

Creating a Virtual Exchange Server for Exchange 2003 Clustering

Written by Marc Grote - <mailto:grotem@it-training-grote.de>

Abstract

In this article I will show you in details the Steps that are necessary to create an Exchange Virtual Server for Exchange Server Clustering with Windows Server 2003. This article goes beyond my first [article](#) about clustering. In this article I gave you only the basic Steps that were necessary to create an Exchange 2003 Cluster.

Let's begin

This article begins by creating the Exchange Virtual Server which is the heart of the Exchange Cluster because this object presents the Exchange Server for all users and other resources.

You must have completed the following steps:

- Installing and configuring Windows Server 2003 Enterprise
- Implementing the Shared Storage (SAN, NAS) for the Quorum and the Exchange Databases
- Creating a Cluster with Cluster Administrator
- Installing Exchange Server 2003 Enterprise and Service Pack 2 on each Cluster Node

After installing Exchange Server 2003 on the Cluster Nodes you will see several Cluster Resource in Cluster Administrator which was installed during the Exchange Server Setup.

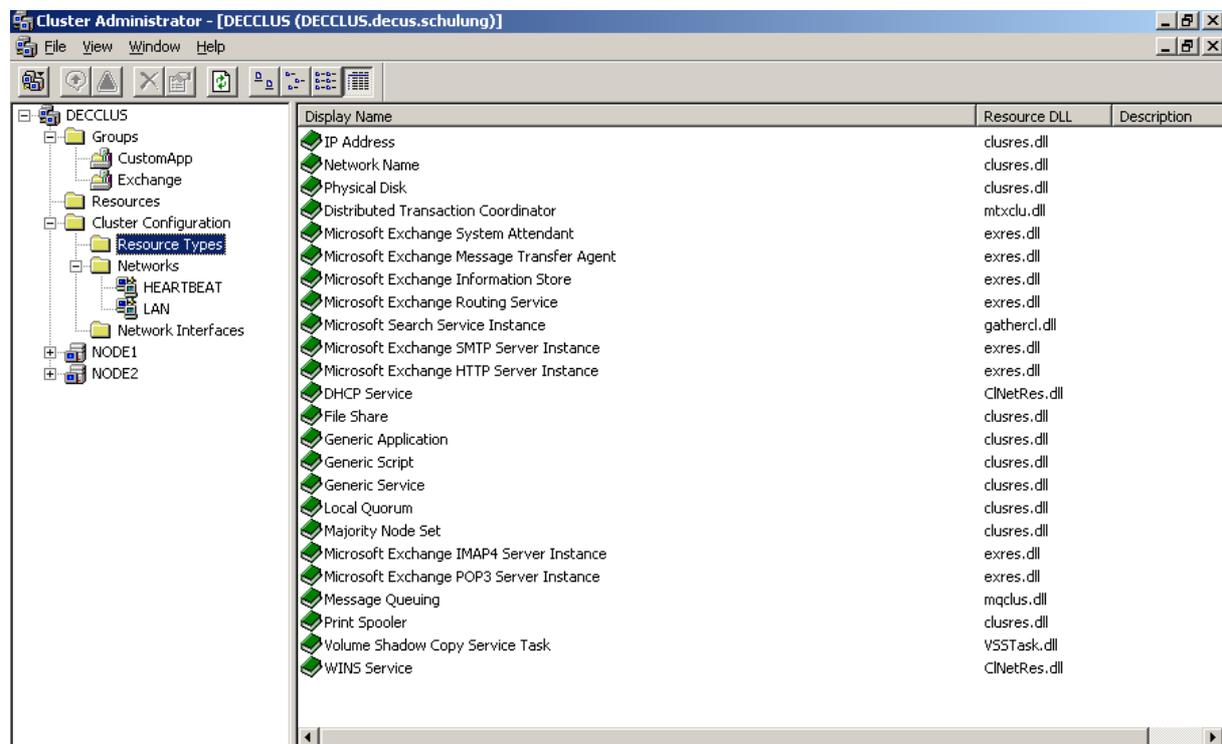


Figure 1: Exchange Cluster Resources

Create a new Cluster Group

The first step is the creation of a new Cluster Group. A cluster Group will be used to group Resources which are necessary for the Exchange Cluster creation. If a Failover occurs the whole Cluster Group will move to another Cluster Node.

You must give the Cluster Group a name and a optional description.

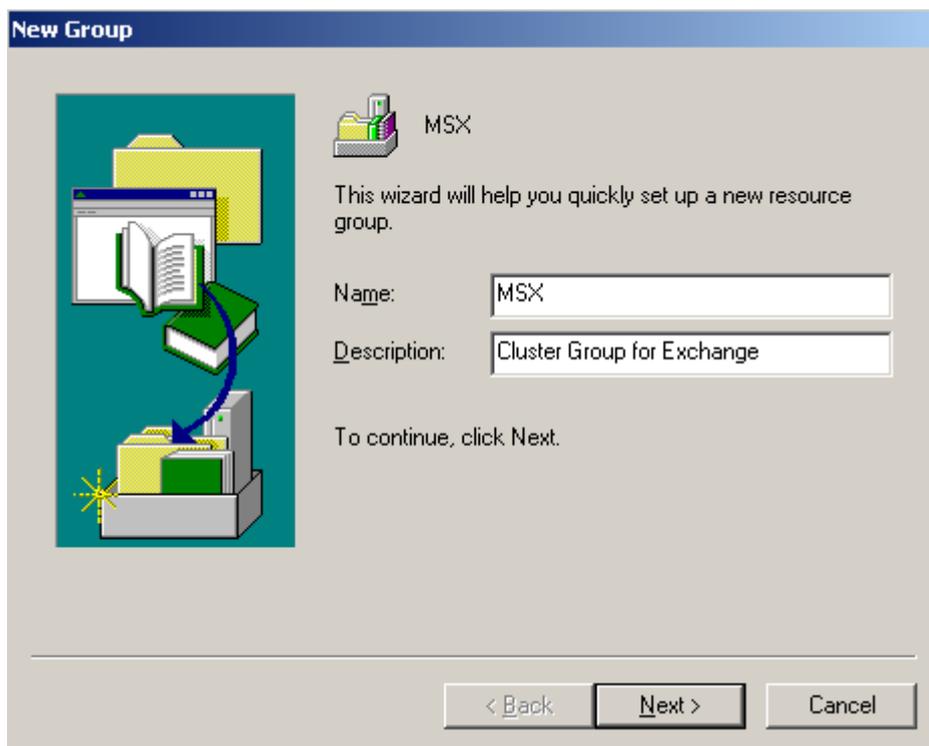


Figure 2: New Cluster Group Wizard

In the next step you must select the preferred owners of the Resource Group. A Failover can only be initiated between Preferred Owners.

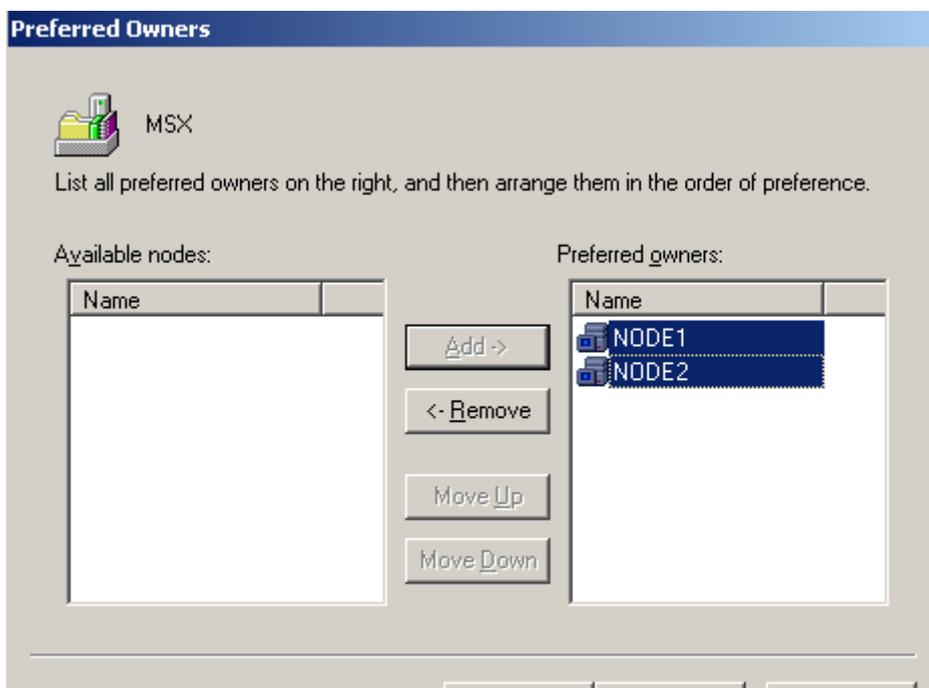


Figure 3: Preferred Owners

Create a Cluster IP

After successfully creating the Cluster Group you must create a Cluster IP Resource. The *Cluster IP* Resource is used to give the Exchange Virtual Server an IP Address. The Network for the Cluster IP address is the *LAN* network.

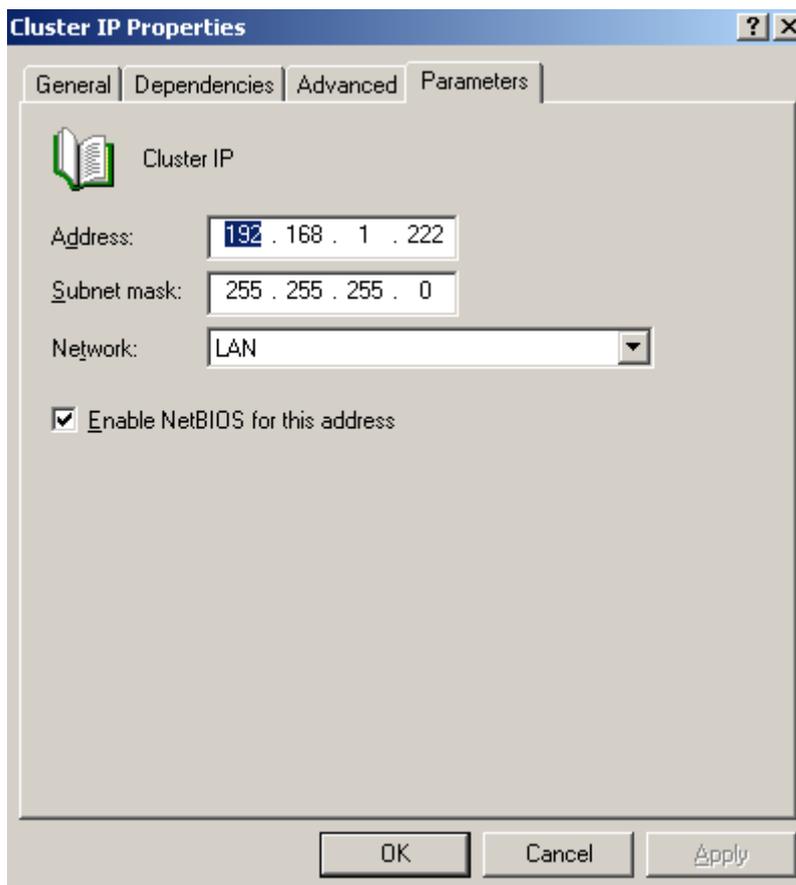
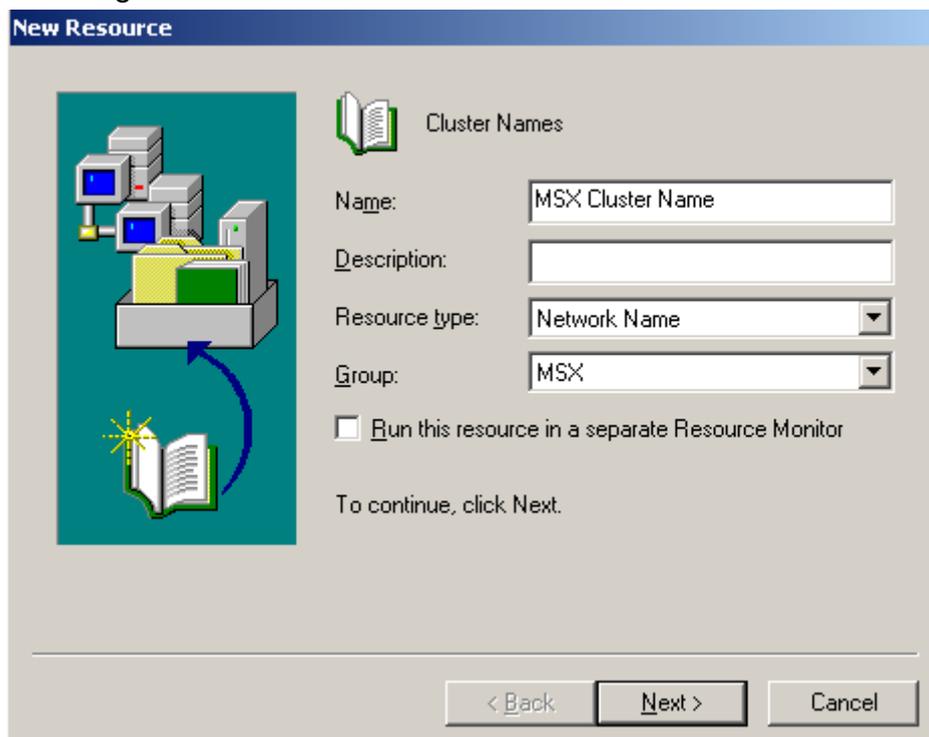


Figure 4: Create a Cluster IP

Create a Cluster Name

Now, create a Cluster Name. The Cluster Name will be used as the logical Cluster Name. The Cluster Name Resource must be created in the Cluster Group for Exchange.



The screenshot shows the 'New Resource' dialog box with the following fields and options:

- Name:** MSX Cluster Name
- Description:** (empty)
- Resource type:** Network Name
- Group:** MSX
- Run this resource in a separate Resource Monitor

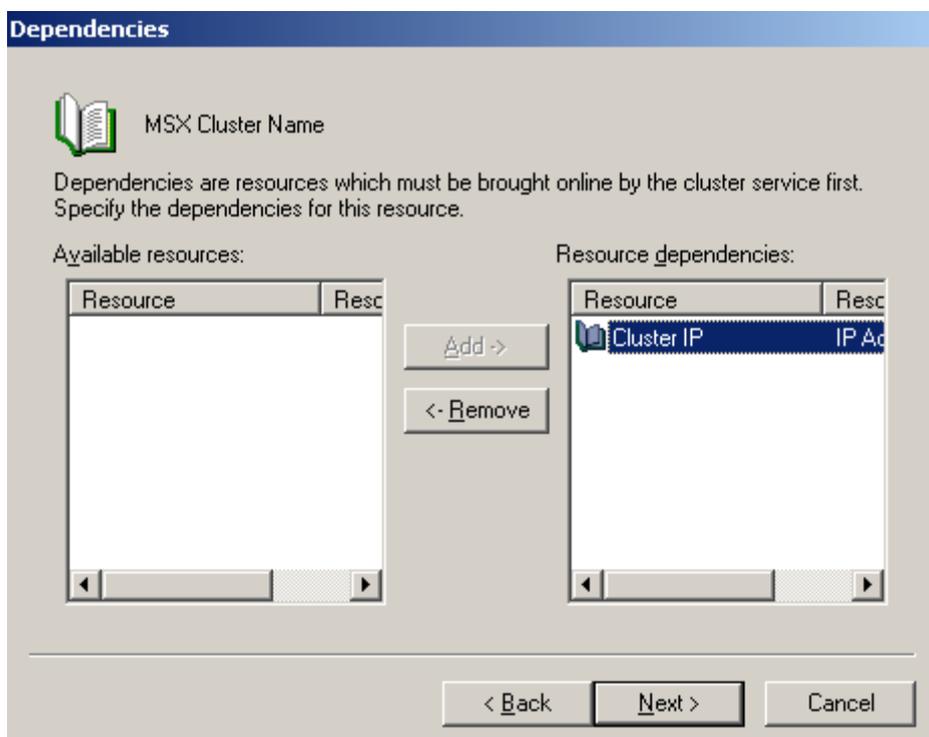
To continue, click Next.

Buttons: < Back, Next >, Cancel

Figure 5: Create a Cluster Name

Possible Owners are *NODE1* and *NODE2*.

The *Cluster Name* is dependant from the *Cluster IP*.



The screenshot shows the 'Dependencies' dialog box for the 'MSX Cluster Name' resource. It includes the following elements:

- Resource:** MSX Cluster Name
- Dependencies are resources which must be brought online by the cluster service first. Specify the dependencies for this resource.**
- Available resources:** (empty table)
- Resource dependencies:** Cluster IP (IP Ad)
- Buttons:** Add ->, <- Remove

Buttons: < Back, Next >, Cancel

Figure 6: Resource Dependency

The name of the Cluster is *DECCLUS*. The Cluster setup will create the necessary DNS records in the DNS console. New with Exchange Server 2003 is the Support for Kerberos Authentication when you enable the Checkbox *Enable Kerberos Authentication*.

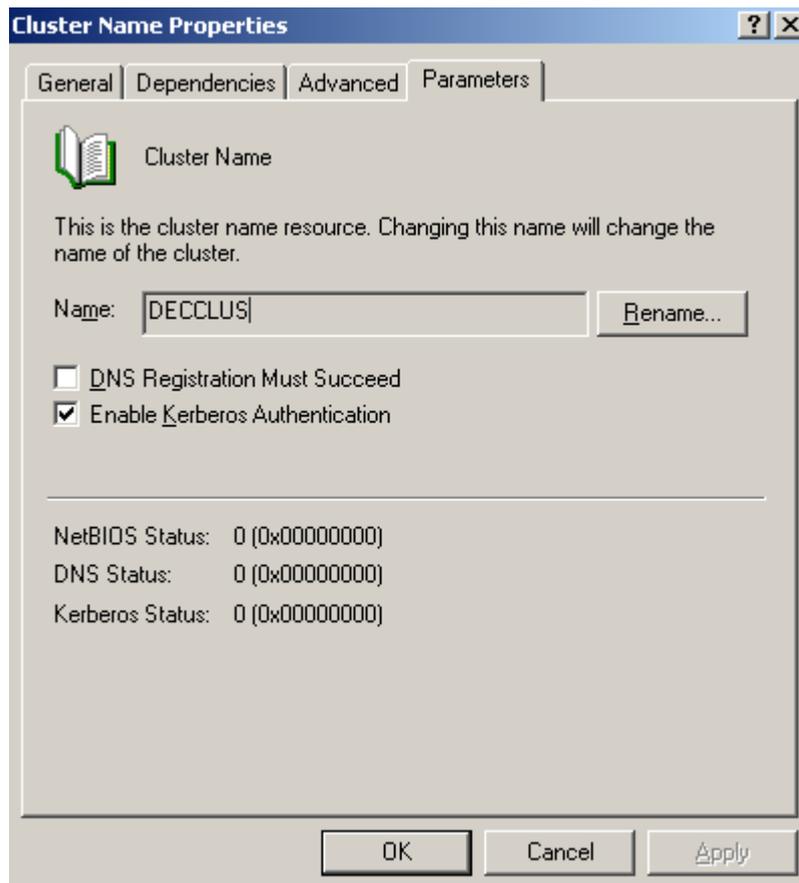


Figure 7: Cluster Name Properties

Cluster Disk

Now it is time to create the Cluster Disc Resource. The *Cluster Disk* is from the *Physical Disk* Resource Type.

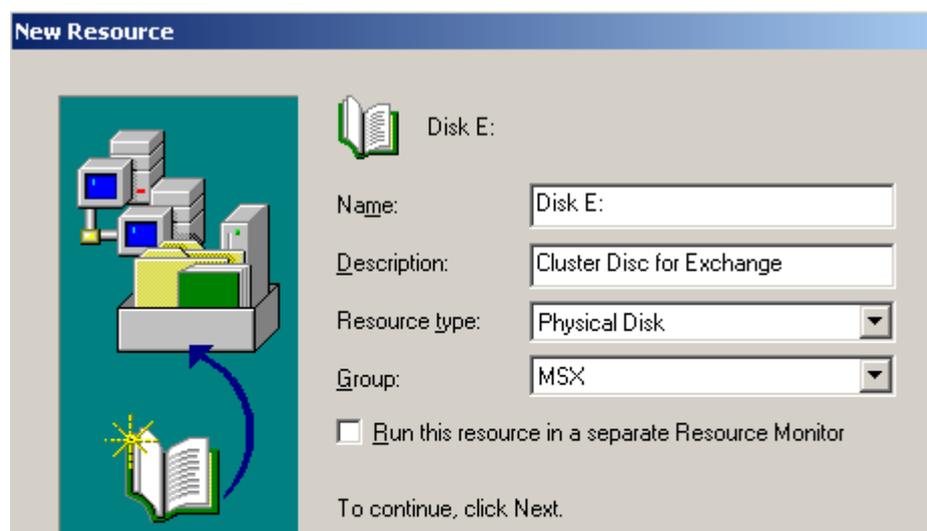


Figure 8: Cluster Disk

The Cluster Disk is dependant from the *Cluster IP* and *Cluster Name* Resource.

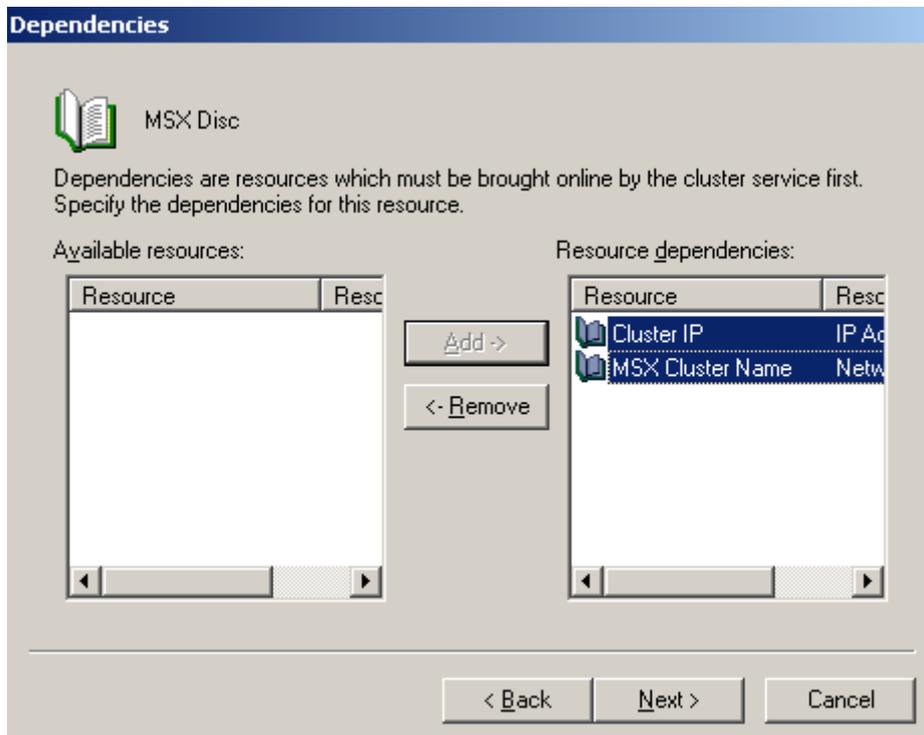


Figure 9: Cluster Disk

The *Cluster Disk* for the Cluster in this Article is *Disk E*:

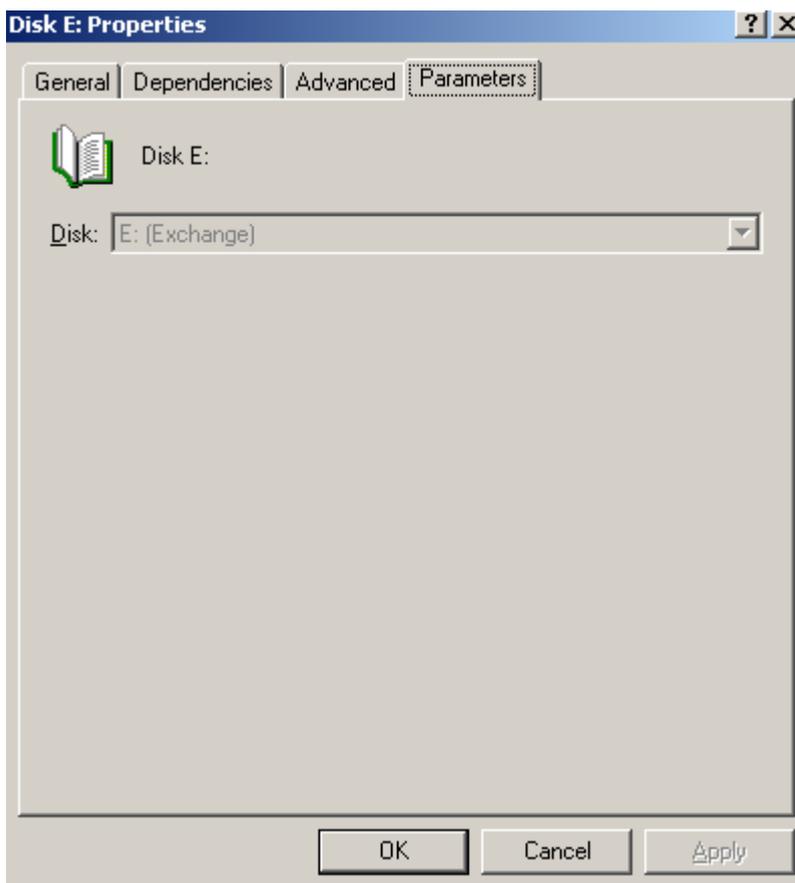


Figure 10: Select Cluster Disk for Exchange

Create the Exchange Virtual Server

Now it is time to create the Exchange Virtual Server. Right click the Cluster Group and click – New – Resource and select *Microsoft Exchange System Attendant* as the Resource Type. This will create the Exchange Virtual Server.

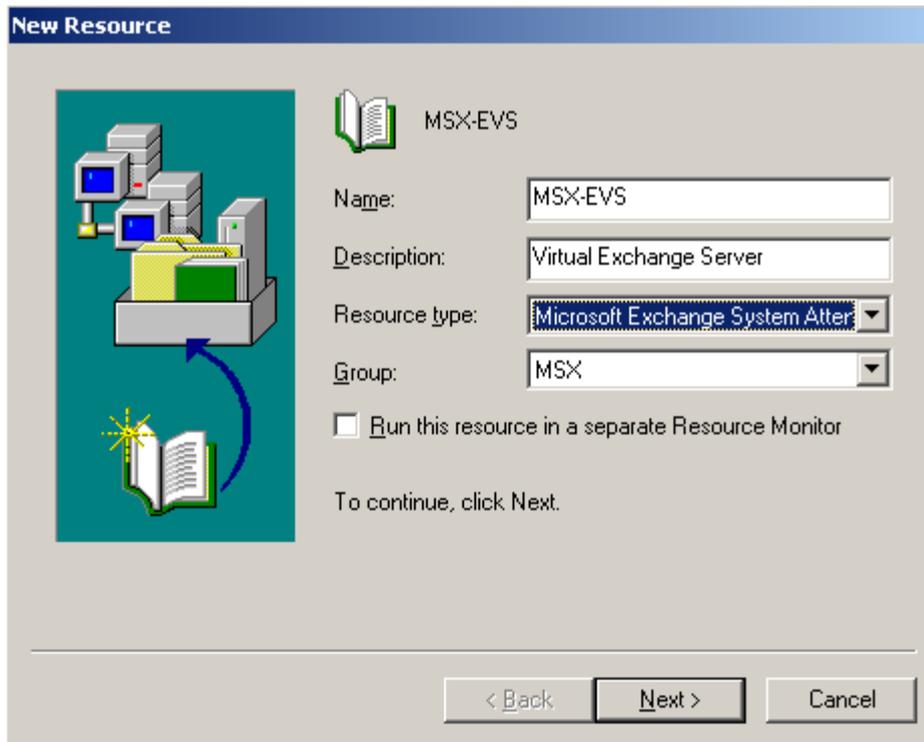


Figure 11 Create the EVS

Possible Owners of the Exchange Virtual Server are *NODE1* and *NODE2*.

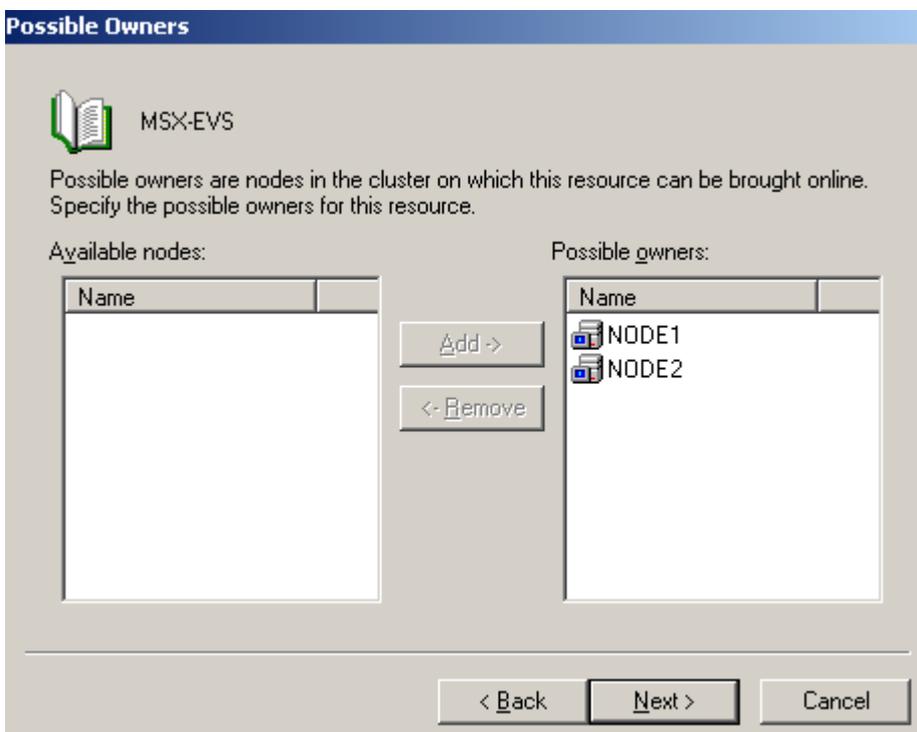


Figure 12: Possible Owners

The Exchange Virtual Server is dependant from the *Cluster IP*, *Cluster Name* and *Physical Disk* Resource.

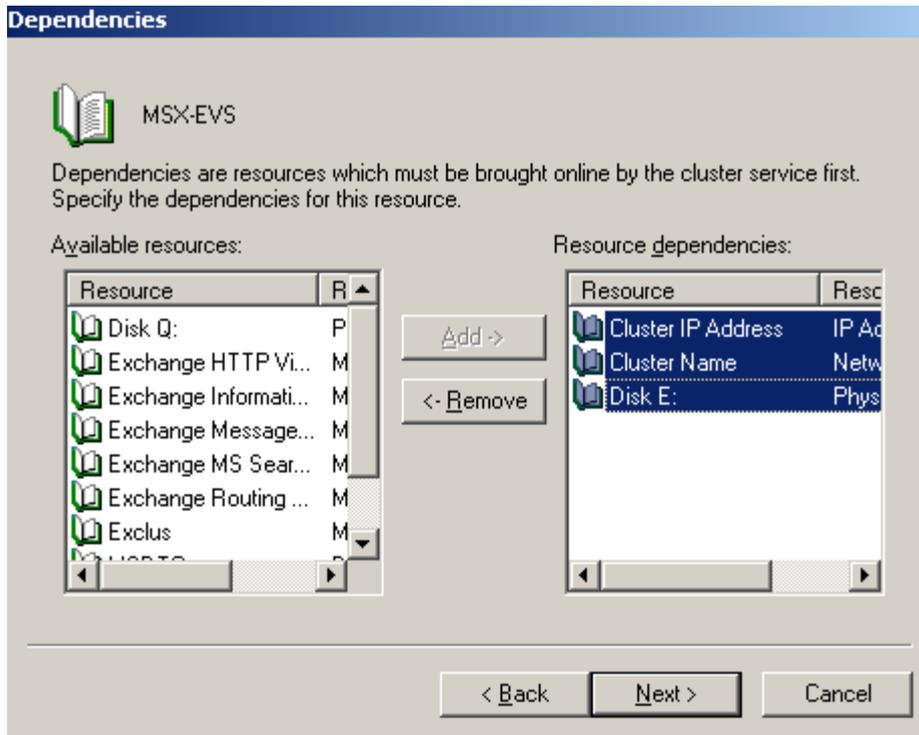


Figure 13: EVS Dependencies

Select the Exchange Administrative Group, where the Virtual Exchange Server should be installed. If your Exchange Organization has only one Administrative Group you have no choice for selecting the administrative Group.

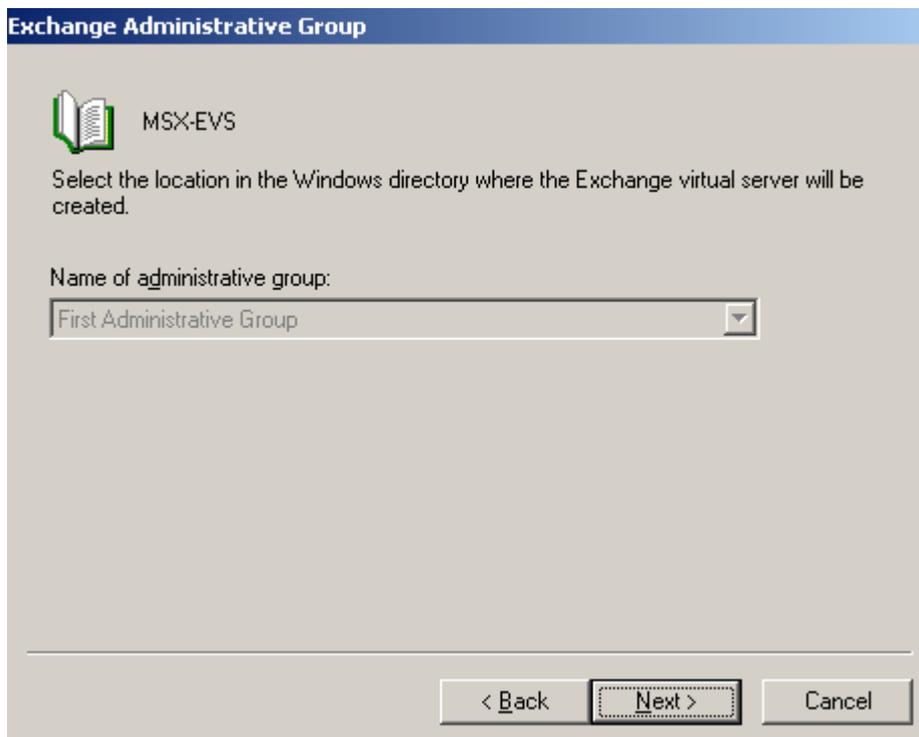


Figure 14: Select the Administrative Group for the EVS

Select the Routing Group

Install the Exchange Virtual Server in the Exchange Routing Group where the Cluster Nodes are physically located.

The Default path for the Exchange Databases is the *Cluster Disk* Resource that you previously created and the Path \EXCHSRVR like a normal Exchange Server installation.

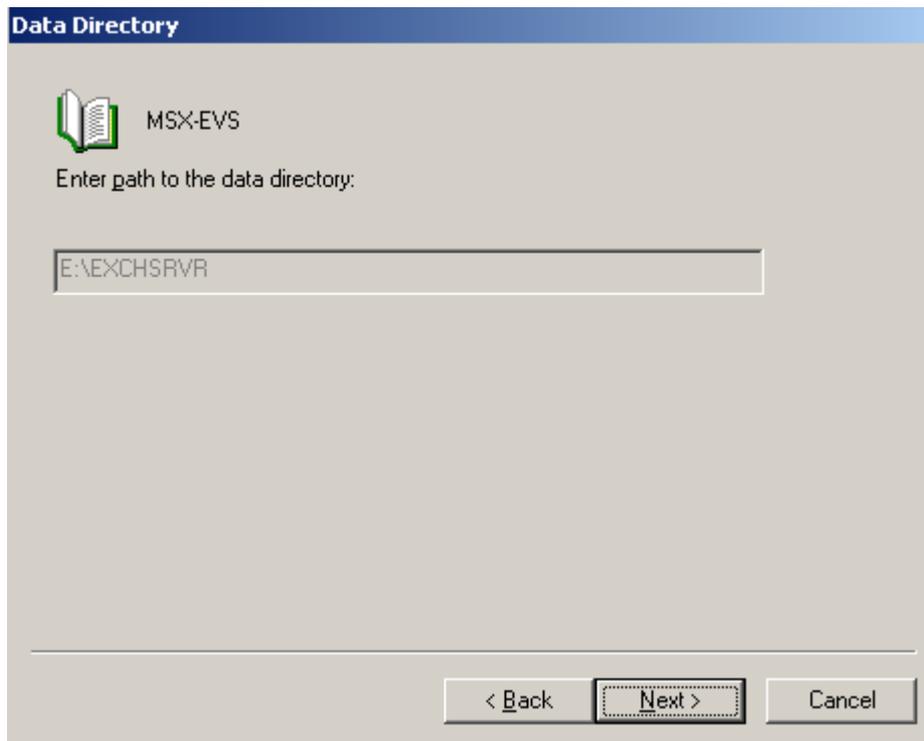


Figure 15: Select the Routing Group for the EVS

Read the summary carefully and after reviewing the configuration, click *Finish*.

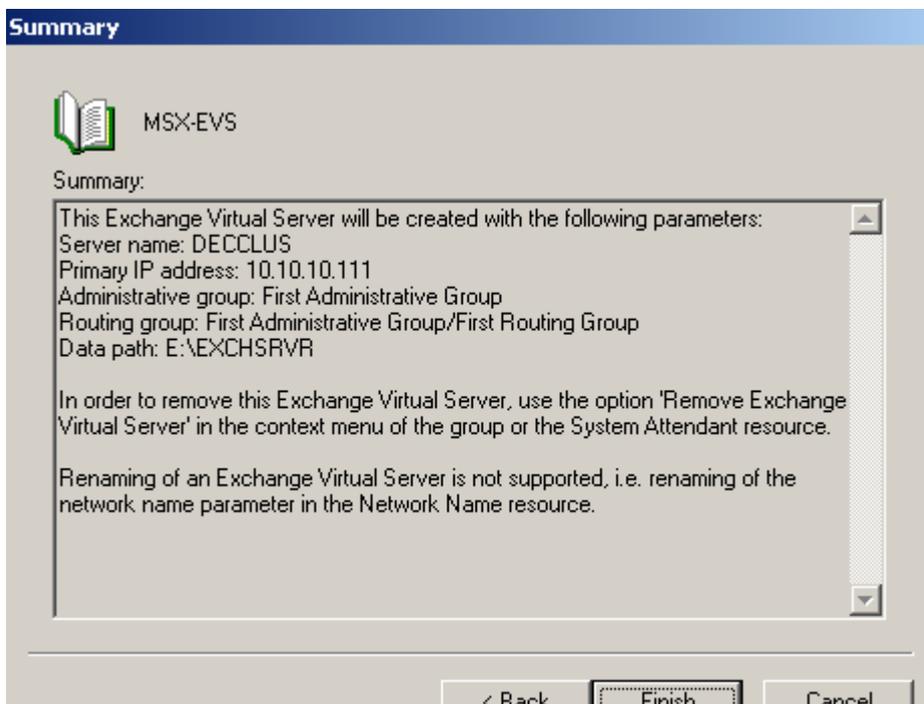


Figure 16: EVS Summary

After successfully creating the Cluster Group and the Exchange Virtual Server, right click the new Cluster Group and select *Bring Online*. This will bring all Resources - based on their Dependencies - in the Cluster Group Online.

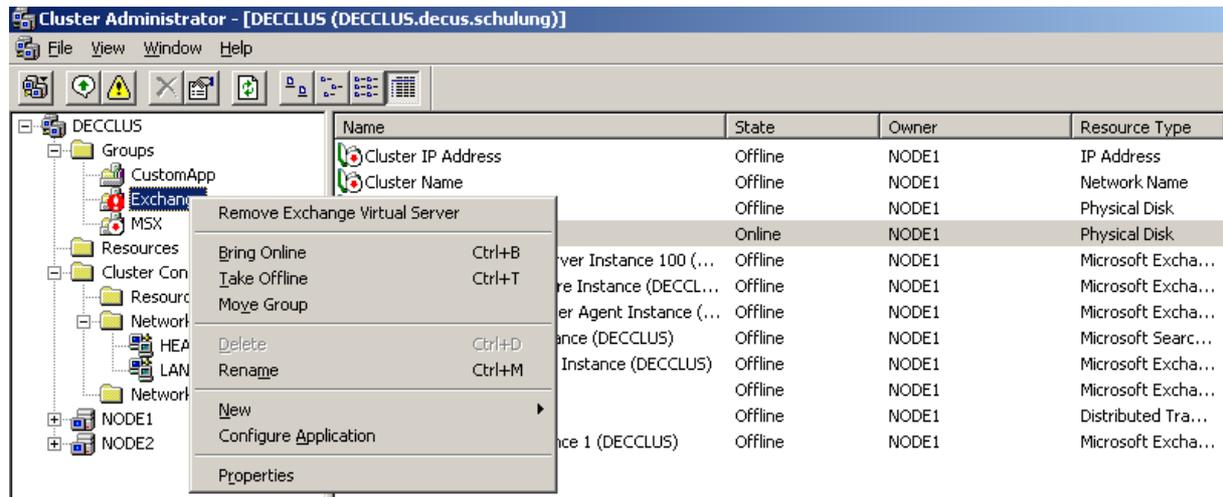


Figure 17: Bring the Cluster Group Online

The process of taking the Resources Online takes a while.

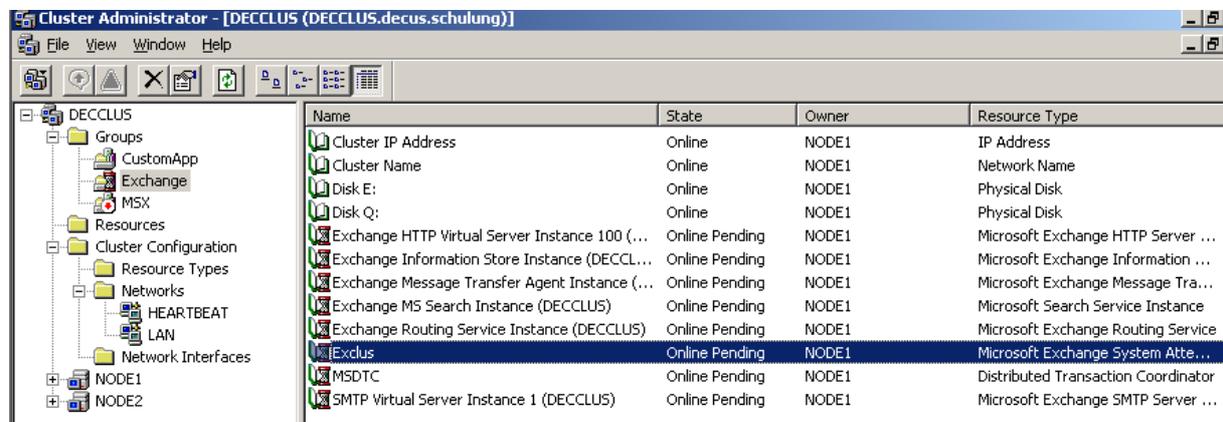


Figure 18: Bring the Resources Online

The Exchange Virtual Server in the Exchange System Manager

The Exchange Virtual Server (EVS) is listed as a normal Object in the Exchange System Manager (ESM).

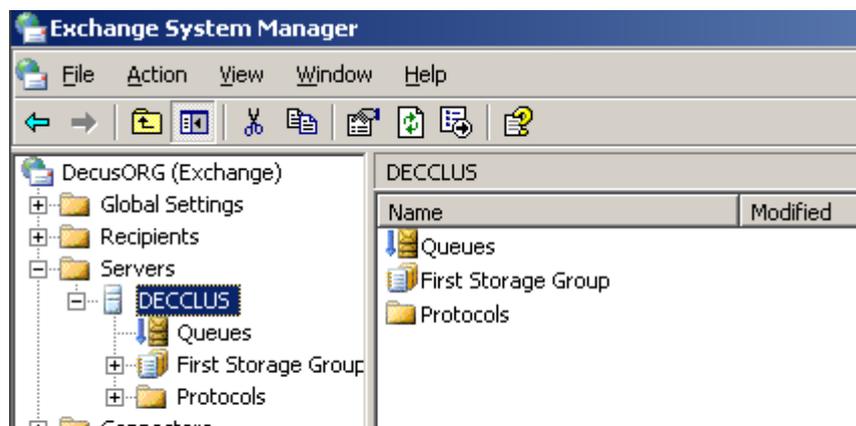


Figure 19: The EVS in ESM

The Exchange Virtual Server looks like a normal Computer object like every other physical Computer object. The Exchange Virtual Server is also listed in the Active Directory Users and Computers console.

Congrats. You have successfully created the Virtual Exchange Server and you are now Cluster Ready. Depending on the number of Cluster Nodes you can create additional Virtual Exchange Server objects in the Cluster Administrator console.

Remove the Exchange Virtual Server

If you want to remove The Exchange Virtual Server from Exchange you can use Cluster Administrator to do that but keep in mind that this will remove the entire Exchange Server from your Exchange Organization. If you only would like to remove one Cluster node from the Exchange Cluster you must evict the Node from the Cluster.

The high level steps to remove the Exchange Virtual Server are the following:

- Backup critical Exchange Data
- Move all Mailboxes and Public Folder from the Exchange Virtual Server to another Exchange Server
- Take the Exchange System Attendant Resource in the Exchange Cluster Group offline
- Remove the Exchange Virtual Server
- Delete remaining Cluster Resources

The deletion of the Exchange Virtual Server also deletes all Exchange Resources in the Cluster Administrator.

Conclusion

In my first article I showed you the high level Steps how to implement a Two Node Exchange Cluster with the Windows Server 2003 Cluster Services. In this article I tried to explain the Steps how to create the Exchange Virtual Server. It is really simple to create an Exchange Virtual Server which can be used as a clustered Exchange Server.

Related Links

Implementing a Two Node Cluster with Windows 2003 Enterprise

<http://www.msexchange.org/tutorials/Implementing-Two-Node-Cluster-Windows-2003-Enterprise.html>

Cluster Configuration Checklist from IT Showcase for Exchange Server 2003

<http://www.microsoft.com/downloads/details.aspx?FamilyId=0E9B809D-2A7A-4ADF-9FDE-897210A461DB&displaylang=en>

Just say NO to A/A

<http://www.msexchange.org/tutorials/NO-Active-Active-Cluster.html>