

Enable Replication on Microsoft Hyper-V

Hyper-V replica is a wonderful thing! If you have a spare Hyper-V host, and you just don't know what to do with it, use it as a replica server for your virtual machines. It is a poor mans fail-over, but it works and machine state can be at least five minutes old.

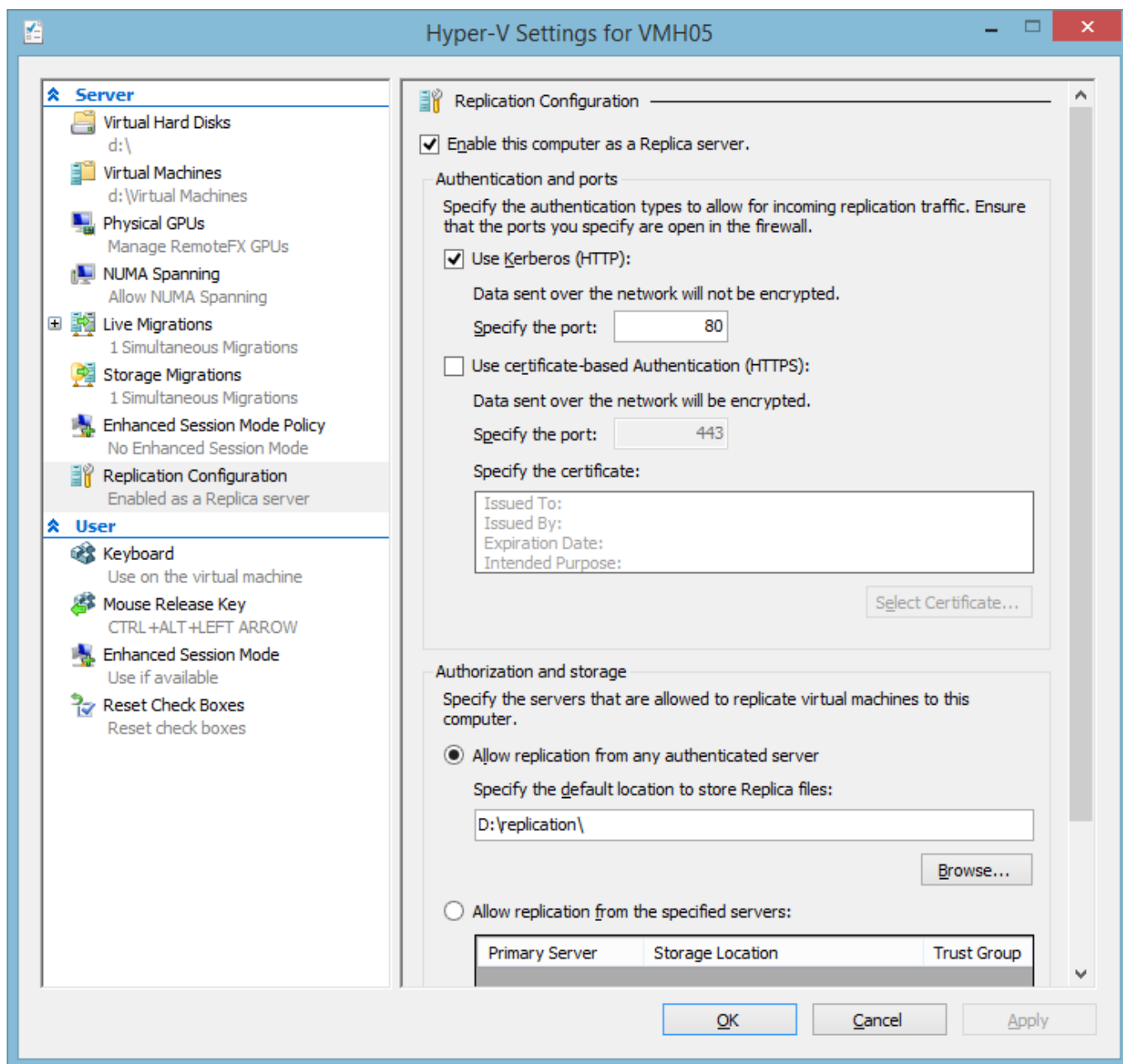
Here is a series of screenshots on how it's done with Hyper-V manager on a client machine.

My configuration:

- My network contains an Active Directory domain (not contoso.com)
- Microsoft Windows Hyper-V 2012 R2 hosts
- Microsoft Windows 8.1 clients

Open Hyper-V manager, and connect to your source and destination servers. On the destination host, open 'Hyper-V Settings', select 'Replication Configuration'

- Check 'Enable this computer as a Replica server.'
- Check 'Use Kerberos (HTTP)' (If you want, you can use HTTPS instead, or both. But be sure to have a valid certificate.)
- Select 'Allow replication from any authenticated server' and enter the path where you want to store replicated virtual machines.
- If you plan to replicate from multiple sources, you might rather want to select 'Allow replication from the specified servers' and specify each servers storage location separately.



Note that the replication will not work if you don't enable the firewall rules. You can enable the rules from CMD on the host.

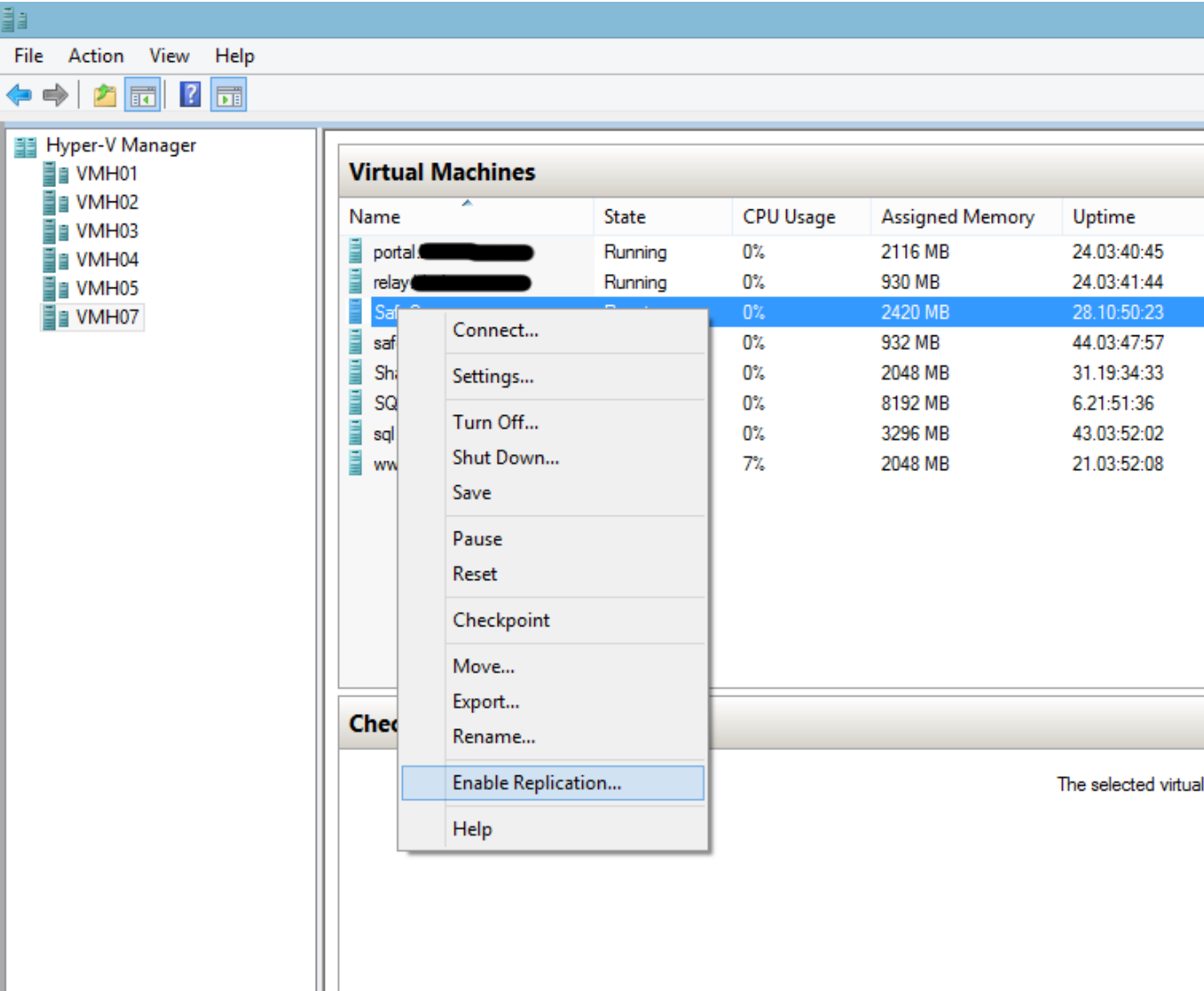
```
D:\>netsh advfirewall firewall set rule name="Hyper-V Replica HTTP Listener (TCP-In)" new enable = yes
Updated 1 rule(s).
Ok.
```

```
D:\>
```

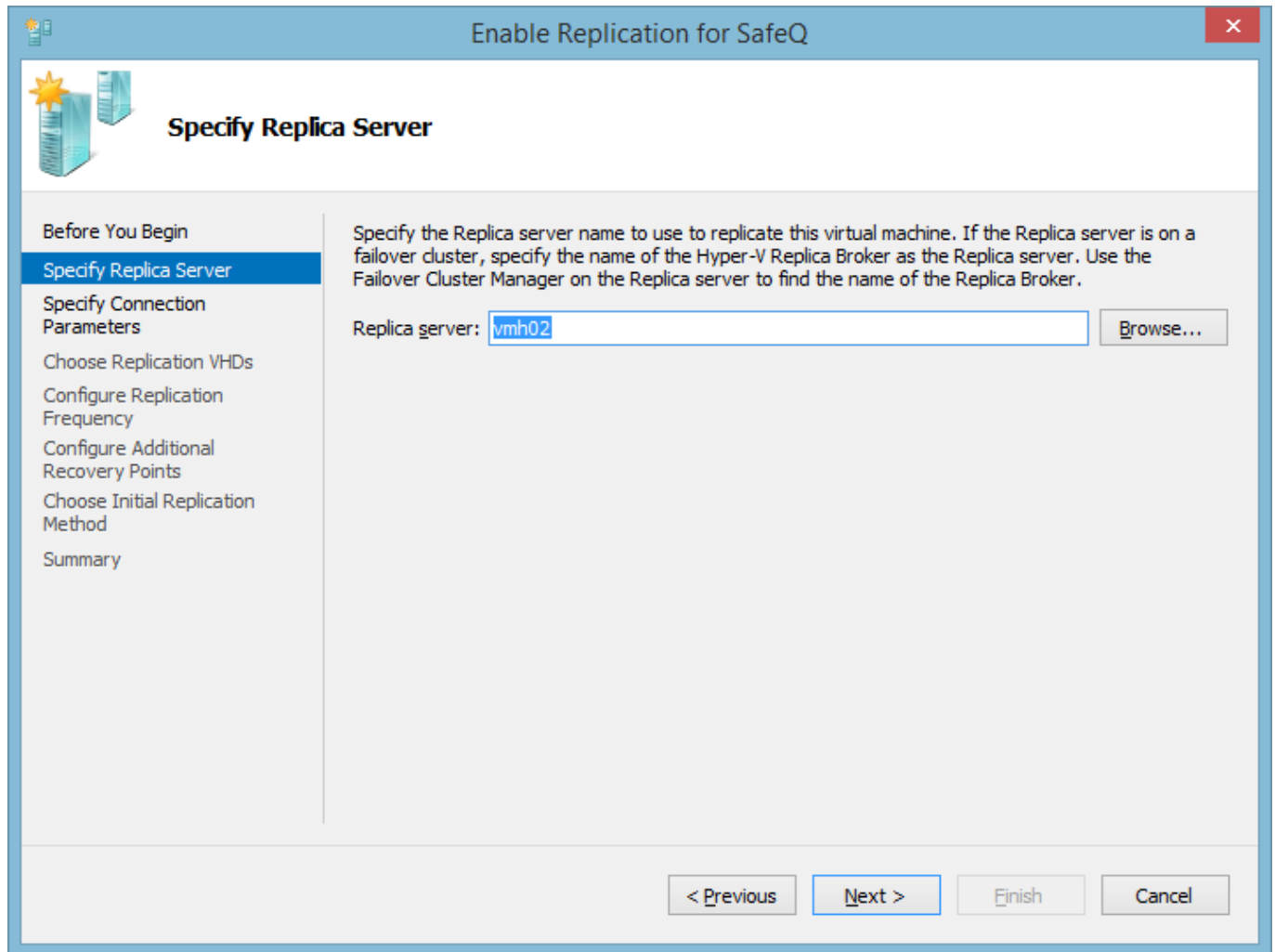
```
D:\>netsh advfirewall firewall set rule name="Hyper-V Replica HTTPS Listener (TCP-In)" new enable = yes
Updated 1 rule(s).
Ok.
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D:\>
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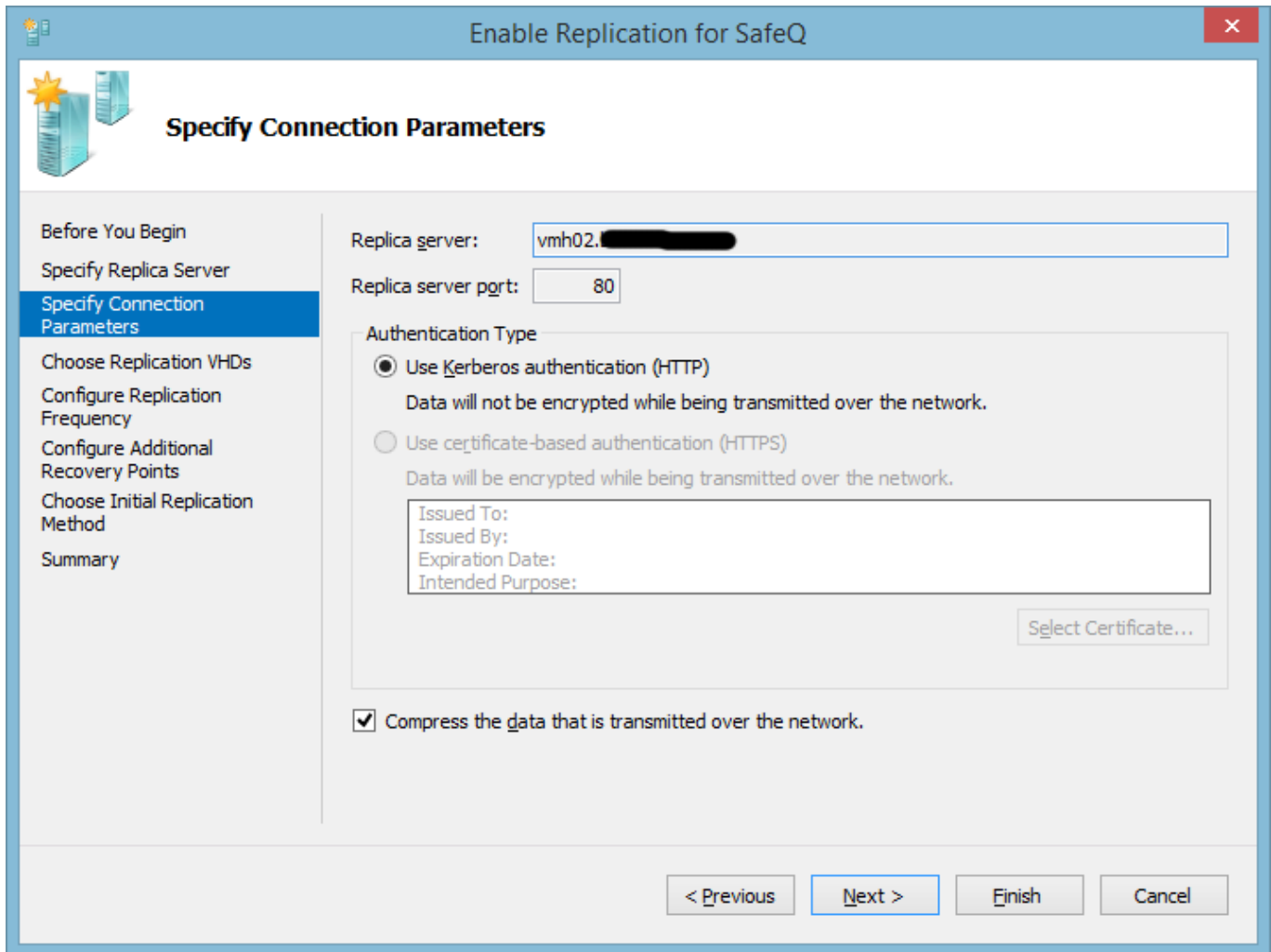
On the source host, right-click the virtual machine for which you wish to enable replication, and click 'Enable Replication'



Enter the host name of your destination Hyper-V host



Select authentication method (be sure to match it with the destination host)

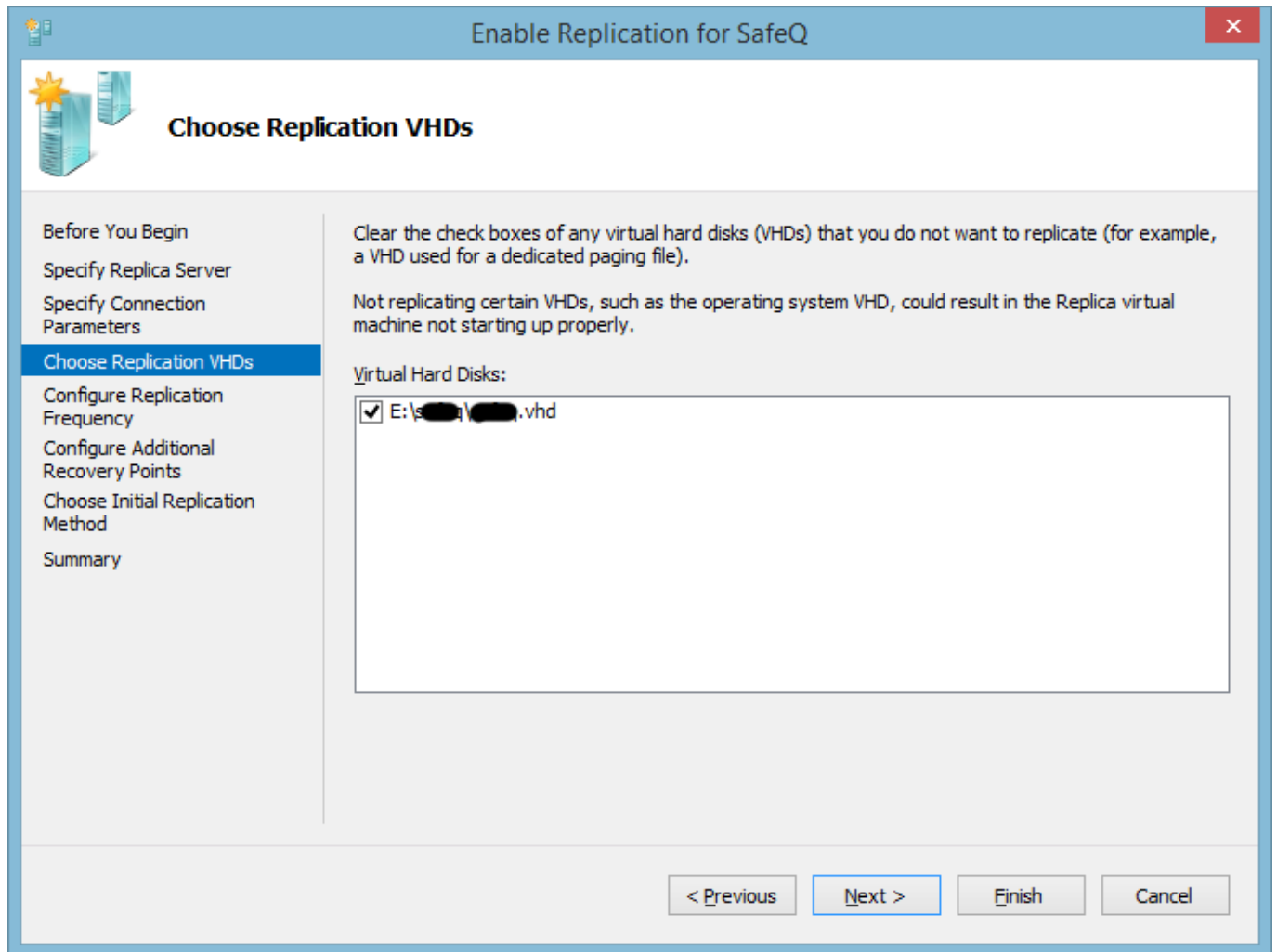


The screenshot shows a Windows-style wizard window titled "Enable Replication for SafeQ". The window has a blue header bar with a close button (X) in the top right corner. Below the header, there is a sidebar on the left with a list of steps: "Before You Begin", "Specify Replica Server", "Specify Connection Parameters" (which is highlighted with a blue background), "Choose Replication VHDs", "Configure Replication Frequency", "Configure Additional Recovery Points", "Choose Initial Replication Method", and "Summary". The main area of the wizard is titled "Specify Connection Parameters" and contains the following fields and options:

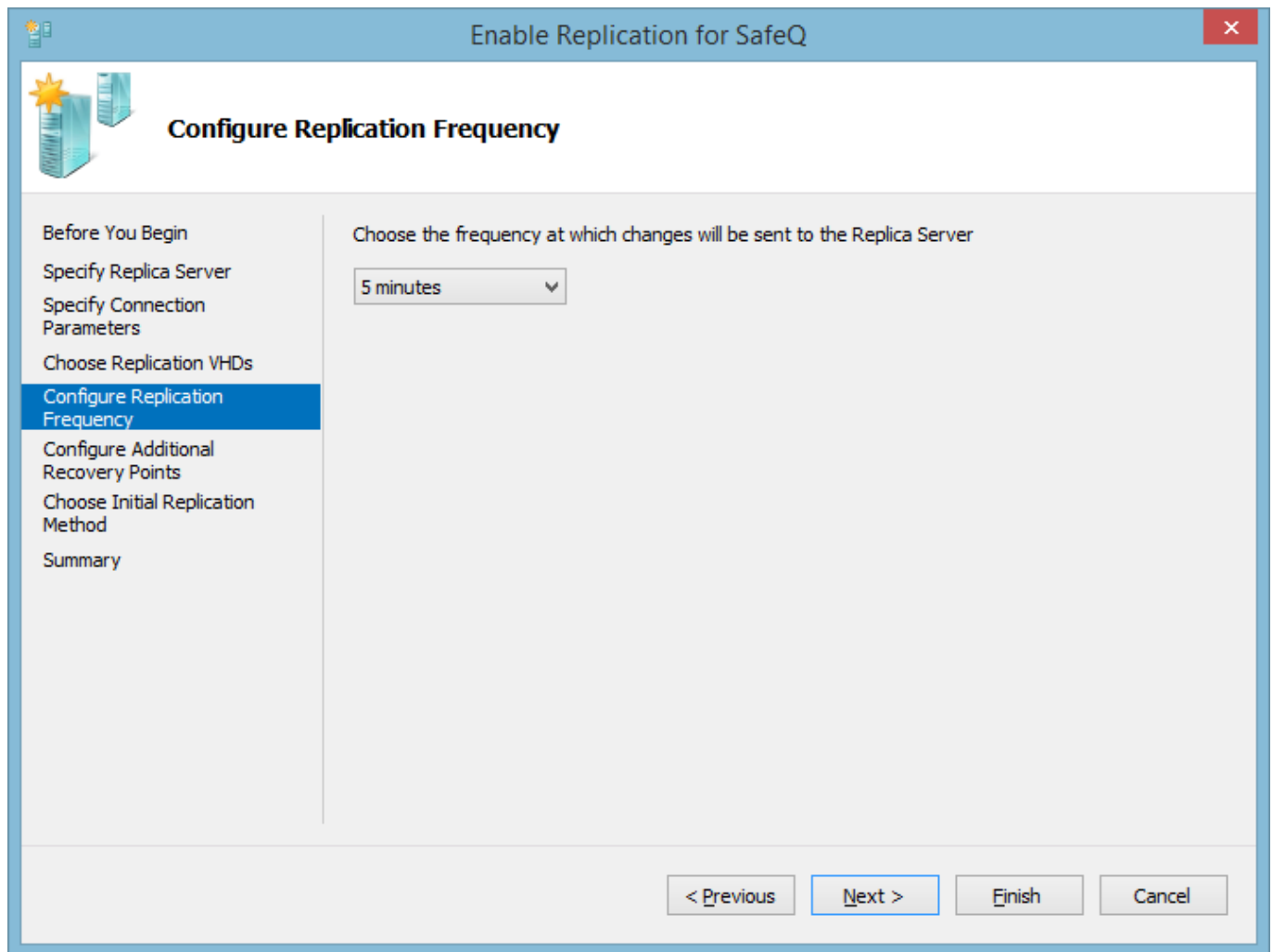
- Replica server:** A text box containing "vmh02." followed by a blacked-out IP address.
- Replica server port:** A text box containing "80".
- Authentication Type:** A section with two radio button options:
 - ☒ **Use Kerberos authentication (HTTP)**
Data will not be encrypted while being transmitted over the network.
 - ☐ **Use certificate-based authentication (HTTPS)**
Data will be encrypted while being transmitted over the network.
- Certificate Information:** A text box with labels for "Issued To:", "Issued By:", "Expiration Date:", and "Intended Purpose:". To the right of this box is a button labeled "Select Certificate...".
- Compression:** A checked checkbox labeled "Compress the data that is transmitted over the network."

At the bottom of the wizard, there are four buttons: "< Previous", "Next >" (which is highlighted with a blue border), "Finish", and "Cancel".

Select the virtual hard disks you want to replicate (Note that if you don't select the system disk, you will not be able to boot the replicated server)

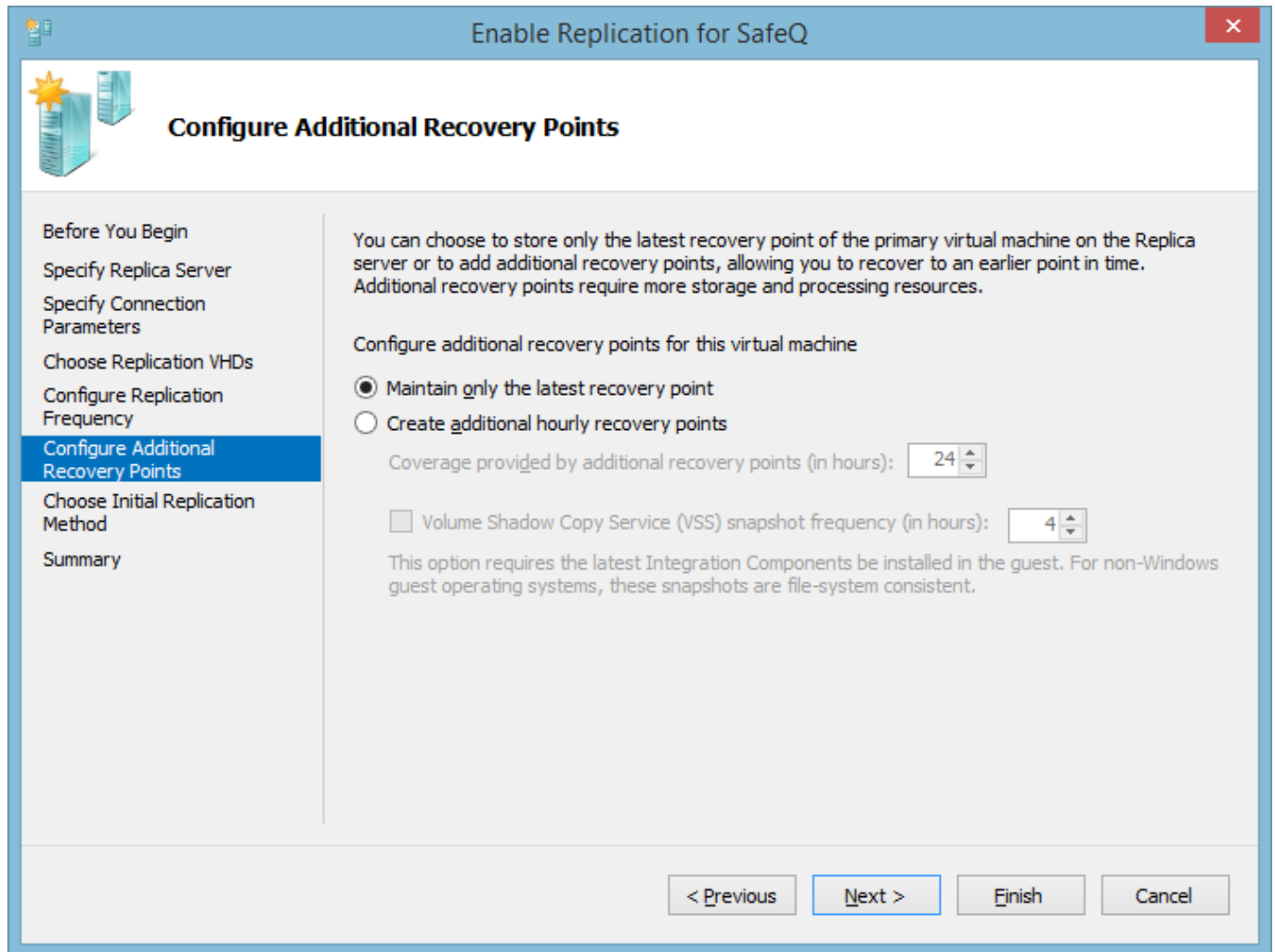


Select the interval which will be met to send changes to the replica server.



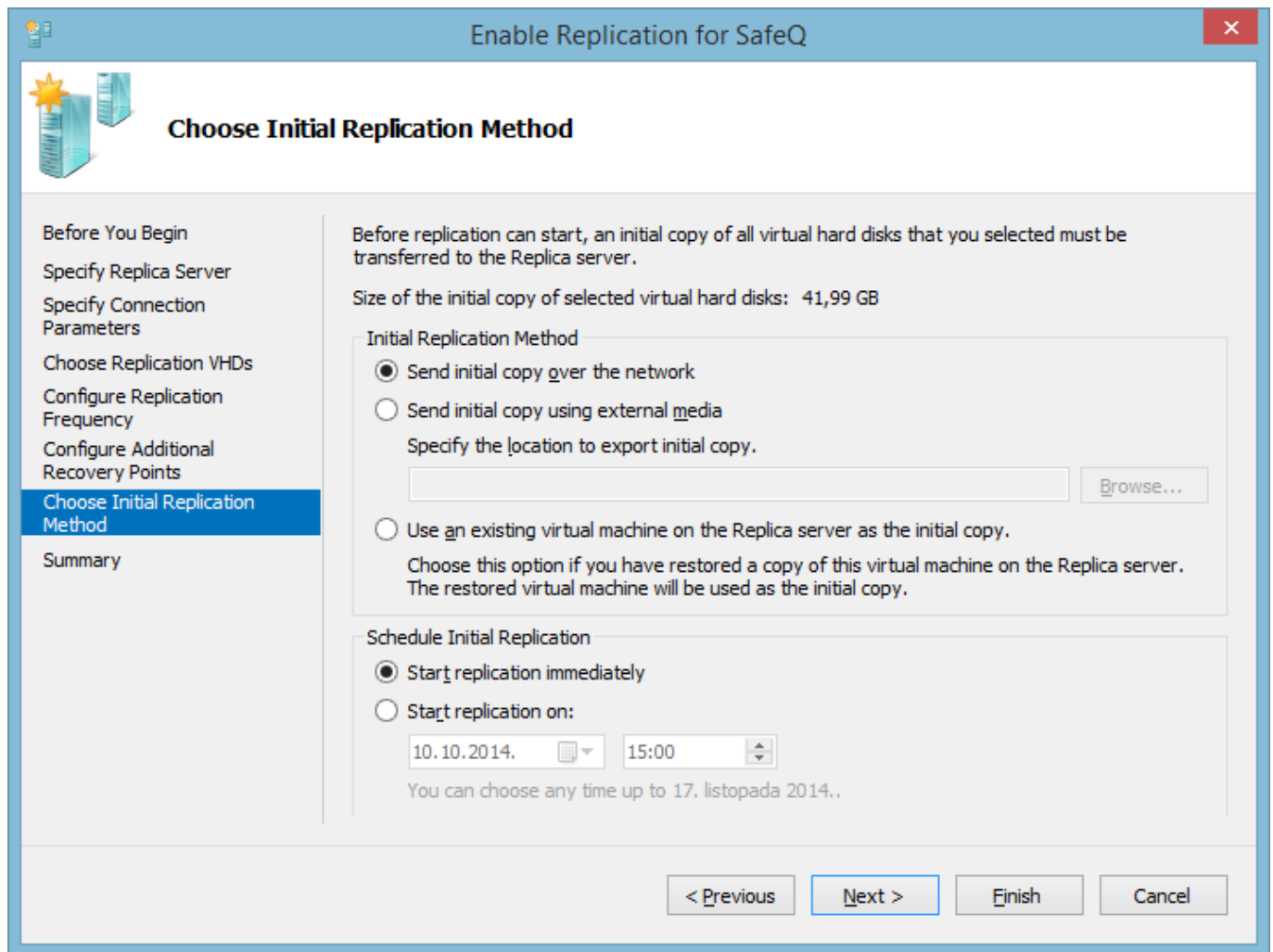
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Select if you need hourly recovery points, or just the latest recovery point.



The screenshot shows a Windows-style wizard window titled "Enable Replication for SafeQ". The left sidebar contains a list of steps: "Before You Begin", "Specify Replica Server", "Specify Connection Parameters", "Choose Replication VHDs", "Configure Replication Frequency", "Configure Additional Recovery Points" (which is highlighted in blue), "Choose Initial Replication Method", and "Summary". The main area of the wizard is titled "Configure Additional Recovery Points" and contains the following text: "You can choose to store only the latest recovery point of the primary virtual machine on the Replica server or to add additional recovery points, allowing you to recover to an earlier point in time. Additional recovery points require more storage and processing resources." Below this text, there is a section titled "Configure additional recovery points for this virtual machine" with two radio button options: "Maintain only the latest recovery point" (which is selected) and "Create additional hourly recovery points". The second option is followed by a text box labeled "Coverage provided by additional recovery points (in hours):" with a value of "24" and a spin button. Below this, there is a checkbox labeled "Volume Shadow Copy Service (VSS) snapshot frequency (in hours):" with a value of "4" and a spin button. A note below the checkbox states: "This option requires the latest Integration Components be installed in the guest. For non-Windows guest operating systems, these snapshots are file-system consistent." At the bottom of the wizard, there are four buttons: "< Previous", "Next >" (which is highlighted in blue), "Finish", and "Cancel".

Determine how and when you want to do the initial replication. It would be wise to use external media if the VHDs are large, or schedule the initial replication after office hours.



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Enable Replication for SafeQ

Choose Initial Replication Method

Before You Begin
Specify Replica Server
Specify Connection Parameters
Choose Replication VHDs
Configure Replication Frequency
Configure Additional Recovery Points
Choose Initial Replication Method
Summary

Before replication can start, an initial copy of all virtual hard disks that you selected must be transferred to the Replica server.

Size of the initial copy of selected virtual hard disks: 41,99 GB

Initial Replication Method

☒ Send initial copy over the network

☐ Send initial copy using external media

Specify the location to export initial copy.

☐ Use an existing virtual machine on the Replica server as the initial copy.

Choose this option if you have restored a copy of this virtual machine on the Replica server. The restored virtual machine will be used as the initial copy.

Schedule Initial Replication

☒ Start replication immediately

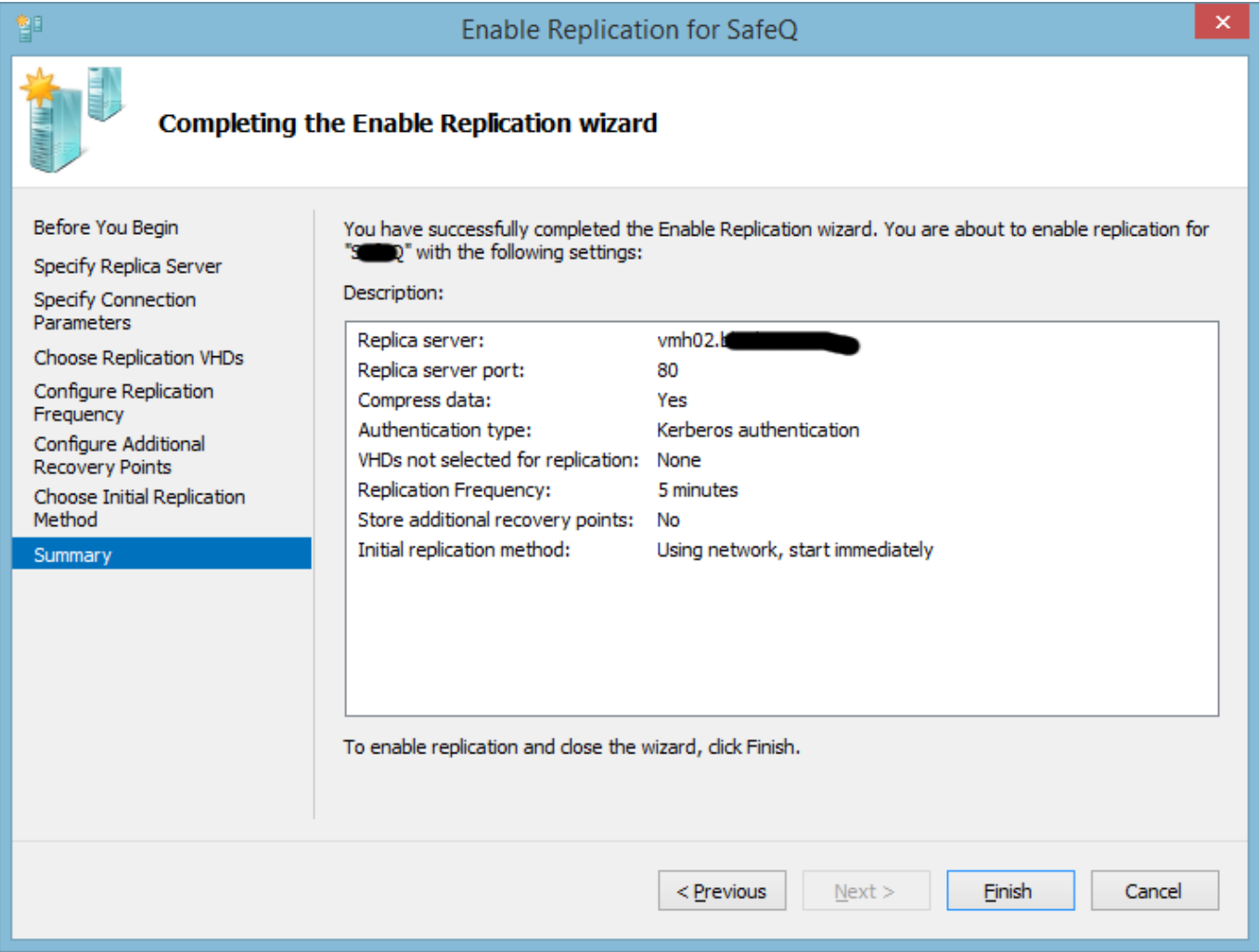
☐ Start replication on:

10.10.2014. 15:00

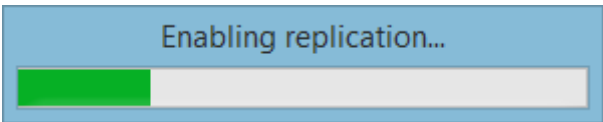
You can choose any time up to 17. listopada 2014..

< Previous Next > Finish Cancel

Review the wizard data, and click 'Finish'



Wait for the configuration to complete



And check the replication progress (if you started it immediately) in the Hyper-V Manager

Virtual Machines							
Name	State	CPU Usage	Assigned Memory	Uptime	Status	Replication Health	
portal[redacted]	Running	0%	2116 MB	24.03:43:48		Not Applicable	
relay[redacted]	Running	0%	930 MB	24.03:44:47	Sending Initial Replica (98%)	Normal	
[redacted]	Running	0%	2420 MB	28.10:53:23	Sending Initial Replica (2%)	Normal	
[redacted]	Running	0%	932 MB	44.03:51:00		Not Applicable	
[redacted]	Running	0%	2048 MB	31.19:37:36		Not Applicable	
[redacted]	Running	0%	8192 MB	6.21:54:40		Not Applicable	
[redacted]	Running	0%	3296 MB	43.03:55:05		Not Applicable	
w[redacted]	Running	8%	2048 MB	21.03:55:12	Sending Initial Replica (38%)	Normal	

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