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Connect:Direct for Windows 4.4

Cluster Installation Guide

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1 About this Document

This document describes one way in which Connect:Direct for Windows can be installed to run under the Microsoft Cluster Service.

2 Keywords

<u>Cluster</u>

A Windows **cluster** consists of two or more servers grouped together in order to implement failover/fail-back procedures for applications, services, etc.

<u>Server</u>

A **server** in this context, is a machine utilizing a server OS such as Microsoft Windows Server 2003 with a specified machine name.

<u>Node</u>

A **node** in this context, is a Connect:Direct installation that contains a user specified name that can match the server name but, does not necessarily.

Cluster IP address

A **cluster IP address** is an address assigned to the entire cluster as opposed to a specific machine. This is very important as Connect:Direct will be utilizing this address and not the specific machine address.

Quorum Disk

A disk containing grouped resources and MSCS configurations.

Cluster Drives

A **cluster drive** is a logical drive specification assigned to a quorum device.

<u>MSCS</u>

Stands for **Microsoft Cluster Service** and names Microsoft's software package needed to set up and manage a cluster.

3 Equipment

The install for Connect:Direct for Windows was verified on a two-server cluster utilizing the following specifications:

Software Specifications

- Windows Server 2003 SP2 and Windows Server 2008 SP2
- Microsoft Clustering Services
- Certified level of MDAC
- Connect:Direct for Windows 4.4.00

See the *Connect:Direct for Windows 4.4.00 on Windows Server 2008* whitepaper for more details on the deployment of Connect:Direct for Windows on Windows Server 2008. The whitepaper is available from the Customer Center website at <u>https://customer.sterlingcommerce.com</u>.

Hardware Specifications

- Windows Server 2003 Cluster
 - Compaq ProLiant DL380 G2 Server with dual Pentium III 1.4 GHz. processors, 2 GB RAM
 - Dual HP NC3163 Fast Ethernet 10/100 NIC
 - Smart Array 5i Plus Controller.
- Windows Server 2008 Cluster
 - HP ProLiant BL460c G1 Server with dual Xeon 3.16 GHz processors, 4 GB RAM.
 - Dual HP NC373i Gigabit Ethernet NIC.
 - Smart Array E200i Controller.

Please note that any Microsoft verified hardware for clustering can be used: <u>http://www.microsoft.com/whdc/hcl</u>

4 Connect:Direct for Windows Resources

The Connect:Direct for Windows node relies on a number of resources. These are in general needed by the Connect:Direct service and are not specific to clustering.

- Installation directory
- Certified level of MDAC drivers
- ODBC data source names, i.e. (TCQ, STATISTICS) and MESSAGES
- Registry tree with the node's configuration
- A unique Connect:Direct node name
- An IP address or hostname

Each of these resources will need to be installed(I), shared(S) or replicated(R). The following describes these components and their related attributes:

- A common point of installation for the binaries, e.g. the quorum drive or a shared storage device dedicated to the cluster **I**, **S**
- Same level of MDAC drivers on all cluster servers. I
- Data source names are common on all cluster servers. I
- Common database. I, S
- Connect:Direct for Windows registry tree is the same on all systems. I, R
- Node name is represented by the cluster and not the machine, i.e. is the same node name on all Connect:Direct for Windows node installations. **I**, **R**
- The virtual IP address is used on all Connect:Direct node installations. I, R

5 Preparing the Installation

Make sure the Microsoft Cluster Service is installed and configured properly. See Microsoft's cluster step-by-step installation guide for cluster installation, for example at http://www.microsoft.com/windowsserver2003/enterprise/clustering.mspx

Gather the following information before the installation:

- The virtual IP address of the cluster. The Connect:Direct for Windows Server will be configured to use this network address for incoming and outgoing communications.
- A shared disk location.

IMPORTANT: the Connect:Direct for Windows Server must be installed to the same physical location for all nodes in the cluster. This can be the quorum drive or a dedicated shared storage device. The path must be consistent among all cluster node installs. Do NOT install to a local non-shared disk of each cluster node.

The Microsoft Cluster Management software is different in Windows Server 2003 and Windows Server 2008. The later platform requires some pre-configuration in the Failover Cluster Management console before Connect:Direct for Windows can be installed to the cluster.

5.1 Preparing Windows Server 2008

Start the Failover Cluster Management console.

 To create a new service group under "Services and Applications", select "Create Empty Service or Application".



Rename the new entry to "CDWindows".

Failover Cluster Mai	nagement			
ile Action View H	telp			
• 🔿 🖄 🗔 👔				
Failover Cluster Mana	^{gement} Services and Applications		Rec	Actions
2008cluster.works	Applications	1.00.0	1.7	Services and Applications
2008cluste SQL Serve	PDRECEDITS Name erDtc er (MSSQLSE SQL Server (MSSQLSERVER)	Status Online Online	DTC Unknowr	Configure a Service or Applicatio More Actions
	Bring this service or application online	🕥 Online	Unknowr	View
2008Clu	Take this service or application offline			a Refresh
Storage	Show the critical events for this application			2 Help
E Networks	Move this service or application to another node			
問 Cluster Evel -	Manage shares and storage			
	Add a shared folder Add storage Add a resource			
	Show Dependency Report			
	Delete			
	Rename Refresh			
	Properties			
	Help			
			<u> </u>	

 To setup the virtual IP address for this new "CDWindows" service group, add a new "1 – Client Access Point" resource.



The "New Resource Wizard" will appear. Enter a valid IP address for your Connect:Direct for Windows node within the cluster. This will be the virtual cluster IP address that Connect:Direct for Windows will be configured later on to use for incoming and outgoing communications.

Client A	ccess Poi	nt		
lient Access Point	Enter Ne	twork 1	Name and IPAddress:	
onfirmation	Name:		CDWindows	
ontigure Client ocess Point	One or mo	ore IPv ark is se	4 addresses could not be c	onfigured automatically. For each network to be used, make sure
ummary				
			Networks	Address
		•	10.20.235.0/24	10 . 20 . 235 . 🛐
				⊳
				Next > Cancel

The IP address is validated and the "Confirmation" window appears.

New Resource Wi	zard			×
Client Access Point Confirmation	You are ready to make a C	ient Access Point.		
Configure Client Access Point	Network Name:	CDWindows		*
Summary	IP Address:	10.20.235.67		y
			< Previous Next >	Cancel

The network is configured and a "Summary" is displayed.

Client Access Point Confirmation Configure Client	The new resource	as was successfully created and configured.	
occess Point	Resource:	Client Access Point CDWindows	<u> </u>
	IP Address:	10.20.235.67	
			*
	To view the report created To close this wizard, click l	by the wizard, click View Report. Finish	View Report

Click "Finish" to complete the wizard.



• To assign a shared disk location to the "CDWindows" service group, select "Add storage".

ile Action View	Help			
• 🐟 🎓 📻	2 🗖			
Failover Cluster Ma	nagement CDWindows		Rec	Actions
E Cooscidster.wt	d Applications jsterDtc rver (MSSQLSE	ndows		CDWindows Bring this service or applicatio Take this service or applicatio
□ 📫 Nodes	Bring this service or application online Take this service or application offline			B Show the critical events for th
2008 Storage –	Show the critical events for this application			Move this service or applicatio
	Move this service or application to another node Manage shares and storage	Statu	15	Add a shared folder
	Add a shared folder Add storage		(0)	Add a resource
	Add a resource	7 📀 Of	ffline	Show Dependency Report
1. <u>111</u>	View			X Delete
	Delete Rename Refresh		_	■ Rename
	Properties			Properties
	Help		▼ ►	Name: CDWindows

Select an available disk you want to use for the installation.

Name	Status	
✓ □ □ □ Cluster Disk 4 ✓ Volume: (D)	💽 Online File System: NTFS	

Click "OK" to complete adding the storage.

le Action View Help				
• 🔿 📶 📊 🚺 🖬				
Failover Cluster Management	CDWindows	Rec	Actions	
Services and Applications 2008clusterDtc SQL Server (MSSQLSE CDWindows 2008cluster01 2008cluster01 2008cluster02 Storage Networks	Summary of CDWindows Status: Partial Online Alerts: <none> Preferred Owners: <none> Current Owner: 2008Cluster01</none></none>		Bring this service or applicatio Take this service or applicatio Show the critical events for th Move this service or applicatio Manage shares and storage	,
Cluster Events	Name	Status	Add a shared folder	
	Server Name		Add a resource	
	□ ➡ Name: CDWindows ■ IP Address: 10.20.235.67	 Offline Offline 	Show Dependency Report	18
	Disk Drives		View	2
	⊟ 🖼 Cluster Disk 4 Volume: (D)	🕥 Online File System: NTF	Rename	
			Properties	
			👔 Help	
	1		Cluster Disk 4	1

• Bring the "CDWindows" service group online on the initial cluster server, so that the virtual IP address and the shared disk resources are available for the installation.



6 Installing Connect:Direct for Windows in a Cluster

To successfully install the Connect:Direct for Windows service in a cluster environment please follow these step-by-step procedures.

The screenshots below illustrate the Connect:Direct for Windows 4.4.00 installation on a Windows Server 2003 cluster using the shared disk "Q". The Connect:Direct for Windows installation on Windows Server 2008 looks exactly the same.

6.1 First Cluster Node

- Make the initial cluster node the active node and make sure it has access to all resources, i.e. the shared disk and the cluster's IP address. This is in essence the first machine added to the cluster.
- Install Connect:Direct for Windows to the shared disk in the cluster.
 See Connect:Direct for Windows installation guide for details.
 Windows Server 2008: Use the "Run As Administrator" (RAA) feature to launch the installation.

Welcome Screen:



Select the "Custom" install.

🔂 Connect Direc	t for Windows - Insta	llShield Wizard		×	
Setup Type Choose the set	up type that best suits y	our needs.			
Please select a	setup type.				
C <u>Typical</u>	Typical program feature	es will be installed.			
Choose which program features you want installed and where they will be installed. Recommended for advanced users.					
InstallShield		< <u>B</u> ack	Next >	Cancel	

IMPORTANT: Deselect the Requester feature. If the Requester is installed to the cluster it will only be available on the active cluster node. Install the Requester on another machine on the network using this installation package, or install the Requester using the "Connect:Direct for Windows - Stand Alone Requester" installation package to the desired cluster machine after the Connect:Direct for Windows server has been installed.

🚏 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is inst	alled.
Server Secure+ MySQL TRequester	Feature Description Connect Direct for Windows is an advanced file transfer solution for point-to-point data movement. This feature requires 13MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 45MB on your hard drive.
Install to:	
C:\Program Files\Sterling Commerce\Connect Direct v4.4.00\	
InstallShield	
Help Space < Back	<u>N</u> ext > Cancel

Deselect the Requester feature.

🔂 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is in	nstalled.
Server Secure+ MySQL Requester	Feature Description Connect:Direct Requester is the client for Connect:Direct Server
 This feature will be installed on local hard driv This feature, and all subfeatures, will be installed 	ve. alled on local hard drive.
Difference will be installed when required.	
Install to This feature will not be available.	
C:\Program Files\Sterling Commerce\Connect Direct v4.4.00\	<u>C</u> hange
InstallShield	
<u>H</u> elp <u>Space</u> < <u>B</u> ack	Next > Cancel

🙀 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is in	istalled.
Server Secure+ MySQL X V Requester	Feature Description Connect Direct for Windows is an advanced file transfer solution for point-to-point data movement. This feature requires 13MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 45MB on your hard drive.
Install to:	
C:\Program Files\Sterling Commerce\Connect Direct v4.4.00\ InstallShield.	<u>C</u> hange
<u>H</u> elp <u>S</u> pace < <u>B</u> ack	Next > Cancel

If you will be using Microsoft's SQL Server as the database for Connect:Direct, deselect the MySQL feature.

🙀 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is installed.	
Server Secure+ MySQL Feal Defa Com stati	ure Description ult database manages nect Direct for Windows stics, transfer control queue
This feature will be installed on local hard driv	э.
□ ☐ ☐ ☐ This feature, and all subfeatures, will be insta	lled on local hard drive.
X This feature will not be available.	
Install to:	
C:\Program Files\Sterling Commerce\Connect Direct v4.4.00\	
InstallShield	
Help Space < Back No	ext > Cancel

🙀 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is in	nstalled.
Server Secure+ X V MySQL X V Requester	Feature Description Connect Direct for Windows is an advanced file transfer solution for point-to-point data movement. This feature requires 13MB on your hard drive. It has 0 of 2 subfeatures selected. The subfeatures require 0KB on your hard drive.
Install to: C:\Program Files\Sterling Commerce\Connect Direct v4.4.00\	Change
InstallShield	
<u>H</u> elp <u>S</u> pace < <u>B</u> ack	Next > Cancel

IMPORTANT: The Connect:Direct for Windows Server must be installed to the same physical location for all nodes in the cluster. This can be the quorum drive, a shared storage device, etc. The path must be consistent among all cluster node installs.

Select the "Change..." button to change the installation location.

F Connect Direct for Windows - InstallShield Wizard		×
Change Current Destination Folder Browse to the destination folder.		
Look in:	•	t 💣
Eolder name:		
C:\Program Files\Sterling Commerce\Connect Direct v4.4.00		
InstallShield	ОК	Cancel

Change the installation location to use the shared disk.

🙀 Connect Direct for Windows - InstallShield Wizard		×
Change Current Destination Folder Browse to the destination folder.		
Look in:		
Connect Direct v4.4.00	-	E
Eolder name:		
Q:\Program Files\Sterling Commerce\Connect Direct v4.4.00\		
InstallShield		
	ок	Cancel

If you are using MySQL, you should have something li
--

🔀 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is in	stalled.
Server Secure+ MySQL X T Requester	Feature Description Connect Direct for Windows is an advanced file transfer solution for point-to-point data movement. This feature requires 13MB on your hard drive. It has 1 of 2 subfeatures selected. The subfeatures require 45MB on your hard drive.
Install to:	
Q:\Program Files\Sterling Commerce\Connect Direct v4.4.00\	<u>C</u> hange
InstallShield	
Help Space < Back	Next > Cancel

If you are using Microsoft's SQL Server, you should have something like this.

🔀 Connect Direct for Windows - InstallShield Wizard	×
Custom Setup Select the program features you want installed.	
Click on an icon in the list below to change how a feature is in	stalled.
Server Secure+ MySQL X Requester	Feature Description Connect Direct for Windows is an advanced file transfer solution for point-to-point data movement. This feature requires 13MB on your hard drive. It has 0 of 2 subfeatures selected. The subfeatures require 0KB on your hard drive.
Install to:	
Control of the spectrum contributed contract Direct V4.4.00	Change
InstallShield	Next > Cancel

Select Custom install so that we can define the Connect:Direct Node Name. This step is required so the Connect:Direct Node Name can be defined the same across all Cluster nodes.

🙀 Connect Direct for Windows - InstallShield Wizard 📃 🔲 🔀				
Configure Conr Select a config				
© Default ∫ ∦	Use the default installation settings.			
€ Custom	Review and customize settings. (Recommended).			
© Upgrade () 귀	Use the location and settings of an existing installation.			
Instali5hield	< <u>B</u> ack <u>N</u> ext >	Cancel		

Define the Connect:Direct Node Name, this must be the same for all installs in the Cluster.

🙀 Connect Direct for Windows - InstallShield Wizard	_ 🗆 🗙
Enter Local Node Name Enter the name that will identify this node.	1
The default node name is the local machine name. A node name must be 1-16 charact long, and be made up of numbers, letters, @, #, \$,- (dash), _ (underscore), or '.' (pe Note that spaces are not allowed.	ers riod).
CD-4400-CLUSTER	
InstallShield < <u>B</u> ack Ca	ancel

Select the Connect:Direct License Key file. The License key file for a Cluster is a special License Key and must have all Cluster Nodes defined in the license.

🙀 Connect Direct for Windows - Insta	llShield Wizard		
License Management Select a License file.			
The License file enables operation of th Click Browse to select a file.	e Connect Direct for '	Windows Server	
C:\MyClusterKey.txt			Browse
Refer to the Connect Direct for V instructions on obtaining a perma	Windows Getting Star anent license.	ted Guide for	
InstallShield	< <u>B</u> ack	<u>N</u> ext >	Cancel

Each install of Connect:Direct for Windows must point to the same Database location. You will need to define the same database, user id, and password for all installs.

If using Microsoft's SQL Server...

🙀 Connect Direct for Windows - InstallShield Wizard	×
Configure SQL Server Configure the SQL Server database Statistics, TCQ and Message tables.	
Select the SQL Server database to install to from the list below or click Browse to see a list of all database servers. To configure a different database, select the MySQL feature from the custom setup dialog.	
SQL Server:	
▼ Browse	
Connect using:	
 Windows authentication credentials of current user 	
Server authentication using the User ID and password below	
User ID: sa	
Password:	
InstallShield	
< <u>B</u> ack <u>Next</u> > Cancel	

If using MySQL...

🚰 Connect Direct for Windows - InstallShield Wizard				
Configure MySQL Server				
	Configure the MySQL database Statistics, TCQ and Message tables.			
The MySQL Server feature is selected for installation. To configure a Microsoft SQL Server, de-select the MySQL feature from the custom setup dialog. Enter the MySQL Server port number and password for this installation.				
	MySQL Server Opt	ions		
	Host:	LocalHost		
	Port:	55044		
	User ID:	root		
	Password:			
	Confirm:			
Insta	llShield			
		< <u>B</u> ack <u>Next</u> > Cancel		

No changes necessary here, however if you run wish to run the Connect:Direct service under a special account, configure it here.

🙀 Connect Direct for W	/indows - InstallShield Wizard	_ 🗆 🗡
Service Account Info Optionally configure the logon account.	he Connect Direct for Windows Service to use a service	
Enter an existing acco the local system accou This option can be cor account must have th Logon locally Logon as a serv	unt name in the form of Domain\User or leave this page blank to u unt. Please note that if this information is incorrect, installation fail ifigured later using the Services utility on the control panel. The e following privileges. ice	ise s.
Replace a proce	ess level token	
Service Account: Service Password: Verify Password:		
InstallShield		
	< <u>B</u> ack <u>Next</u> Can	cel

Use the drop down list to select the Cluster's Virtual IP Address (or manually enter the address) to be used by Connect:Direct for both the Node-to-Node IP Address as well as the User Interface IP Address. On Windows Server 2008 this is the IP address that was configured in the Client Access Point.

🙀 Connect:Direct Windows - InstallShield Wizard	
Enter TCP/IP Information	
communication.	and the second se
Node-to-Node	
IP Address: Port:	
192.168.1.1 III64	
10.20.250.41 10.20.250.40	
192.168.1.1 TI363	
InstallShield	
< <u>B</u> ack <u>N</u> ext > Cance	

Ensure that the IP Address specified is the Cluster's Virtual IP Address.

🙀 Connect:Direct Windows - InstallShield Wizard	_ 🗆 🗙
Enter TCP/IP Information	
Enter the IP Address for Node-to-Node communication and User Interface communication.	
Node-to-Node	
IP Address: Port:	
10.20.250.40 💌 1364	
IP Address: Port:	
1363	
InstallShield	
< <u>B</u> ack <u>N</u> ext >	Cancel

The SNA Option is not available when installing to a Cluster.

😸 Connect Direct for Windows	s - InstallShield Wizard	
Enter SNA Information Optionally configure SNA conr	nectivity.	
Configure SNA		
SNA Settings		
Local LU Name:	LABSCLUS	
Network Name (NET ID):	ſ	
APPC Mode Name:	NDM624K	
InstallShield	< <u>B</u> ack Nex	t > Cancel

See the Connect:Direct for Windows documentation for details about registering to the Active Directory.

i 🖥 Co	onnect Direct for	Windows - Insta	llShield Wizard			×
Re	gister with Activ	e Directory				
i	Enabling this option information registere	allows clients to loca ed in Active Director	ate and connect ry,	to the Server using		
ļ	🗖 Register Client C	onnection Settings				
	Client Connection	Settings				
	Node Name:	CD-4400-CLUSTE	R			
	IP Address:	10.20.234.50				
	Port:	1363				
Insta	llShield			[]		_
			< <u>B</u> ack	Next >	Cancel	

Check the boxes desired to enable SNMP functionality. See the Connect:Direct for Windows documentation for details about SNMP functionality.

🙀 Connect Direct for Windows - InstallShield Wizard	_ 🗆 🗙
SNMP and Event Logging Configure SNMP Extension Agent and Event Logging.	
Enable the SNMP Extension Agent to trap selected messages and send them to a network manager such as Tivoli or HP Openview. Enable SNMP Event Logging to write SNMP-enabled events to the event log.	
Enable Connect:Direct SNMP Extension Agent	
Enable SNMP Event Logging	
InstallShield	
< <u>Back</u> Can	cel

Select the desired notification method. SMTP is selected in this example. For details about notification see the Connect:Direct for Windows documentation.

🙀 Connect:Direct Windows - Ins	stallShield Wiza	rd	
Select Notification Options Select the Connect:Direct Proce	ss completion notif	fication type.	
 NT Network Broadcast SMTP 	-SMTP Settings - Host Address: Host Port: Sender: I Authenticati User ID: Password: Confirm:	SMTPSERVER 25 CdCluster@Domain.com ion cluster ********** *********	
InstallShield	< <u>B</u> a	ick <u>N</u> ext >	Cancel

If pre-configured Netmap and/or User Configuration files are to be installed, the files may be pointed to here.

🙀 Connect Direct for Windows - InstallShield Wizard	_ 🗆 🗙
Import Configuration Files Optionally import Netmap and User Authority configuration files.	
Select a Netmap configuration file to import	
	Browse
Select a User Authority configuration file to import	
	Browse
InstallShield <u>R</u> eset <u>R</u> ext >	Cancel

Click Install.

🚏 Connect Direct for Windows - InstallShield Wizard	×
Ready to Install the Program The wizard is ready to begin installation.	4
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.	
InstallShield	
< <u>B</u> ack <u>Install</u> Cancel	



You may see a message like this that indicates Connect:Direct for Windows failed to start. Click "Ignore" so that the installation will continue. The cluster will manage the starting and stopping of the Connect:Direct service.

🙀 Connect Direct for Windows Installer Information	\times
Failed to start service: Connect Direct v4.4.00 (2)	
Abort Retry Ignore	

Click Finish.



The installation is complete for the first Cluster Node.

6.2 Remaining Cluster Nodes

Repeat the following steps for all remaining cluster servers:

• Before Connect:Direct for Windows can be installed on any other Cluster Node, you must stop the Connect:Direct Service using Microsoft's Service Control Manager.



Also, if you are using MySQL as the database for Connect:Direct, you must stop it's service.

← → 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	🔁 🖫 🔗 🕨 🖿 🗉 🖦				
Services (Local)	Name /	Description	Status	Startup Type	-
803 - C	HP Version Control Agent	Collects data and allows ma	Started	Automatic	
	SHITP SSL	This service implements the		Manual	
	Human Interface Device Access	Enables generic input acces		Disabled	
	MAPI CD-Burning COM Service	Manages CD recording usin		Disabled	
	Sindexing Service	Indexes contents and prop		Disabled	
	SIntersite Messaging	Enables messages to be ex		Disabled	
	PSEC Services	Provides end-to-end securit	Started	Automatic	
	Kerberos Key Distribution Center	On domain controllers this s		Disabled	
	License Logging	Monitors and records client		Disabled	
	Cogical Disk Manager	Detects and monitors new	Started	Automatic	
	Logical Disk Manager Administrative Service	Configures hard disk drives		Manual	
	McAfee Framework Service	Shared component framew	Started	Automatic	
	Messenger	Transmits net send and Ale		Disabled	
	Microsoft Software Shadow Copy Provider	Manages software-based v		Manual	
	MySQL - Connect Direct v4.4.00	Connect:Direct default dat		Automatic	
	Net Logon	Maintains a secure channel	Started	Automatic	
	Net. Tcp Port Sharing Service	Provides ability to share TC		Disabled	
	Ch NatMastinn Damita Parkton Charinn	Fnahlar an authorized uner		Manual	٠Ĉ

- Make any secondary/next cluster server the active server, i.e. make sure the resources are available on this box.
- Install Connect:Direct for Windows to the existing Connect:Direct installation directory from the previous installation. This is to maintain a single installation point for the binaries, etc. and to set up relevant information for a particular cluster node. Follow the same installation steps and notes as described above for the first cluster node installation, specifying the same values. *Also see Connect:Direct for Windows Installation Guide for details*.

Note: The following Warning message may be displayed to warn of copying over an existing install of Connect:Direct for Windows. This is the desired action, each subsequent install on the remaining cluster nodes will write to the same destination directory. Click OK to continue.

Connect I	Direct for Windows - InstallShield Wizard 🛛 🛛 🔀
♪	The installation directory for Connect Direct for Windows already exists. If you install Connect Direct for Windows to the existing directory, you may experience problems when uninstalling the product. Use Custom Setup to install the product to a different location.

- After each installation, you must stop the Connect:Direct Service. Also, if you are using MySQL as the database for Connect:Direct, you must stop it's service too.
- Proceed with the next cluster server.

7 Configuring the Cluster

After all installations of Connect:Direct for Windows have been performed for each of the cluster nodes, we need to switch back to the main cluster node and configure Connect:Direct as a resource in the cluster.

7.1 Cluster Configuration in Windows Server 2003

Launch the MSCS **Application Resource Wizard** and follow the instructions for configuring an application in a group.

• If you have configured Connect:Direct to use MySQL database, then add the MySQL service as a resource in the Cluster Group.

🚰 Cluster Administrator - [LABSCLU	ISTER (LABSCLUSTER)]				_	
💼 Eile <u>V</u> iew <u>W</u> indow <u>H</u> elp					_	Ð×
🚳 👁 🛆 🗡 😰 🖭						
	Name	State	Owner	Resource Type	Description	
Groups	Duster IP Address	Online	LABSCLUSTER01	IP Address		
Cluster Group	💭 Cluster Name	Online	LABSCLUSTER01	Network Name		
	Disk Q:	Online	LABSCLUSTER01	Physical Disk		
Closer Configuration Resource Types Resource Types Connection Local Area Connection Network Interfaces LABSCLUSTER01 LABSCLUSTER02	Vi <u>e</u> w New <u>W</u> indo <u>C</u> ascade Tile <u>H</u> orizon Tile <u>V</u> ertical Clo <u>s</u> e All	w tally ly				
	New		<u>G</u> roup Ctrl+	FG		
	Configure <u>4</u>	pplication	<u>R</u> esource			
			Node			
Creates a new cluster resource			⊆luster		NUM SC	.RL //,

Cluster Administrator – Add new resource. Enter a name and description for the MySQL resource and select "Generic Service" as the type.

New Resource		
	MySQL-0 Name: Description: Resource type: Group: Description: Resource type: To continue, click	CD 4400 MySQL-CD 4400 MySQL for Connect:Direct v4.4.00 Generic Service Cluster Group Ince in a separate Resource Monitor Next.
	<]	Back <u>N</u> ext > Cancel

Allow all Cluster nodes to take ownership of this resource.

Possible Owners MySQL-CD 4400 Possible owners are nodes in the cl Specify the possible owners for this	uster on which this resource can be brought online. resource.
A <u>v</u> ailable nodes:	Possible <u>o</u> wners:
Name	Add -> Control Add -> Contro
	< <u>B</u> ack <u>N</u> ext > Cancel

Make the shared disk that the Connect:Direct Server is installed on a dependency of the MySQL service.

Dependencies				
MySQL-CD 4400 Dependencies are resources Specify the dependencies for	which r this re	must be brought o source.	nline by the cluster service	first.
A <u>v</u> ailable resources:		R	esource <u>d</u> ependencies:	
Resource	Resc		Resource	Resc
Cluster IP Address Cluster Name Disk Q:	IP Ac Netw Phys	Add ->	1	
		< <u>B</u> ack	<u>N</u> ext > C	ancel

Dependencies			
MySQL-CD4400 Dependencies are resources which Specify the dependencies for this re	must be brought a	online by the cluster servi	ce first.
A <u>v</u> ailable resources:	F	Resource <u>d</u> ependencies:	
Resource Resc		Resource	Resc
Cluster IP Address IP Ac Cluster Name Netw	<u>A</u> dd -> <- <u>R</u> emove	Disk Q:	Phys
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Now we must find the service name for the MySQL service. At a command prompt, type "*net start*" to view the Windows Services. This list shows a list of services currently running on the Windows system. Find the "MySQL – Connect:Direct v4.4.00" entry and use the complete name listed as the service name.

📾 C:\WINDOWS\system32\cmd.exe	- 🗆 🗵
C:\>	
C:\>net start	
Inese windows services are started:	
Application Experience Lookup Service	
Application Layer Gateway Service	
Application Management	
Hutomatic Updates	
COM+ Fuent Sustem	
Computer Browser	
Connect Direct_v4.4.00 - CD-4400-CLUSTER	
Cryptographic Services	
DUCH Server Process Launcher	
Distributed Link Tracking Client	
DNS Client	
Error Reporting Service	
Event Log	
HP Insight Foundation Agents	
HP Insight Sever Agents	
HP Insight Storage Agents	
HP Proliant Remote Monitor Service	
HP ProLiant System Shutdown Service	
HP Uersion Control Agent	
IPSEC Services	
Logical_Disk Manager	
McAfee Framework Service	
NysqL - Connect Direct V4.4.00	
Network Associates McShield	
Network Associates Task Manager	
Network Connections	
Network Location Awareness (NLA)	
Print Species	
Protected Storage	
Remote Access Connection Manager	
Remote Procedure Call (RPC)	
Remote Registry	
Security Acounts Manager	
Server	
Shell_Hardware Detection	
SNMP Service	
Task Scheduley	
TCP/IP NetBIOS Helper	
Telephony	
Terminal Services	
Windows Hudlo	
Windows Installer	
Windows Management Instrumentation	
Windows Time	
Wireless Configuration	
WOPKSTATION	
The command completed successfully.	
C+\ \	_

Generic Service Para	meters	
MySQL-CI	04400	
<u>S</u> ervice name:	MySQL - Connect Direct v4.4.00	
Start parameters:		
🔲 <u>U</u> se Network N	ame for computer name	
	< <u>B</u> ack <u>N</u> ext >	Cancel

MySQL service does not require registry replication. Click "Finish".

Registry Replication			
MySQL-CD 4400 Programs or services may store data data available on the node on which HKEY_LOCAL_MACHINE that shoul	in the registry. Th they are running. Id be replicated to	erefore, it is import Specify the regist all nodes in the c	tant to have this ry keys below luster.
Root Registry Key			
	A <u>d</u> d	<u>M</u> odify	<u>R</u> emove
	< <u>B</u> ack	Finish	Cancel



That completes the MySQL portion for the Cluster Administrator.

• Now we must add the Connect:Direct service into the Cluster as a managed cluster resource for the Cluster Group.



Cluster Administrator – Add new resource. Enter a name and description for the Connect:Direct resource and select "Generic Service" as the type.

New Resource		
	Connect Name: Description: Resource type: Group: Denthis resource To continue, click	tDirect4400 ConnectDirect4400 Connect:Direct v4.4.00 Generic Service Cluster Group urce in a separate Resource Monitor
	<	Back Next > Cancel

Allow all Cluster nodes to take ownership of this resource.

Possible Owners ConnectDirect4400 Possible owners are nodes in the cl Specify the possible owners for this	luster on which this resource can be brought online. resource.
A <u>v</u> ailable nodes:	Possible <u>o</u> wners:
Name	Add -> Add -> ABSCLUSTER01 ← Bemove
	< <u>B</u> ack <u>N</u> ext > Cancel

The Connect:Direct resource must have dependencies of the Cluster's Virtual IP Address, the shared disk that Connect:Direct was installed onto, and the MySQL resource previously added (if using MySQL).

Dependencies			
ConnectDirect4400 Dependencies are resources we Specify the dependencies for the	hich must be brought c is resource.	nline by the cluster service	e first.
A <u>v</u> ailable resources:	F	Resource <u>d</u> ependencies:	
Resource Re	esc	Resource	Resc
Cluster IP Address IP Cluster Name Na Disk Q: Pł MySQL-CD4400 Ge	Ac <u>Add-></u>	4	
	< <u>B</u> ack	<u>N</u> ext >	Cancel

ependencies ConnectDirect4400 Dependencies are resources which Specify the dependencies for this re	must be brought online b source.	y the cluster servic	ce first.
A <u>v</u> ailable resources:	Resource	ce <u>d</u> ependencies:	
Resource Resc	Reso	ource	Resc
Cluster Name Netw	Add -> Co	uster IP Address isk Q: ySQL-CD4400	IP Ac Phys Gene
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Now we must find the service name for the Connect:Direct service. At a command prompt type "*net start*" to view the Windows Services. This list shows a list of services currently running on the Windows system. You will use the first portion of the Connect:Direct Service name as the service name when setting up the service in the Cluster Administrator.

📾 C:\WINDOWS\system32\cmd.exe	_ 🗆 ×	<
C:\>	A 1	ī
C:\>net start		71
These Windows services are started:		
Application Experience Lookup Service		
Application Layer Gateway Service		
Application Management		
Automatic Updates		
Cluster Service		
Computer Browser		
Connect Direct v4.4.00 - CD-4400-CLUSTER		
Cryptographic Services		
DCOM Server Process Launcher		
Distwibuted Link Twacking Client		
DNS Client		
Error Reporting Service		H
Event Log		H
HP Insight Foundation Agents		H
HP Insight Nichgent HP Insight Sawaw Agents		H
HP Insight Storage Agents		H
HP ProLiant Remote Monitor Service		H
HP ProLiant System Shutdown Service		H
HP System Management Homepage		H
rr version control agent IPSEC semijees		H
Logical Disk Manager		H
McAfee Framework Service		-
MySQL - Connect Direct v4.4.00		
Net Logon Network Openciates McChield		
Network Associates Acanielu Network Associates Task Manager		
Network Connections		
Network Location Awareness (NLA)		
Plug and Play		
Print Spooler Protocted Stanage		
Remote Access Connection Manager		
Remote Procedure Call (RPC)		
Remote Registry		
Secondary Logon		
Security Accounts hanager		
Shell Hardware Detection		
SNMP Service		
System Event Notification		
TCP/ID NotPIOC Holmon		
Telenhonu		
Terminal Services		
Windows Audio		
Windows Firewall/Internet Connection Sharing (ICS)		
Windows Installer Windows Management Instaumentation		
Windows Time		
Wireless Configuration		
Workstation		
The command commuted successfully		
The command completed successfully.		
		4
	_	1

Generic Service Para	meters
ConnectDi	rect4400
<u>S</u> ervice name:	Connect Direct v4.4.00
Start <u>p</u> arameters:	
🔲 🛛 se Network Na	me for computer name
	< <u>B</u> ack <u>N</u> ext > Cancel

• Registry Replication must be set up to allow the Connect:Direct for Windows settings to be replicated to all other nodes in the cluster. Select the "Add" button to add the registry key for Connect:Direct for Windows.

Registry Replication
ConnectDirect4400 Programs or services may store data in the registry. Therefore, it is important to have this data available on the node on which they are running. Specify the registry keys below HKEY_LOCAL_MACHINE that should be replicated to all nodes in the cluster.
Root Registry Key
A <u>d</u> d <u>M</u> odify <u>R</u> emove
< <u>B</u> ack Finish Cancel

• Replicate the C:D registry key "SOFTWARE\Sterling Commerce\Connect:Direct for Windows NT\v4.4.00\<node name>".



Registry Replication	
ConnectDirect4400 Programs or services may store data in data available on the node on which th	the registry. Therefore, it is important to have this hey are running. Specify the registry keys below
HKEY_LOCAL_MACHINE that should Root Registry Key SOFTWARE\Sterling Commerce\Cor	be replicated to all nodes in the cluster. nnect:Direct for Windows NT\v4.4.00\CD-4400-C
۲	
	A <u>d</u> d <u>M</u> odify <u>R</u> emove
	< <u>B</u> ack Finish Cancel



That completes the Connect:Direct for Windows portion for the Cluster Administrator.

7.2 Cluster Configuration in Windows Server 2008

Launch the **Failover Cluster Management** console and follow the instructions of the "New Resource Wizard" to add the Connect:Direct and MySQL services.

• If you have configured Connect:Direct to use MySQL database, then add the MySQL service as a resource to the "CDWindows" service group. Select "4 – Generic Service".



Pick the MySQL service from the list.

mation	Namo	Description	18
ure Generic e	Windows Remote Management (WS-Management)	Windows Remote Management (WinRM) servic	
	WMI Performance Adapter	Provides performance library information from Wi	
ary	Web Management Service	The Web Management Service enables remote	
	Portable Device Enumerator Service	Enforces group policy for removable mass-storag	
	Windows Update	Enables the detection, download, and installatio	
	Windows Driver Foundation - User-mode Driver F	Manages user-mode driver host processes	
	MySQL - Connect Direct v4.4.00	Connect:Direct default database	
	IIS Admin Service	Enables this server to administer the IIS metabas	7
	Distributed Transaction Coordinator (92c66eaa-d	Coordinates transactions that span multiple reso	
	IIS Admin Service Distributed Transaction Coordinator (92c66eaa-d	Enables this server to administer the IIS meta Coordinates transactions that span multiple re	ıbas əso

The "Confirmation" appears. Ignore if Parameters is showing an incomplete path to mysqld-nt.exe.

Confirm: Select Service	ation You are ready to make a	Generic Service.	
Confirmation Configure Generic Service Summary	Service: Parameters:	MySQL - Connect Direct v4.4.00 (MySQL - Connect Direct v4.4.00) Files\Sterling Commerce\Connect Direct v4.4.00 \MySQL\bin\mysqld-nt.exe"defaults-file="D:\Program Files\Sterling Commerce\Connect Direct v4.4.00 \MySQL\my.ini" "MySQL - Connect Direct v4.4.00"	4
	To continue, click Next.		. 1



Click "Finish" to add the service.

Failover Cluster Management			
le Action View Help			
• 🔿 🚺 🖬 🚺 🖬			
Failover Cluster Management	:DWindows	Recen	Actions
 2000cluster.workstinder.ibte Services and Applications 2008clusterDtc SQL Server (MSSQLSE CDWindows 2008Cluster01 2008cluster02 Storage Metworks 	Summary of CDWindows Status: Partial Online Alerts: <none> Preferred Owners: <none> Current Owner: 2008Cluster01</none></none>		CDWindows • Image: Bring this service or applicatio Image: Bring this service or applicatio Image: Bring this service or applicatio Image: Bring this service or applicatio Image: Move this service or applicatio Image: Bring this service or applicatio Image: Move this service or applicatio Image: Bring this service or applicatio Image: Move this service or applicatio Image: Bring this service or applicatio Image: Manage shares and storage Image: Bring this service or applicatio
👪 Cluster Events	Name	Status	Add a shared folder
	Server Name		Add scorage
	⊡ 🖳 Name: CDWindows ≣♥ IP Address: 10.20.235.67	💿 Online 💿 Online	Show Dependency Report
			View •
	E Cluster Disk 4	💿 Online	🗙 Delete 🛋 Rename
	Other Resources	<u>.</u>	Refresh
	🙀 MySQL - Connect Direct v4.4.00	🐠 Offline	Properties
			Help
		•	MySQL - Connect Direct v4.4.00 🔺

Open the properties of the M	/SQL resource and switch to	the "Dependencies" tab.
------------------------------	-----------------------------	-------------------------

	Advanced F	Policies Regis	ry Replication
	General	Dependencies	Policies
pec e br	ify the resource rought online:	es that must be brought online befo	ore this resource car
	AND/OR	Resource	
ŧ	Click here to a	dd a dependency	
		Insert	Delete
loc	dependencies.	Insert	Delete
10 0	dependencies.	Insert	Delete

Add a dependency to "Name: CDWindows".

	Advanced F	Policies Regis	try Replication
	General	Dependencies	Policies
Spe be t	cify the resource brought online:	es that must be brought online bef	ore this resource can
	AND/OR	Resource	
Þ			•
*	Click here to a	Cluster Disk 4	
		Name: CDWindows	
		4	
		Inset	1 Delete
		Inset	Delete
		Insert	Delete
		Insert	Delete
		Insert How resource	Delete dependencies work

Add a dependency to the shared disk.

Advanced	Policies Registry Replication	n
General	Dependencies Polici	ies
pecify the resour e brought online:	ces that must be brought online before this resour	ce can
AND/OR	Resource	
	Name: CDWindows	
AND	Cluster Disk 4	-
 Click here to 	add a dependency	
	lines 1 De	
	Insert De	lete
Jame: CDWindou	Insert De	lete
Name: CDWindov	Insert De ws AND Cluster Disk 4	lete
Name: CDWindov	Insert De ws AND Cluster Disk 4	lete

Click "OK" to complete the service configuration for MySQL.

That completes the MySQL portion for the Failover Cluster Management.

• To add the Connect:Direct service as a resource to the "CDWindows" service group, select "4 – Generic Service".

ile Action View H	elp			
• 🔿 🙇 📊 🛛				
Failover Cluster Manag	CDWindows	Rec	Actions	
2008cluster.works	polications		CDWindows	• -
SQL Serve	rDtc (MSSQLSE	JWS	 Bring this service or applicatio Take this service or applicatio 	
Podes Acces Acces Acces Acces	Bring this service or application online		Show the critical events for th	
2008Clus			Move this service or applicatio	•
Storage	Show the critical events for this application		😨 Manage shares and storage	
E Gluster Even	Move this service or application to another node		🗋 Add a shared folder	
-	Manage shares and storage	Status	dd storage	
	Add a shared folder	0	Add a resource	•
	Add a resource	1 - Client Access Point	Show Dependency Report	
	Show Dependency Report	2 - Generic Application 3 - Generic Script	View	•
	View 🕨	4 - Generic Service	🛛 🗙 Delete	
-	Delete	More resources N	S 🛋 Rename	
	Rename		Refresh	
	Refresh	0 📀 Offline	Properties	
	Properties		Help	
	Help		MySQL - Connect Direct v4.4.00	

Pick the Connect:Direct v4.4.00 service from the list.

ontimation			
nfigure Generic	Name	Description	
rvice	Windows Remote Management (WS-Management)	Windows Remote Management (WinRM) servic	
	WMI Performance Adapter	Provides performance library information from Wi	
ninaly	Web Management Service	The Web Management Service enables remote	
	Portable Device Enumerator Service	Enforces group policy for removable mass-storag	
	Windows Update	Enables the detection, download, and installatio	
	Windows Driver Foundation - User-mode Driver F	Manages user-mode driver host processes	
	Connect Direct v4.4.00 - CD-4400-CLUSTER	Connect:Direct Server	
	IIS Admin Service	Enables this server to administer the IIS metabas	
	Distributed Transaction Coordinator (92c66eaa-d	Coordinates transactions that span multiple reso	

The "Confirmation" window appears. Ignore if Parameters is showing an incomplete path to CDNT.exe.

New Resource W	izard ation		E
Select Service Confirmation	You are ready to make a	Generic Service.	
Configure Generic Service	Service:	Connect Direct v4.4.00 - CD-4400-CLUSTER (Connect Direct v4.4.00)	A
Summary	Parameters:	Files\Sterling Commerce\Connect Direct v4.4.00 \Server\CDNT.exe"	
	I To continue, click Next.		
		< Previous Next > Can	cel

New Resource Wi	zard		×
Summary Summary	4		
Select Service	The new resource	e as was successfully created and configured.	
Confirmation			
Configure Generic Service			A
Summary	Service:	Connect Direct v4,4,00 - CD-4400-Cl Direct v4,4,00)	LUSTER (Connect
	Resource:	Generic Service	
	Parameters:	Files\Sterling Commerce\Connect Dir \Server\CDNT.exe"	rect v4.4.00
			•
	To view the report create To close this wizard, click	d by the wizard, click View Report. ; Finish.	View Report
			Finish

Click "Finish" to add the service.

e Action View Help				
Failover Cluster Management	😻 tatus: Partial Online	-	Actions CDWindows	
CDWindows P SQL Server (MSSC	lerts: <none> referred Owners: <none> urrent Owner: 2008Cluster01</none></none>		Bring this service or application	
 Image Image Imag	lame	Status	Show the critical events for this Image: Move this service or application	•
🔢 Cluster Events	Server Name		📆 Manage shares and storage	
E	∃ 🐏 Name: CDWindows ∰ IP Address: 10.20.235.67	⑦ Online⑦ Online	 Add a shared folder Add storage 	
	Disk Drives		Add a resource	,
E	🗄 🚥 Cluster Disk 4	💽 Online	Show Dependency Report	
	Volume: (D)	File Syste	View)
	Other Resources		🔀 Delete	
	🤹 MySQL - Connect Direct v4.4.00	Offline	🛒 Rename	
	🙀 Connect Direct v4.4.00 - CD-4400-Cl	LUS 🖲 Offline	🖸 Refresh	
			Properties	
			👔 Help	
			Connect Direct v4.4.00 - CD-440	1

Open the properties of the Connect Direct v4.4.00 resource and switch to the "Dependencies" tab.

	Advanced H	Policies		Registry F	Replication
	General		Dependenci	es	Policies
ipec be br	ify the resource ought online:	es that m	nust be brought	online before	this resource car
	AND/OR	Resou	urce		
*	Click here to a	dd a dep	pendency	N	
				4	
				Insert	Delete
				Insert	Delete
Nod	lependencies.	*		Insert	Delete
Nod	lependencies.			Insert	Delete
Nod	lependencies.	*		Insert	

Add a dependency to "Name: CDWindows".

	Advanced F	Policies F	Registry Replication
	General	Dependencies	Policies
Spe be t	cify the resource prought online:	es that must be brought online	e before this resource can
	AND/OR	Resource	
۲			T
4		IP Address: 10.20.235.67 MySQL - Connect Direct v4 Name: CDWindows	1.4.00
			μ2 Γ
		I	nsert Delete
		I	nsert Delete

Add a dependency to the shared disk.

	Advanced F	Policies		Registry F	Replication
1	General		Dependencie	s	Policies
pecil e bro	y the resourc ught online:	es that mu	st be brought o	online before (this resource car
	AND/OR	Resource	ce		
		Name: C	DWindows		
	AND	Cluster D	Disk 4		
+ (Click here to a	idd a depe	ndency		13 -
				Insert	1 Delete
				Insert	Delete
Jame	: CDWindow	s AND Clu	ster Disk 4	Insert	Delete
lame	: CDWindow	s AND Clu	ster Disk 4	Insert	Delete
Jame	: CDWindow	s AND Clu	ster Disk 4	Insert	Delete
lame	: CDWindow	s AND Clu	ster Disk 4 How	Insert resource dep	
lame	: CDWindow	s AND Clu	ster Disk 4	Insert resource dep	Delete

Add a dependency to the "IP Address".

	Advanced F	Policies	Registry R	eplication
1	General	Depender	ncies	Policies
pecil e bro	fy the resourc bught online:	es that must be broug	jht online before t	his resource car
	AND/OR	Resource		
		Name: CDWindows	3	
	AND	Cluster Disk 4		
	AND	IP Address: 10.20.2	235.67	
K (Click here to a	dd a dependency		45
			Insert	Delete
Jame	e: CDWindow	s AND Cluster Disk 4	Insert AND IP Address: low resource dep	Delete 10.20.235.67 endencies work

	Advanced f	Policies Regis	try Replication
	General	Dependencies	Policies
peo e b	cify the resourc rought online:	es that must be brought online befo	ore this resource can
	AND/OR	Resource	
		Name: CDWindows	
	AND	Cluster Disk 4	
	AND	IP Address: 10.20.235.67	
,	AND	MySQL - Connect Direct v4.4.00	
7	Click here to a	add a dependency	hs
7	Click here to a	add a dependency	μş
	Click here to a	add a dependency	h ^g

If MySQL is used, add a dependency to the MySQL service.

• Switch to the "Registry Replication" tab.

Click "Add" and replicate the Connect:Direct registry key "SOFTWARE\Sterling Commerce\Connect:Direct for Windows NT\v4.4.00\<node name>".

Registry Key		×
Root registry key: HKEY_LOCAL_MACHINE\ SOFTWAR	RE\Sterling Commerce\Connec	at:Direct for Windo
	OK	Cancel
-		1

Click "OK" to complete the service configuration.

That completes the Connect:Direct for Windows portion for the Failover Cluster Management.

The "CDWindows" service group should look like this.



8 Verifying the Installation

To verify the installation is correct, bring the resource associated with Connect:Direct for Windows online. This will automatically bring the MySQL resource online if you are using MySQL.

8.1 Verifying on Windows Server 2003

🚰 Cluster Administrator - [LABSCLU	STER (LABSCLUSTER)]				
💼 Eile <u>V</u> iew <u>W</u> indow <u>H</u> elp					_ 8 ×
🚳 👁 🔺 🖆 🖭					
	Name	State	Owner	Resource Type	Description
Groups Groups Group Group Group Group Group Group Group	💭 Cluster IP Address 问 Cluster Name 问 Disk Q:	Online Online Online	LABSCLUSTER01 LABSCLUSTER01 LABSCLUSTER01	IP Address Network Name Physical Disk	
	€ MySQL-CD4400	Offline	LABSCLUSTER01	Generic Service	MySQL for Connect:Direct v4.4.1
Networks Local Area Connection Local Area Connection Network Interfaces LABSCLUSTER01	ConnectDirect4400	Bring Online Take Offline Initiate Failu Change Gro	Ctrl+B Ctrl+T re Ctrl+I	Fineric Service	Connect:Direct v4.4.00
E abscluster02		<u>D</u> elete Rena <u>m</u> e	Ctrl+D Ctrl+M	_	
		<u>N</u> ew Configure <u>A</u>	pplication	•	
		P <u>r</u> operties			
Brings an offline group or resource online	•				

The Connect:Direct for Windows and the MySQL resource are both online.

🚮 Cluster Administrator - [LABSCLU	JSTER (LABSCLUSTER)]				
💼 Eile <u>V</u> iew <u>W</u> indow <u>H</u> elp					_ & ×
🚳 👁 📐 🗶 😭 🖭	6- 6- 6- 6-6-				
	Name	State	Owner	Resource Type	Description
Groups	🛄 Cluster IP Address	Online	LABSCLUSTER01	IP Address	
Cluster Group	🛄 Cluster Name	Online	LABSCLUSTER01	Network Name	
Resources	🛄 Disk Q:	Online	LABSCLUSTER01	Physical Disk	
	MySQL-CD4400	Online	LABSCLUSTER01	Generic Service	MySQL for Connect:Direct v4.4.1
Cluster Administrator - [LABSCLUSTER (LABSCLUSTER)]	Connect:Direct v4.4.00				
Local Area Connection Local Area Connection Network Interfaces LABSCLUSTER01 LABSCLUSTER02					
For Help, press F1					NUM SCRL //

Now move the Cluster Group to one of the other cluster nodes.

🚮 Cluster Administr	ator - [LABSCL	USTER (LABSCLUSTER)]				
🛐 Eile View Windo	w <u>H</u> elp					_ 8 ×
🚳 🖭 🗡 🗙	🖻 🕑 😐	8 8-8- 8- 8-8- 8-8-				
E - 🗐 LABSCLUSTER		Name	State	Owner	Resource Type	Description
Groups	Bring Online	Ctrl+B	Online Online Opline	LABSCLUSTER01 LABSCLUSTER01	IP Address Network Name Physical Disk	
Cluster Cc	<u>T</u> ake Offline Mo <u>v</u> e Group	Ctrl+T 00 :4400	Online Online	LABSCLUSTER01 LABSCLUSTER01 LABSCLUSTER01	Generic Service Generic Service	MySQL for Connect:Direct v4.4.1 Connect:Direct v4.4.00
	<u>D</u> elete Rena <u>m</u> e	Ctrl+D Ctrl+M				
	<u>N</u> ew Configure <u>A</u> ppl	lication				
	Properties					
Moves an entire group fi	rom one node to .	another				

The Cluster Group move is in progress.

🚰 Cluster Administrator - [LABSCLU	JSTER (LABSCLUSTER)]				
💼 Eile <u>V</u> iew <u>W</u> indow <u>H</u> elp					_ & ×
E-G LABSCLUSTER	Name	State	Owner	Resource Type	Description
Groups Cluster Group Cluster Group Cluster Configuration Cluster C	Cluster IP Address Cluster Name Disk Q: MySQL-CD4400	Offline P Offline Online Offline P Offline P	LABSCLUSTER01 LABSCLUSTER01 LABSCLUSTER01 LABSCLUSTER01 LABSCLUSTER01	IP Address Network Name Physical Disk Generic Service Generic Service	MySQL for Connect:Direct v4.4.1 Connect:Direct v4.4.00
	•				Þ
For Help, press F1					NUM SCRL //

The Cluster Group was successfully moved to the second cluster node.

🚰 Cluster Administrator - [LABSCLU	STER (LABSCLUSTER)]				
💼 File <u>V</u> iew <u>W</u> indow <u>H</u> elp					_ 8 ×
🚳 👁 🛆 🗡 😰 🖭					
	Name	State	Owner	Resource Type	Description
Groups	💭 Cluster IP Address	Online	LABSCLUSTER02	IP Address	
Cluster Group	🛄 Cluster Name	Online	LABSCLUSTER02	Network Name	
Resources	ConnectDirect4400	Online	LABSCLUSTER02	Generic Service	Connect:Direct v4.4.00
	💯 Disk Q:	Online	LABSCLUSTER02	Physical Disk	
Networks	MySQL-CD4400	Online	LABSCLUSTER02	Generic Service	MySQL for Connect:Direct v4.4.1
Local Area Connection					
🔤 Local Area Connectior					
Network Interfaces					
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E af LABSCLUSTER02					
Cluster Administrator - [LABSCLUSTER (LABSCLUSTER)] Ele View Window Help LABSCLUSTER Cluster Corup Resources Cluster Configuration Resource Types Networks Local Area Connection LABSCLUSTER01 LABSCLUSTER02 Network Interfaces LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER01 LABSCLUSTER02 LABSCLUSTER03 LABSCLUSTER04 Window Attributers LABSCLUSTER05 Networks Labscluster Connection Local Area Connection LABSCLUSTER01 LABSCLUSTER02 Velop Networks LABSCLUSTER05 Velop Velop Velop Velop Velop Velop Velop Velop Velop Velop <td>•</td>	•				
For Help, press F1					NUM SCRL

Connect:Direct for Windows should now successfully run in the cluster environment and automatically switch to backup cluster nodes in the event of a failure on an active node.

8.2 Verifying on Windows Server 2008

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Failover Cluster Management	-			▲ A	ctions	
2008cluster.workstn-dev.loca	Status: Offline			c	DWindows	
2008clusterDtc	Alerts: <none></none>			4	🚡 Bring this service or applicatio	
SQL Server (MSSQLSE	Preferred Owners	:: <none></none>		1	🚡 Take this service or applicatio.	
E 🎒 Nodes	Current Owner: 2	2008Cluster01		1	Show the critical events for th	
2008Cluster01	- Name		Chabus	- 1	— 剂 Move this service or applicatio	>
Storage	Server Name		Status	- -	👔 Manage shares and storage	
Networks Isi Cluster Events	🗉 👎 Name: CDW	indows	() Online		🛔 Add a shared folder	
	📑 IP Addre	Bring this reso	urce online		🇯 Add storage	
	Disk Drives	Take this resou	irce offline	3	Add a resource	•
	🖅 💷 Cluster Disk	Show the critic	al events for this resource		Show Dependency Report	
		Show Depende	ncy Report		View	,
	Uther Resource	More Actions		• 5	🕻 Delete	
	MySQL - Co	Delete			🖞 Rename	
		Properties			Refresh	
		Help			Properties	
	l i				7 Help	
			1	_ الے	onnect Direct v4.4.00 - CD-4	f 🔺

The Connect:Direct for Windows and the MySQL resource are both online.





Now move the Cluster Group to one of the other cluster nodes.



The Cluster Group move is in progress.



The Cluster Group was successfully moved to the second cluster node (here: 2008Cluster02).

e Action View Help				
• 🔿 📶 📊 🚺 🗖				
Failover Cluster Management	CDWindows	Recent	Actions	
2008cluster/worksch-dev Services and Applicat Services and Applicat	Summary of CDWindows Status: Online Alerts: <none> Preferred Owners: <none> Current Owner: 2008Cluster02</none></none>		CDWindows Bring this service or application Take this service or application Show the critical events for thi Move this service or application Manage shares and storage	•
Cluster Events	Name	Status	Add a shared rolder	
	Server Name		Add a resource	
I	□ ➡ Name: CDWindows ■ IP Address: 10.20.235.67	 Online Online 	Show Dependency Report	
	Disk Drives		View	+
I	⊞ 🗇 Cluster Disk 4	💿 Online	X Delete	
	Other Resources		🔯 Refresh	
	🌼 MySQL - Connect Direct v4.4.00	💿 Online	Properties	
	Connect Direct v4.4.00 - CD-4400-CLUS.	仓 Online	👔 Help	
			Connect Direct v4.4.00 - CD-440	

Connect:Direct for Windows should now successfully run in the cluster environment and automatically switch to backup cluster nodes in the event of a failure on an active node.

9 Applying Maintenance

It is recommended to apply the latest maintenance available for Connect:Direct for Windows. A maintenance patch delivers a subset of files that contain fixes and enhanced features. Patches are provided as Setup files (.EXE), for example CDWin4400Patch063.exe. See the *How to Apply Patches* whitepaper available from the Customer Center at <u>https://customer.sterlingcommerce.com</u> for more details.

To successfully apply a Connect:Direct for Windows patch in a cluster environment please follow these step-by-step procedures <u>on each cluster server:</u>

- Move the Connect:Direct Windows Cluster Group to the initial cluster server, so that all resources associated with Connect:Direct for Windows are available to this first cluster node.
- In the Cluster Management software, take the Connect Direct v4.4.00 resource offline. Also, if you are using MySQL as the database for Connect:Direct, you must take its resource offline too.



• It is recommended to stop the SNMP Service manually before applying a patch to avoid a potential reboot. See the *How to Apply Patches* whitepaper for more details.

• Run the patch setup file and follow the instructions.

Windows Server 2008: Use the "Run As Administrator" (RAA) feature to launch the patch setup file.







• After the patch installation has completed, you <u>must manually stop</u> the Connect:Direct Service on using Microsoft's Service Control Manager on this cluster server, before you can proceed with the next cluster server.

🍇 Services					l ×
<u>File Action View</u>	Help				
← → 🖬 😭 [⊉ ⊑₀ ஜ ▶ ■ ॥ ■>				
🆏 Services (Local)	Name 🛆	Description	Status	Startup Type	
	NET Runtime Optimization Service v2.0.50727_X86	Microsoft .NET Framework		Manual	
	🖏 Alerter	Notifies selected users and		Disabled	
	Application Experience Lookup Service	Processes application comp	Started	Automatic	
	Application Layer Gateway Service	Provides support for 3rd pa	Started	Manual	
	Application Management	Processes installation, remo	Started	Manual	
	ASP.NET State Service	Provides support for out-of		Manual	
	automatic Updates	Enables the download and i	Started	Automatic	
	🖓 Background Intelligent Transfer Service	Transfers data between cli		Manual	
	🖓 ClipBook	Enables ClipBook Viewer to		Disabled	
	🦓 Cluster Service	Enables servers to work to	Started	Automatic	
	🦓 COM+ Event System	Supports System Event Not	Started	Automatic	
	🦓 COM+ System Application	Manages the configuration		Manual	
	🦓 Computer Browser	Maintains an updated list of	Started	Automatic	
	Connect Direct v4.4.00 - CD-4400-CLUSTER	Connect:Direct Server		Automatic	
	🖓 Cryptographic Services	Provides three managemen	Started	Automatic	
	🖓 DCOM Server Process Launcher	Provides launch functionalit	Started	Automatic	
	🖓 DHCP Client	Registers and updates IP a	Started	Automatic	
	Separate Distributed File System	Integrates disparate file sh		Manual	
					<u> </u>
	\Extended \Standard /				

Also, if you are using MySQL as the database for Connect:Direct, you must stop its service.

← → □ □ □					
Services (Local)	Name /	Description	Status	Startup Type	
	HP Version Control Agent	Collects data and allows ma	Started	Automatic	
	CHITP SSL	This service implements the		Manual	
	Human Interface Device Access	Enables generic input acces		Disabled	
	MAPI CD-Burning COM Service	Manages CD recording usin		Disabled	
	Tindexing Service	Indexes contents and prop		Disabled	
	Thtersite Messaging	Enables messages to be ex		Disabled	
	PSEC Services	Provides end-to-end securit	Started	Automatic	
	Kerberos Key Distribution Center	On domain controllers this s		Disabled	
	License Logging	Monitors and records client		Disabled	
	Logical Disk Manager	Detects and monitors new	Started	Automatic	
	Logical Disk Manager Administrative Service	Configures hard disk drives		Manual	
	McAfee Framework Service	Shared component framew	Started	Automatic	
	Messenger	Transmits net send and Ale		Disabled	
	Microsoft Software Shadow Copy Provider	Manages software-based v		Manual	
	MySQL - Connect Direct v4.4.00	Connect:Direct default dat		Automatic	
	Net Logon	Maintains a secure channel	Started	Automatic	
	Net.Tcp Port Sharing Service	Provides ability to share TC		Disabled	
	Con NatMastinn Damnta Narkton Charing	Fnahlar an authorized uner		Manual	٠Ē

- 💐 Failover Cluster Management _ 🗆 X File Action View Help 🗢 🔿 🙍 🖬 🚺 Failover Cluster Management DWindows Actions 🖃 📳 2008cluster.workstn-dev . . CDWindows 🖃 🔚 Services and Applicat Summary of CDWindows 🕼 Bring this service or application ... 2008clusterDtc CD 🎲 Take this service or application ... Bring this service or application online 😸 SQL Take this service or application offline Show the critical events for this ... 🕀 📬 Nodes Storage Show the critical events for this application 醥 Move this service or application ... 🕨 + 👔 Networ Move this service or application to another node 1 - Move to node 2008Cluste Uluster 🙀 Manage shares and storage 💼 Add a shared folder Manage shares and storage Status Add a shared folder dd storage Add storage 😭 Add a resource . Add a resource . (r) Online 🔁 Show Dependency Report 🕥 Online Show Dependency Report View . View . 🔀 Delete Delete 🕥 Online 🛋 Rename Rename Refresh a Refresh Properties Properties Help 👔 Help Name: CDWindows 🚱 Bring this resource online 🚮 Take this resource offline Show the critical events for this ... 🔂 Show Dependency Report + 4 • -This action moves the service or application to node 2008Cluster02.
- Move the Cluster Group to the next cluster server and repeat the steps above.

After the patch has been applied on all cluster servers, you can bring the Connect:Direct v4.4.00 Service online again. This will also bring the MySQL as online, if required.

10 General Information

Special Considerations

- When configuring a netmap entry or node entry for the Connect:Direct for Windows Requester, etc. be sure to use the Cluster's Virtual IP address and not the real IP address of the machine.
- When a Connect:Direct for Windows contacts another Connect:Direct remote node, the real IP address of the machine is used instead of the Cluster's Virtual IP. Use the **outgoing.address** option in Connect:Direct for Windows set to the Cluster's Virtual IP address to force it's use, or use the **node.check** option in Connect:Direct to exclude address checking on Windows and **netmap.check** to exclude netmap node and address checking on all other platforms.

11 Additional Web Sites

For more information on the Cluster Service Installation, Architecture, etc. see: http://www.microsoft.com/windowsserver2003/enterprise/clustering.mspx