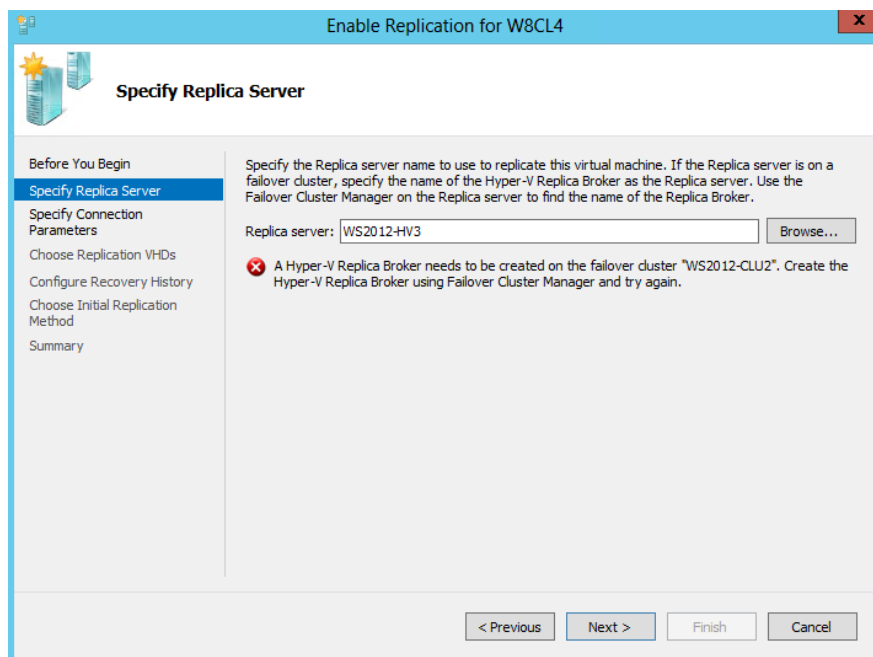
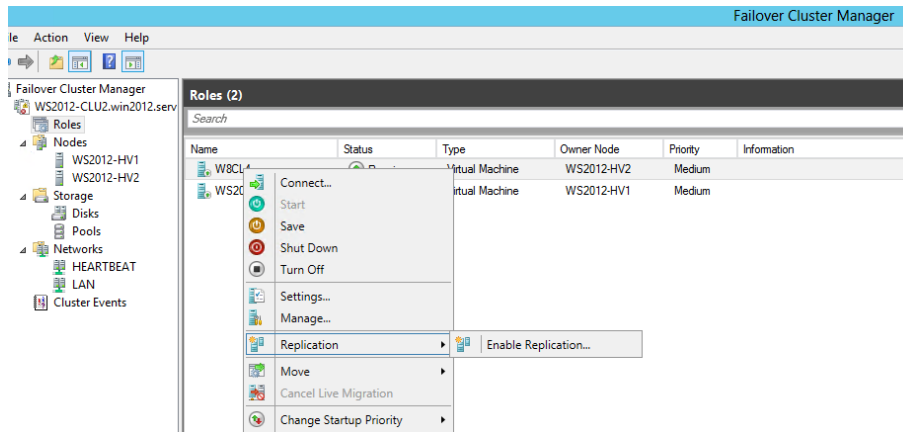


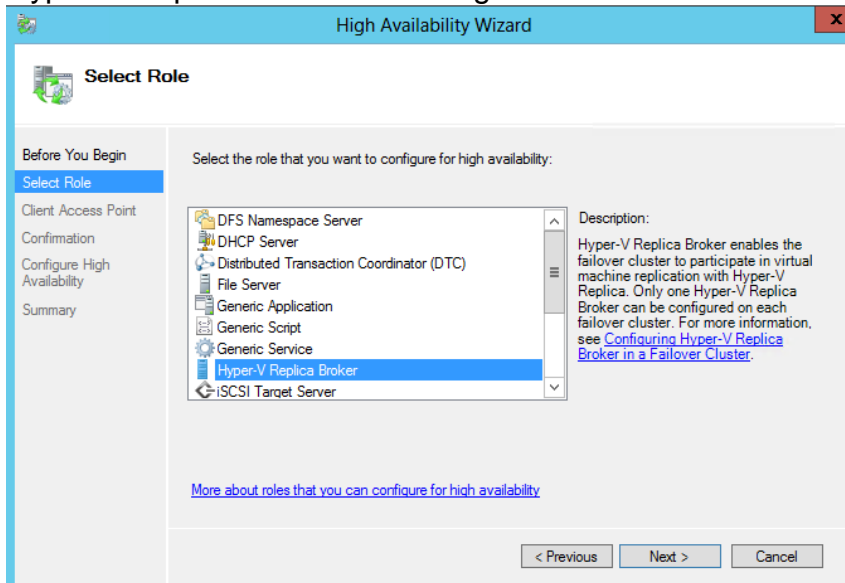
WS2012 Hyper-V Replica im Failover Cluster

Lesenswerte Quelle: <http://www.microsoft.com/en-us/download/details.aspx?id=29016>

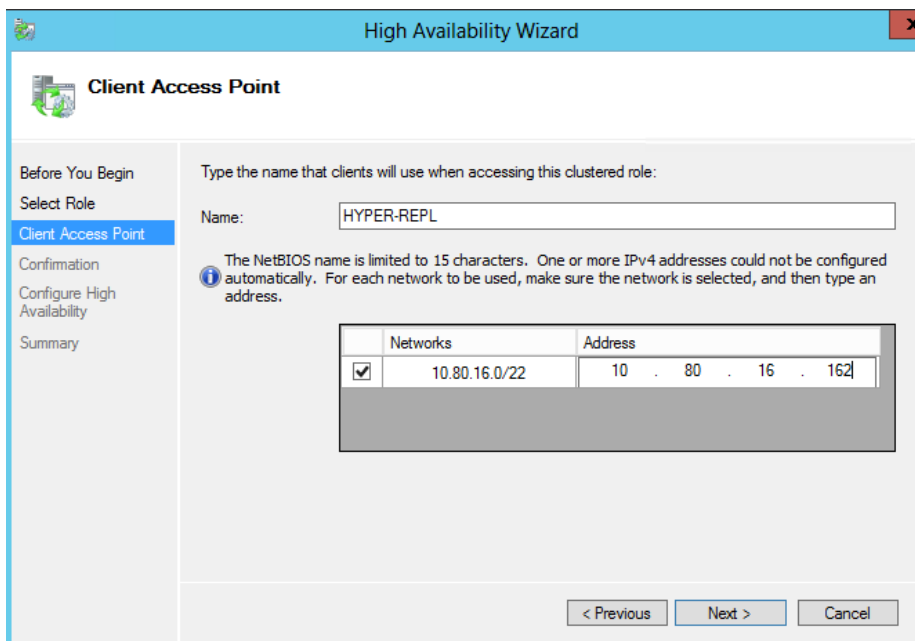
Auf dem Cluster









Hyper-V Replica Broker hinzufuegen









IP Adresse und Name fuer CNO/VCO vergeben



Da isser

Roles (3)					
<i>Search</i>					
Name	Status	Type	Owner Node	Priority	Information
 HYPER-REPL	 Running	Hyper-V Replica Brok...	WS2012-HV1	Medium	
 W8CL4	 Running	Virtual Machine	WS2012-HV2	Medium	
 WS2012-MEM3	 Running	Virtual Machine	WS2012-HV1	Medium	

HYPER-REPL		
Name	Status	Information
Server Name		
 Name: HYPER-REPL		Online
 IP Address: 10.80.16.162		Online
Hyper-V Replica Broker		
 Hyper-V Replica Broker HYPER-REPL		Online

Replication Settings

The screenshot shows the 'Hyper-V Replica Broker Configuration' dialog box. It is divided into several sections:

- Enable this cluster as a Replica server:** This checkbox is checked.
- Authentication and ports:**
 - Use Kerberos (HTTP):** This checkbox is checked. Below it, a text box indicates 'Data sent over the network will not be encrypted.' and 'Specify the port:' with a value of '80'.
 - Use certificate-based Authentication (HTTPS):** This checkbox is unchecked. Below it, a text box indicates 'Data sent over the network will be encrypted.' and 'Specify the port:' with a value of '443'.
 - Specify the certificate:** This section includes fields for 'Issued To:', 'Issued By:', 'Expiration Date:', and 'Intended Purpose:'. A 'Select Certificate...' button is located to the right.
- Authorization and storage:**
 - Allow replication from any authenticated server:** This radio button is selected. Below it, a text box shows the default location 'C:\ClusterStorage\volume1\'. A 'Browse...' button is to the right.
 - Allow replication from the specified servers:** This radio button is unselected. Below it is a table with three columns: 'Primary Server', 'Storage Location', and 'Trust Group'.

At the bottom of the dialog are 'OK', 'Cancel', and 'Apply' buttons.

Firewall beachten

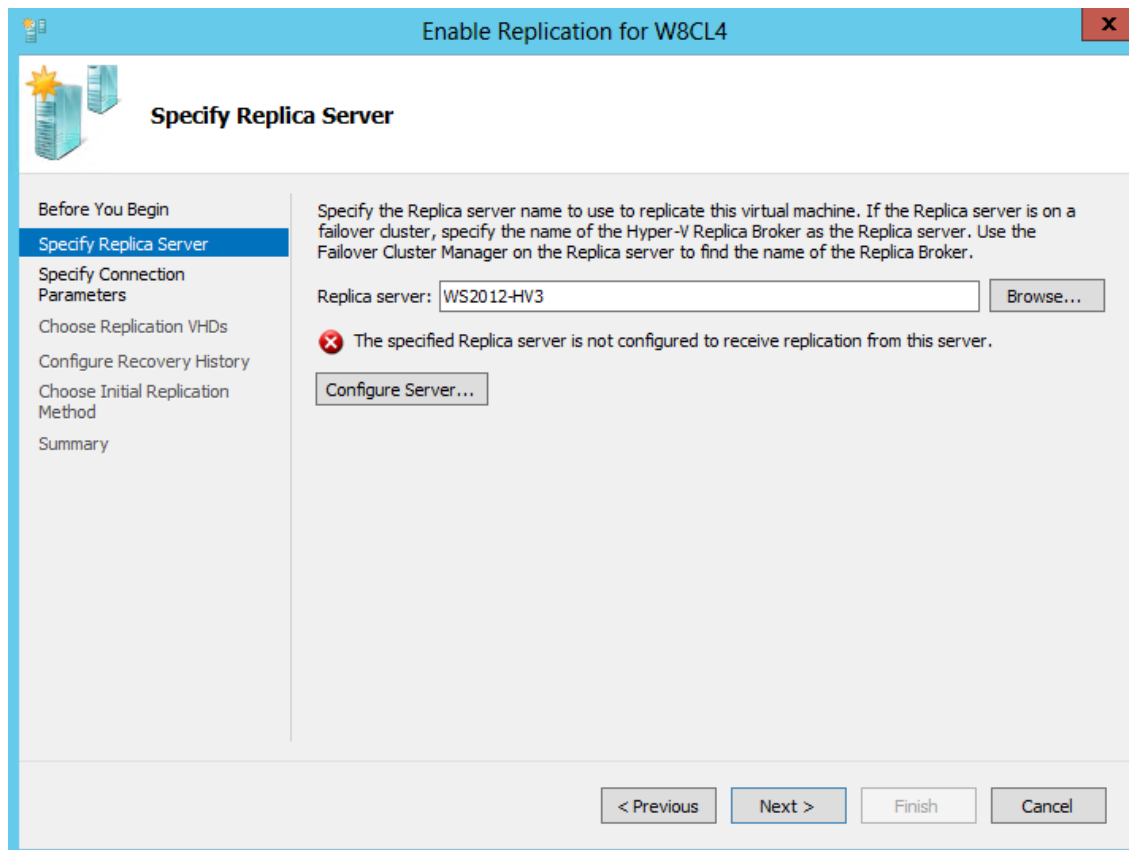
The screenshot shows the 'Hyper-V Replica Broker Configuration Settings' dialog box. It features a blue information icon and the following text:

Inbound traffic needs to be allowed in the Firewall.

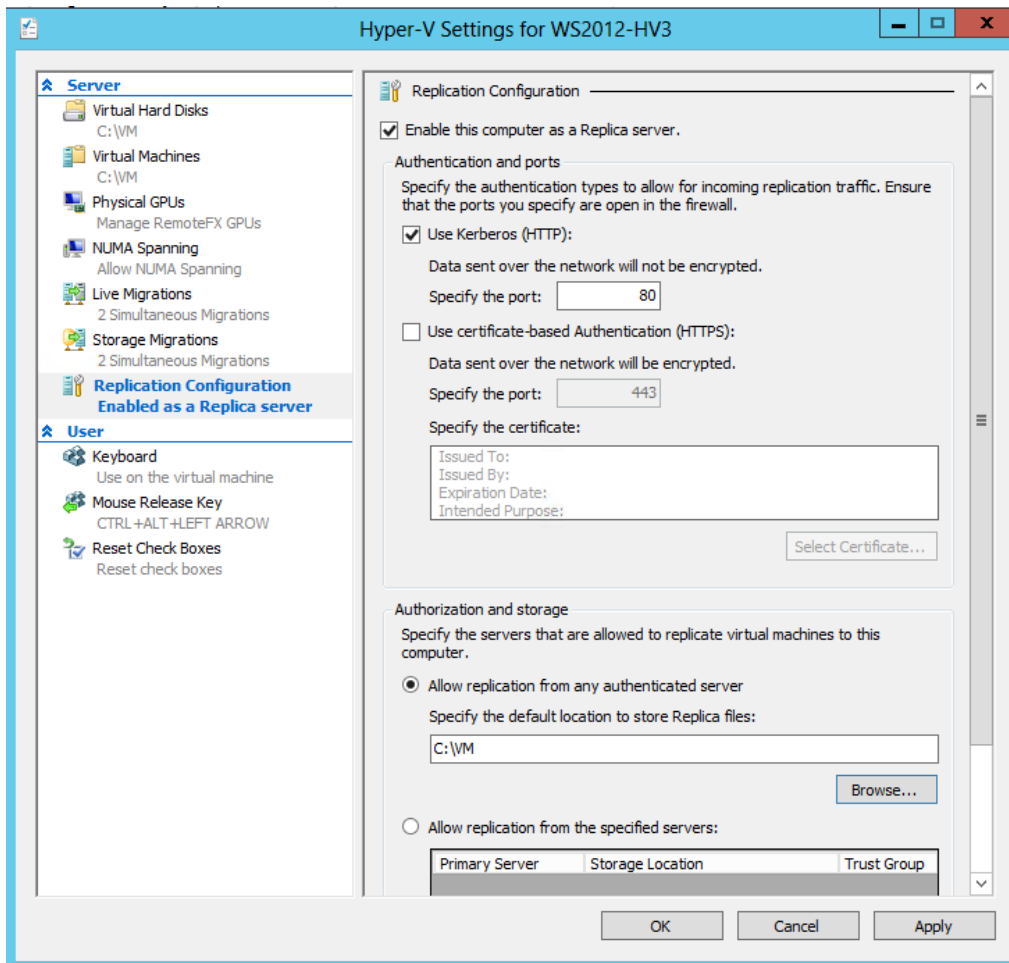
Ensure the inbound TCP exception for port '80' is enabled in the Firewall on each node of the cluster. If you are using Windows Firewall, enable "Hyper-V Replica HTTP Listener (TCP-In)" rule on each node of the cluster.

At the bottom, there is a checked checkbox labeled 'Please don't show me this again' and an 'OK' button.

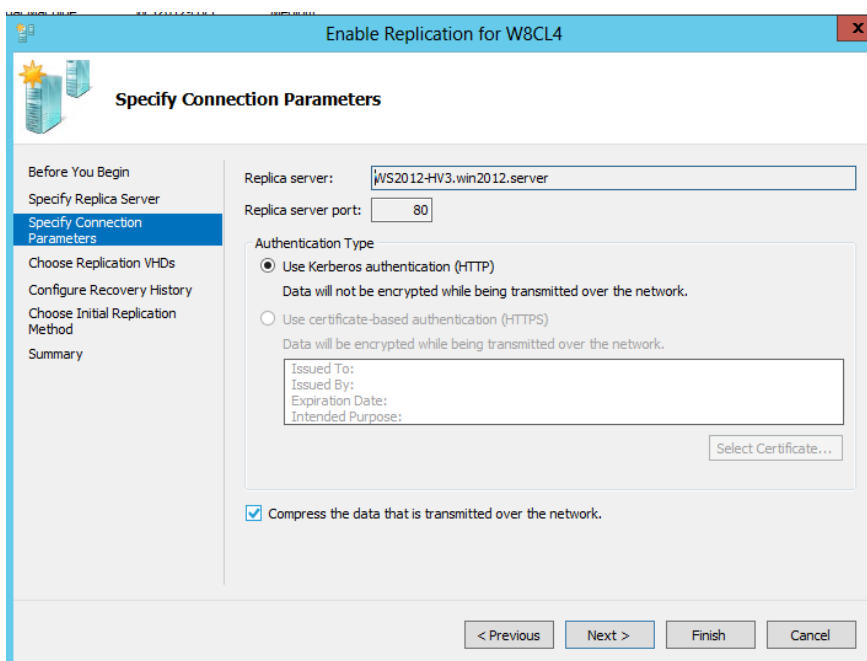
OK, Ziel Replica Server muss auch konfiguriert werden ☺

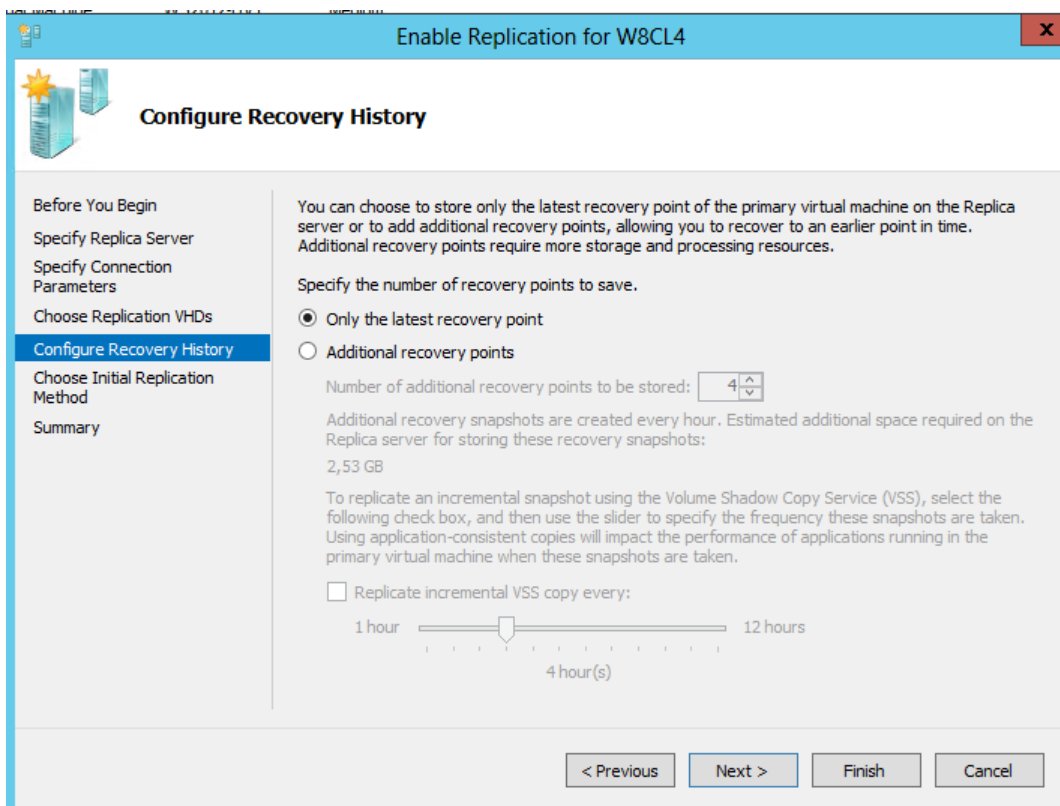
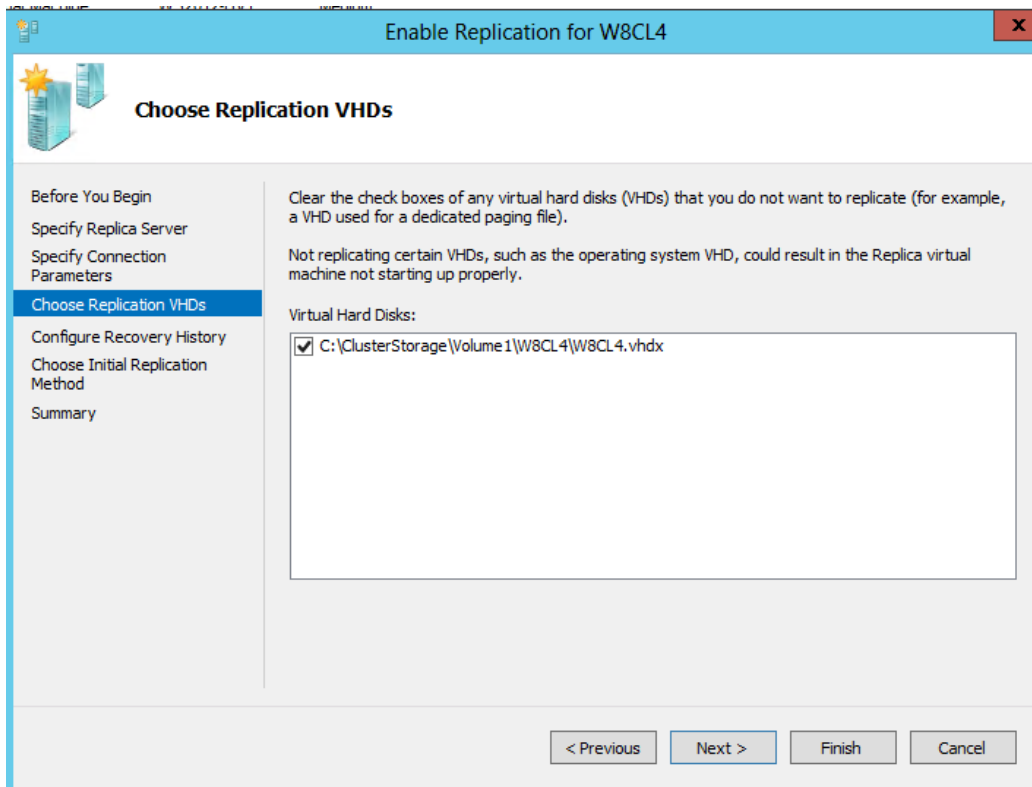


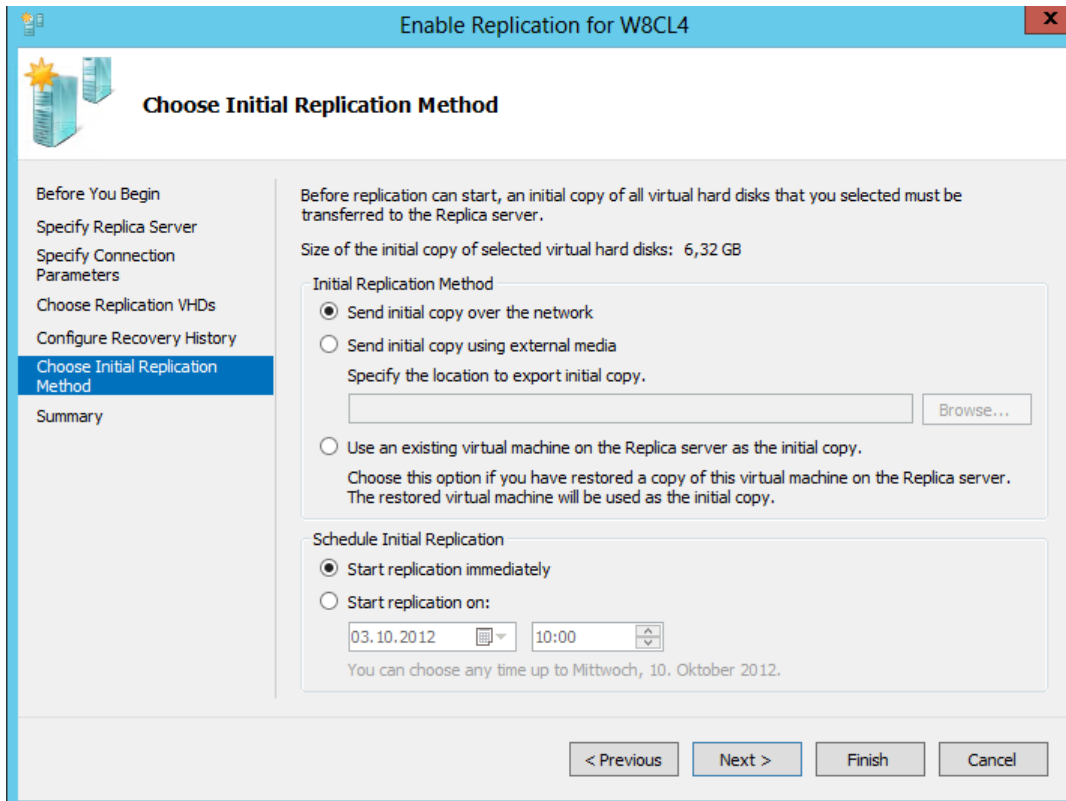
Nicht geclusterter Hyper-V Server



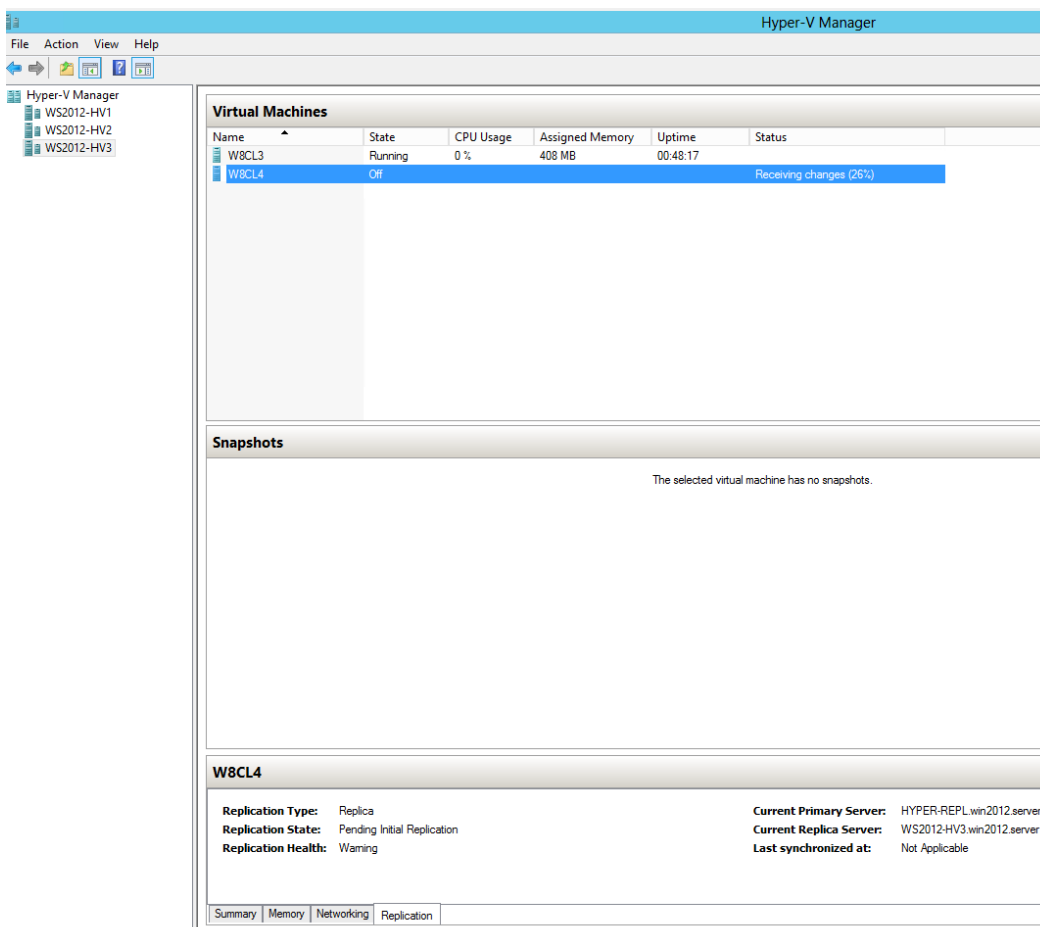
Next try







Initiale Replikation



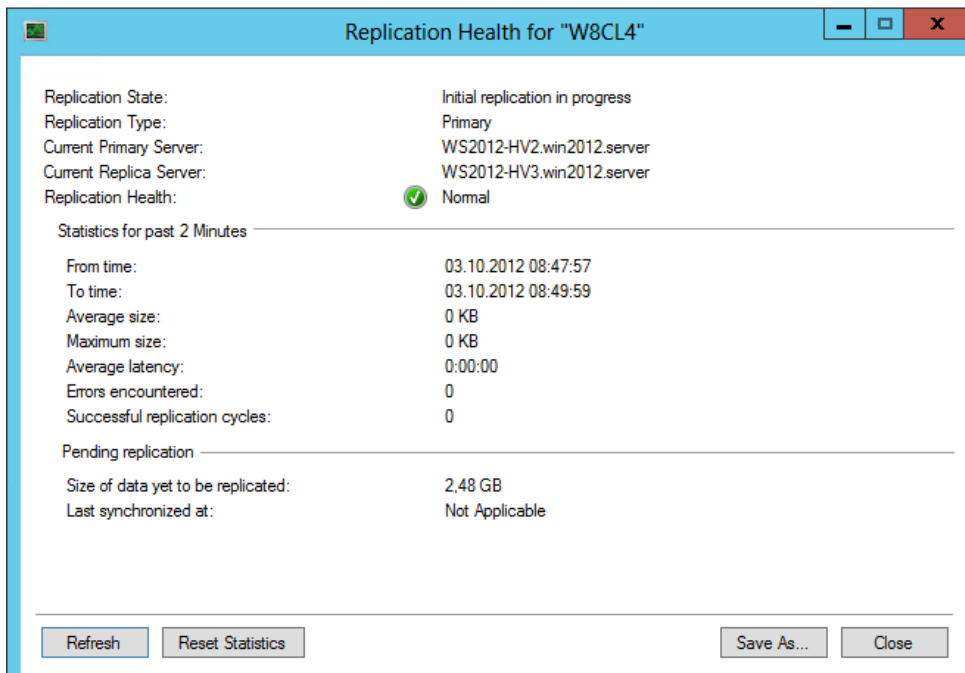
Replication settings in Failover Cluster Manager

The screenshot displays the Failover Cluster Manager interface. On the left, a tree view shows the cluster structure: Failover Cluster Manager > WS2012-CLU2.win2012.serv > Roles. The main pane shows 'Roles (3)' with a table listing roles and their details. A context menu is open over the 'W8CL4' role, with the 'Replication' option selected, revealing a sub-menu for replication actions.

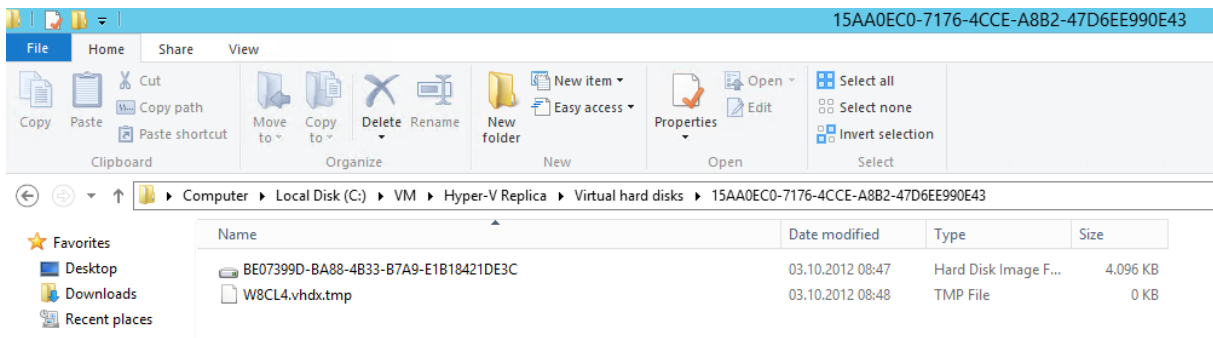
Name	Status	Type	Owner Node	Priority	Information
HYPER-REPL	Running	Hyper-V Replica Brok...	WS2012-HV1	Medium	
W8CL4	Running	Virtual Machine	WS2012-HV2	Medium	
WS2012	Running	Virtual Machine	WS2012-HV1	Medium	

Name	Status	Information
Virtual Machine		
+ Virtual Machine W8CL4	Running	
Storage		
+ CSV	Online	

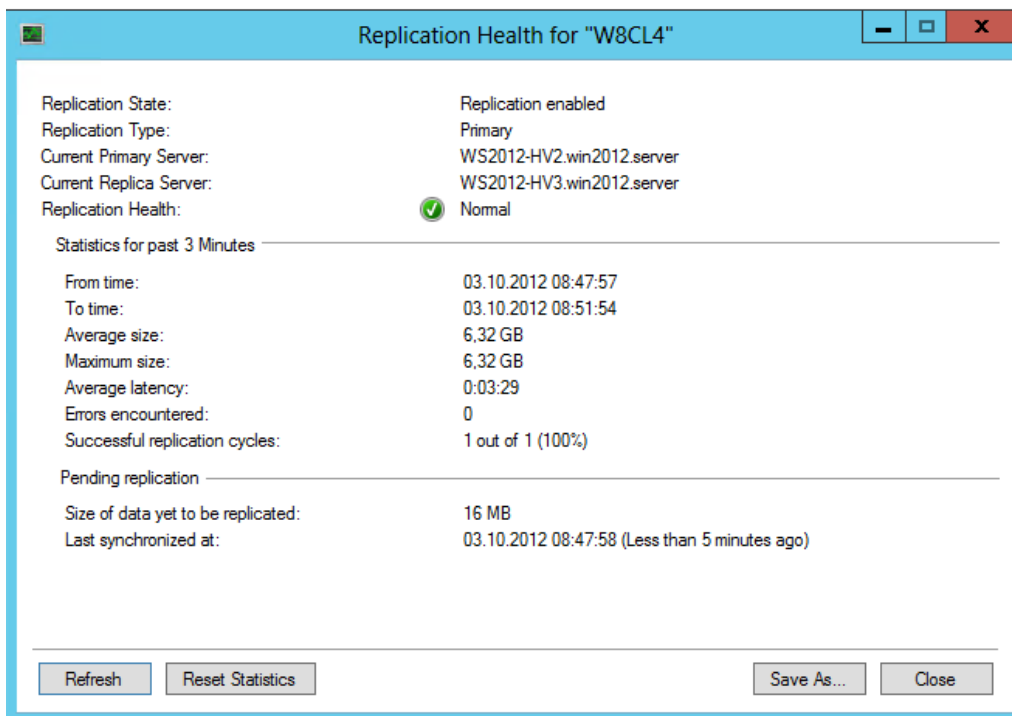
Da muss noch was repliziert werden



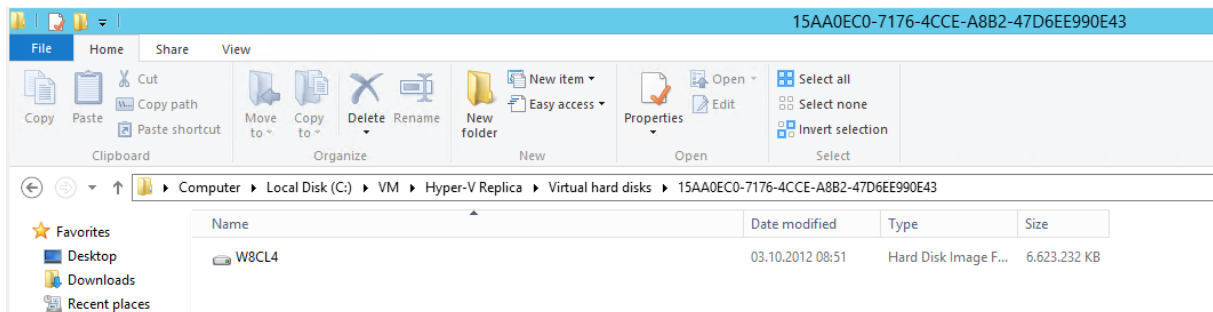
Auf dem Ziel Replica Server



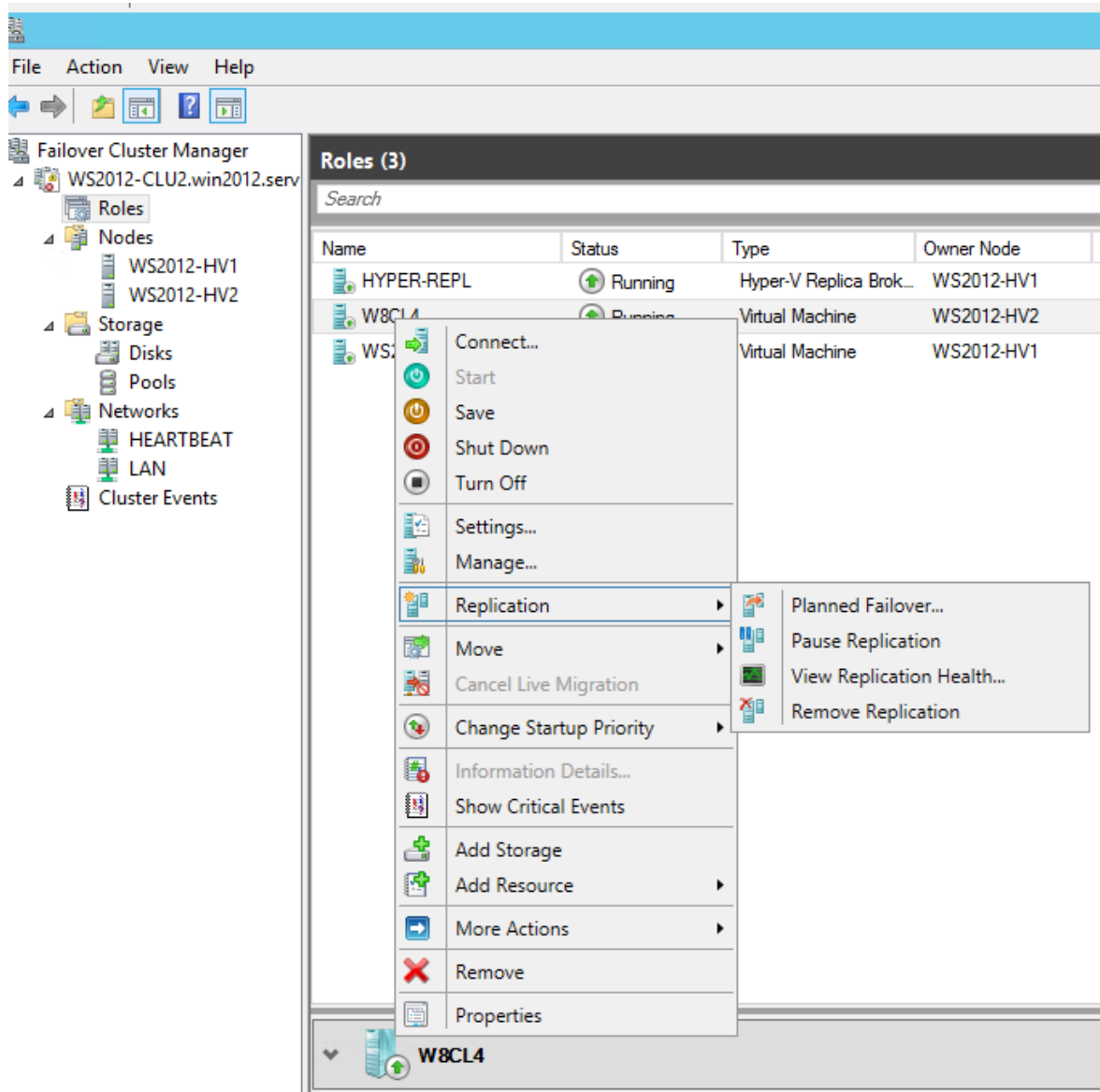
Replication ist durch. Ab sofort Delta Replication



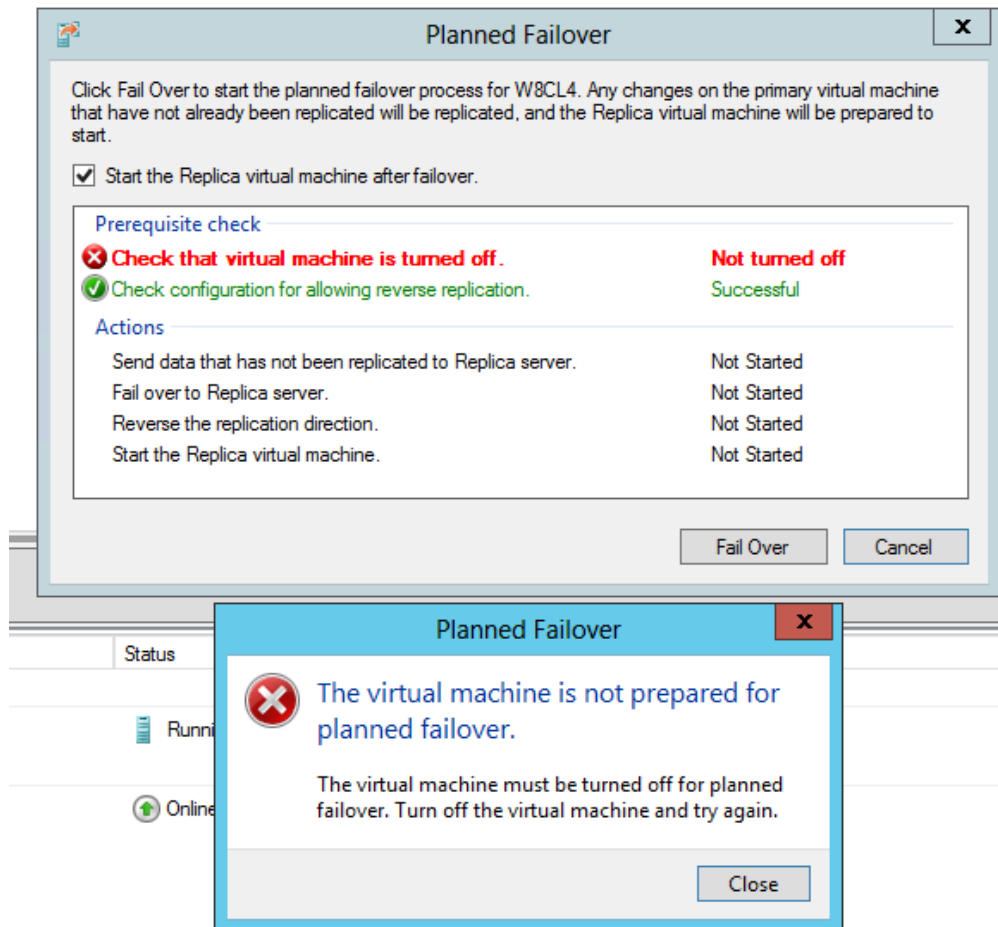
So sieht es jetzt auf dem Ziel Replica Server aus



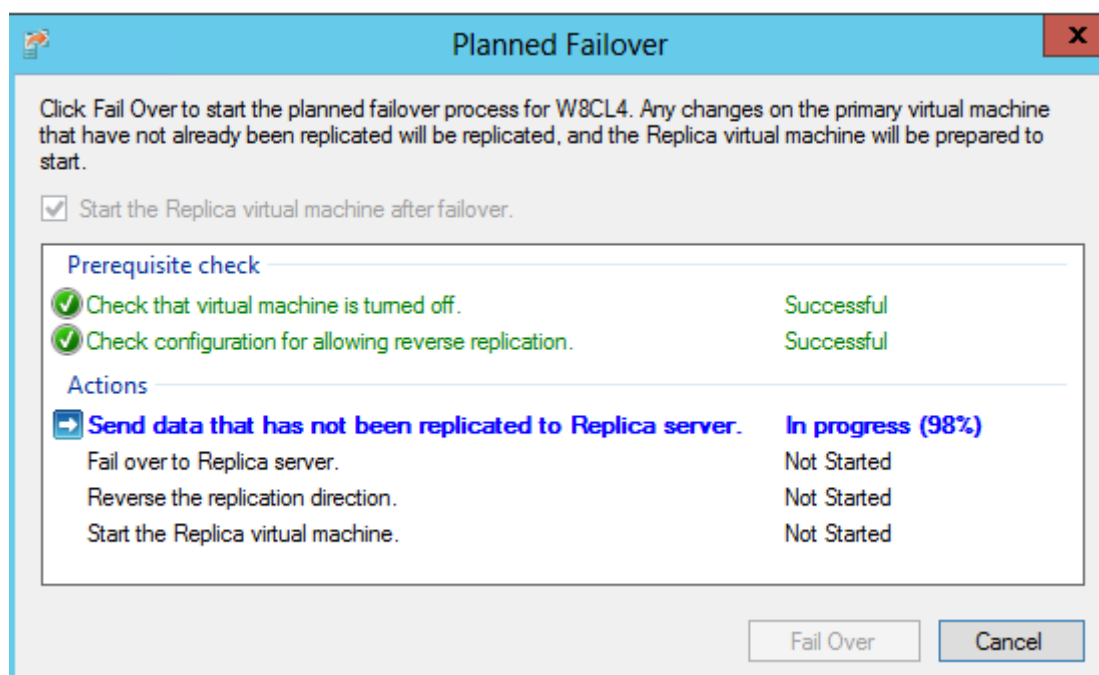
Planned Failover

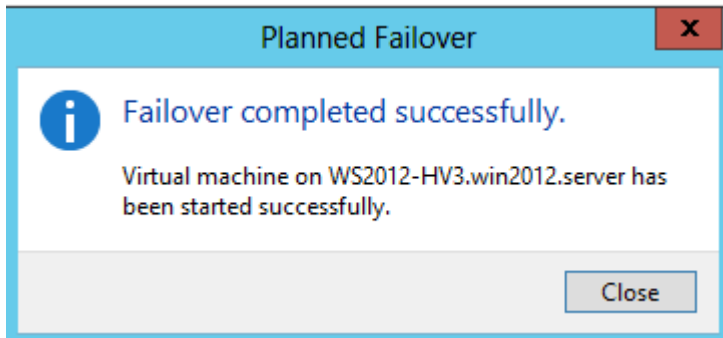


VM muss „OFF“ sein

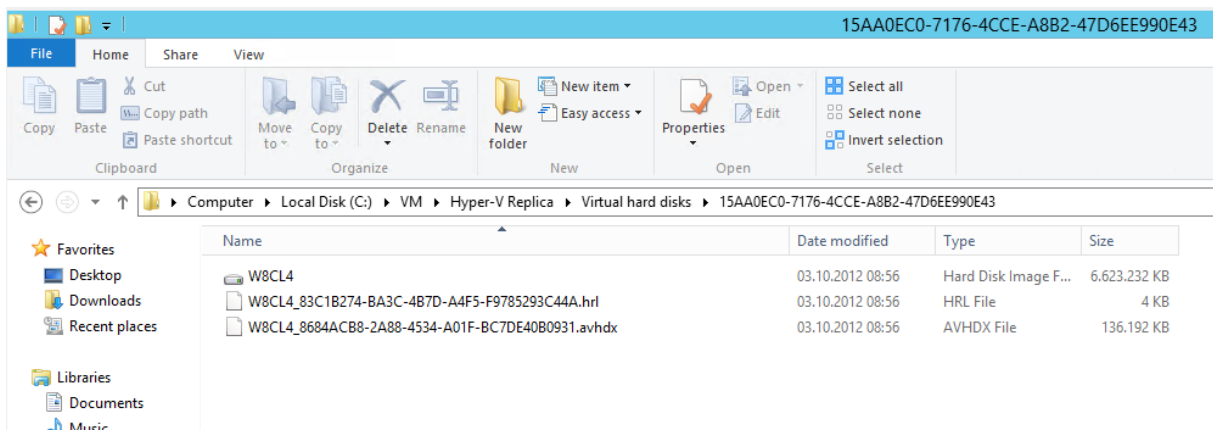


Nicht replizierte Daten werden zum Ziel Hyper-V Replica Server repliziert





So sieht es auf dem Ziel Replica Server aus



Replikationsstatus sieht gut aus

The screenshot shows the Hyper-V Manager interface. On the left, a tree view lists three virtual machines: WS2012-HV3, WS2012-HV1, and WS2012-HV2. The main pane displays a table of virtual machines:

Name	State	CPU Usage	Assigned Memory	Uptime	Status
W8CL3	Running	0 %	408 MB	00:58:50	
W8CL4	Running	1 %	512 MB	00:03:15	

Below the table, the 'Snapshots' section indicates: "The selected virtual machine has no snapshots."

The 'W8CL4' section shows the following replication details:

Replication Type:	Primary	Current Primary Server:	WS2012-HV3.win2012.server
Replication State:	Replication enabled	Current Replica Server:	HYPER-REPL.win2012.server
Replication Health:	Normal	Last synchronized at:	03.10.2012 08:55:45

At the bottom, there are tabs for Summary, Memory, Networking, and Replication.

WS2012-HV3: 1 virtual machine selected.

The dialog box titled "Replication Health for 'W8CL4'" displays the following information:

Replication State: Replication enabled
Replication Type: Primary
Current Primary Server: WS2012-HV3.win2012.server
Current Replica Server: HYPER-REPL.win2012.server
Replication Health: Normal

Statistics for past 3 Minutes

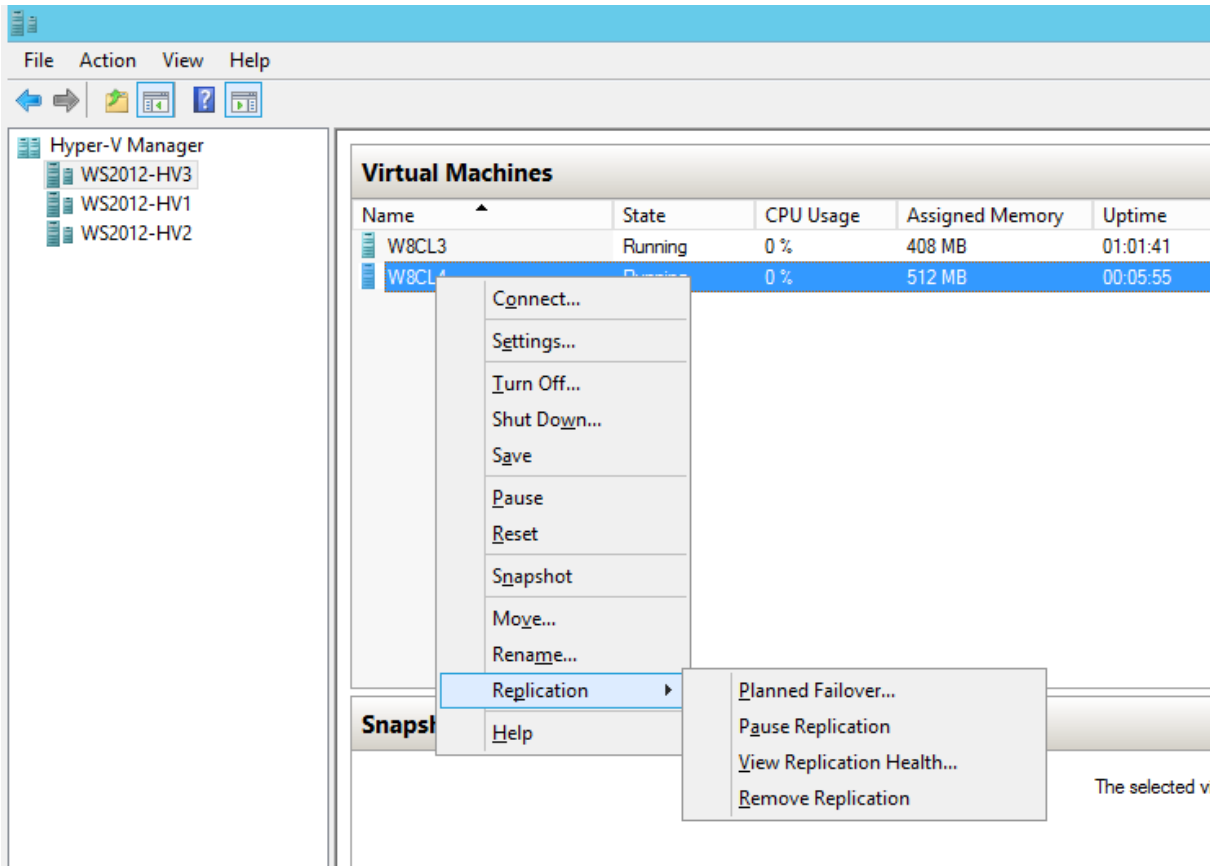
From time:	03.10.2012 08:55:57
To time:	03.10.2012 08:59:50
Average size:	0 KB
Maximum size:	0 KB
Average latency:	0:00:00
Errors encountered:	0
Successful replication cycles:	0

Pending replication

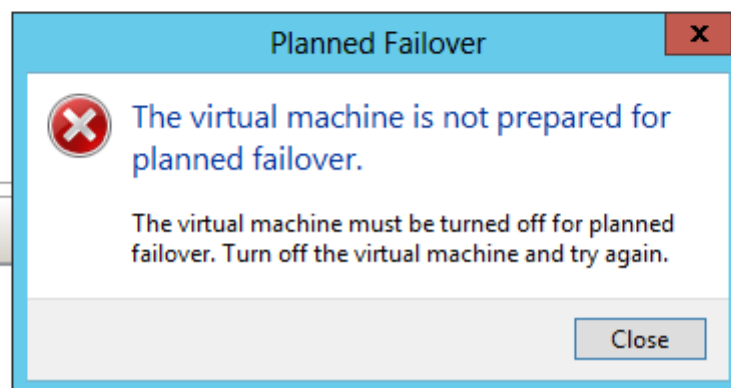
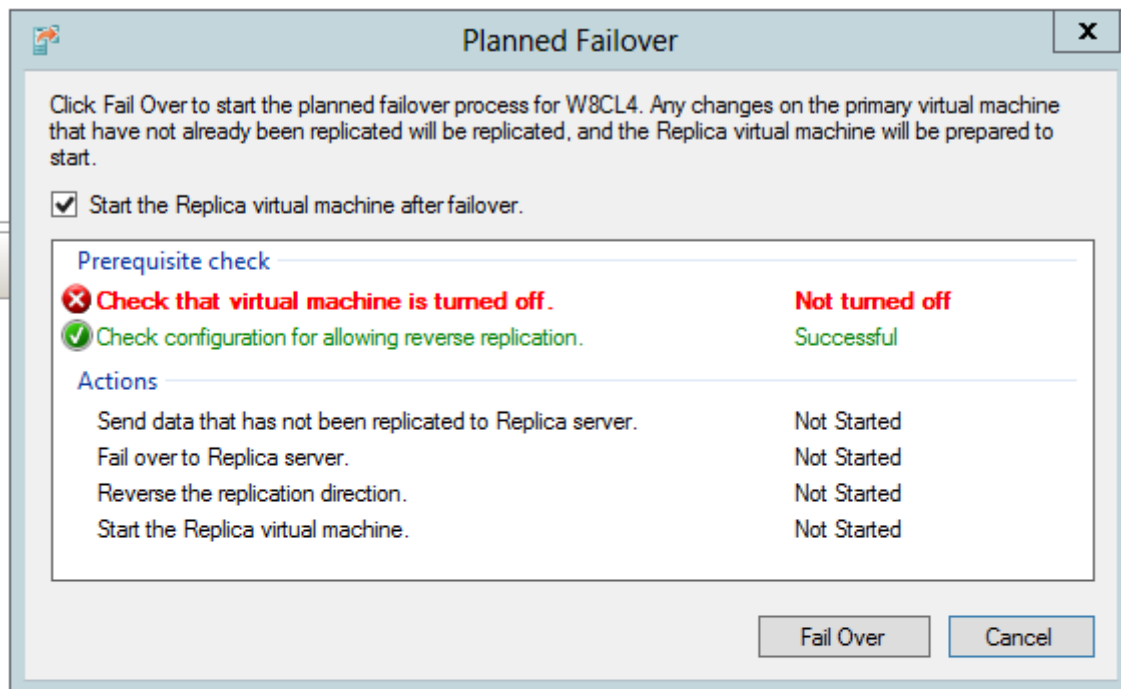
Size of data yet to be replicated:	96 MB
Last synchronized at:	03.10.2012 08:55:45 (Less than 5 minutes ago)

Buttons at the bottom: Refresh, Reset Statistics, Save As..., Close.

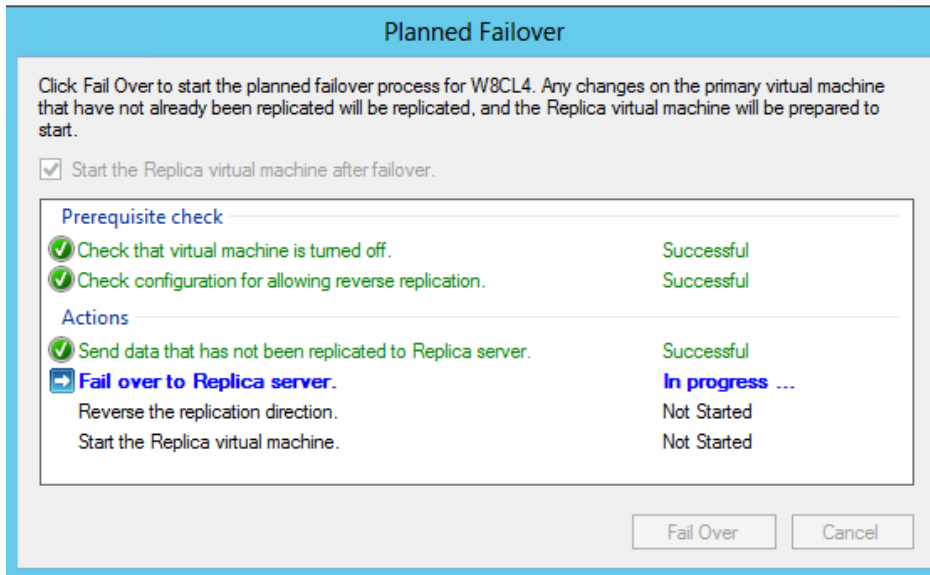
Planned Failover zurueck



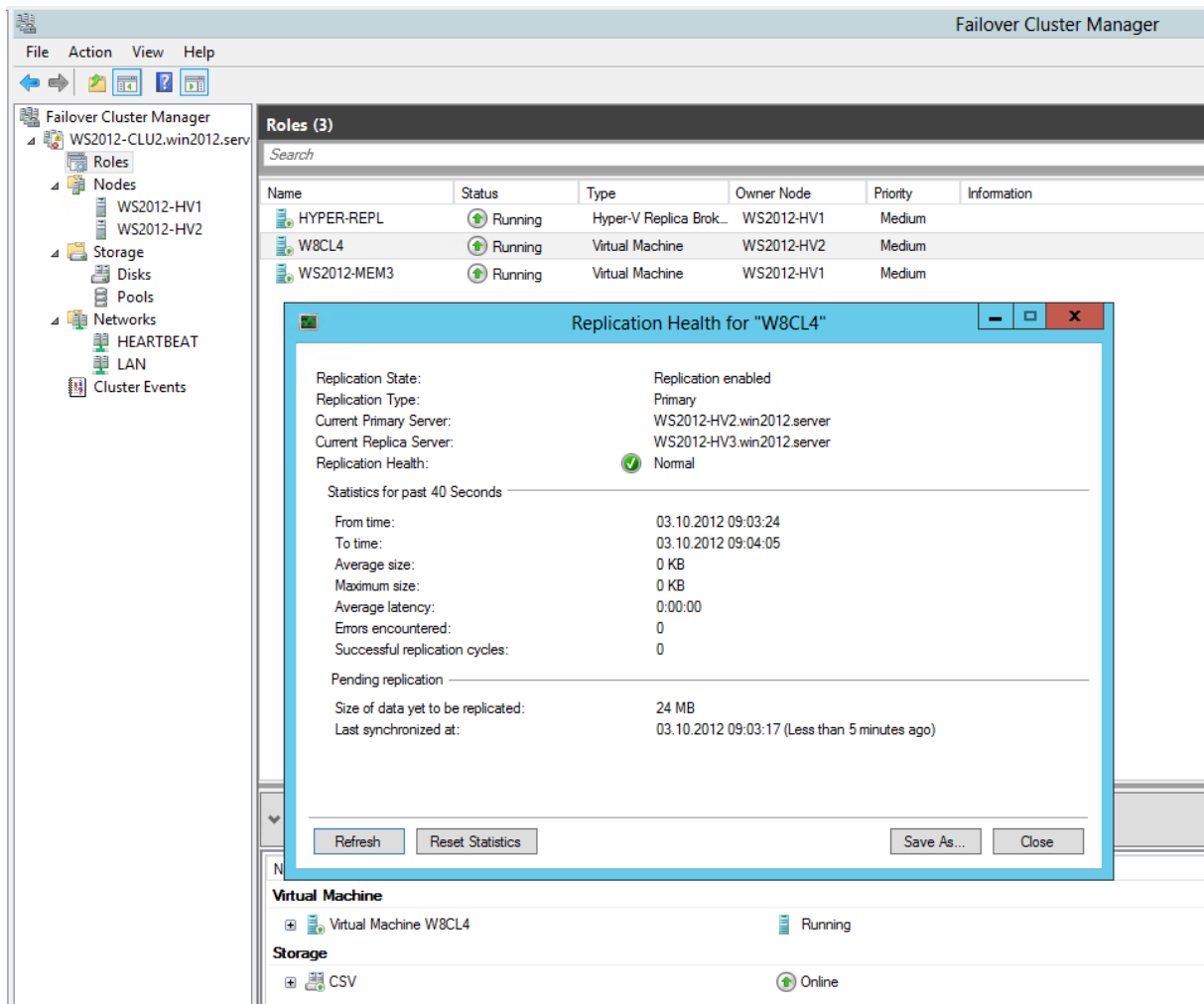
VM muss wie immer ausgeschaltet sein



Replication Delta wird auf Replica Source Server zurueck geschrieben



Alles wieder sicher im Cluster



Failover wenn Planned Failover nicht mehr geht

The screenshot shows the Failover Cluster Manager interface. On the left, a tree view shows the cluster structure: Failover Cluster Manager > WS2012-CLU2.win2012.serv > Roles > Nodes > WS2012-HV1 & WS2012-HV2 > Storage > Disks & Pools > Networks > HEARTBEAT & LAN > Cluster Events. The main pane displays 'Roles (3)' with a table:

Name	Status	Type	Owner Node	Priority	Information
HYPER-REPL	Running	Hyper-V Replica Brok...	WS2012-HV1	Medium	
W8CL4	Off	Virtual Machine	WS2012-HV2	Medium	
WS201		Virtual Machine	WS2012-HV1	Medium	

A context menu is open over the 'W8CL4' role, showing options like 'Connect...', 'Start', 'Save', 'Shut Down', 'Turn Off', 'Settings...', 'Manage...', 'Replication', 'Move', 'Cancel Live Migration', 'Change Startup Priority', 'Information Details...', 'Show Critical Events', 'Add Storage', 'Add Resource', 'More Actions', 'Remove', and 'Properties'. The 'Replication' option is selected, opening a sub-menu with 'Failover...', 'Test Failover...', 'Pause Replication', 'View Replication Health...', and 'Remove Replication'.

Below the table, the 'W8CL4' role is expanded to show its components:

Name	Status	Information
Virtual Machine		
Virtual Machine W8CL4	Off	
Storage		
CSV	Online	

Recovery Point auswählen

The screenshot shows a 'Failover' dialog box with the following text:

Do not proceed with this task unless the primary virtual machine has failed. Because this Replica virtual machine might not have the latest replicated data, data loss may result.

If this is a planned failover, click Cancel and use the Planned Failover task on the primary virtual machine.

If this is an unplanned failover, you can bring this Replica virtual machine online by specifying a recovery snapshot, and then clicking Fail Over.


Specify the recovery point to use:

W8CL4 - Latest Recovery Point - (03.10.2012 09:00:45)

Buttons: Fail Over, Cancel

Reverse Replication aktivieren

The screenshot shows a window titled "Replication Health for 'W8CL4'". The window contains the following information:

Replication State:	Failover complete
Replication Type:	Replica
Current Primary Server:	WS2012-HV3.win2012.server
Current Replica Server:	WS2012-HV2.win2012.server
Replication Health:	 Warning Choose Reverse Replication to resume replication for the virtual machine 'W8CL4'.

Statistics for past 34 Seconds

From time:	03.10.2012 09:05:18
To time:	03.10.2012 09:05:52
Average size:	0 KB
Maximum size:	0 KB
Average latency:	0:00:00
Errors encountered:	0
Successful replication cycles:	0

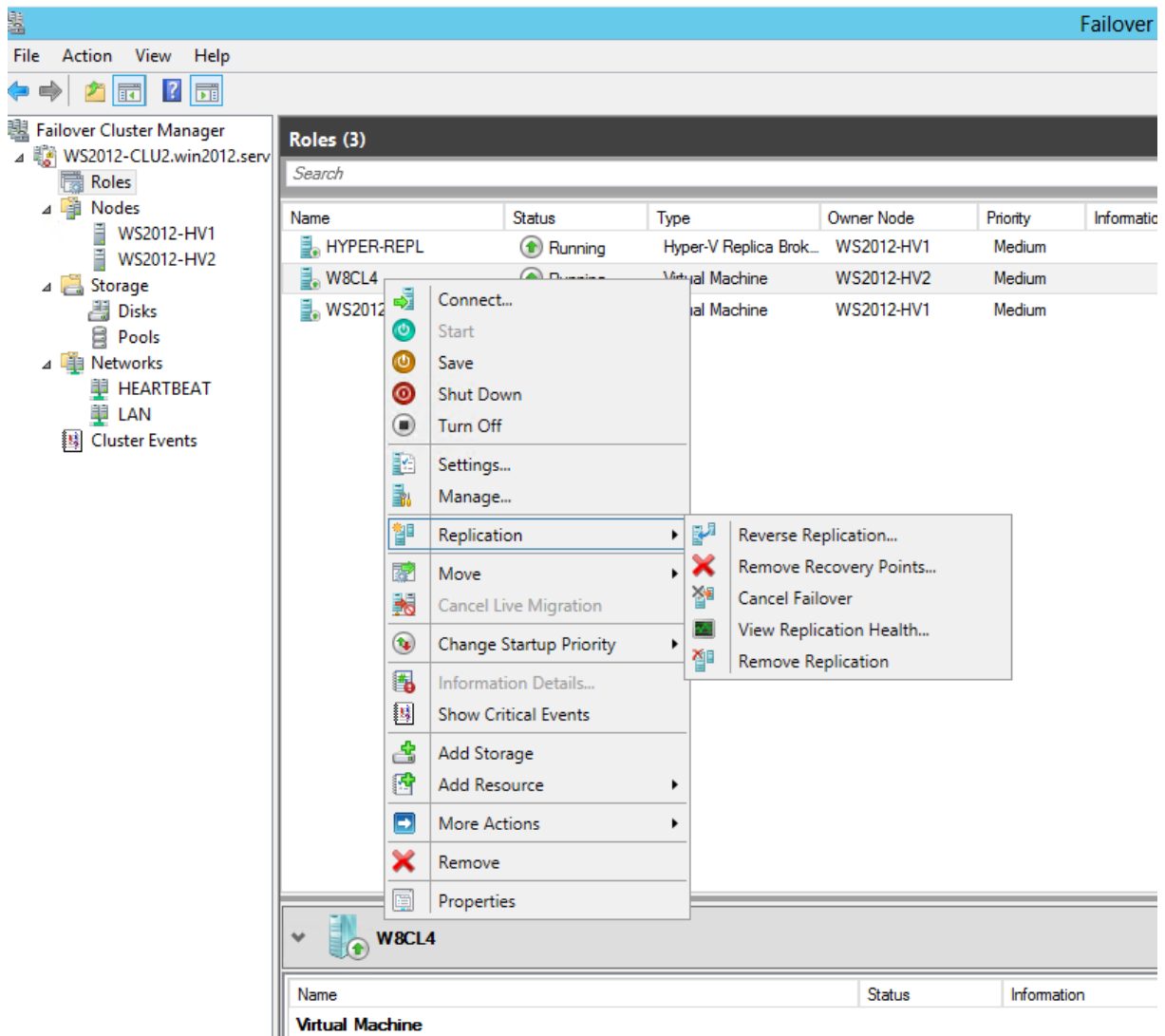
Pending replication

Last synchronized at:	03.10.2012 09:05:07 (Less than 5 minutes ago)
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Test Failover

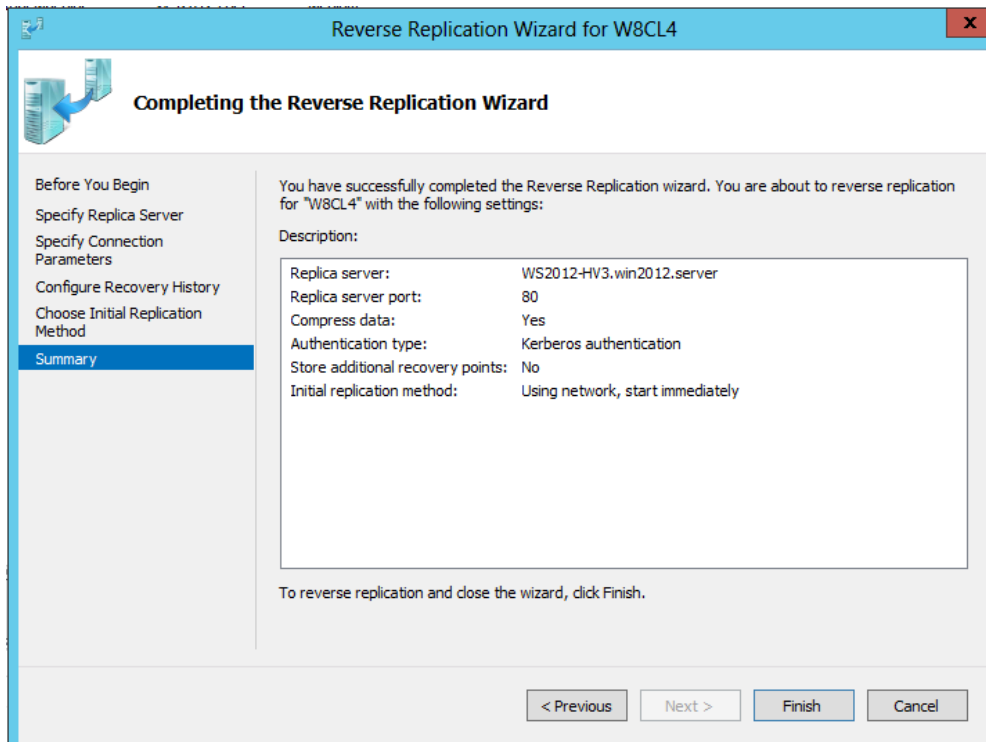
Test failover status:	Not Running
Last test failover initiated at:	Not Applicable

At the bottom of the window, there are four buttons: "Refresh", "Reset Statistics", "Save As...", and "Close".

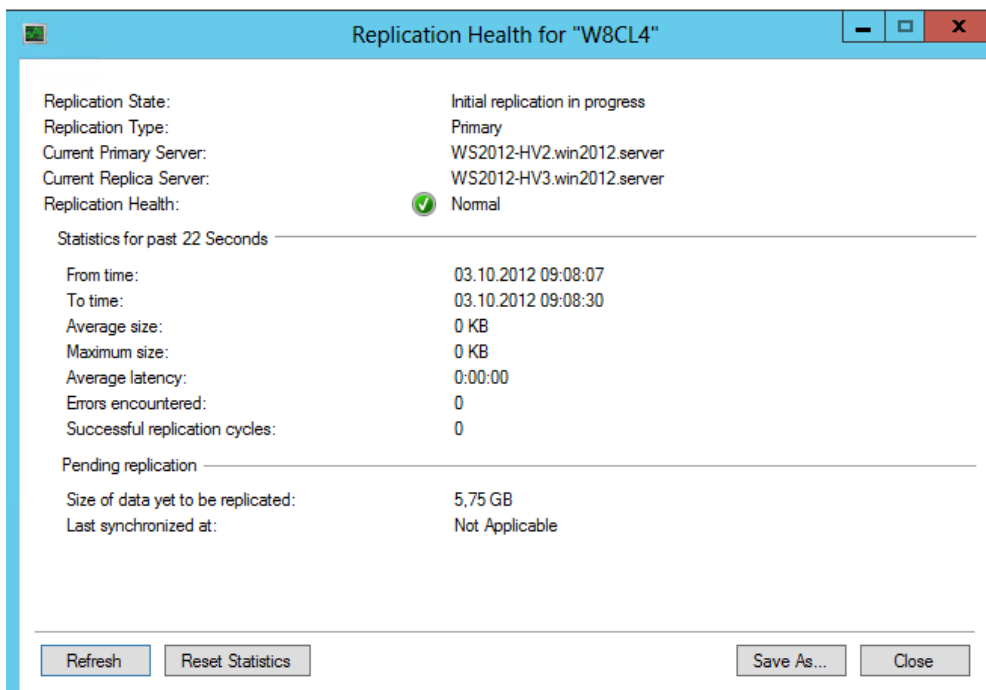


VM auf Ziel Replica Server ausschalten

Assistenten auf Source Replica Server starten



Und die ganze VM geht ihren Weg zurueck



Replikation entfernen

The screenshot shows the Failover Cluster Manager interface. On the left, a tree view shows the cluster structure: Failover Cluster Manager > WS2012-CLU2.win2012.serv > Roles (3). The main pane displays a table of roles:

Name	Status	Type	Owner Node	Priority	Information
HYPER-REPL	Running	Hyper-V Replica Brok...	WS2012-HV1	Medium	
W8CL4	Running	Virtual Machine	WS2012-HV2	Medium	
WS2012-MEM3	Running	Virtual Machine	WS2012-HV1	Medium	

A dialog box titled "Remove Replication" is overlaid on the screen. It contains a warning icon and the text: "Are you sure you want to remove replication for 'Virtual Machine W8CL4'?" Below the text are "Yes" and "No" buttons.

VM muss auf Hyper-V Replica Zielsystem noch entfernt werden

The screenshot shows the Hyper-V Manager interface. On the left, a tree view shows the virtual machines: Hyper-V Manager > WS2012-HV3 > WS2012-HV1 > WS2012-HV2. The main pane displays a table of virtual machines:

Name	State	CPU Usage	Assigned Memory	Uptime	Status
W8CL3	Running	0 %	408 MB	01:14:05	
W8CL4	Off				

Below the table, the "Snapshots" section shows: "The selected virtual machine has no snapshots."

The "W8CL4" section shows replication details:

Replication Type:	Not enabled	Current Primary Server:	
Replication State:	Not enabled	Current Replica Server:	
Replication Health:	Not Applicable	Last synchronized at:	Not Applicable

At the bottom, there are tabs for "Summary", "Memory", "Networking", and "Replication".