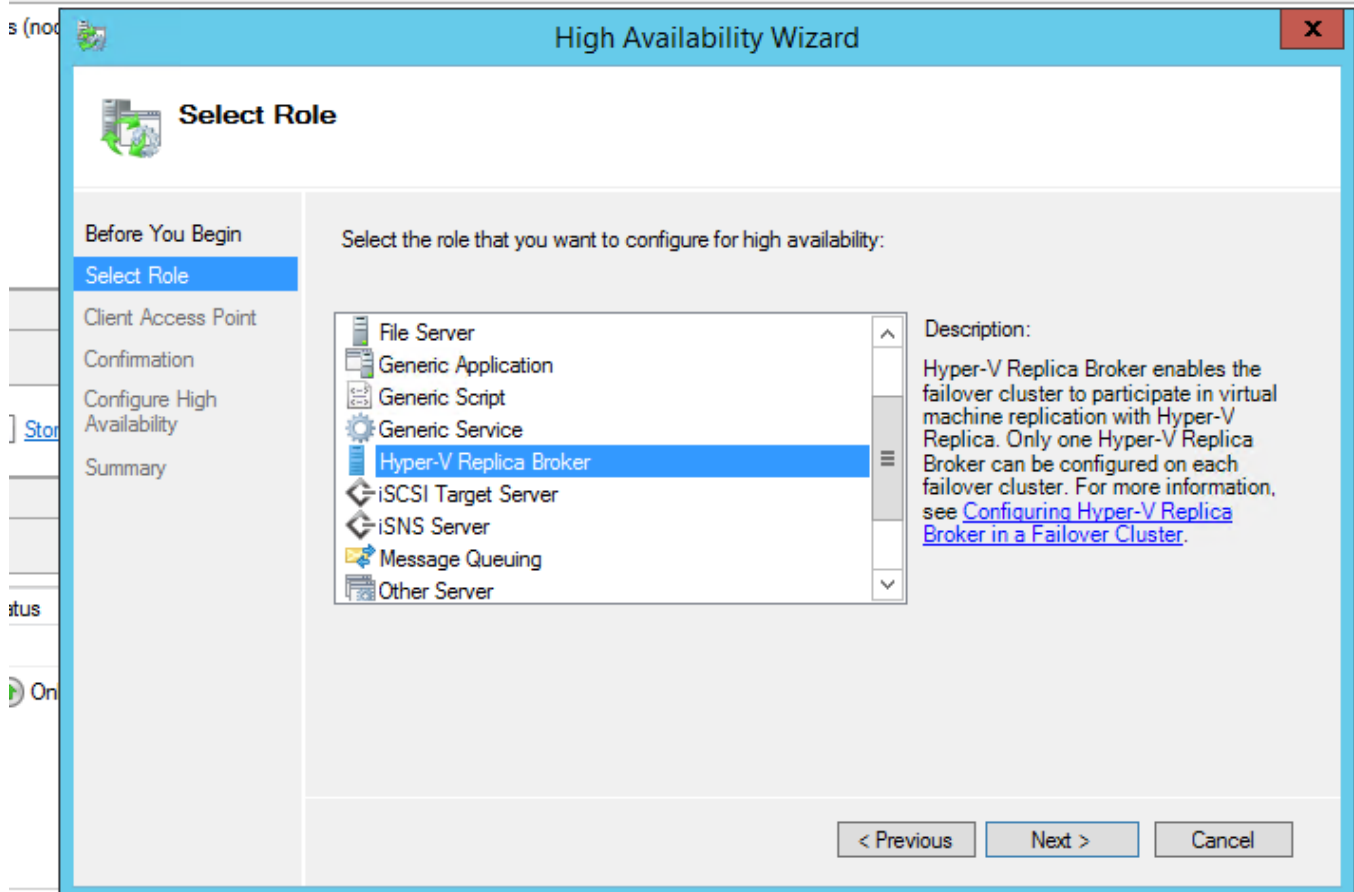


Configuring DR Replica

Open failover cluster manager

Right click the Cluster -> Select "Configure Role"

Click next -> select Hyper-V Replica Broker



Fill in the information (Choose an available IP from his subnet)

The screenshot shows the 'High Availability Wizard' window, specifically the 'Client Access Point' step. The left sidebar contains a navigation pane with the following options: 'Before You Begin', 'Select Role', 'Client Access Point' (which is highlighted), 'Confirmation', 'Configure High Availability', and 'Summary'. The main area of the window is titled 'Client Access Point' and contains the following elements:

- A text box labeled 'Name:' with the value 'HyperV-Broker' entered.
- An information icon (i) followed by a message: 'The NetBIOS name is limited to 15 characters. One or more IPv4 addresses could not be configured automatically. For each network to be used, make sure the network is selected, and then type an address.'
- A table with two columns: 'Networks' and 'Address'. The first row is checked and highlighted in blue.

	Networks	Address
<input checked="" type="checkbox"/>	10.11.38.0/24	10.11.38.220

At the bottom right of the window, there are three buttons: '< Previous', 'Next >', and 'Cancel'.

Create SSL cert via Powershell

For this, you will need to download Windows SDK and install

<https://msdn.microsoft.com/library/windows/desktop/aa386968.aspx>

Create the ROOT certificate

```
& "C:\Program Files\Microsoft SDKs\Windows\v7.1\Bin\x64\makecert.exe" -pe -n  
"CN=PrimaryRootCA" -ss root -sr LocalMachine -sky signature -r "PrimaryRootCA.cer"
```

Create SSL with the hostname of DR

```
& "C:\Program Files\Microsoft SDKs\Windows\v7.1\Bin\x64\makecert.exe" -pe -n  
"CN=dr.domain.com" -ss my -sr LocalMachine -sky exchange -eku  
"1.3.6.1.5.5.7.3.1,1.3.6.1.5.5.7.3.2" -in "primaryRootCA" -is root -ir LocalMachine -sp  
"Microsoft RSA SChannel Cryptographic Provider" -sy 12 replicaCert.cer
```

Create SSL with the name of the Hyper-V Replica Broker you created

Note, if you are in an AD, you will need to add the full FQDN of the broker

```
& "C:\Program Files\Microsoft SDKs\Windows\v7.1\Bin\x64\makecert.exe" -pe -n "CN=HyperV-  
Broker.domain.com" -ss my -sr LocalMachine -sky exchange -eku  
"1.3.6.1.5.5.7.3.1,1.3.6.1.5.5.7.3.2" -in "primaryRootCA" -is root -ir LocalMachine -sp  
"Microsoft RSA SChannel Cryptographic Provider" -sy 12 primaryCert.cer
```

On all hosts (nodes and DR) disable SSL revocation

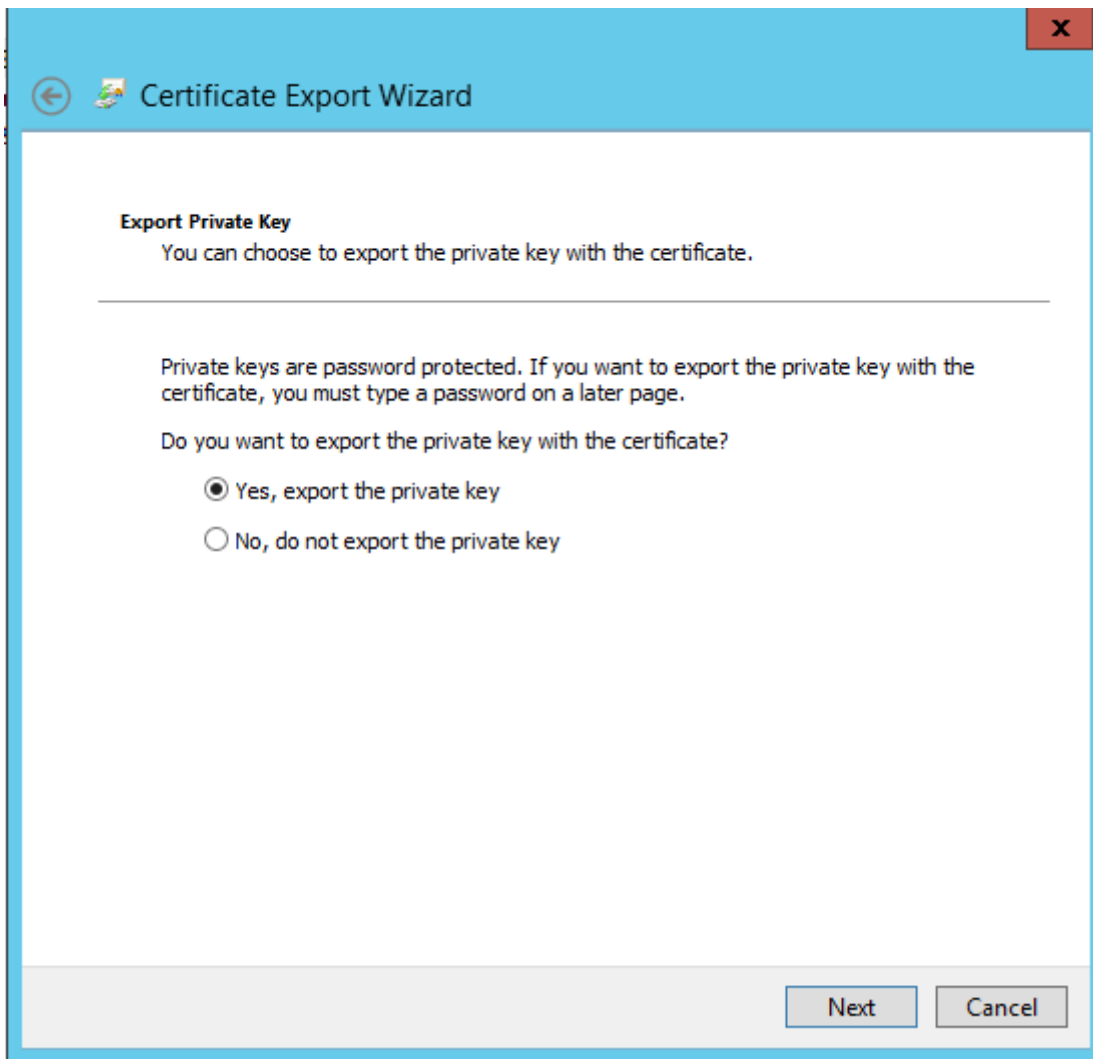
```
reg add "HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Virtualization\Replication" /v  
DisableCertRevocationCheck /d 1 /t REG_DWORD /f
```

Exporting the SSL

Open Certificate MMC console (simply search for certificate and click on "Manage Computer Certificates")

Under personal, click certificates

Right click the DR certificate -> all task -> export



Click Next -> Select "Yes, export the private key"

Click Next -> Select "Password" and enter any password

Click Next -> Select where to save the certificate

Import the SSL certificate

The following steps have to be performed on the DR

Open Certificate MMC console with the snap-in to manage certs

Right click "Personal" -> Select "All Task" -> Select "Import"

Click Next (Local Machine) -> Browse the Certificate and import

Enter the password used during the export

Click Next -> Select "Place all certificates in the following store"

Click Next -> Click Finish

Once done, move the Root Certificate under "Certificates" of "Trusted Root Certificate Authorities"

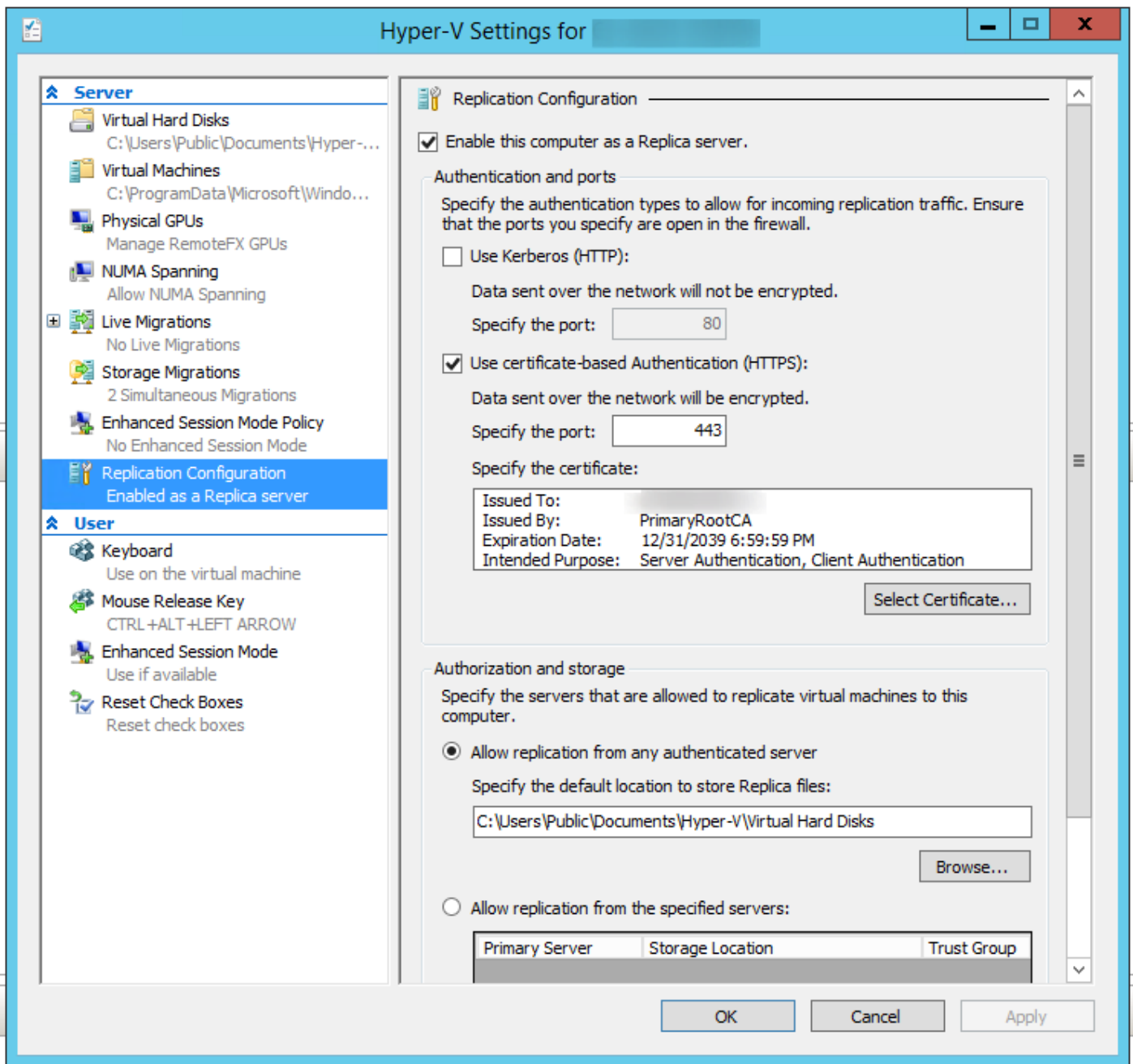
Configure the Replication Role in Hyper-V

In Hyper-V, right click the server -> Click on "Hyper-V Settings"

Select the "Replication Configuration" tab

Click "Enable this computer as Replica Server" -> Click "Use certificate-based authentication (HTTPS)" -> Select the Certificate

Under "Authorization and storage" -> Select "Allow replication from any authenticated server" with default value (C:\Users\Public\Documents\Hyper-V\Virtual Hard Disks)



Enabling Replication for VM

Right click on the VM and select "Enable Replication"

Virtual Machines					
Name	State ^	CPU Usage	Assigned Memory	Uptime	Status
	Running	0 %	8192 MB	380.07:28:59	
	Running	0 %	2048 MB	380.07:29:29	
	Running	0 %	8192 MB	380.07:34:56	
	Running	0 %	8192 MB	275.15:52:37	
	Running	0 %	2322 MB	380.07:28:54	
	Running	0 %	8192 MB	190.15:15:15	
	Running	4 %	8192 MB	190.14:52:29	
	Running			139.01:40:09	

Connect...
Settings...
Turn Off...
Shut Down...
Save
Pause
Reset
Checkpoint
Move...
Export...
Rename...
Enable Replication...
Help

Click Next -> Enter the hostname (that we put in the host file earlier)

Once it loads (can take a minute or 2), same thing as with the DR, select "Use certificate-based authentication (HTTPS)" and

select the certificate (make sure "Compress the data that is transmitted over the network"

Keep clicking next a select the options you want for the replication

Server 2016

Server 2016 is the same concept but you will need to create a cert for all nodes

Create root CA

```
New-SelfSignedCertificate `
-DnsName "HyperVReplicationRootCA" `
-CertStoreLocation Cert:\LocalMachine\My `
-KeyLength "4096" `
-Hash SHA256 `
-KeyFriendlyName "HyperVReplicationRootCA" `
```

```
-FriendlyName "HyperVReplicationRootCA" `
-NotAfter "2030-12-31 23:59:59" `
-NotBefore "2018-10-10 00:00:00" `
-KeyUsage CertSign,CRLSign,DigitalSignature
```

Create node cert (1 cert per node)

```
New-SelfSignedCertificate `
-DnsName Myfqdn.domain.com `
-CertStoreLocation Cert:\LocalMachine\My `
-KeyLength "4096" `
-Hash SHA256 `
-KeyFriendlyName hostname `
-FriendlyName hostname `
-NotBefore "2017-01-01 00:00:00" `
-NotAfter "2030-12-31 23:59:59" `
-Signer ( Get-ChildItem Cert:\LocalMachine\My | Where -Prop Subject -eq
"CN=HyperVReplicationRootCA" )
```

Use same command for broker cert and export / import cert on all nodes / dr server as explained above

Revision #3

Created 12 August 2018 00:50:18 by Dave

Updated 29 October 2018 00:56:54 by Dave