

Implementing a NetSupport Connectivity Server cluster for load balancing and failover

This document guides you through the process of setting up your NetSupport Connectivity Server and creating Load Balancing Connectivity Servers.

Summary

With NetSupport Manager version 14, you can now quickly and easily set up a cluster of NetSupport Connectivity Servers.

Two or more NetSupport Connectivity Servers can be grouped in a “cluster” to form a resilient failover and load balancing system. This cluster is then treated at the NetSupport Manager Control as a single NetSupport Connectivity Server entity. Browsing the NetSupport Connectivity Server gives operators access to Clients connected to other NetSupport Connectivity Servers that are part of this cluster.

NetSupport Connectivity Server roles within a cluster

Role	Description
Primary Connectivity Server	The Primary Connectivity Server is the first server in the cluster and will be the first contact to the NetSupport Connectivity Server for the Clients.
Load balancing member server	After connecting to the Primary Connectivity Server, Clients will then be redistributed to these servers to act as a load balancer.
Secondary Connectivity Server	This acts as the backup server. If the Primary Connectivity Server fails, the Clients will connect to this server instead.

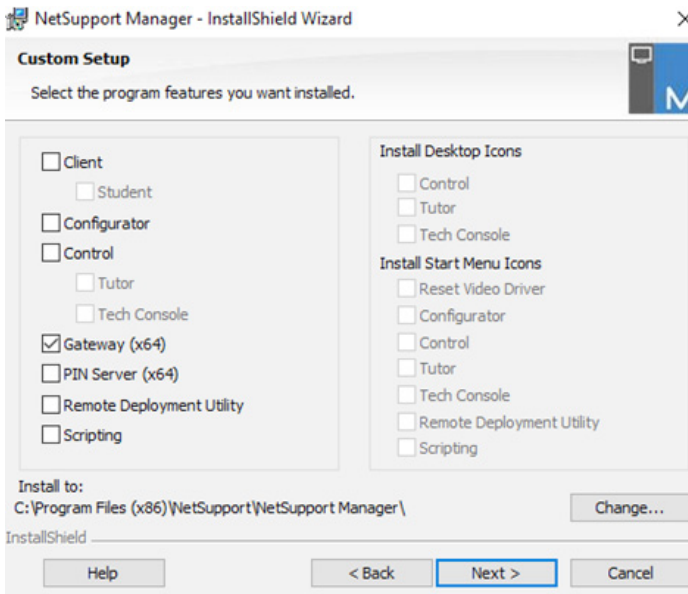
Each cluster must have one Primary Connectivity Server. In addition, it may have one or more Load Balancing Connectivity Servers. One of these Load Balancing Connectivity Servers may also be a designated Secondary Connectivity Server.



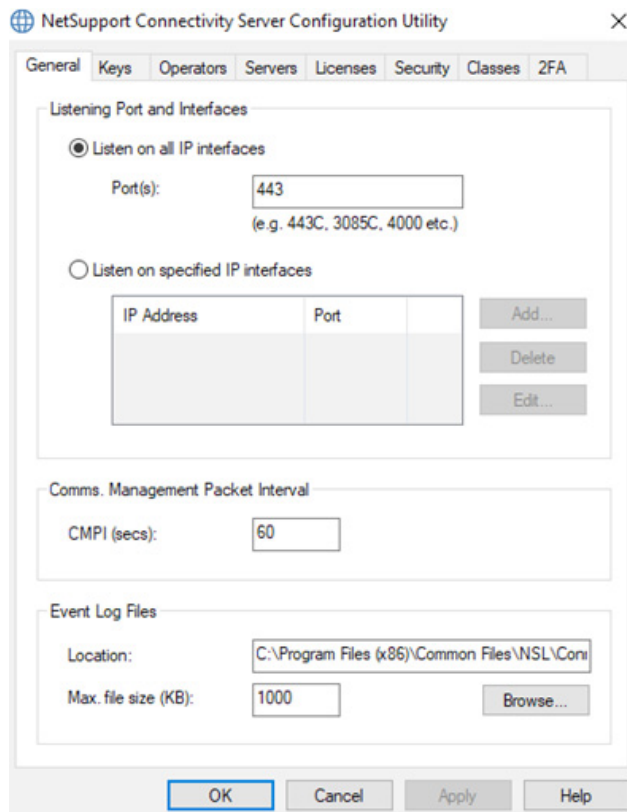
How does it work?

Installing the Primary Connectivity Server

1. Once downloaded, run the setup.exe and select **Gateway** on the Custom Setup screen. This will install the NetSupport Connectivity Server component.



2. Click **Next** to start the installation. Once the installation is complete, the NetSupport Connectivity Server Configuration Utility dialog appears.



3. Select the Keys tab and create your Connectivity Server key. If needed, you can add an operator by selecting the Operators tab.



4. In the Servers tab, ensure you select the options **Operate as the primary connectivity server** and **Operate as part of a load balanced cluster**.
5. Click **OK**.

NetSupport Connectivity Server Configuration Utility

General Keys Operators Servers Licenses Security Classes 2FA

Operate as the primary connectivity server
 Operate as a cluster member server
 Operate as part of a load balanced cluster

Changes to keys, operators and most settings will be copied from the Primary Server to the cluster member servers

Primary Connectivity Server: Port: Weight:
[] 443 900

Secondary Connectivity Server: Port:
[] 443

Load balancing Servers:

Address	Port	Weight	Secon...
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Add... Delete... Edit...

OK Cancel Apply Help

Installing a Load Balancing Member Server

On the machine you are using as your first Load Balancing Connectivity Server, repeat steps 1 and 2 from above.

1. Once the NetSupport Connectivity Server has been installed, select the Servers tab in the NetSupport Connectivity Server Configuration Utility.

NetSupport Connectivity Server Configuration Utility

General Keys Operators Servers Licenses Security Classes 2FA

Operate as the primary connectivity server
 Operate as a cluster member server
 Operate as part of a load balanced cluster

Changes to keys, operators and most settings will be copied from the Primary Server to the cluster member servers

Primary Connectivity Server: Port:
[] 443

Secondary Connectivity Server: Port:
[] 443

Note: Changes made on this page will require the Connectivity Server service to be restarted manually.

OK Cancel Apply Help



2. Select **Operate as a cluster member server** and **Operate as part of a load balanced cluster**.
3. Enter the IP address or FQDN of the Primary Connectivity Server.

NetSupport Connectivity Server Configuration Utility

General Keys Operators Servers Licenses Security Classes 2FA

Operate as the primary connectivity server
 Operate as a cluster member server
 Operate as part of a load balanced cluster

Changes to keys, operators and most settings will be copied from the Primary Server to the cluster member servers

Primary Connectivity Server: Port:

Secondary Connectivity Server: Port:

4. Repeat this process on any additional servers you would like to include in the load balancing cluster.

Once you have your Load Balancing Connectivity Servers set up, you now need to add them to your Primary Connectivity Server so it recognises them as load balancers.

Configure the Load Balancing Connectivity Server(s) at the Primary Connectivity Server

1. On the Primary Connectivity Server machine, right-click the NetSupport Connectivity Server icon in the system tray and select **Configure Connectivity Server**.
2. Select the Servers tab.

NetSupport Connectivity Server Configuration Utility

General Keys Operators Servers Licenses Security Classes 2FA

Operate as the primary connectivity server
 Operate as a cluster member server
 Operate as part of a load balanced cluster

Changes to keys, operators and most settings will be copied from the Primary Server to the cluster member servers

Primary Connectivity Server: Port: Weight:

Secondary Connectivity Server: Port:

Load balancing Servers:

Address	Port	Weight	Secon...
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 10.100.12.13	443	1000	Secon...
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 10.100.12.16	443	1000	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> 10.100.12.17	443	1000	

Add... Delete... Edit...

OK Cancel Apply Help

3. Click **Add**.



4. Enter the IP address (or FQDN) of the Load Balancing Connectivity Server, port (by default, 443 is used) and weight of Clients the server will take.

Note: For information on changing the weight, please see the *NetSupport Connectivity Server connection weighting* section at the end of this document.

5. Select **Enabled**.

Add/edit load balancing server

Address: 10.100.12.13

Port: 443

Weight: 1000

Operate as Secondary Server for cluster

Enabled

OK Cancel

Note: One of the Load Balancing Connectivity Servers can act as a Secondary Connectivity Server. This means if the Primary Connectivity Server fails, this server will act as the primary server and the Clients will connect to it.

Installing a Secondary Connectivity Server

It is possible to install a secondary server that is not part of a cluster.

To set up a Secondary Connectivity Server for redundancy, run the NetSupport Manager setup.exe to install the NetSupport Connectivity Server component using the same method as when you installed the Primary Connectivity Server.

1. Right-click the NetSupport Connectivity Server icon in the system tray and select **Configure Connectivity Server**.
2. Select the Servers tab.
3. Select **Operate as a standalone Secondary connectivity server (backup)** and enter the IP address of the Primary Connectivity Server.

NetSupport Connectivity Server Configuration Utility

General Keys Operators Servers Licenses Security Classes 2FA

Operate as a standalone Primary connectivity server

Operate as a standalone Secondary connectivity server (backup)

Operate as part of a load balanced cluster

Primary Connectivity Server: 10.100.12.14

Port: 443

Note: Changes made on this page will require the Connectivity Server service to be restarted manually.

OK Cancel Apply Help



How to connect a Client to the cluster

For the NetSupport Manager Client to connect to the NetSupport Connectivity Server load balancing environment, each Client simply needs to be configured to point towards the Primary Connectivity Server.

The Primary Connectivity Server then automatically distributes the Client to one of the Load Balancing Connectivity Servers.

You can configure the NetSupport Connectivity Server connection details for Clients by sending a Client configuration file with the NetSupport Connectivity Server details or using the NetSupport Active Directory Template files.

How to connect a Control to the cluster

The NetSupport Manager Control also follows a similar method. The Control cannot directly browse one of the Load Balancing Connectivity Servers, nor can it browse the Secondary Connectivity Server.

The Control will only browse the Primary Connectivity Server to access the Clients unless the Primary Connectivity Server is not available and then it will browse the Secondary Connectivity Server.

Connecting the Control to the Primary Connectivity Server

1. In the NetSupport Manager Control, select the **Internet Gateways** folder.
2. Double-click **Add a Gateway**.
3. The Add a Gateway wizard will appear.
4. Enter a name and description and click **Next**.
5. Enter the NetSupport Connectivity Server address for the Primary Connectivity Server. If a Secondary Connectivity Server was included, enter the details for it here. Click **Next**.

← Add a Gateway

Specify the address and port number of this Gateway

Gateway Address: 10.100.12.14 Port: 443

Secondary Gateway (optional): Port:

Require HTTPS/TLS. Gateway must have a SSL certificate. Gateway Address must be a DNS name.

Use Proxy Server

Address: Port:

Next Cancel

6. Enter the Connectivity Server key and click **Finish**.
7. The NetSupport Connectivity Server will be available for the Control to browse.

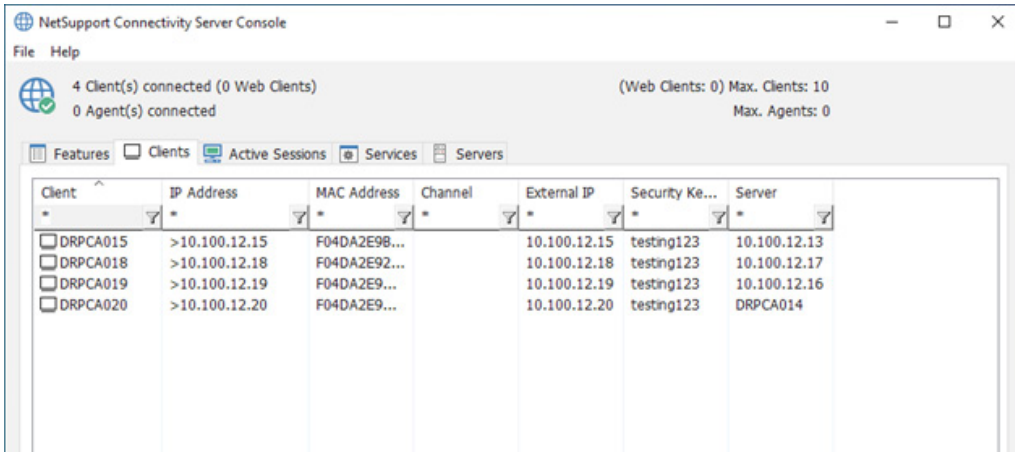
How to check which NetSupport Connectivity Server each Client is connected to

You can see which Load Balancing Connectivity Server Clients have connected to on the Primary Connectivity Server.

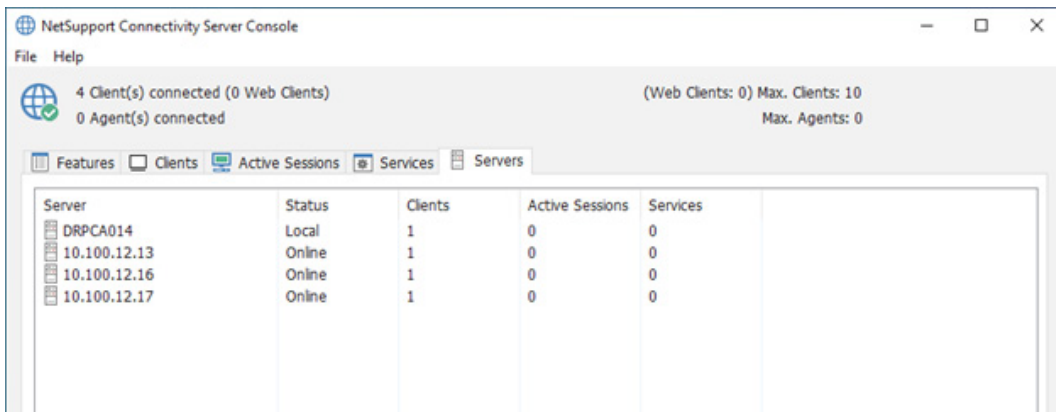
1. Log onto the Primary Connectivity Server.
2. Double-click the NetSupport Connectivity Server icon in the system tray.



3. The NetSupport Connectivity Server Console will appear.
4. Select the Clients tab.
5. You can see which Clients are actively connected to the load balancing cluster and the address of the Load Balancing Connectivity Server they have been placed on is displayed in the Server column.



6. Selecting the Servers tab shows a breakdown of how many NetSupport Clients each server has and the number of active connections.



NetSupport Connectivity Server connection weighting

Each NetSupport Connectivity Server in a cluster can be assigned a “weight”. The higher the number, the more active NetSupport Manager Client connections will be assigned to the server.

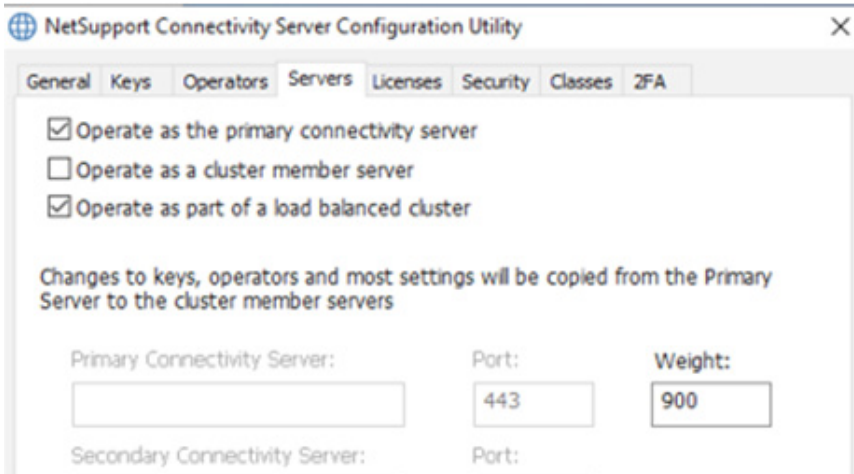
The weight for each server in the load balancing cluster is controlled on the Primary Connectivity Server.

Important!

- It is advisable to reduce the weighting to about 90% of the maximum for the Primary Connectivity Server because of the overhead involved in brokering connections. So, if the Primary Connectivity Server has a 1GB network, set the Primary Connectivity Server weight to 900.
- Changes to weighting are not dynamic and require a NetSupport Connectivity Server service restart.

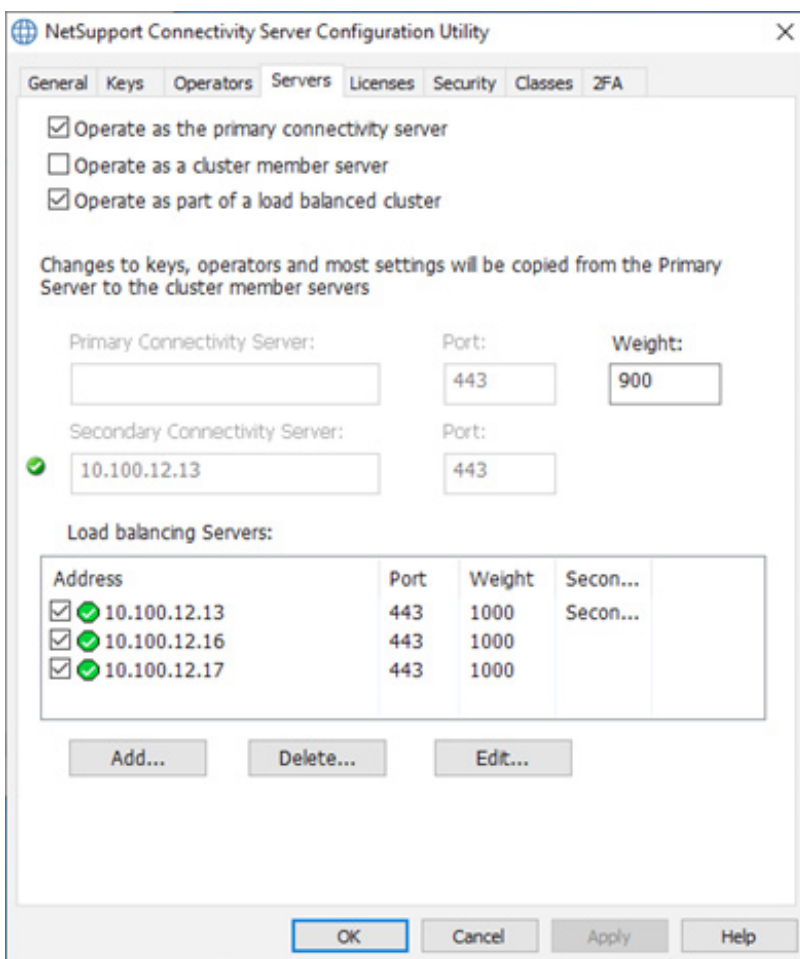
To change the weight assigned to the Primary Connectivity Server

1. Log onto the Primary Connectivity Server.
2. Right-click the NetSupport Connectivity Server icon in the system tray and select **Configure Connectivity Server**.
3. Select the Servers tab.
4. Here you’ll see the weight value. Amend as necessary.



To change the weight for a Load Balancing Connectivity Server

1. Log onto the Primary Connectivity Server.
2. Right-click the NetSupport Connectivity Server icon in the system tray and select **Configure Connectivity Server**.
3. Select the Servers tab.



4. Select a Load Balancing Connectivity Server from the list.
5. Click **Edit**.
6. Here you'll see the weight value. Amend as necessary.