### **Microsoft Forefront TMG - Backup and Restore Capabilities**

### Abstract

In this article, I will show you how to export and to import the entire Forefront TMG configuration or parts of the TMG configuration for backup and testing purposes.

### Let's begin

Forefront TMG makes it easy to back up the entire configuration or parts of the configuration for backup purposes in case of emergency or to simply back up a configuration to clone this configuration with another forefront TMG Server. Forefront TMG uses the VSS (Volume Shadow Copy Service) writer to exports the configuration to an .xml file and instructs the VSS provider to back up this XML-file. In case of a restore, the VSS provider uses this file to restore the configuration, using the Forefront TMG import functionality.

### Backup and restore the entire configuration

Start the Forefront TMG management console to backup or restore the entire TMG configuration. A regular backup of the entire TMG configuration should be part of your disaster recovery prevention plan.



Figure 1: Backup the entire TMG configuration

### Start the export wizard

Export Wizard		×
	Welcome to the Export Wizard	
	This wizard helps you export configuration data to an XML file. The file can be used later to import this data to a Forefront TMG configuration. To continue, click Next.	
KKK [		
	< Back Next > Cancel	

Figure 2: Start the export wizard

If you want to export conditional information like NPS (RADIUS) shared secrets, specify a password with at least 8 characters to encrypt this information. If you also want to backup the TMG administrative role users, you have to activate the checkboy to export user permissions.

Export Wizard	×
Export Preferences Choose the optional data you want to i	ndude in the exported file.
Export confidential information	
With this option selected, user pass confidential information will be expo specified password.	words, RADIUS shared secrets, and other rted. The information will be encrypted using the
Password (at least 8 characters):	•••••
Confirm password:	•••••
<ul> <li>Export user permission settings</li> <li>With this option selected, administration exported.</li> </ul>	tive roles delegated to users and groups will be
Help about server-specific and confide	ntial information
	< Back Next > Cancel
Figure 3: Specify export settings	

Specify a location for the export file. The location should be on an NTFS formated volume to provide NTFS permissions to secure the file and in case of an Server failure you should save the XML file on another server, which is not the TMG server.

Export Wizard	×
Export File Location Specify the file to which the exported data will be saved	
Save the data to this file (enter the full path):	
C:\tmg-backup\TMG-backup.xml	Browse
< Back	Next > Cancel

Figure 4: Export file location

Depending on the size of the TMG configuration the export process could take a while.

Exporting Forefront TMG (TMG) to C:\tmg-backup\TMG-backup.xml	
Exporting definitions	OK.

Figure 5: Export process

If you are interested to see the content of the export XML file, open the file in an Internet Explorer window or with an XML file viewer.

🕼 C:\tmg-backup\TMG-backup.xml - Windows Internet Explorer	
See C:\tmg-backup\TMG-backup.xml	▼ 🛃 🗙 🔁 Bing
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🖕 Favorites 🛛 🚖 🤌 Suggested Sites 🔻 🍋 Mehr Add-ons erhalten 🝷	
C:\tmg-backup\TMG-backup.xml	🦄 🔹 🔂 👻 🖃 🖶 👻 Page 🔹 Safety 👻 Tools 👻 🔞 📼
xml version="1.0" encoding="UTF-8" ?	<u>-</u>
- <fpc4:root <="" td="" xmlns:dt="urn:schemas-microsoft-com:datatypes" xmlns:fpc4="http://schemas.microsoft.com/isa/config&lt;/td&gt;&lt;td&gt;•4"></fpc4:root>	
StorageName="FPC" StorageType="0">	
<fpc4:build dt:dt="&lt;b">"string"&gt;7.0.7734.100</fpc4:build>	
<fpc4:comment dt:dt="string"></fpc4:comment>	
<pre><fpc4:edition dt:dt="int">32</fpc4:edition></pre>	
<pre><fpc4:encryptionpassword< pre=""></fpc4:encryptionpassword<></pre>	
dt:dt="bin.hex">c9e26b63155e2ad959e869fc2a24357f0eb345	219c1ddd6fbd65d3f500831d24234e298692d10c1d9bf9eefa5befa70a5
<fpc4:enterpriselevel dt:dt="int">2</fpc4:enterpriselevel>	
<pre><fpc4:exportitemclassclsid dt:dt="string">{E603489F-FA78-41C#</fpc4:exportitemclassclsid></pre>	-ADFE-EDC572C944DE}
<pre><fpc4:exportitemcompatibilityversion dt:dt="int">2</fpc4:exportitemcompatibilityversion></pre>	CompatibilityVersion>
<fpc4:exportitemscope dt:dt="int">0</fpc4:exportitemscope>	
<pre><fpc4:exportitemstoragename dt:dt="string">{D819EA76-8EE1-45</fpc4:exportitemstoragename></pre>	7D-97C7-0D3097DAD2A4}
<fpc4:isaxmlversion dt:dt="&lt;b">"string"&gt;7.3</fpc4:isaxmlversion>	
<fpc4:optionaldata dt:dt="int">15</fpc4:optionaldata>	
<fpc4:upgrade dt:dt="&lt;b">"boolean"&gt;0</fpc4:upgrade>	
<fpc4:configurationmode dt:dt="int">0</fpc4:configurationmode>	
<pre><fpc4:encryptionalgorithmid dt:dt="int">26128</fpc4:encryptionalgorithmid>26128261282612826128261282612826128261282612826128261282612826128</pre>	rithmID>
<pre><fpc4:hashingalgorithmid dt:dt="int">32782</fpc4:hashingalgorithmid></pre>	D>
<pre><fpc4:salt dt:dt="bin.hex">077a2f647b001110602887c447e07aa</fpc4:salt></pre>	47e2fb8f40e377f3b
- <fpc4:arrays storagename="Arrays" storagetype="0"></fpc4:arrays>	
- <fpc4:array storagename="{D819EA76-8EE1-457D-97C7-0D309&lt;/p&gt;&lt;/td&gt;&lt;td&gt;7DAD2A4}" storagetype="1"></fpc4:array>	
<pre><fpc4:adminmajorversion dt:dt="int">0</fpc4:adminmajorversion></pre>	>
<pre><fpc4:adminminorversion dt:dt="int">0</fpc4:adminminorversion></pre>	•
<pre><fpc4:compatibilityversion dt:dt="int">2</fpc4:compatibilityversion></pre>	on>
<fpc4:components dt:dt="int">62</fpc4:components>	
<fpc4:dnsname dt:dt="&lt;b">"string"&gt;<b>TMG</b></fpc4:dnsname>	
<fpc4:name dt:dt="&lt;b">"string"&gt;TMG</fpc4:name>	
<fpc4:spynetlevel dt:dt="int">3</fpc4:spynetlevel>	
<pre><fpc4:version dt:dt="string">0</fpc4:version></pre>	
<ul> <li><fpc4:changetracking li="" storage<="" storagename="ChangeTracking"> </fpc4:changetracking></li></ul>	Type="1">
<pre><fnc4·maxentries dt·dt="int">100</fnc4·maxentries></pre>	

Figure 6: Content of the XML file

## Import a TMG configuration

In case of a disaster it is possible to import the entire Forefront TMG configuration. First reinstall the underlying operating system in case of an OS failure, and then reinstall Forefront TMG with default settings and after that start the Forefront TMG management console and import the TMG configuration.



Figure 7: import the TMG configuration

Specify the location of the exported TMG configuration.

Import Wizard					×
Select the Impor Specify the xm	<b>t File</b> I file from which you are retri	ieving the export	ted configu	iration.	$\mathbb{A}$
Specify the file yo	u want to import from (full pa	ath).			
File name:	C:\tmg-backup\TMG-backup	p.xml		Browse	
🗼 You	should import files originating	g from a trusted	source onl	у.	
		< Back	Next >		Cancel

Figure 8: Specify the location of the XML file

It is possible to import or to overwrite the current TMG configuration. If you want to restore the entire TMG configuration selected the overwrite (restore) option.

Import Wizard	×
Import Action The file can be added to the existing configuration or can overwrite it.	$\mathbb{A}$
Select if the file will be imported or used to restore the configuration.	
Import	
With this option selected, information in the file will be added to the existing configuration.	
O Overwrite (restore)	
This option overwrites all information in the existing configuration.	
Help about import actions	
< Back Next > 0	Cancel

Figure 9: import or overwrite the TMG configuration

Select which information you want to import.

Import Wizard
Import Preferences Choose the optional data that you want to import from the file.
Import server-specific information With this option selected, server-specific information will be imported. Server-specific information includes cache drives. VRN static address pool and SSL certificates
<ul> <li>Import user permission settings</li> <li>With this option selected, administrative roles delegated to users and groups will be imported. This option is only enabled if the file contains user permissions data.</li> </ul>
Help about <u>server-specific and confidential information</u>
The configuration storage server connection settings will not be restored.
< Back Next > Cancel

Figure 10: Choose what data to import

Specify the password used to protect the confidential information in the Forefront TMG export file to import (overwrite) the current TMG configuration.

Import Wizard
Enter Password The file includes encrypted confidential information.
Enter the password required for opening and importing the file:
Password:
If there is confidential information in the file, an active server in the array is required to store this information. If an active server does not exist, import will succeed, but the confidential information will not be saved.
To restore the confidential information, add a server to the array and import the file again.
< Back Next > Cancel

Figure 11: Enter the password of the export file

The imported configuration will overwrite the existing configuration of Forefront TMG, so it could be better to export the current configuration if something goes wrong during the import process.

Import Wizard					x
	Completin	ng the Im	port Wizaı	rd	
	You have succe	ssfully completed	d the Import Wiz	ard. You	
The imp configur that are Do you	orted configuration w ration. Any items or ol e not included in the in still want to import the	ill overwrite the objects in the curr hported file will b e configuration?	existing rent configuration e removed.	n	
	To close the wiz	OK zard, click Finish.	Canc	e	
		< Back	Finish	Cancel	

Figure 12: Confirm the overwrite process

The import process could take a while depending on the amount of information in the exported file and the processing power of the machine.

Importing Forefront TMG (TMG) from C:\tmg-backup\TMG-backup.xml	
Importing definitions	OK

Figure 13: importing the configuration

After the configuration has been successfully imported you musr apply the configuration changes, as shown in the following screenshot.



Figure 14: Apply changes

Backup and restore parts of the TMG configuration

It is possible to export nearly everything of the TMG configuration to an XML. For example it is possible to export the entire Firewall rule set, protocol definitions, networks and many more. The following screenshot shows the export function of the entire Firewall Policy.

🕮 Forefront TMG			
File Action Vie	w Help		
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Figure 15: Export the Firewall rule set

The next example shows the export dialog box of an URL set created by Forefront TMG in the Forefront TMG toolbox.



Figure 16: Export selected objects

## Importing an ISA Server 2006 configuration

It is officially supported to migrate from ISA Server 2006 to Forefront TMG. As a first step export the ISA Server 2006 configuration, install Forefront TMG on a new Server with Windows Server 2008 R2. After the operating system installation has finished, start the installation of Forefront TMG. If you want to import the ISA Server 2006 configuration close the Getting started wizard from Microsoft Forefront TMG (the Getting started wizard launches after the TMG installation) and import (overwrite) the TMG configuration with the exported ISA Server 2006 configuration file.

	Configure network settings Define network settings for Forefront TMG, including IP settings, routing rules, and network relationships.
2	Configure system settings Define local system settings for Forefront TMG.
	Define deployment options Specify Forefront TMG deployment settings such as how this Forefront TMG server receives Microsoft updates.
t the Getting !	Started Wizard

# Backup and Restore using VSS Writer

You can back up and restore the Forefront TMG configuration using Volume Shadow Copy Service (VSS). In Forefront TMG, the configuration is stored in an instance of Active Directory Lightweight Directory Services (AD LDS). When you use VSS to back up and restore the Forefront TMG configuration, Forefront TMG calls the AD LDS VSS Writer.

The writer name string for this writer is "ISA Writer".

The writer ID for the registry writer is 25F33A79-3162-4496-8A7D-CAF8E7328205.

To see the VSS writer start a command prompt by executing CMD.EXE and enter the text *VSSadmin list Writers*. The following screenshot shows the VSSadmin output.



#### Other things to back up

What else should we have in our backup plan? It is always a good idea to back up the entire Forefront TMG Server with a backup program like the built in Windows Sever backup program.

For a normal restore process it should be enough to reinstall Forefront TMG and to import the XML backup file. In case of a complete operating system failure, reinstall the operating system, reinstall Forefront TMG and import the Forefront TMG backup file.

In the case that you will lose any log files, created by Forefront TMG and your security policy doesn't allow this you must back up the log files and database created by the MSDE database or TMG text log files but his is out of the scope of this article.

#### Certificates

SSL certificates are not part of the Forefront TMG backup. If you had issued certificates for OWA publishing or something else in HTTPS bridging scenarios, it is necessary to export the certificates with other tools. SSL certificates are stored in the machines local certificate storage. You can use Certutil.exe, a command-line program to back up and restore SSL certificates or the certificate MMC Snap In to export the certificates from the GUI.

#### Conclusion

In this article, I gave you an overview about the Microsoft Forefront TMG configuration export and import capabilities. Forefront TMG allows a simple backup and restore of the entire Forefront TMG configuration or only parts of the TMG configuration. I recommend creating TMG backups on a regular schedule.

#### **Related links**

ISA Server 2006 Backup and Restore Capabilities

http://www.isaserver.org/tutorials/ISA-Server-2006-Backup-Restore-Capabilities.html Backing up and restoring the Forefront TMG configuration http://technet.microsoft.com/en-us/library/bb794815.aspx Planning for backup and restore http://technet.microsoft.com/en-us/library/dd896976.aspx