. Make sure to add the *.cfg. file extension.

- 3) From the **Transfer Protocol** selection list, select **File**.
- 4) If the files are encrypted, provide the privacy key in the **Privacy Parameters** section.
- 5) In the **Automatic Script Execution** section, from the **Execute on Startup** selection list, choose **Enable**.
- 6) As a best practice, enable the **Allow Repeated Execution** field.
- 7) Click **Apply**.

Result

When the unit is restarted, the configuration script will be imported from the system's file management system, and any changes to the script will be applied to the running configuration. Keep in mind that if you import a generic and specific file, the commands of the specific file will override the commands of the generic file.

Execute Scripts	
Transfer Parameters	
Generic File Name:	%product%.cfg --- Suggestion --- v
Specific File Name:	%mac%.cfg --- Suggestion --- v
Transfer Protocol:	File v
Host Name:	0.0.0.0:0
Location:	
User Name:	
Password:	
Execution Parameters	
Privacy Key:	
Allow Repeated Execution:	Enable v
Automatic Script Execution	
Execute On Startup:	Enable v
Execute Periodically:	Disable v
Time Unit:	Hours v
Period:	1
Time Range:	
Allow DHCP to Trigger Scripts Execution:	Enable v
Apply Apply & Execute	

Next Step

[Importing a Configuration Script Using a File Server \(p.24\)](#)

[Configuring the DHCP to Trigger Configuration Script Execution \(p.26\)](#)

The Mediatrix unit can be configured to automatically import new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer. A DHCP answer includes both Bound and Renew.

Configuring the Mediatrix Unit to Use an SNTP Server

Before you start

Make sure there is an SNTP server available.

Information

Steps

- 1) Go to **Network/Host**.
- 2) In the **SNTP Configuration** table, from the **Configuration Source** selection list, select the connection type from which you wish to obtain the SNTP parameters.

Note: Complete [Step 3](#) only if you are using static SNTP server(s), otherwise go to [Step 4](#).

- 3) Provide an IP address or domain name and port numbers for each SNTP server you are using.
- 4) If necessary, change the displayed default value of the **Synchronisation Period**.
- 5) If necessary, change the displayed default 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:	Automatic IPv4 ▾
Primary SNTP:	192.168.10.10:123
Secondary SNTP:	
Third SNTP:	
Fourth SNTP:	
Synchronization Period:	1440
Synchronization Period On Error:	60

Configuration of the Mediatrix Unit

Importing a Configuration Script Using a File Server

Before you start

Depending on the type of transport protocol used, one of the following procedures must be completed:

- [Configuring the FTP Server](#) (p.9)
- [Configuring the TFTP Server](#) (p.9)
- [Configuring the HTTP Server](#) (p.10)
- [Configuring the HTTPS Server](#) (p.10)

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.
- 2) In the **Execute Scripts** table, in the **Generic File Name** and/or **Specific File Name** field, indicate the name of the files you wish to import.

Note: The file name is case sensitive and may be replaced by a macro. For more details on macros, refer to the [Unit Macros](#) (p.29) section. Make sure to add the *.cfg. file extension.

- 3) From the **Transfer Protocol** selection list, select the type of protocol you wish to use to transfer your configuration script.

Note: This must be consistent with the file server you have configured.

- 4) In the **Host Name** field, enter the file server IP address or FQDN.
- 5) In the **Location** field, enter the path relative to the root of the file server where the configuration script is saved.
- 6) If your server requires authentication, enter your username and password.
- 7) If the files are encrypted, provide the privacy key in the **Privacy Key** field.

Note: The privacy key must match the privacy key used to encrypt the file.

- 8) Make sure the file server is started.
- 9) Depending on your use case, set the **Allow Repeated Execution** field to **Enable** or **Disable**. This parameter defines if the Mediatrix unit will execute a script or not, when it is the same as the last executed script."
- 10) Click **Apply & Execute**.

Result

The configuration script will be imported from the file server, and any changes to the script will be applied to the running configuration. Keep in mind that if you import a generic and a specific file, the commands of the specific file will override the commands of the generic file.

Execute Scripts	
Transfer Parameters	
Generic File Name:	%product%.cfg --- Suggestion ---
Specific File Name:	%mac%.cfg --- Suggestion ---
Transfer Protocol:	HTTPS
Host Name:	0.0.0.0:0
Location:	Downloads
User Name:	username
Password:	
Execution Parameters	
Privacy Key:	
Allow Repeated Execution:	Enable
Automatic Script Execution	
Execute On Startup:	Disable
Execute Periodically:	Enable
Time Unit:	Hours
Period:	1
Time Range:	3:00:00
Allow DHCP to Trigger Scripts Execution:	Enable
Apply Apply & Execute	

Importing a Configuration Script to the Unit File Management System

Before you start

This option is not available on the Mediatrix 4102S running a firmware version more recent than DGW 2.0.26.451

Steps

- 1) Go to **Management/File**.
- 2) If you are not using HTTPS, click **Activate unsecure file importation from the Web browser** located at the top of the page.
- 3) In the **Import File Through Web Browser** table, from the **Path** selection list, select **Conf/**.
- 4) Browse to the location of the configuration file.
- 5) Click **Import**.

Note: A factory reset will remove the file from the Internal file.

Result

The imported configuration file will appear in the **Internal files** table, under **Management/File**.



Import File Through Web Browser	
Path	File
conf/	yymmdd_device_name.cfg

Browse... Import

Configuring the DHCP to Trigger Configuration Script Execution

The Mediatrix unit can be configured to automatically import new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer. A DHCP answer includes both Bound and Renew.

Before you start

Depending on the type of transport protocol used, one of the following procedures must be completed:

- [Configuring the FTP Server](#) (p.9)
- [Configuring the TFTP Server](#) (p.9)
- [Configuring the HTTP Server](#) (p.10)
- [Configuring the HTTPS Server](#) (p.10)

Mediatrix units do not all include a real time clock allowing them to maintain accurate time when they are shutdown. If you are using HTTPS, you must have an SNTP server that is accessible and properly configured or the automatic configuration update feature may not work properly. Refer to [Configuring the Mediatrix Unit to Use an SNTP Server](#) (p.23).

Information

For more details on DHCPv4 Auto-Provisioning, refer to [DHCPv4 Auto-Provisioning](#) (p.27)

Steps

- 1) Go to **Management/Configuration Scripts/Execute**.
- 2) In the **Automatic Script Execution** section, from the **Allow DHCP to Trigger Scripts Execution** selection list, choose **Enable**.
- 3) Click **Apply**.

Result

The instructions sent FROM the DHCP server can be in different formats and will be understood by the Mediatrix unit according to what was chosen for the **ScriptsDhcpOptionsFormat** MIB parameter (not accessible via Web page). Possible values with their respective formats are:

- Fully Qualified: Script=[protocol]://[username] :[password]@[server]/[path]/[file].
- Url: [protocol]:// [username] :[password]@[server]/[path]/[file]
- ServerHost: Allow one DHCP option to specify the IP address or FQDN of a file server. Uses the path and filename specified in the ScriptLocation and ScriptGenericFileName parameters,

use the transfer protocol, username and password specified in ScriptTransferProtocol, ScriptTransferUsername and ScriptTransferPassword parameters.

- AutoDetect: A value beginning with "Script=" is considered as "FullyQualified", A value beginning with "[protocol]://" is considered as a URL. A value that looks like an IPv4/IPv6 address or domain name is considered as a "ServerHost". (default value)

When the unit starts, it will receive the location of the config script from the DHCP response, as per the format defined by the **ScriptsDhcpOptionsFormat** parameter. The unit will then import and execute the configuration scripts from the specified location. Any changes to the script will be applied to the running configuration. The unit configuration is only updated if at least one parameter value defined in the imported configuration scripts is different from the actual unit configuration.

Execute Scripts	
Transfer Parameters	
Generic File Name:	%product%.cfg --- Suggestion ---
Specific File Name:	%mac%.cfg --- Suggestion ---
Transfer Protocol:	HTTPS
Host Name:	0.0.0.0:0
Location:	Downloads
User Name:	username
Password:	••••
Execution Parameters	
Privacy Key:	•••••
Allow Repeated Execution:	Enable
Automatic Script Execution	
Execute On Startup:	Enable
Execute Periodically:	Enable
Time Unit:	Hours
Period:	1
Time Range:	3:00:00
Allow DHCP to Trigger Scripts Execution:	Enable
Apply Apply & Execute	

DHCPv4 Auto-Provisioning

The Mediatrix unit can be configured to automatically download new configuration scripts upon receiving options 66 (tftp-server) or 67 (bootfile), or vendor-specific option 43 using sub-options 66 and 67 in a DHCPv4 answer

A DHCP server answer includes both Bound and Renew. The contents of option 66, 67 or 43 defines which script to download. The unit's configuration is not used to download the script. This allows the unit, for instance, to download a script from a server after a factory reset and to reconfigure itself without a specific profile. If the imported configuration script is identical to the last executed script, it will not be run again. The script retry mechanism is not enabled for the DHCPv4 triggered scripts. If options 66, 67 and 43 are received, all scripts are executed independently. The script defined by

the tftp-server (option 66) option is executed first. If you are using HTTPS to transfer scripts, you must have a time server SNTP that is accessible and properly configured.

Unit Macros

Macro	Description
%mac%	the MAC address of the unit
%version%	the MFP version of the unit (firmware version)
%product%	the Product name of the unit
%productseries%	the Product series name of the unit.

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.

Available Documentation

For more details, refer to the [Mediatrix Documentation](#) published on the [Media5 Documentation Portal](#).

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