HPCC Systems™

HPCC Configuration Manager

Boca Raton Documentation Team

LexisNexis® Risk Solutions

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Boca Raton Documentation Team

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Using Configuration Manager

Configuration Manager is the utility with which we configure the HPCC platform. The HPCC platform's configuration is stored in an XML file named **environment.xml**. When you install a package, a default single-node environment.xml is generated. After that, you can use the Configuration Manager to modify it and add nodes and configure components.

The Configuration Manager Wizard creates a similar file, but after it is generated, you must rename it and put it into place on each node.

Configuration Manager also offers an **Advanced View** which allows you to add instances of components or change the default settings for components. Even if you plane to use Advanced View, it is a good idea to start with a wizard generated configuration and use Advanced View to finish it.

This document will guide you through configuring an HPCC environment using the Configuration Manager.

Running the Configuration Manager

This document will guide you through configuring an HPCC environment using the Configuration Manager.

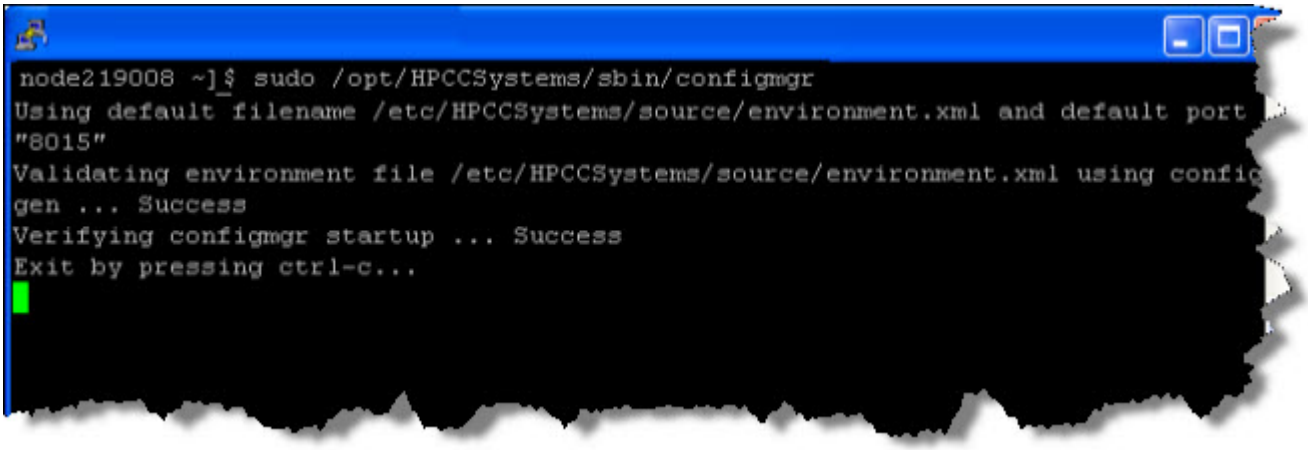
- The HPCC packages should already be installed on ALL nodes.

  You can use any tool or shell script you choose.

- SSH to the first box in your environment and login as a user with sudo privileges.

- Start the Configuration Manager service on one node (usually the first node is considered the head node and is used for this task, but this is up to you).

```
sudo /opt/HPCCSystems/sbin/configmgr
```



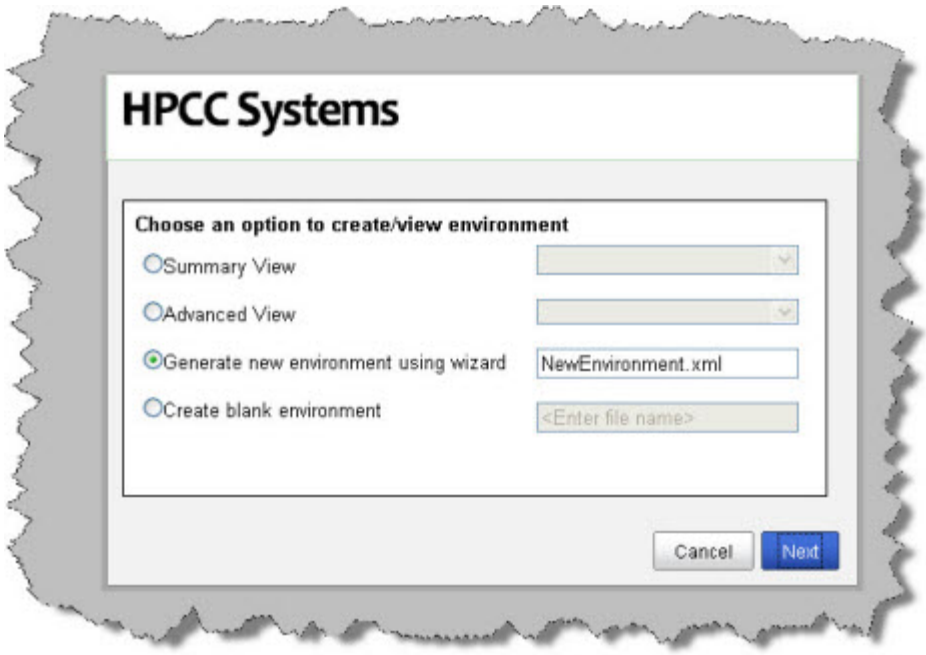
- Using a Web browser, go to the Configuration Manager's interface:

```
http://<ip of installed system>:8015
```

- The Configuration Manager startup wizard displays.

  There are a few different ways to configure your HPCC. You can use the Generate environment wizard or experienced users can use the Advanced View.

- To use the wizard select the **Generate new environment using wizard** button.



- Provide a name for the environment file.

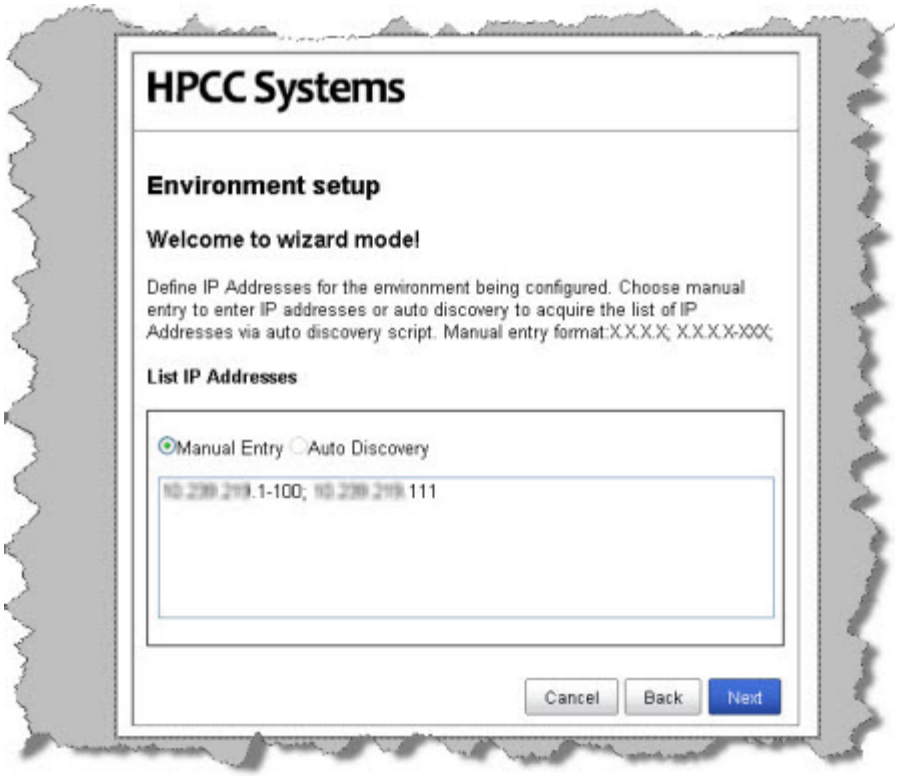
  This will then be the name of the configuration xml. For example we will name our environment *NewEnvironment*. This will produce an XML file named *NewEnvironment.xml*.

- Press the Next button.

  Next you will need to define the IP addresses that your HPCC will be using.

- Enter the IP addresses.

  IP Addresses can be specified individually using semi-colon delimiters. You can also specify a range of IPs using a hyphen (for example, nnn.nnn.nnn.x-y). In the image below, we specified the IP addresses 10.239.219.1 through 10.239.219.100 using the range syntax, and also a single IP 10.239.219.111.

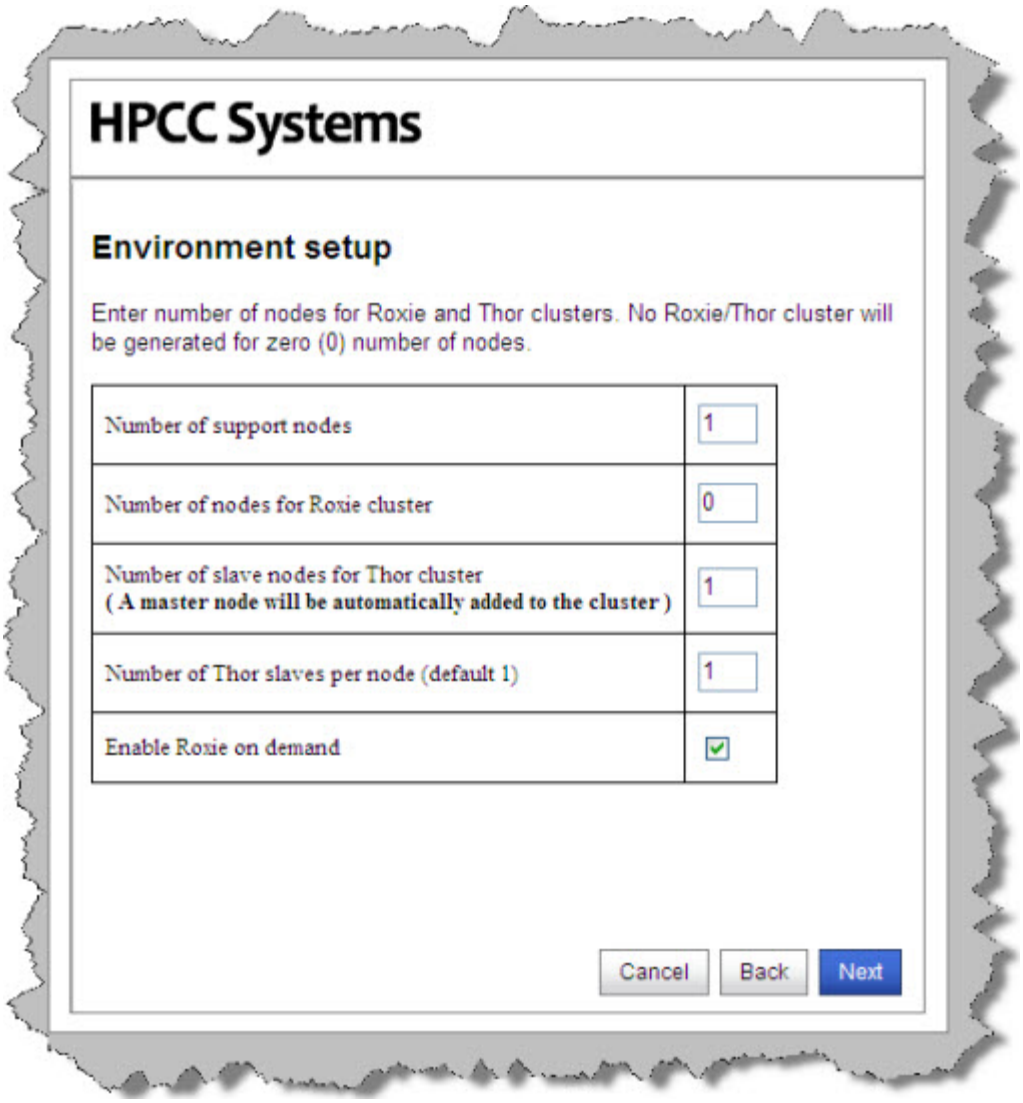


- Press the Next button.

  Alternatively, you could find the IP addresses using Auto Discovery by selecting the Auto Discovery button. (Auto Discovery is only available in Enterprise Edition)

  Now you will define how many nodes to use for the Roxie and Thor clusters.

- Enter the appropriate values as indicated.



Number of support nodes: Specify the number of nodes to use for support components. The default is 1.

Number of nodes for Roxie cluster: Specify the number of nodes to use for your Roxie cluster. Enter zero (0) if you do not want a Roxie cluster.

Number of slave nodes for Thor cluster Specify the number of slave nodes to use in your Thor cluster. A Thor master node will be added automatically.

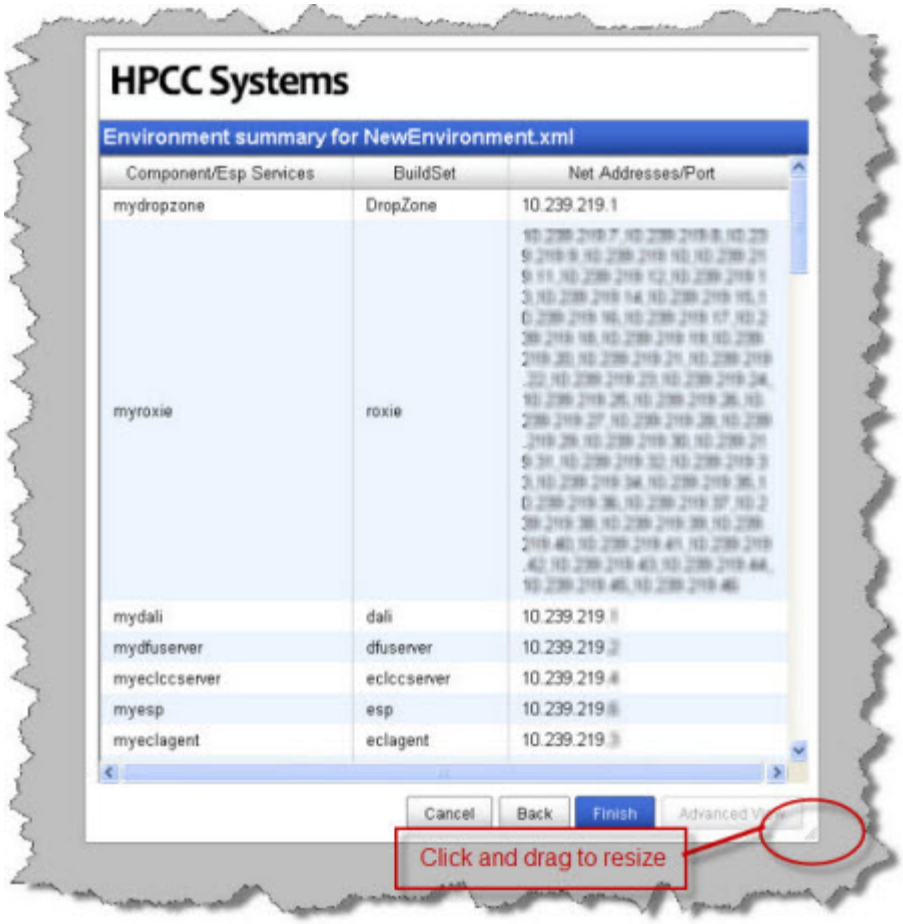
Number of Thor slaves per node (default 1) Specify the number of Thor slave processes to instantiate on each slave node. Enter zero (0) if you do not want a Thor cluster.

Enable Roxie on demand Specify whether or not to allow queries to be run immediately on Roxie. This must be enabled to run the debugger. (Default is true)

- Press the **Next** button

The wizard displays the configuration parameters.

- Press the **Finish** button to accept these values or press the **Advanced View** button to edit in advanced mode.



You will now be notified that you have completed the wizard.

At this point, you have created a file named NewEnvironment.xml in the **/etc/HPCCSystems/source** directory

	Keep in mind, that your HPPC configuration may be different depending on your needs. For example, you may not need a Roxie or you may need several smaller Roxie clusters. In addition, in a production [Thor] system, you would ensure that Thor and Roxie nodes are dedicated and have no other processes running on them. This document is intended to show you how to use the configuration tools. Capacity planning and system design is covered in a training module.

- Stop the HPCC

Be sure HPCC is stopped before attempting to move the environment.xml file.

- Back up the original environment.xml file

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/environment.xml /etc/HPCCSystems/environment.bak
```

Note: the "live environment.xml file is located in your **/etc/HPCCSystems/** directory. ConfigManager works on files in **/etc/HPCCSystems/source** directory. You must copy from this location to make an environment.xml file active.

- Copy the new .xml file from the source directory to the /etc/HPCCSystems and rename the file to *environment.xml*

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/source/NewEnvironment.xml /etc/HPCCSystems/environment.xml
```

- Copy the **/etc/HPCCSystems/environment.xml** to the **/etc/HPCCSystems/** on *every* node.

You may want to use a script to push out XML file to all nodes. See the Example Scripts section in the Appendix of the Installing_and_RunningtheHPCCPlatform document. You can use the scripts as a model to create your own script to copy the environment.xml file out to all your nodes.

- Restart the HPCC platform.

Configuration Manager Advanced View

For the advanced user, the Advanced View offers access to adding additional instances of components or making configuration settings for individual components.

Using ConfigMgr in Advanced Mode

This section shows some of the configuration options in Advanced Mode.

- SSH to the first box in your environment and login as a user with sudo privileges.
- If it is running, stop the HPCC system, using this command:

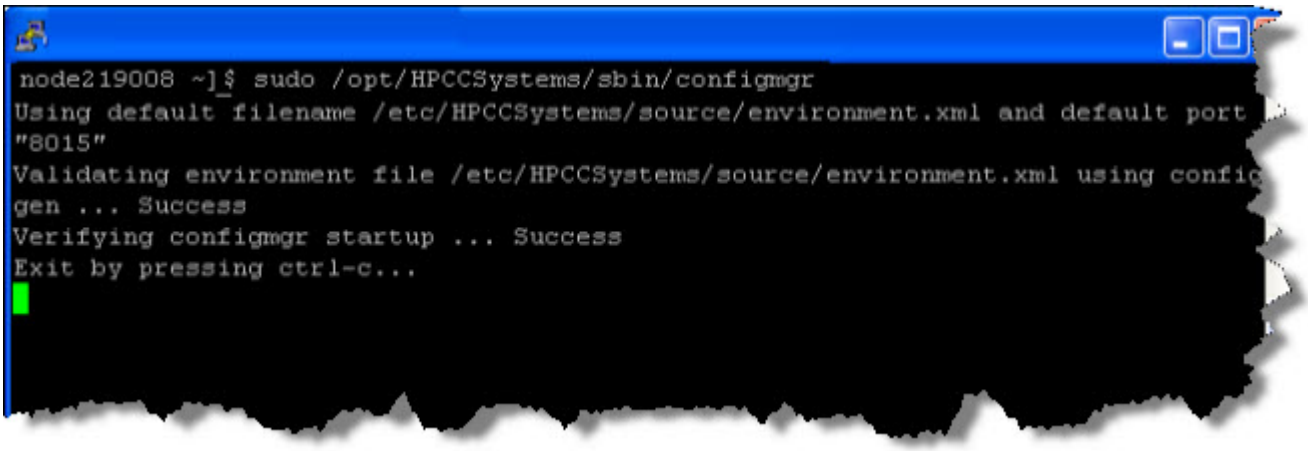
```
sudo /sbin/service hpcc-init stop
```

You can use this command to confirm HPCC processes are stopped:

```
sudo /sbin/service hpcc-init status
```

- Start the Configuration Manager service on one node (usually the first node is considered the head node and is used for this task, but this is up to you).

```
source /opt/HPCCSystems/sbin/hpcc_setenv
sudo configmgr
```



- Using a Web browser, go to the Configuration Manager's interface:

```
http://<ip of installed system>:8015
```

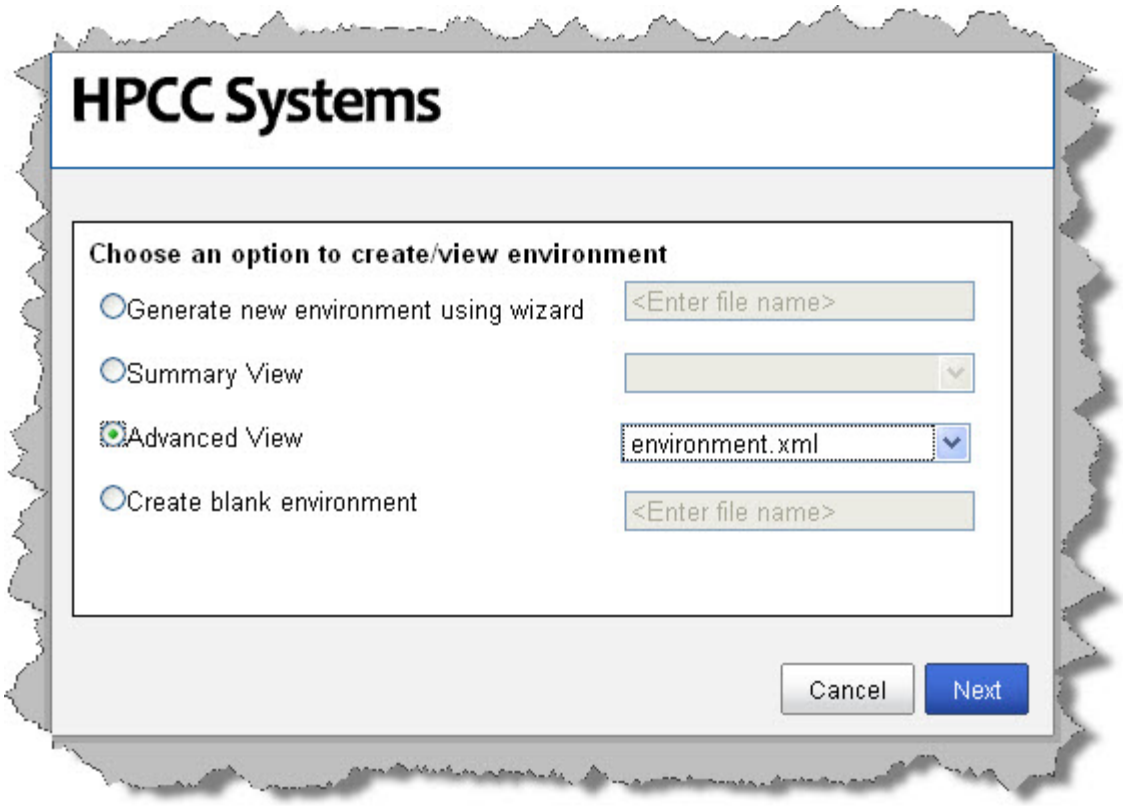
- The Configuration Manager startup wizard displays.

  There are a few different ways to configure your system. You can use the Generate environment wizard or experienced users can use the Advanced set up.

  - Select **Advanced View**, then press the **Next** button.
  - Select an XML file from the drop list.

    This list is populated from versions of an environment XML file in your server's ./etc/HPCCSystems/source/ directory.

- Press the **Next** button.



- The Configuration Manager interface displays.

	Default access is read-only. Many options are only available when write-access is enabled. Gain write access by checking the **Write Access** checkbox. Unchecking this box returns the environment to read-only mode. All menu items are disabled in read-only mode. Closing the web page automatically removes any write-access locks.

- Check the **Write Access** box.

The Save button  validates and saves the environment.

The validate button  just validates the current environment including any changes that have not yet been saved.

The open button  allows you to open a new environment file to work on.

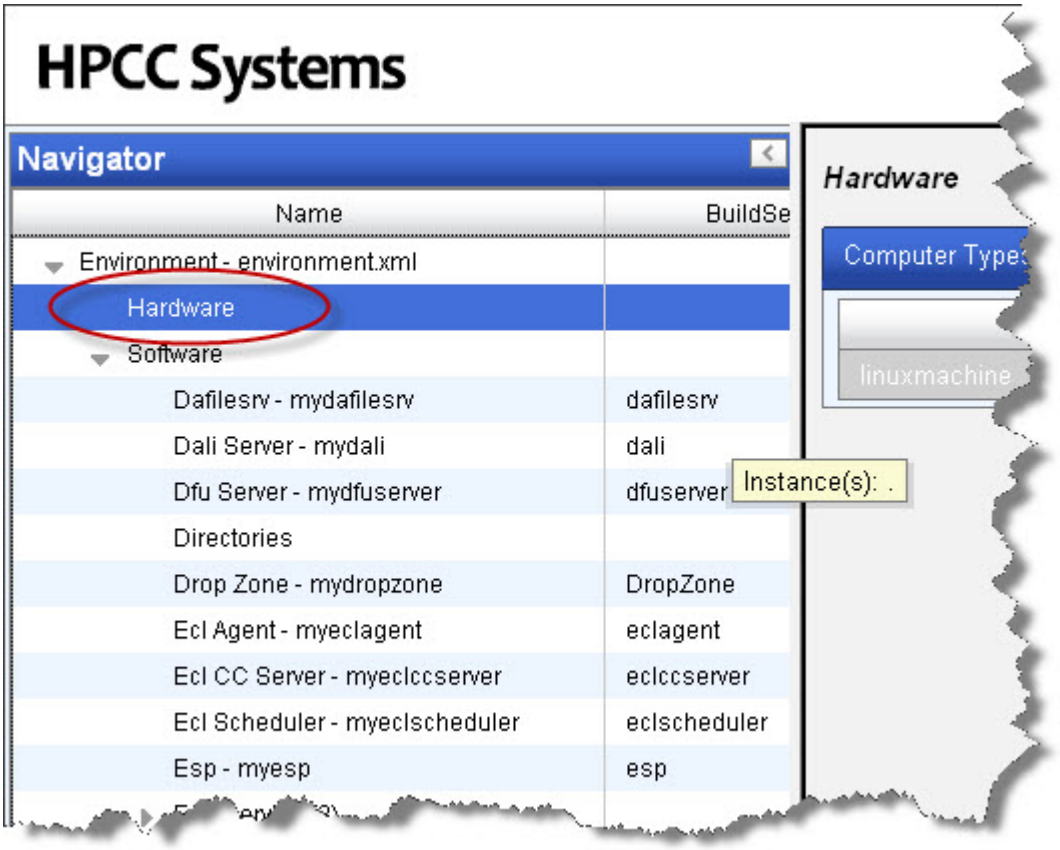
The wizard button  will bring up the Configuration Manager chooser form which will allow you to create or view an environment file where you can also launch the configuration wizard.

These buttons are only enabled in Write Access mode.

Hardware Section

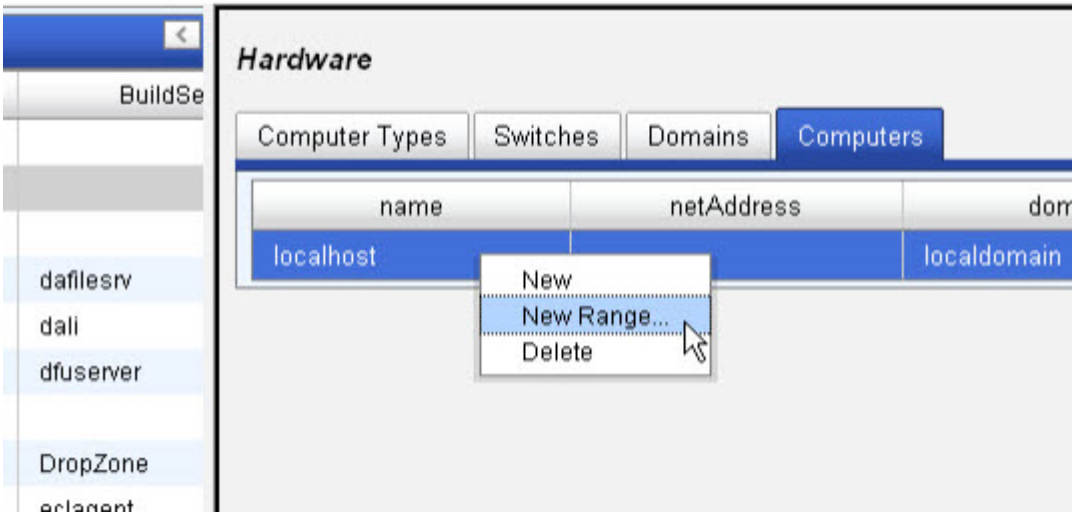
This section allows you to define your list of servers. When defining instances of components, you will choose from servers in this list.

- Select **Hardware** in the Navigator panel on the left side.



- Select the **Computers** tab.

- RT-CLICK on one of computers listed, then select New Range.

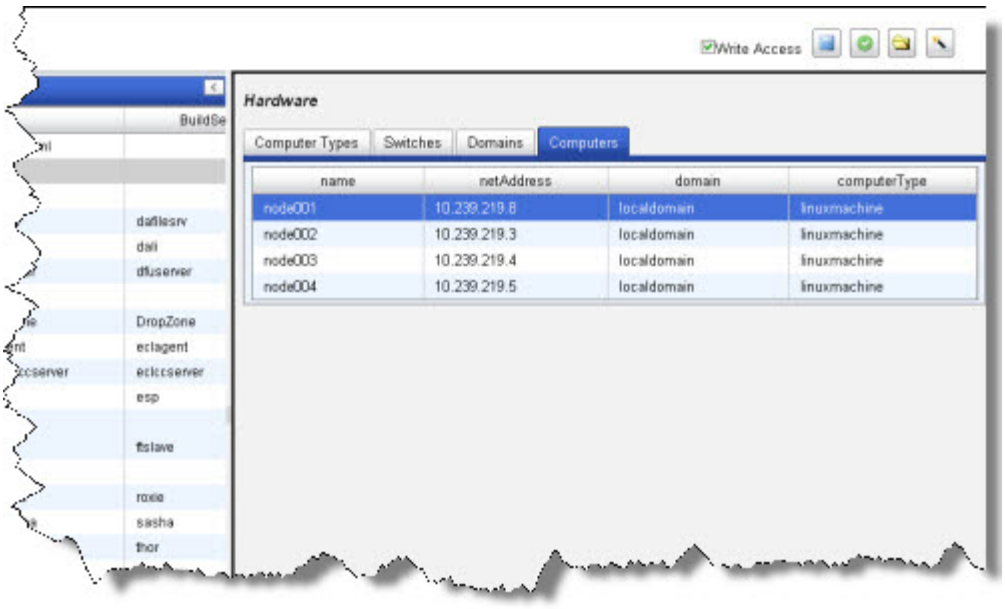


- Specify the following:
  - Name Prefix - any name that will help you to identify the node or range
  - Start IP Address
  - Stop IP Address

    The IP Addresses can be specified in a range if all your host IP addresses are consecutively numbered. If the IP addresses are not sequential you should repeat the process for each individual IP address and just add the IP address in both the start and stop IP address field. You will then need to repeat the process for each node.

- Press the **OK** button.

  The list of nodes now displays with the nodes that you just added.



  Next, edit each System Server component instance and set it to a newly defined node.

- Click the  disk icon to save

- Expand the **Software** section, if necessary, in the Navigator panel on the left side, by clicking on the ▸ button.

Software Section

Use the software components section to configure software components of the HPCC platform. Most software components are actual running processes; however, some are just definitions used by the system. These definitions are used by the configuration generator.

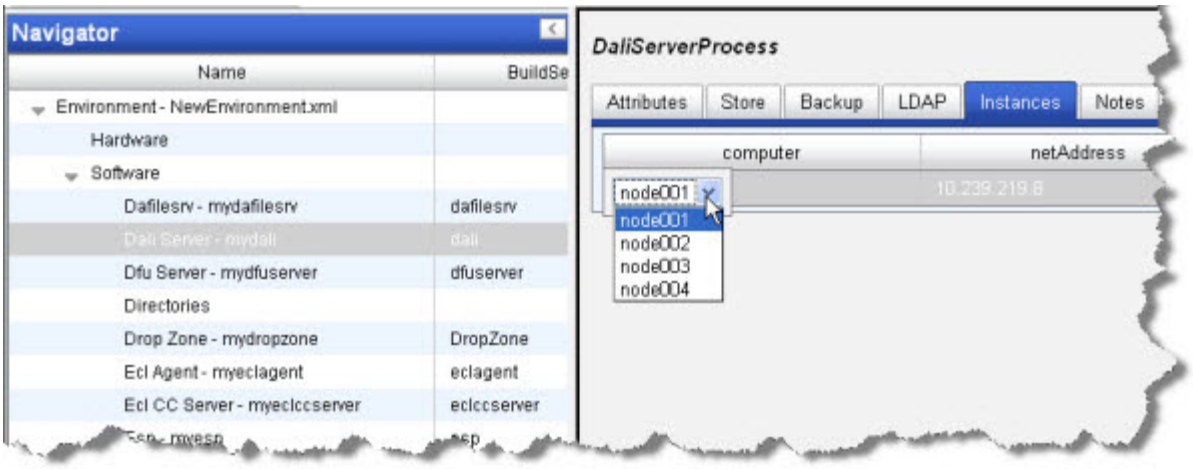
Dali

Instances

- Select **Dali Server** in the Navigator panel on the left side.

- Select the Instances tab.

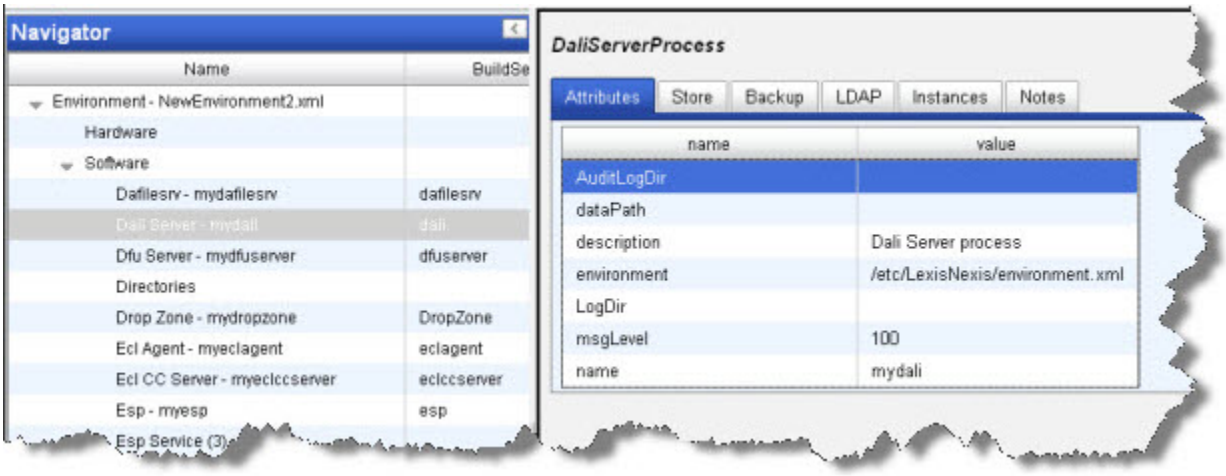
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

DaliServer attributes

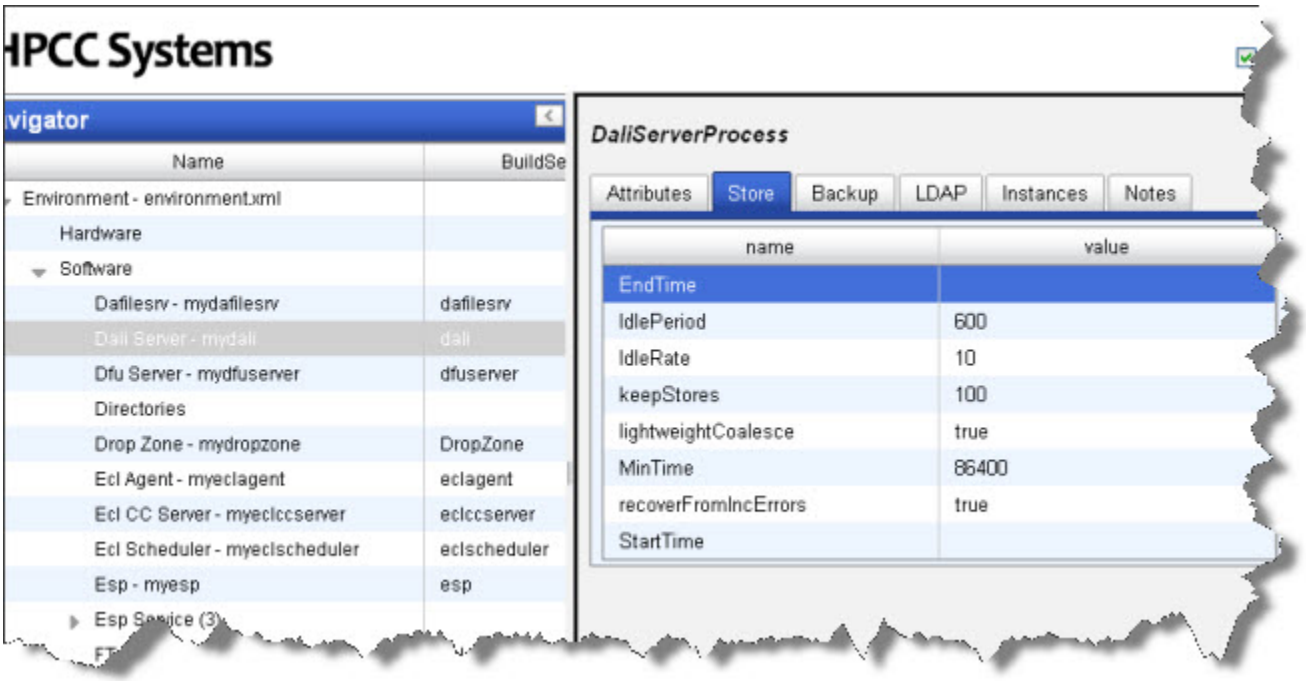
This section describes the DaliServer attributes.



Attribute	Definition
AuditLogDir	Audit Log Process description
dataPath	the path to the data
description	data path description
environment	the current environment file in use
LogDir	location of the log files
msgLevel	description of the msgLevel
name	Name of the process instance (AlphaNumeric and underscore only)

DaliServer store

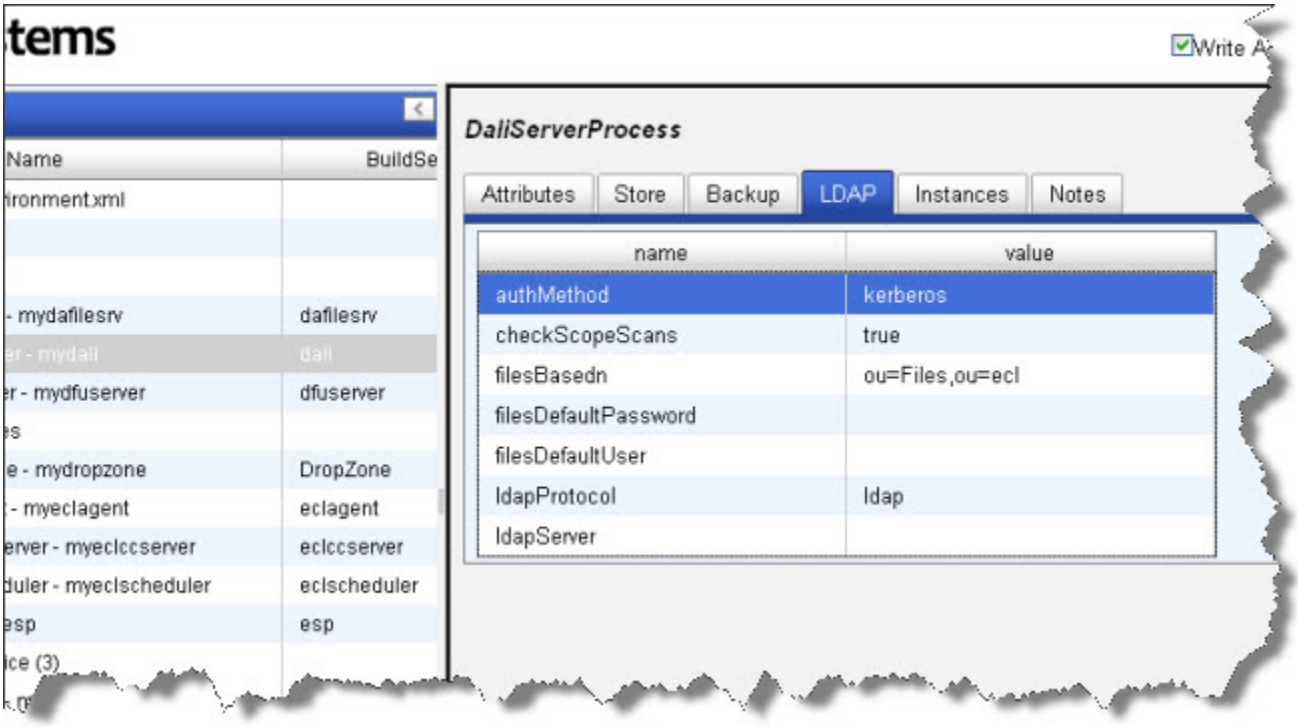
This section describes the attributes configuring how Dali handles the system data store.



Attribute name	Definition
EndTime	End Time
IdlePeriod	Period to remain Idle
IdleRate	IdleRate
keepStores	
lightweightCoalesce	lightweight
MinTime	min. time...
recoverDeltaErrors	True or False
StartTime	start time

DaliServer LDAP options

This section describes the DaliServer LDAP tab. (LDAP is only available in Enterprise Edition)



Attribute name	Definition
authMethod	Authentication Method. Kerberos
checkScopeScans	True or False
filesBasedn	The Base File Type
filesDefaultPassword	Default Password
filesDefaultUser	Default User
ldapProtocol	Default Protocol use
ldapServer	LDAP Server

DaliServer Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

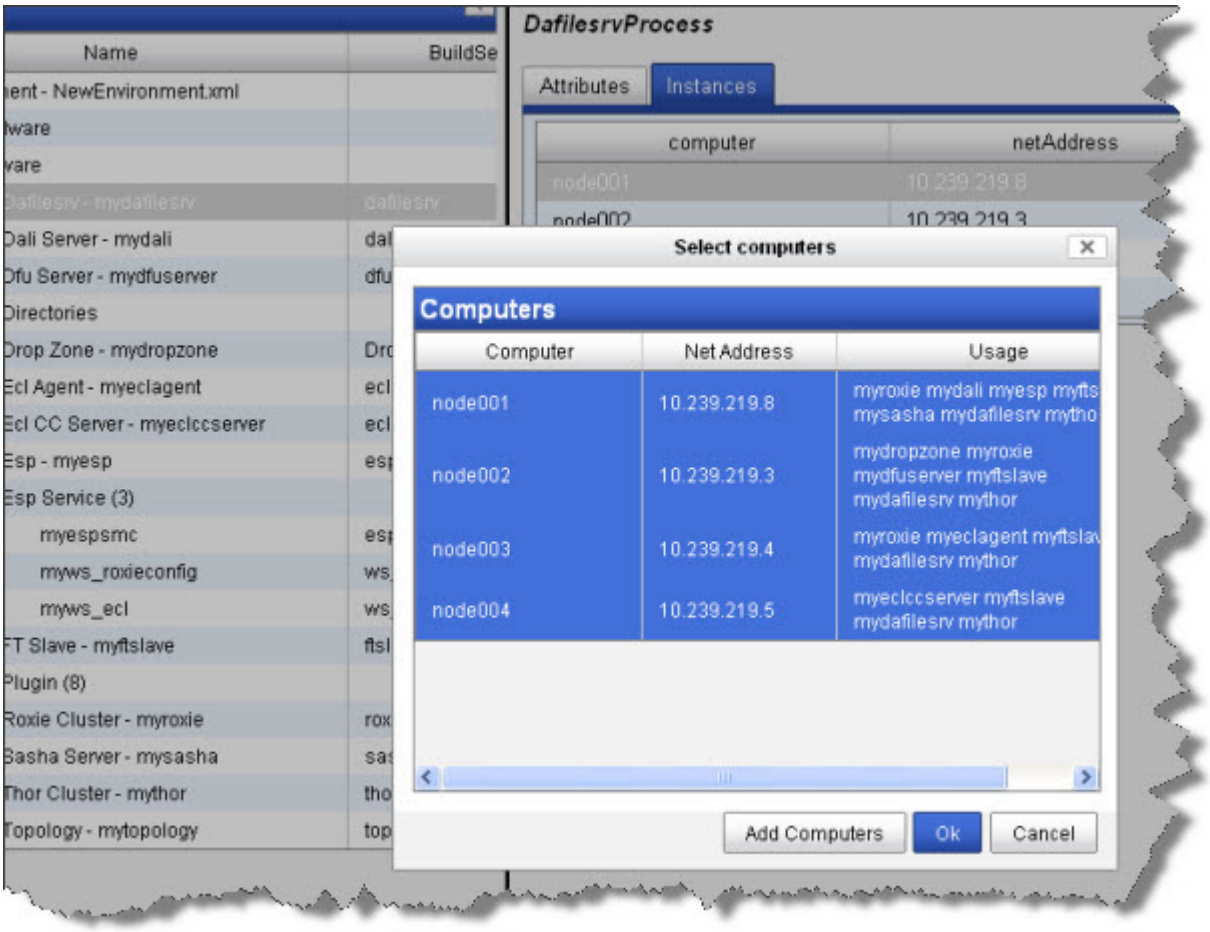
Dafilesrv Process

Dafilesrv Instances

Dafilesrv is a helper process that every node needs.

- Select Dafilesrv in the Navigator panel on the left side.
- Select the Instances tab.

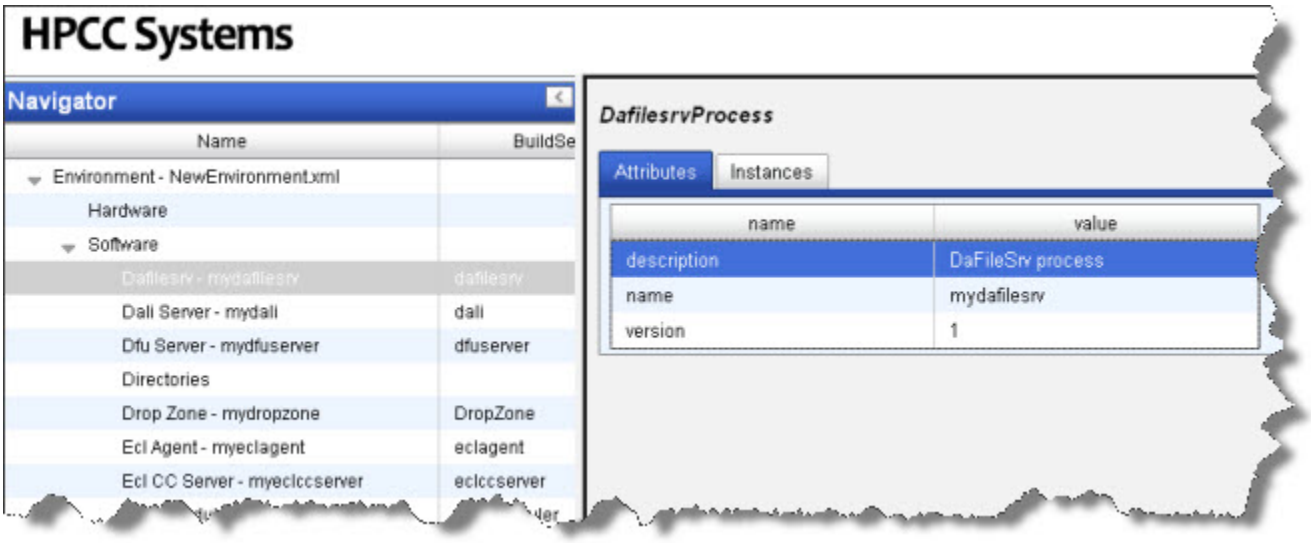
- RT-CLICK on a computer in the computer column, and select Add Instance .
- Select all computers in the list, then press the OK button.



- Click the  disk icon to save

Dafilesrv attributes

This section describes the Dafilesrv attributes.

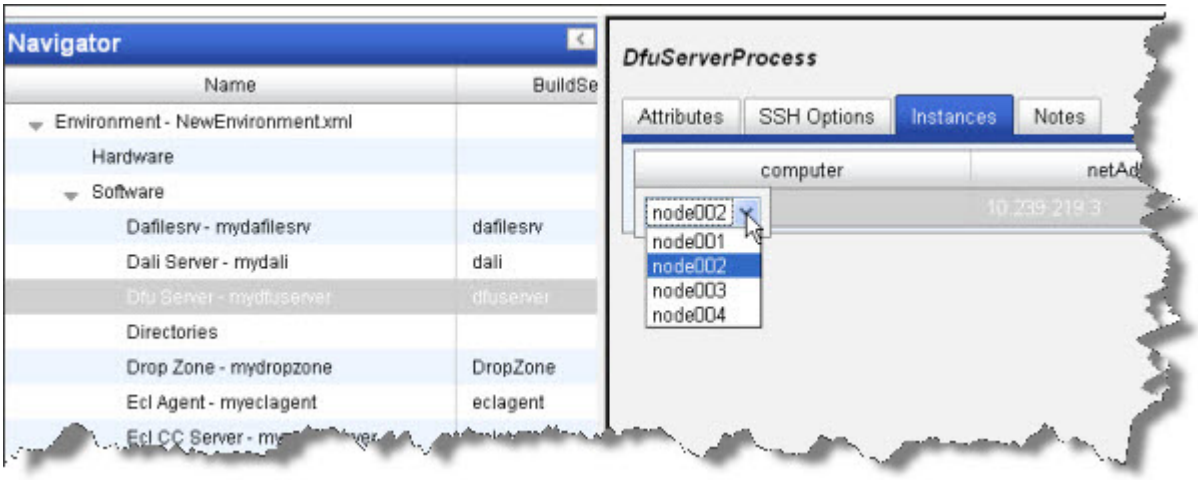


Attribute	Definition
description	DaFileSrv Process description
name	Name of the process instance (AlphaNumeric and underscore only)
version	current version number

DFU Server

DfuServer Instances

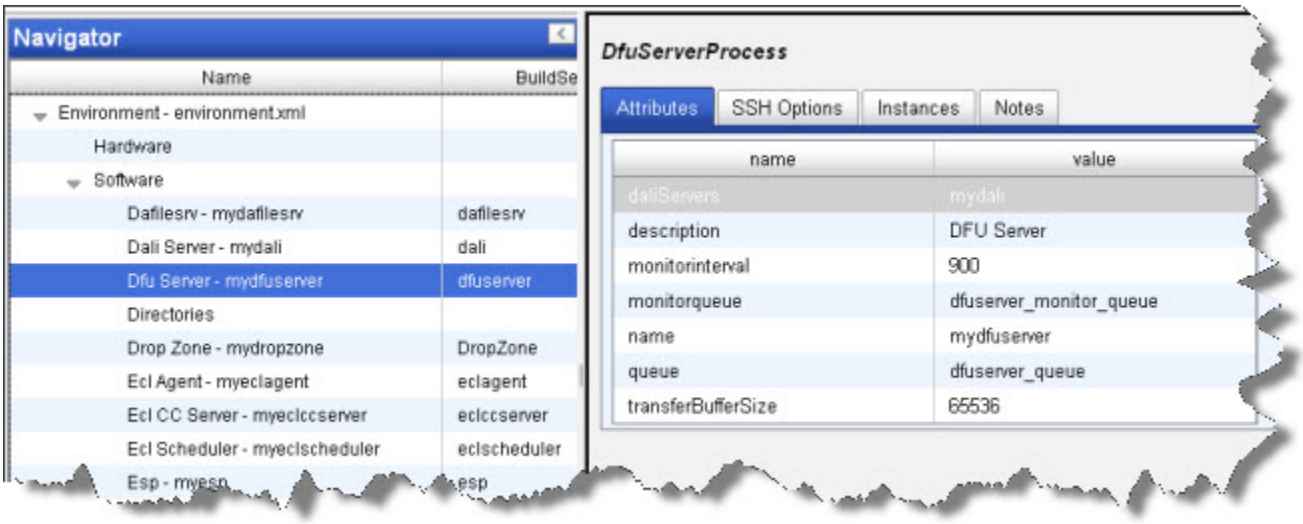
- Select **DFU Server** in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

DfuServer Attributes Tab

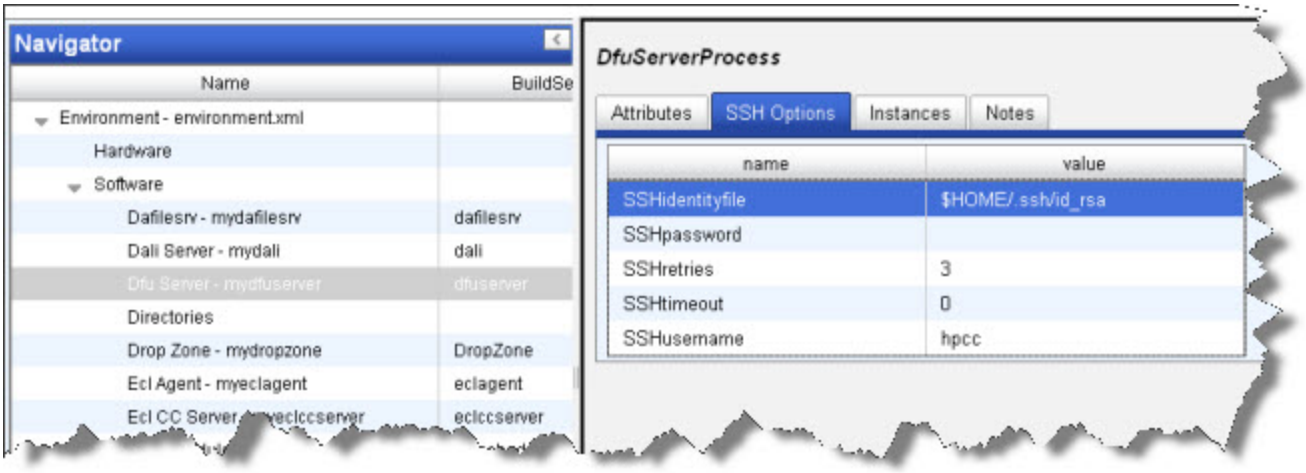
This section describes the DfuServer attributes.



Attribute name	Definition
daliServers	The Dali servers to use
description	Describes the component
dfuLogDir	The log directory
monitorinterval	the interval that the process checks ...
monitorque	the queue to monitor
name	Name of the process instance (AlphaNumeric and underscore only)
queue	the name of the dfu server queue
transferBufferSize	The value at which...

DfuServer SSH Options

This section describes the DfuServer SSH Options..



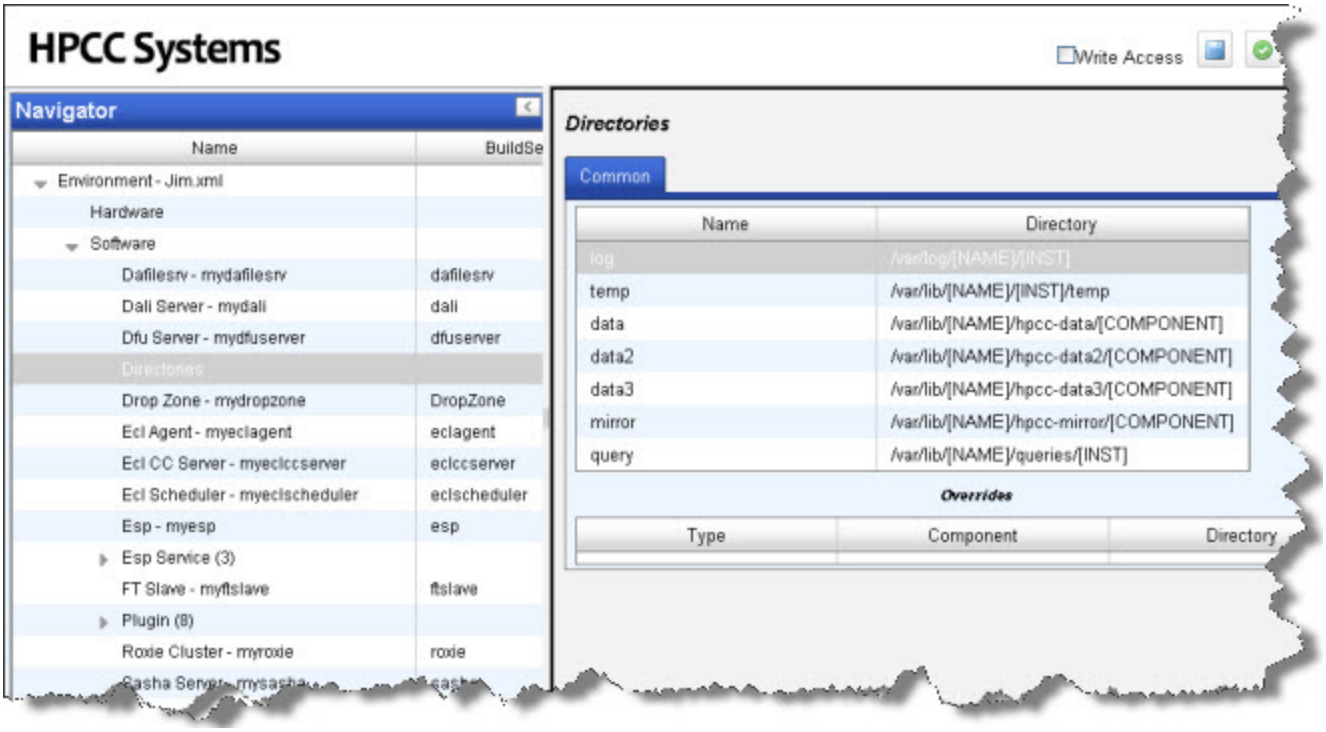
Attribute name	Definition
SSHidentityfile	The SSH file used for authentication
SSHpassword	the SSH Password
SSHretries	no. of retries to authenticate
SHtimeout	the timeout interval
SSHusername	SSH username default is *hpcc*

DfuServer Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Directories

The DIrectories component is a global definition used by other components to determine the directories they will use for various functions.

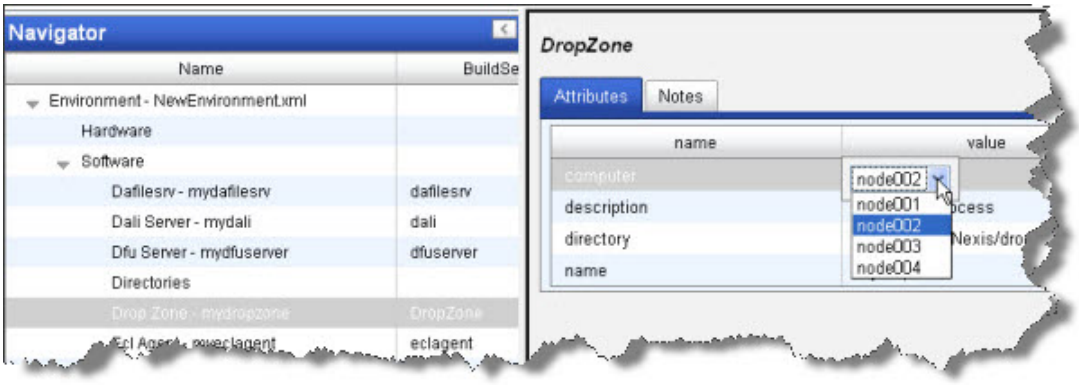


Name	Directory	Description
log	/var/log/[NAME]/[INST]	Location for Log files
temp	/var/lib/[NAME]/[INST]/temp	Location for temp files
data		Base Location for data files
data2		
data3		
mirror		Base Location for mirror data files
query		Base Location for Queries

Drop Zone

DropZone Attributes

- Select Drop Zone in the Navigator panel on the left side.
- Select the Attributes tab.
- In the Value column of the Computer row, choose a node from the drop list as shown below:



- Click the  disk icon to save

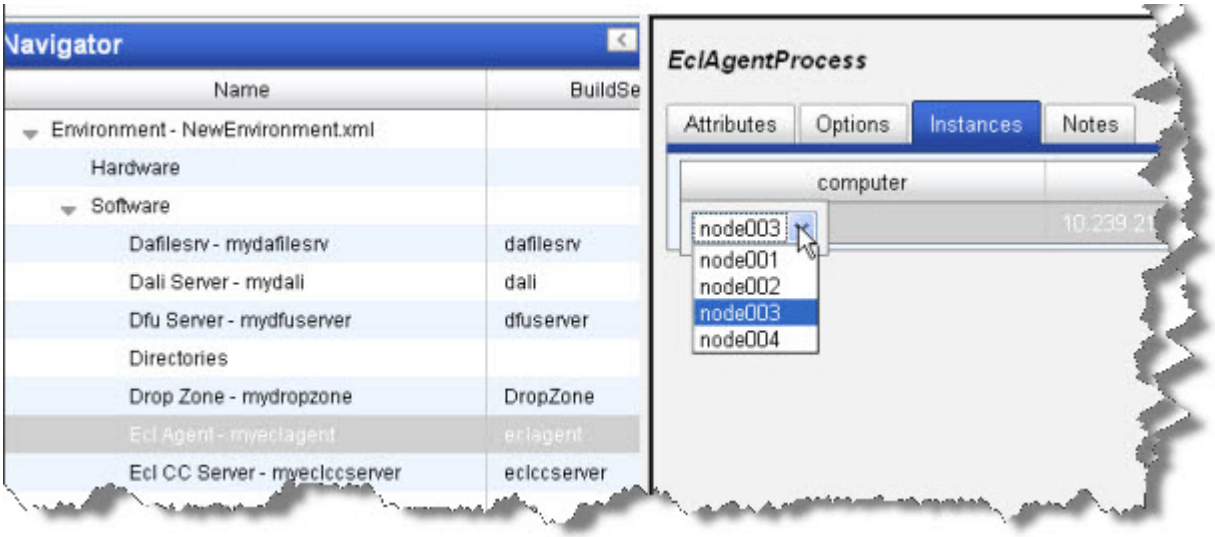
DropZone Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL Agent

instances

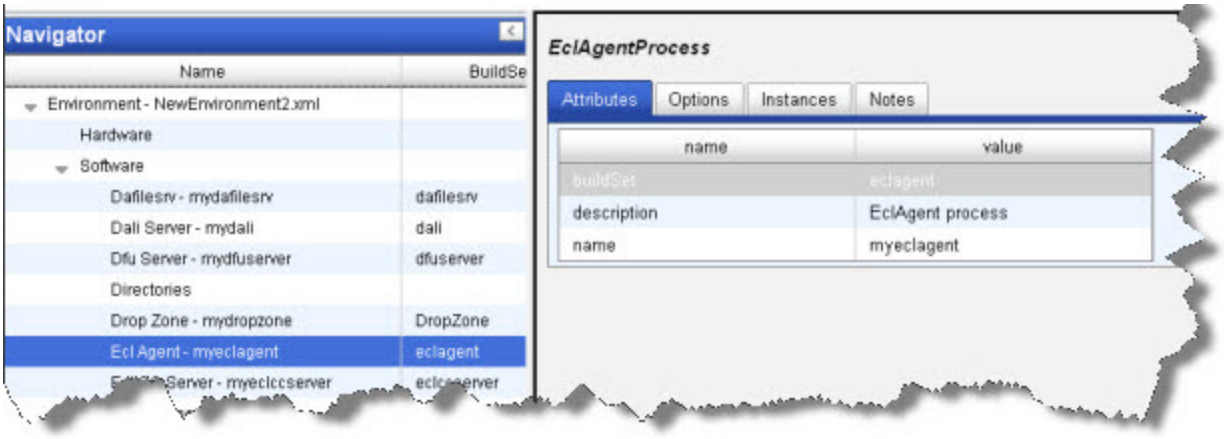
- Select ECL Agent in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

EclAgent Attributes Tab

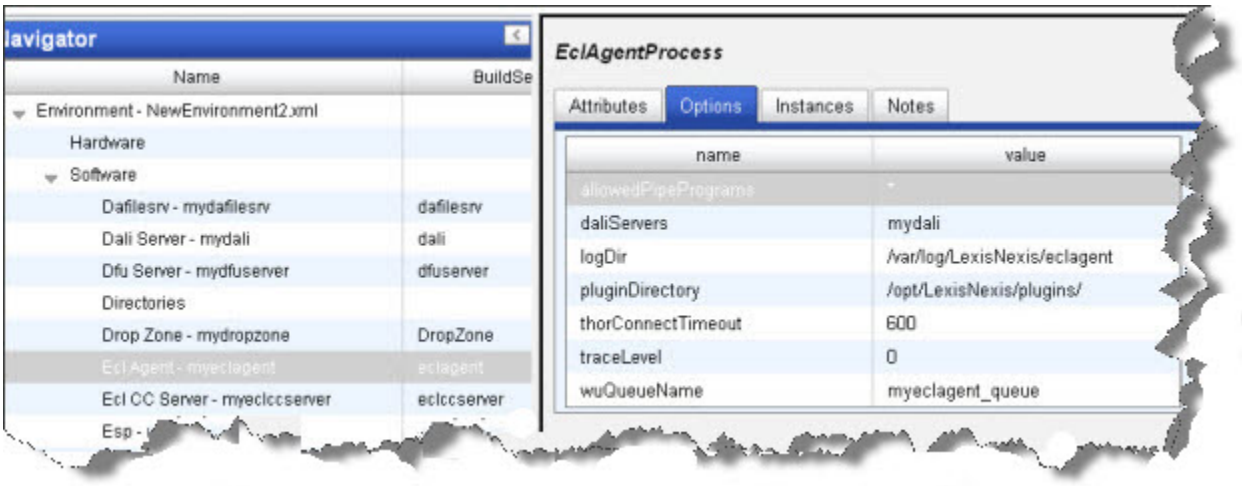
This section describes the EclAgent Attributes tab.



Attribute name	Definition
description	Describes the component
name	Name of the process instance (AlphaNumeric and underscore only)

EclAgent Options Tab

This section describes the EclAgent Options tab.



Attribute name	Definition
allowedPipePrograms	describes allowed Pipe Programs
daliServers	the Dali Servers
logDir	The log directory
pluginDirectory	the plugin directory
thorConnectTimeout	the Thor timeout value
traceLevel	the trace level
wuQueueName	the name of the workunit queue

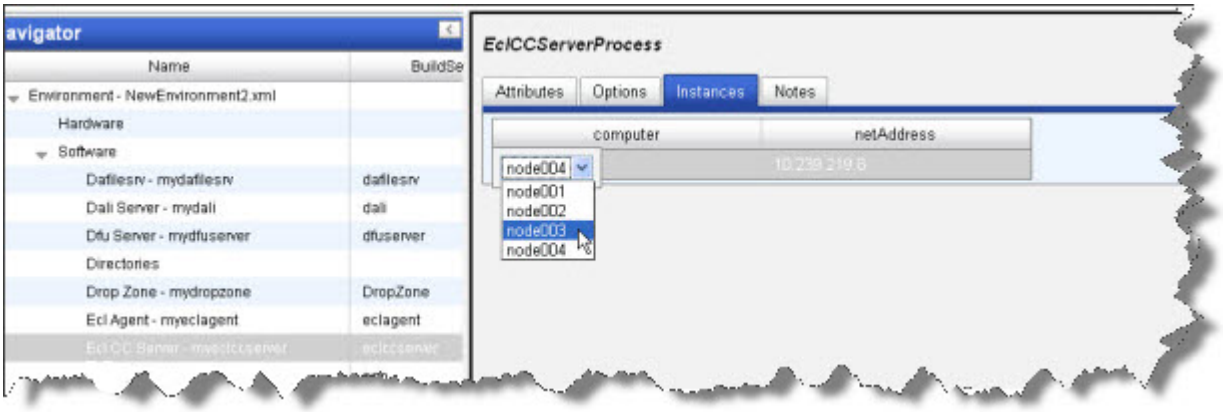
EclAgentProcessNotes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL CC Server Process

Ecl CC Server Instances

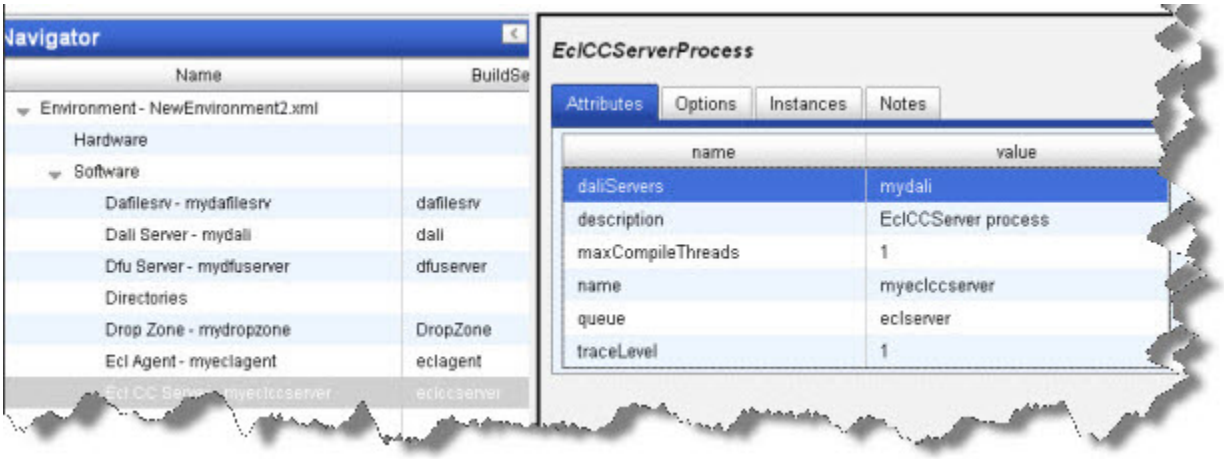
- Select Ecl CC Server - myeclccserver in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

Ecl CC Server Attributes Tab

This section describes the Ecl CC Server Attributes tab.



Attribute name	Definition
daliServers	The Dali servers to use

description	Describes the component
maxCompileThreads	The maximum number of compile threads
name	Name of the process instance (AlphaNumeric and underscore only)
queue	Name of the Ecl cc server queue
traceLevel	The value ***

EclCC Server Process Options

To add a custom option, rt-click and select add.

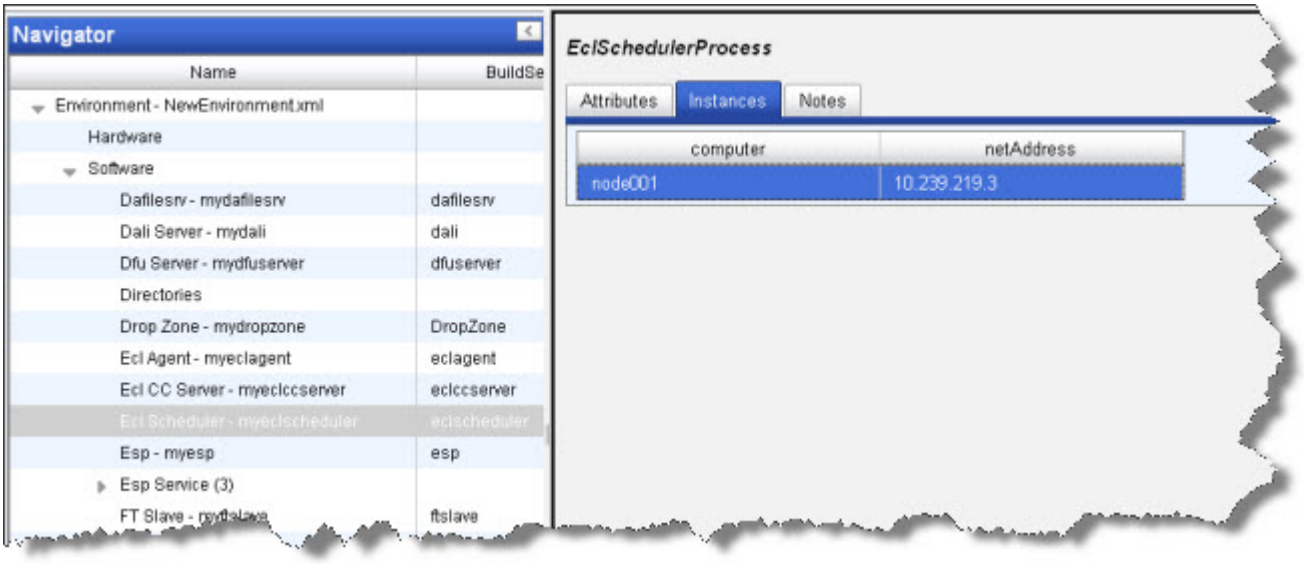
EclCC Server Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ECL Scheduler

instances

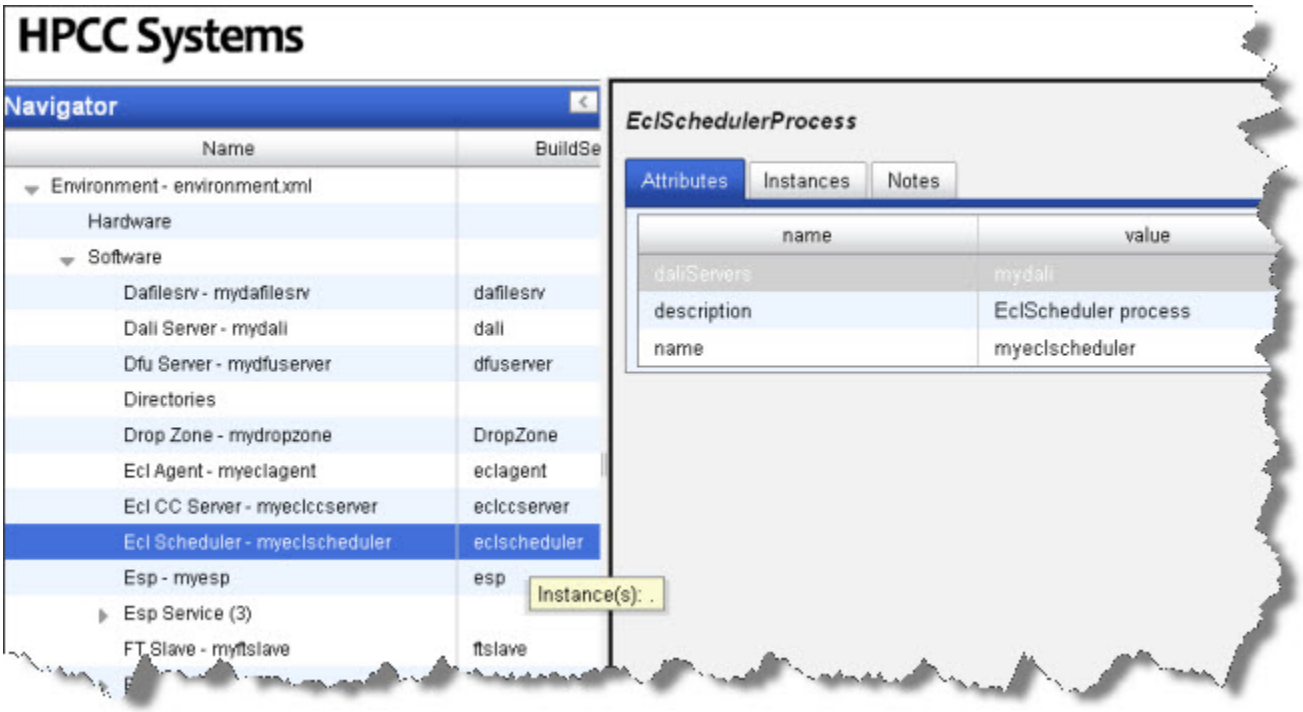
- Select **ECL Scheduler** in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

EclScheduler Attributes Tab

This section describes the EclScheduler Attributes tab.



Attribute name	Definition
description	Describes the component
name	Name of the process instance (AlphaNumeric and underscore only)

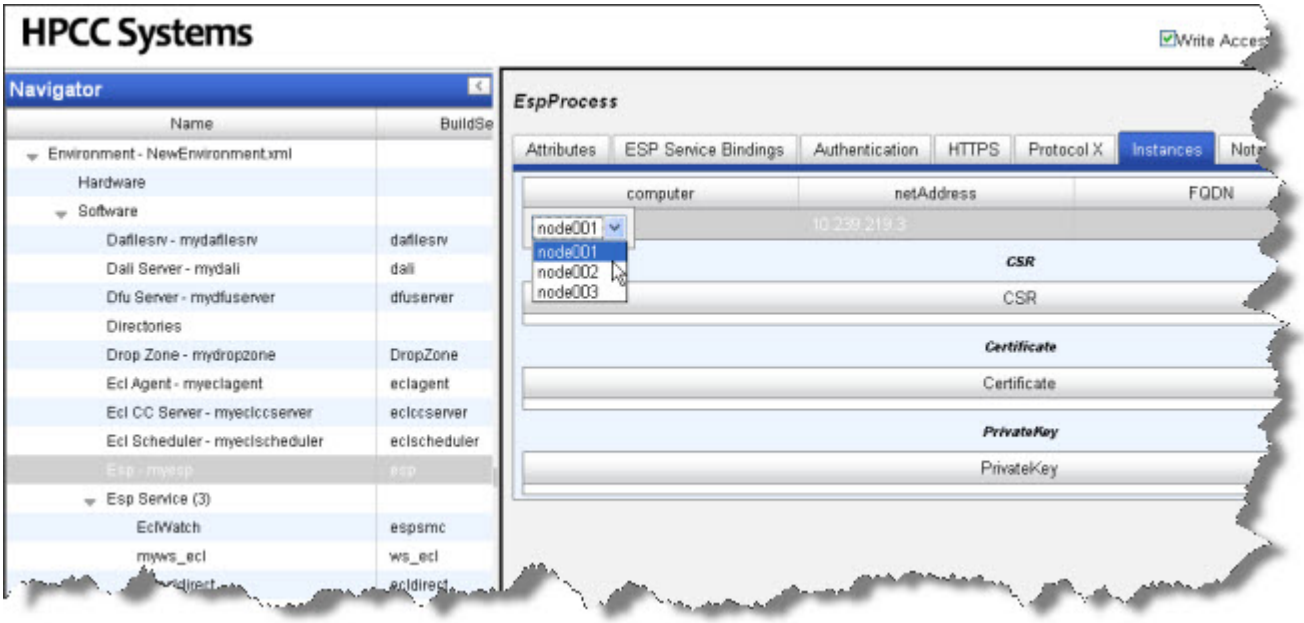
EclScheduler Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

ESP Server

Esp Process Instances

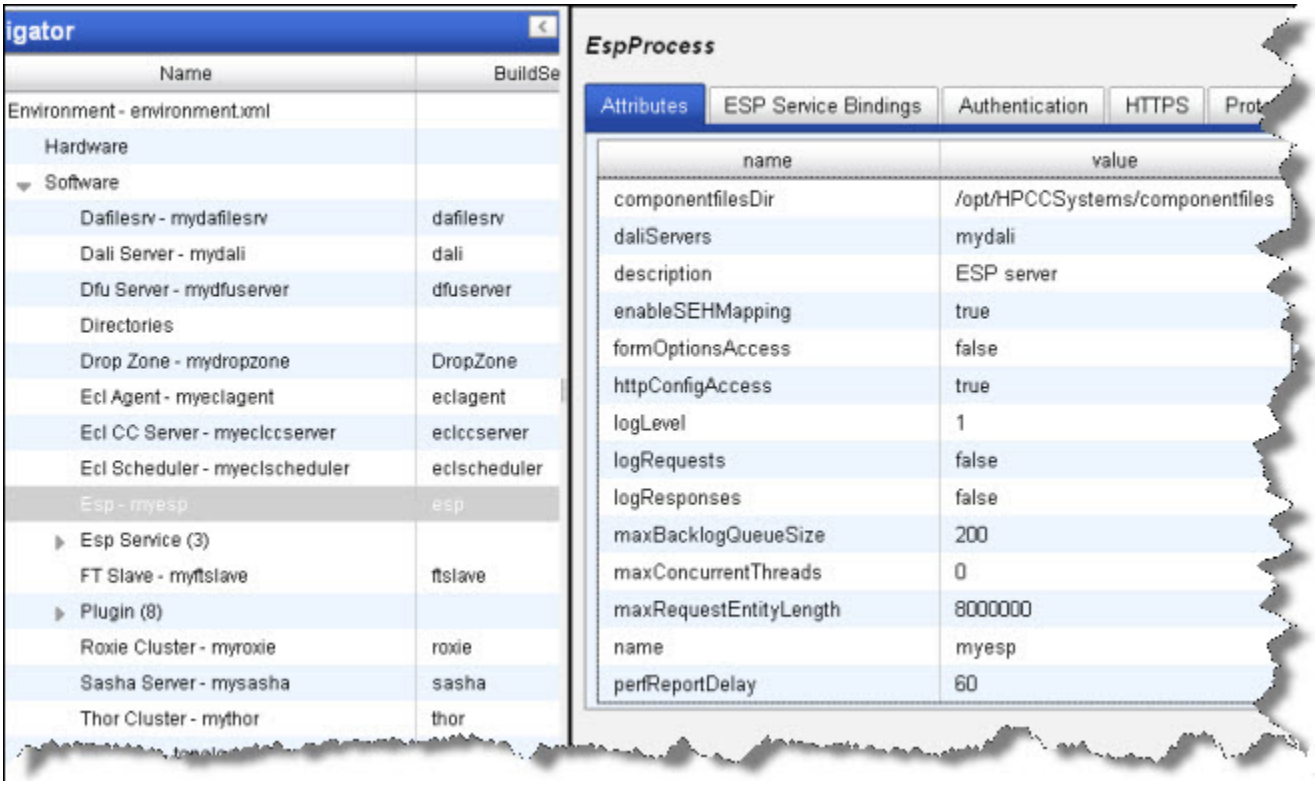
- Select ESP - MyEsp in the Navigator panel on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



- Click the  disk icon to save

Esp - myesp Attributes Tab

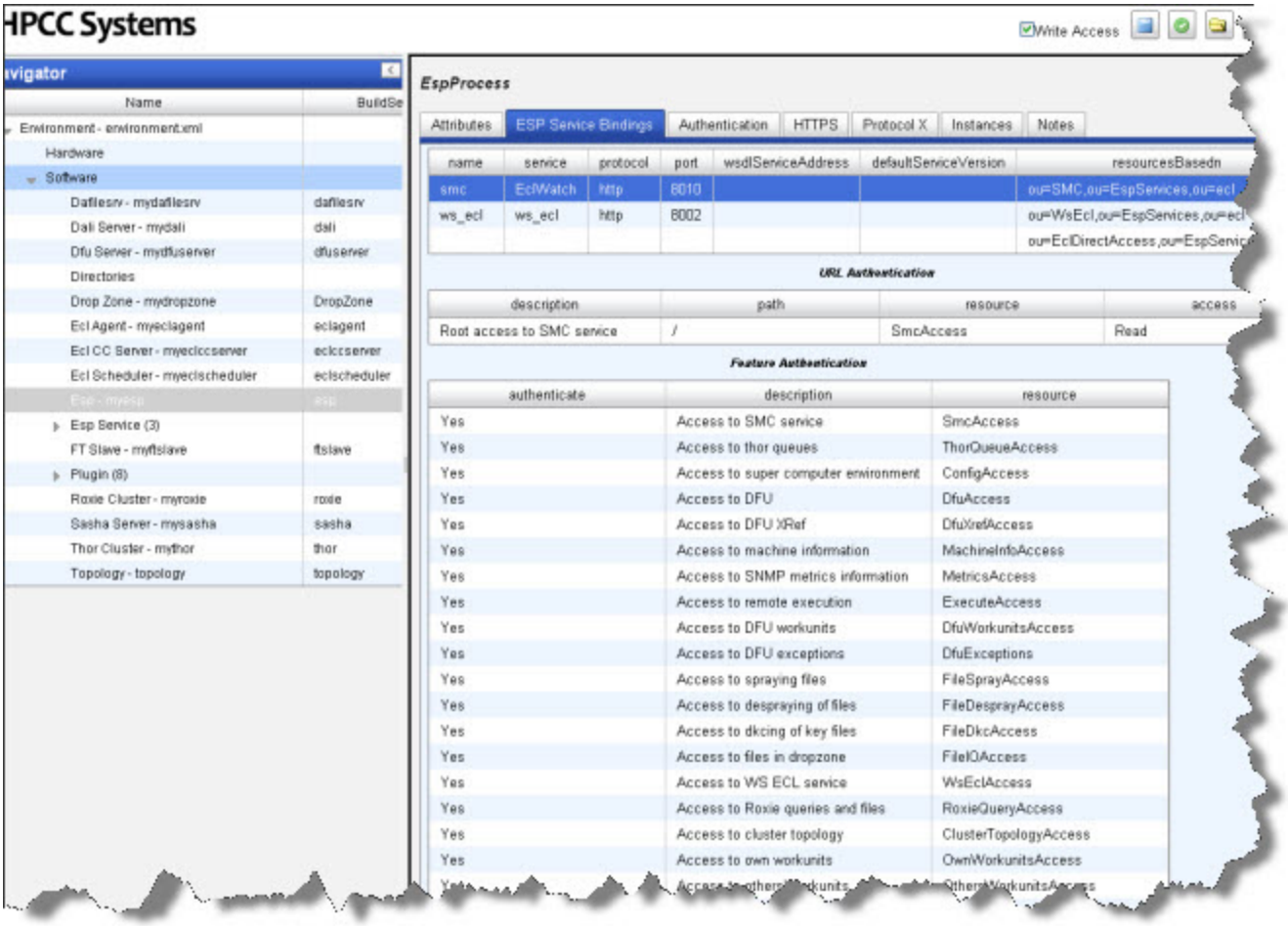
This section describes the Esp - myesp Attributes tab.



Attribute name	Definition
componentfilesDir	the component files directory
daliServers	the Dali servers
description	Describes the component
enableSEHMapping	True or False to enable***
formOptionsAccess	True or False to enable...***
httpConfigAccess	True or False to enable...***
logLevel	The Level of ...***
logRequests	True or False to enable...***
logResponses	True or False to enable...***
maxBacklogQueueSize	The size of the backlog queue
maxConcurrentThreads	The maximum number of concurrent threads
maxRequestEntityLegnth	The maximum length for entity requests
name	Name of the process instance (AlphaNumeric and underscore only)
perfReportDelay	The value at which...***

Esp - myesp Service BindingsTab

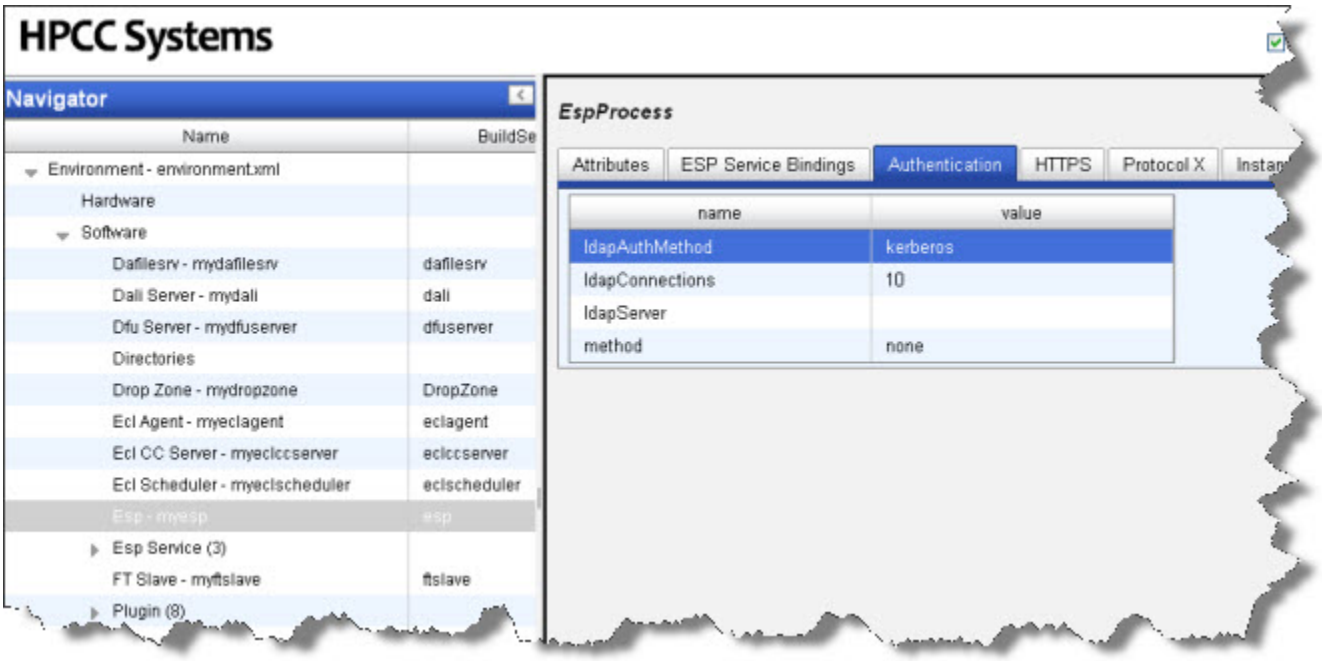
This section describes the Esp - myesp Service Bindings tab.



Attribute name	**Definition**
ECLWatch	provides ECL Watch interface
Ws_ecl	Provides Web access to published queries

Esp - myesp AuthenticationTab

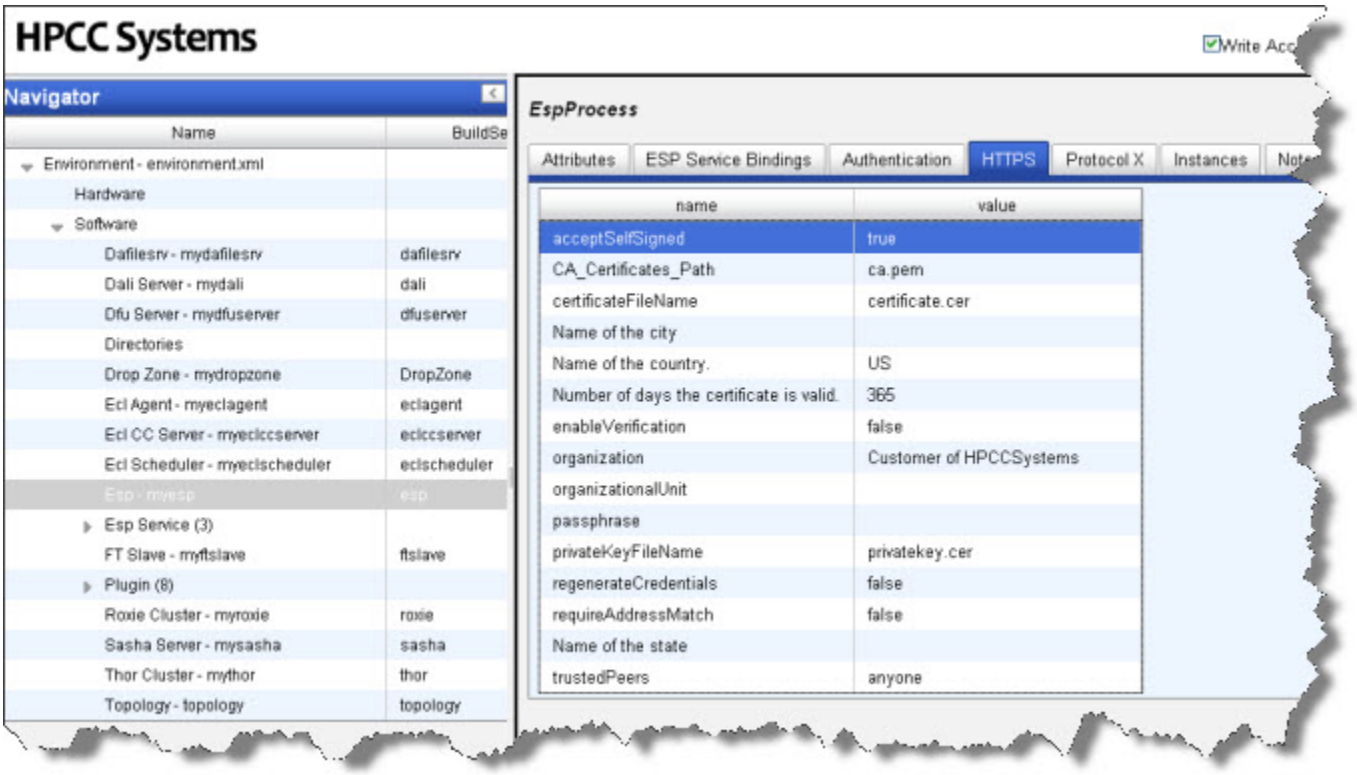
This section describes the Esp - myesp Service Authentication tab. LDAP is a feature only available in Enterprise Edition.



Attribute name	Definition
AccurintSecurity	the AccurintSecurity pass...
ldapAuthMethod	the LDAP Authentication Method
ldapConnections	the number of LDAP Connections
ldapServer	the LDAP server
method	the method...

Esp - myesp HTTPS Tab

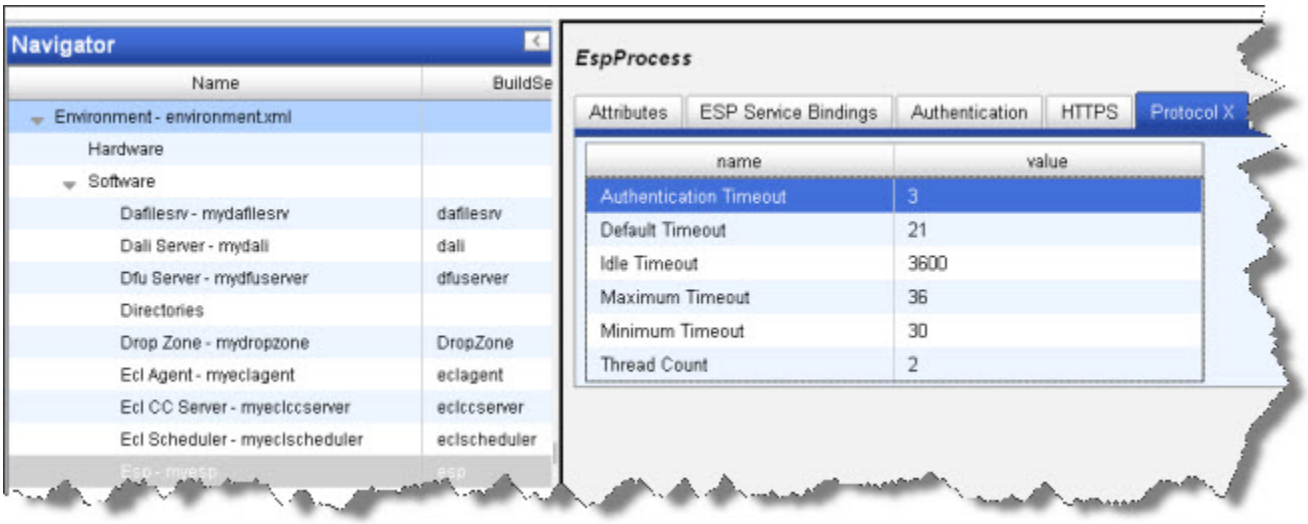
This section describes the Esp - myesp HTTPS tab.



Attribute name	Definition
acceptSelfSigned	True or False to enable self signed certificate...
CA_Certificates_Path	the location of the CA Certificates
certificateFileName	name of the CA Certificate
Name of the city	name of the city.
Name of the country	name of the country.
Number of days the certificate is valid.	The Number of days the certificate is valid.
enableVerification	True or False to enable verification of...
organization	name of the organization...
organizationalUnit	OU to use
passphrase	passphrase to use
privateKeyFileName	The privatekey name file (such as, privatekey.cer)
regenerateCredentials	True or False to enable generation of credentials.
requireAddressMatch	True or False to enable address match
Name of the State	name of the state
TrustedPeers	The names of trusted peers.

Esp - myesp Protocol XTab

This section describes the Esp - myesp Protocol X tab.



Attribute name	Definition
Authentication Timeout	The Authentication timeout value...
Default Time out	The default timeout value...
ldle Timeout	The timeout value...
Maximum Timeout	The maximum timeout value...
Minimum Timeout	The minimum timeout value...
Thread Count	the number of threads...

EspProcess Notes

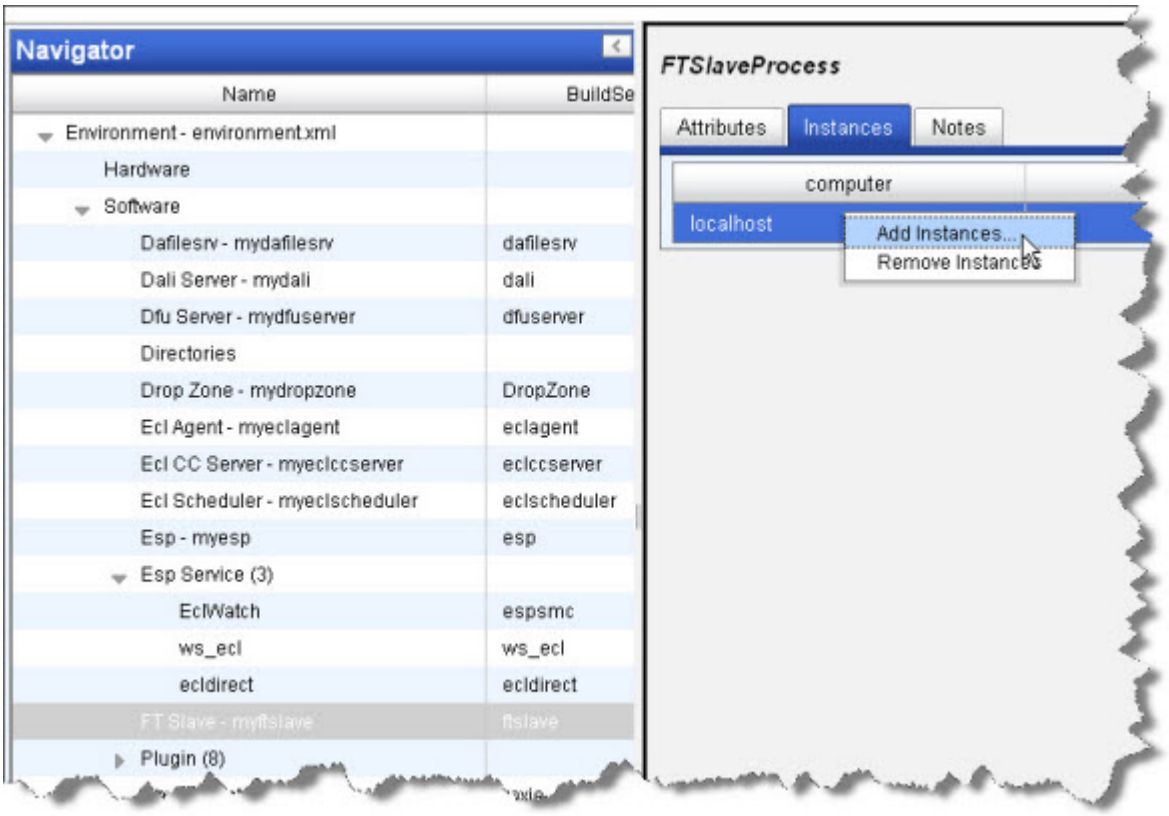
This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

FTSlave Process

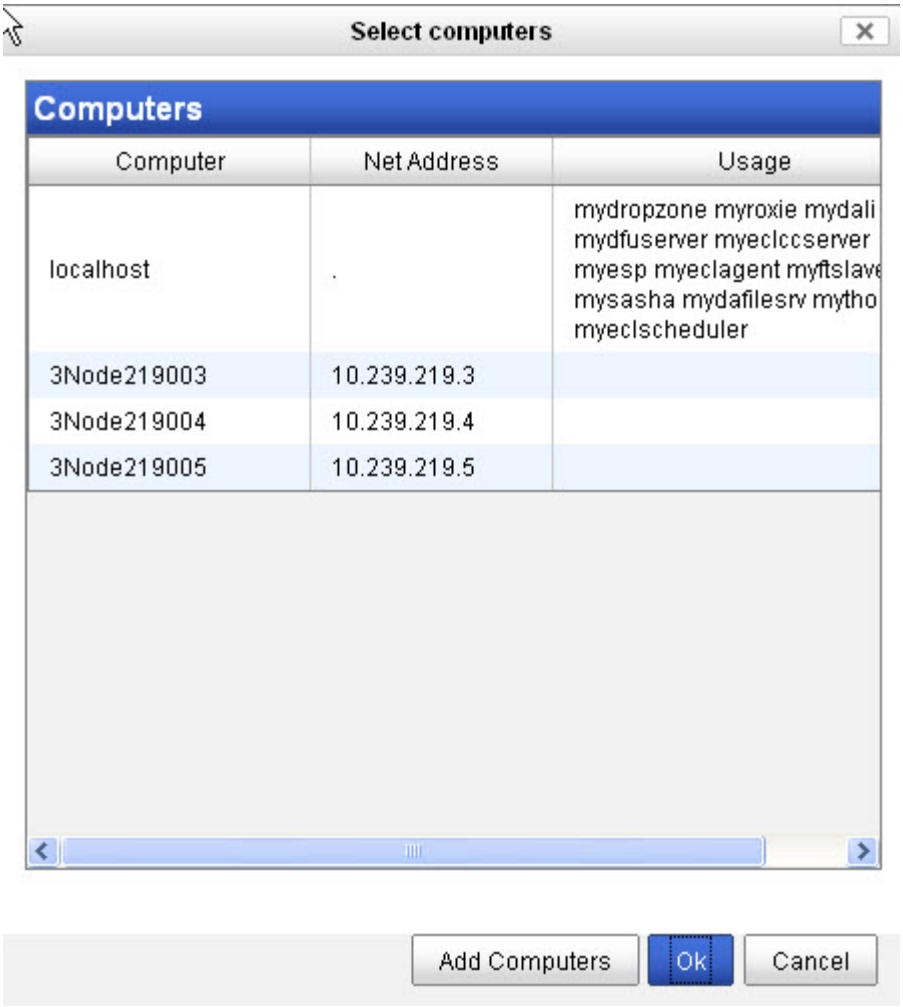
FTSlave is a helper process that every node needs.

Instances

- Select FTSlave in the Navigator panel on the left side.
- Select the Instances tab.
- RT-CLICK on a computer in the computer column, and select Add Instance .



- Select all computers in the list, then press the **OK** button.



- Click the  disk icon to save

FtSlave attributes

This section describes the FTSlave attributes tab.

Attribute	Definition
description	FTSlave Process description
name	Name of the process instance (AlphaNumeric and underscore only)
version	current version number

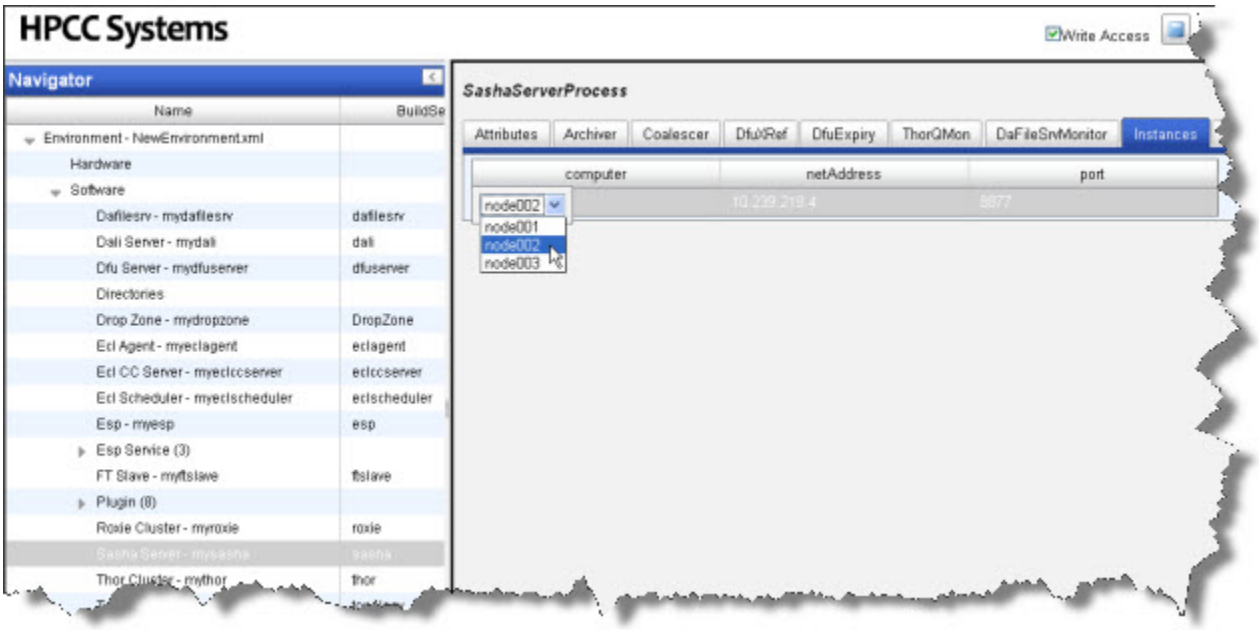
FtSlave Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Sasha Server

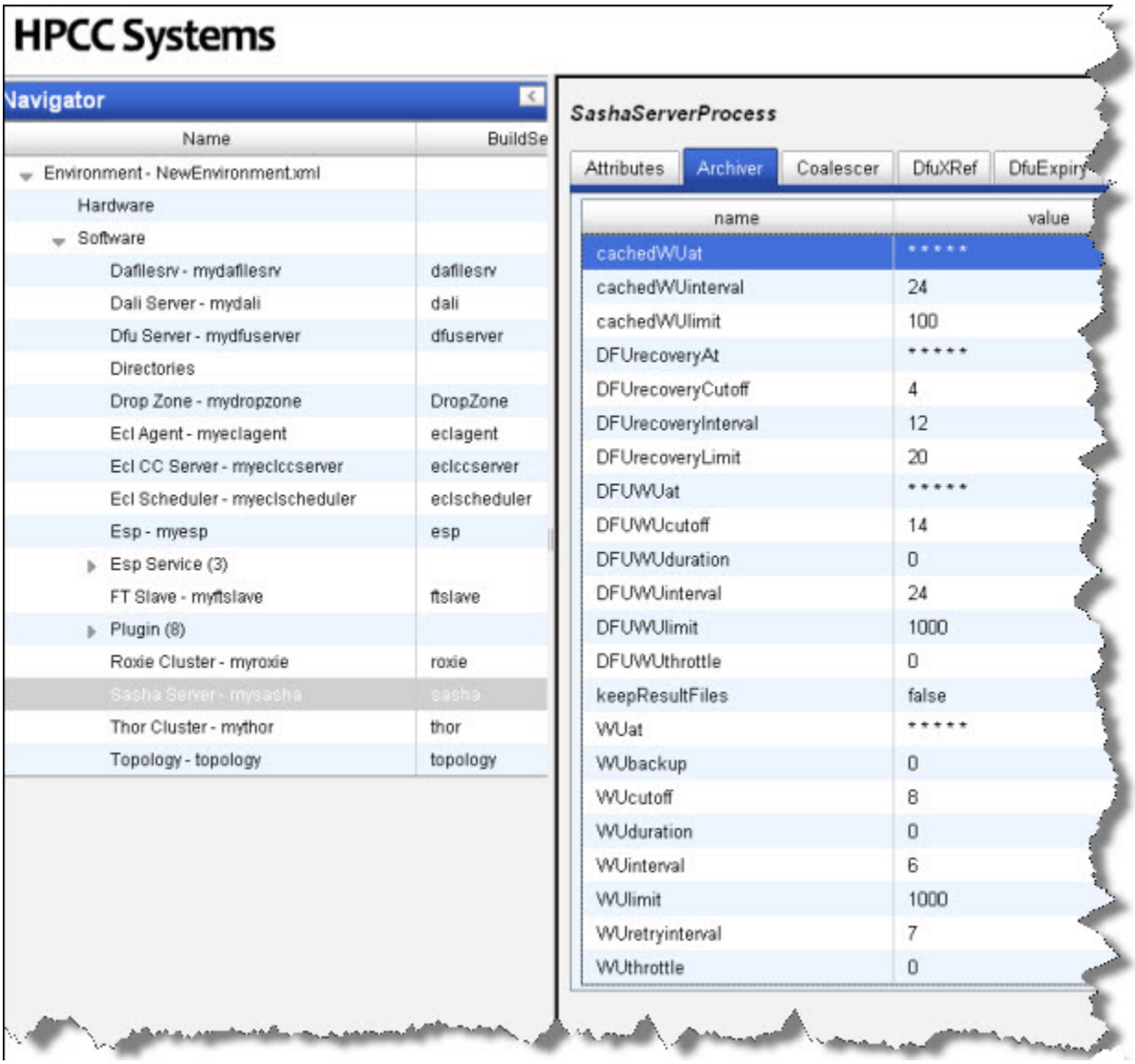
Instances

- Select Sasha Server in the menu on the left side.
- Select the Instances tab.
- In the computer column, choose a node from the drop list as shown below:



SashaServer Process Archiver

This section describes the SashaServer Process Archiver tab.

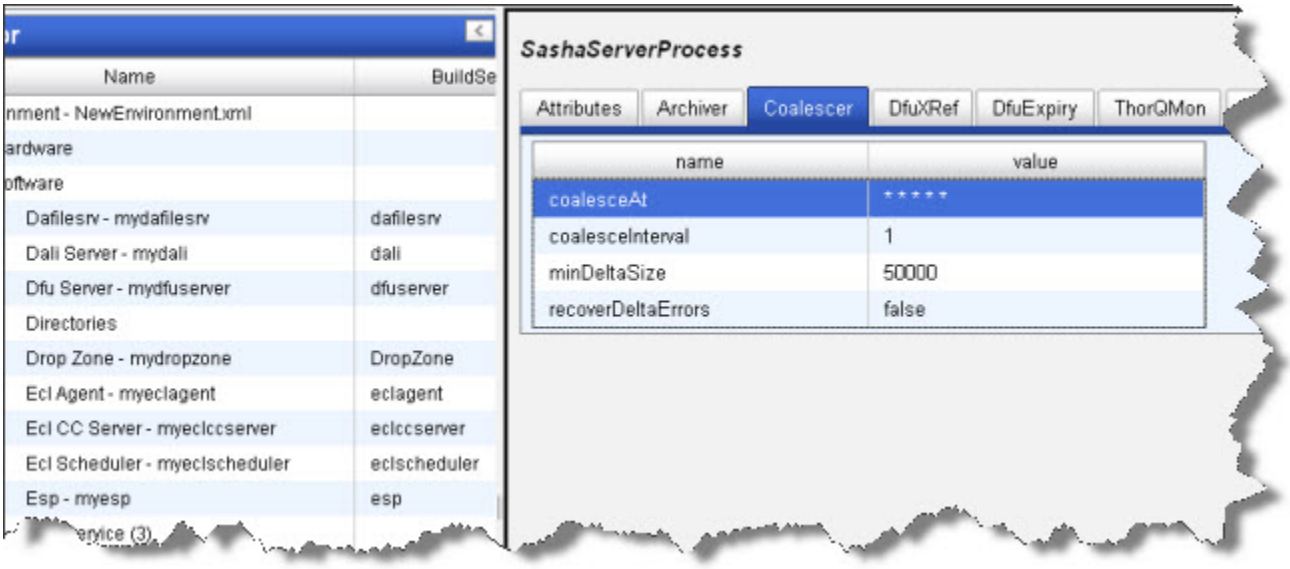


Attribute	Definition
cachedWUat	SashaServer Archiver Process description
cachedWUinterval	SashaServer Archiver Process description
cachedWUlimit	SashaServer Archiver Process description
DFUrecoveryAt	SashaServer Archiver Process description
DFUrecoveryCutoff	SashaServer Archiver Process description
DFUrecoveryInterval	SashaServer Archiver Process description
DFUrecoveryLimit	SashaServer Archiver Process description
DFUWUat	SashaServer Archiver Process description
DFUWUcutoff	SashaServer Archiver Process description

DFUWUduration	SashaServer Archiver Process description
DFUWUinterval	SashaServer Archiver Process description
DFUWUlimit	SashaServer Archiver Process description
DFUWUthrottle	SashaServer Archiver Process description
keepResultFiles	Keep result files, True or False
WUat	SashaServer Archiver Process description
WUbackup	SashaServer Archiver Process description
WUcutof	SashaServer Archiver Process description
WUduration	SashaServer Archiver Process description
WUinterval	SashaServer Archiver Process description
WUlimit	SashaServer Archiver Process description
WUretryinterval	SashaServer Archiver Process description
WUthrottle	SashaServer Archiver Process description

SashaServer Process Coalescer

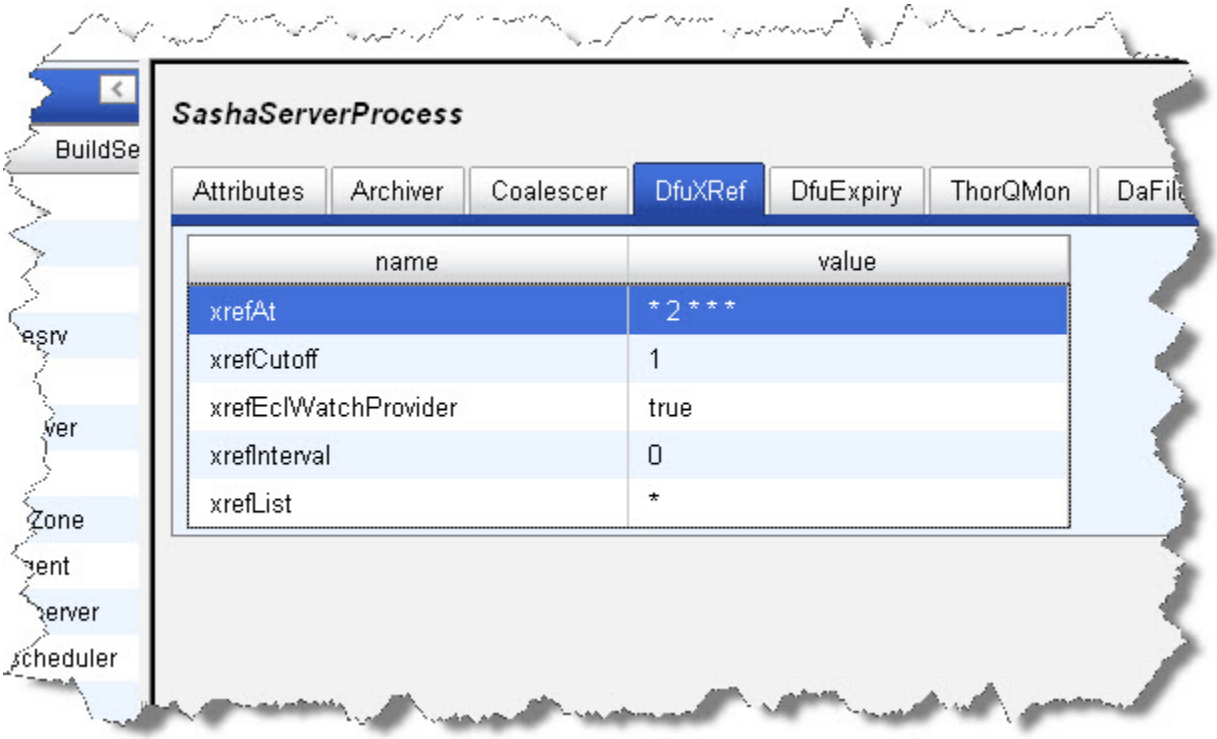
This section describes the SashaServer Process Coalescer tab.



Attribute	Definition
coalesceAt	SashaServer Coalesce Process description
coalesceInterval	SashaServer Coalesce Process description
minDeltaSize	SashaServer Coalesce Process description
recoverDeltaErrors	SashaServer Coalesce Process description

SashaServer Process DfuXRef

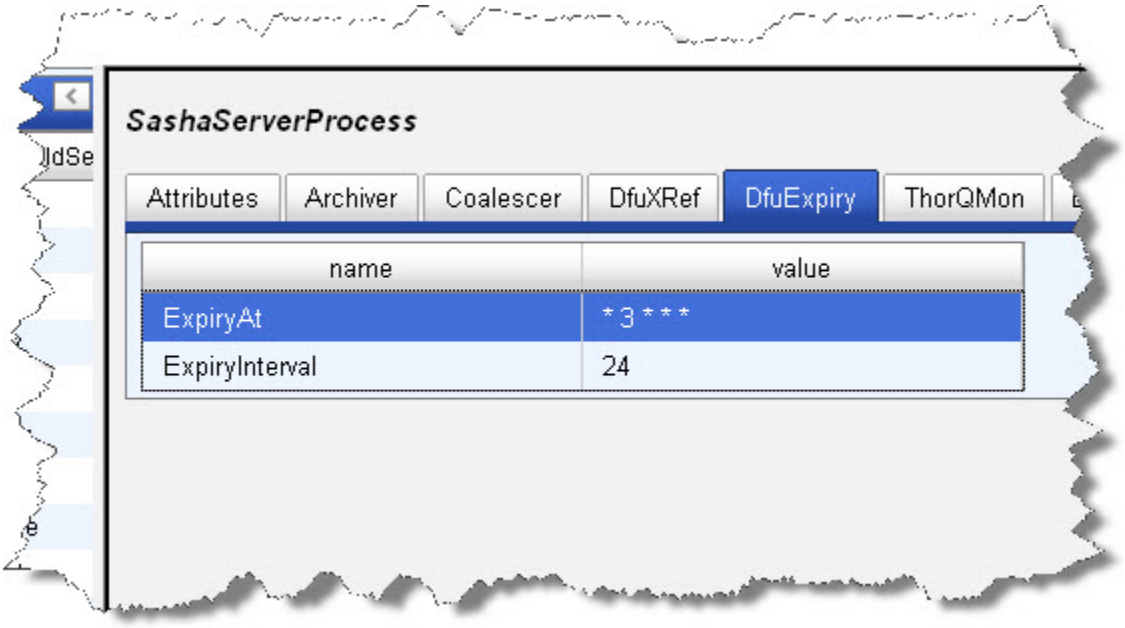
This section describes the SashaServer Process DfuXref tab.



Attribute	Definition
xrefAt	SashaServer DfuXRef Attribute description
xrefCutoff	SashaServer DfuXRef Attribute description
xrefEclWatchProvider	Xref Ecl Watch Provider, True or False
xrefInterval	value of SashaServer DfuXRef Attribute
xrefList	SashaServer DfuXRef Attribute description

SashaServer Process DfuExpiry

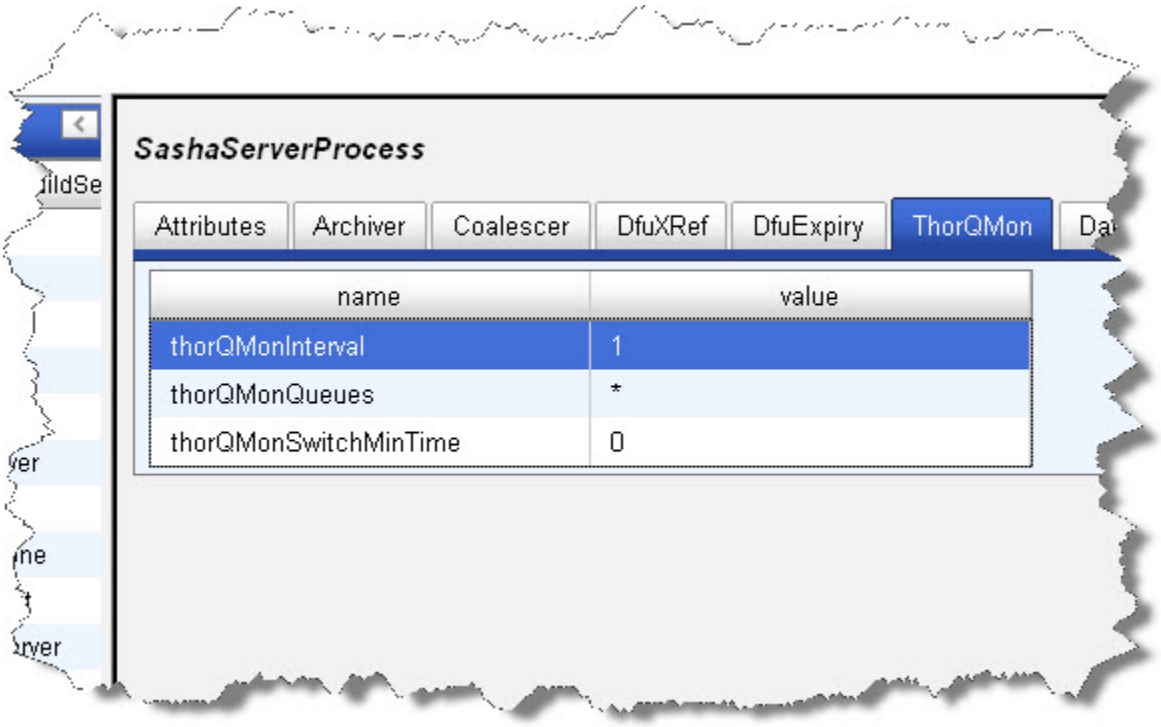
This section describes the SashaServer Process DfuExpiry tab.



Attribute	Definition
ExpiryAt	SashaServer DfuExpiry tab description
ExpiryInterval	Interval in hours at which the Dfu expires

SashaServer Process ThorQMon

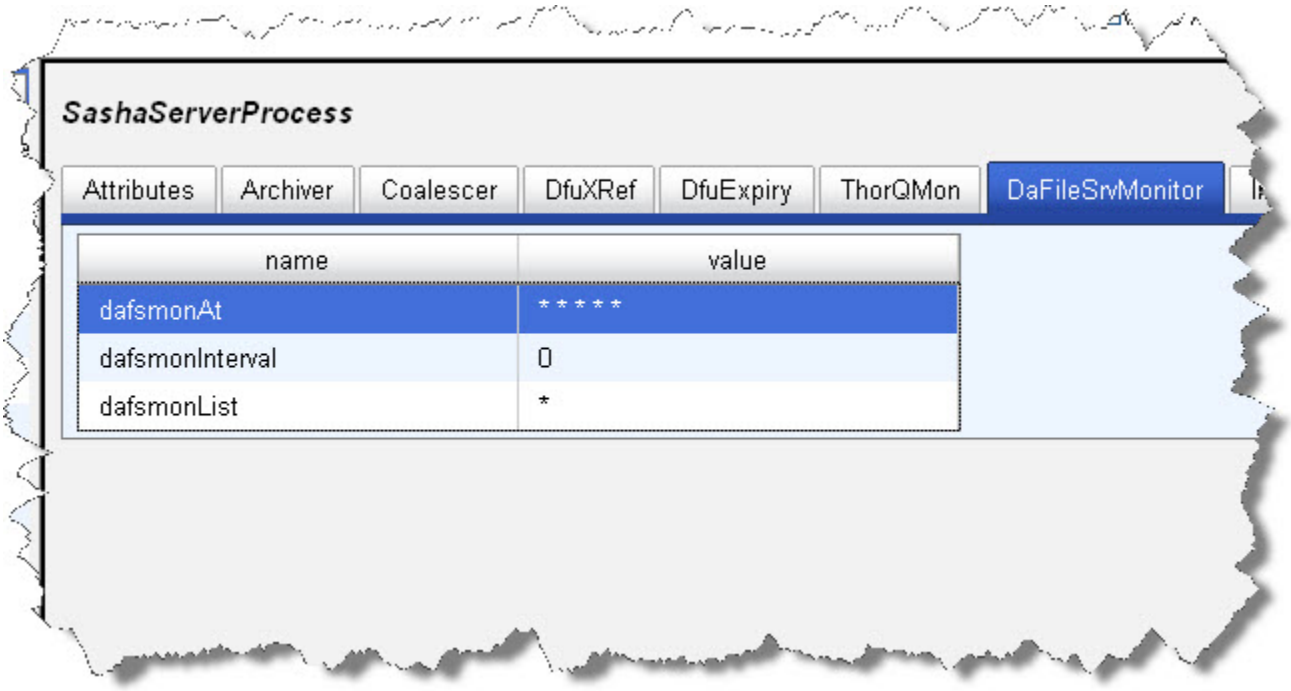
This section describes the SashaServer Process ThorQMon tab.



Attribute	Definition
ThorQMonInterval	ThorQMonInterval description
ThorQMonQueues	ThorQMonQueues description
ThorQMonSwitchMinTime	ThorQMonSwitchMinTime description

SashaServer Process DaFileSrvMonitor

This section describes the SashaServer Process DaFileSrvMonitor tab.



Attribute	Definition
dafsmonAt	dafsmon description
dafsmonInterval	dafsmon description
dafsmonList	dafsmon description

SashaServer Process Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Thor

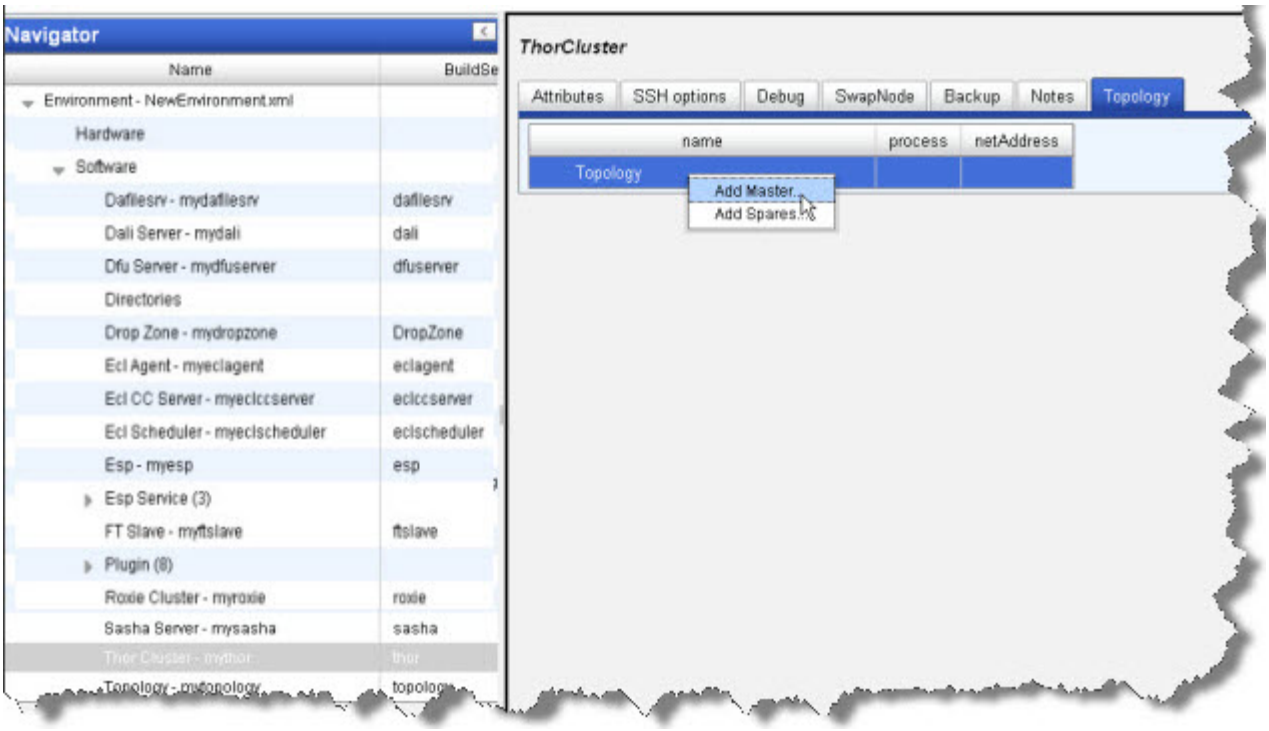
This section details how to define a Data Refinery (Thor) cluster. Before you begin, you should decide the width of the cluster (i.e., how many slave nodes will you have).

- Select Thor Cluster - mythor in the Navigator panel on the left side.
- Select the **Topology** tab.
- Expand the Topology, if needed, then RT-CLICK the Master and select Delete.

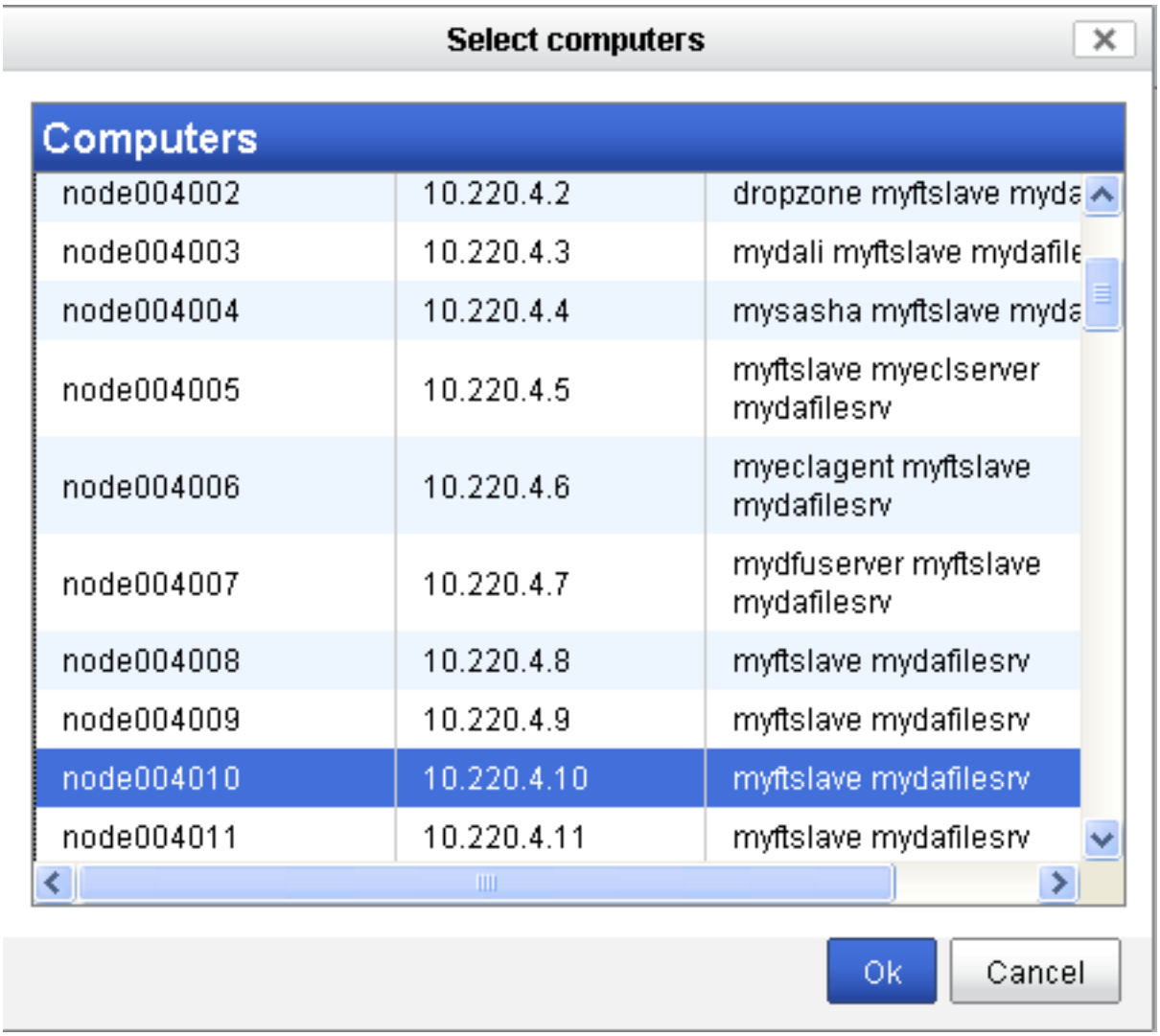
This deletes the sample one-node Thor.

You will replace this with a multi-node cluster.

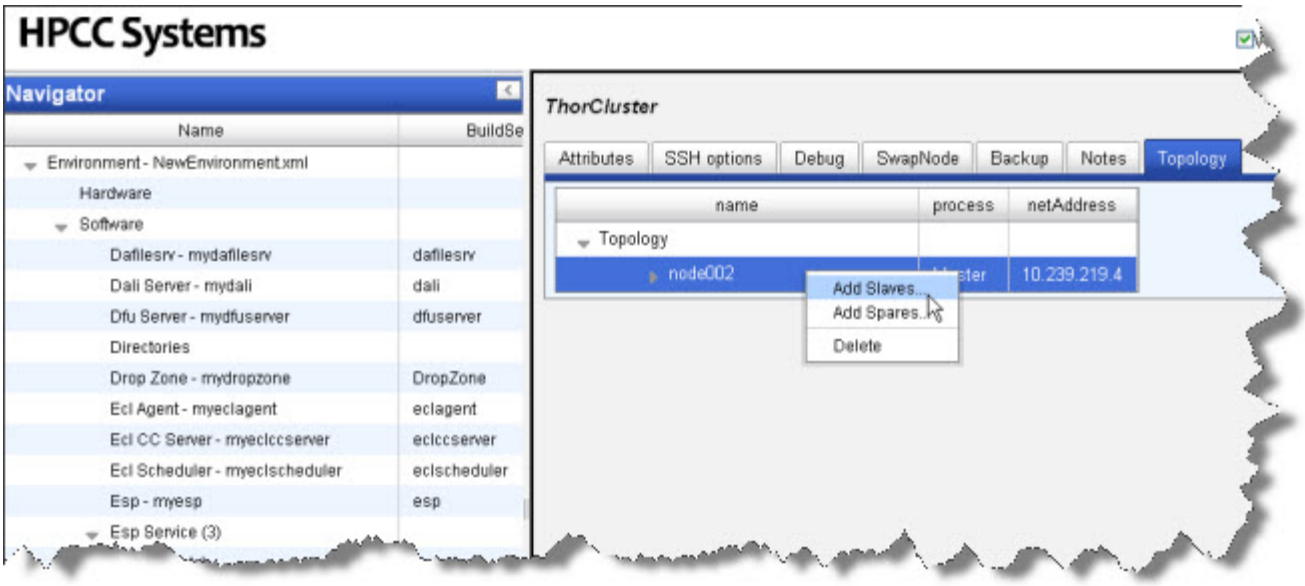
- RT-CLICK on the Topology and select Add Master.



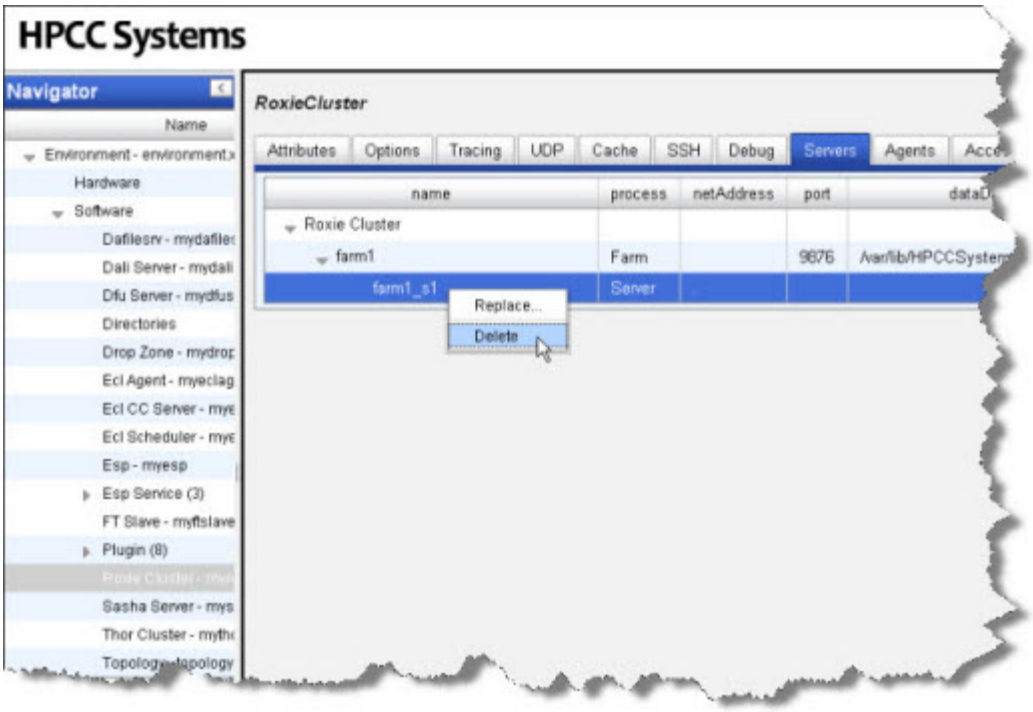
- Select a computer from the list, then press the OK button.



- RT-CLICK on the Master and select Add Slaves.



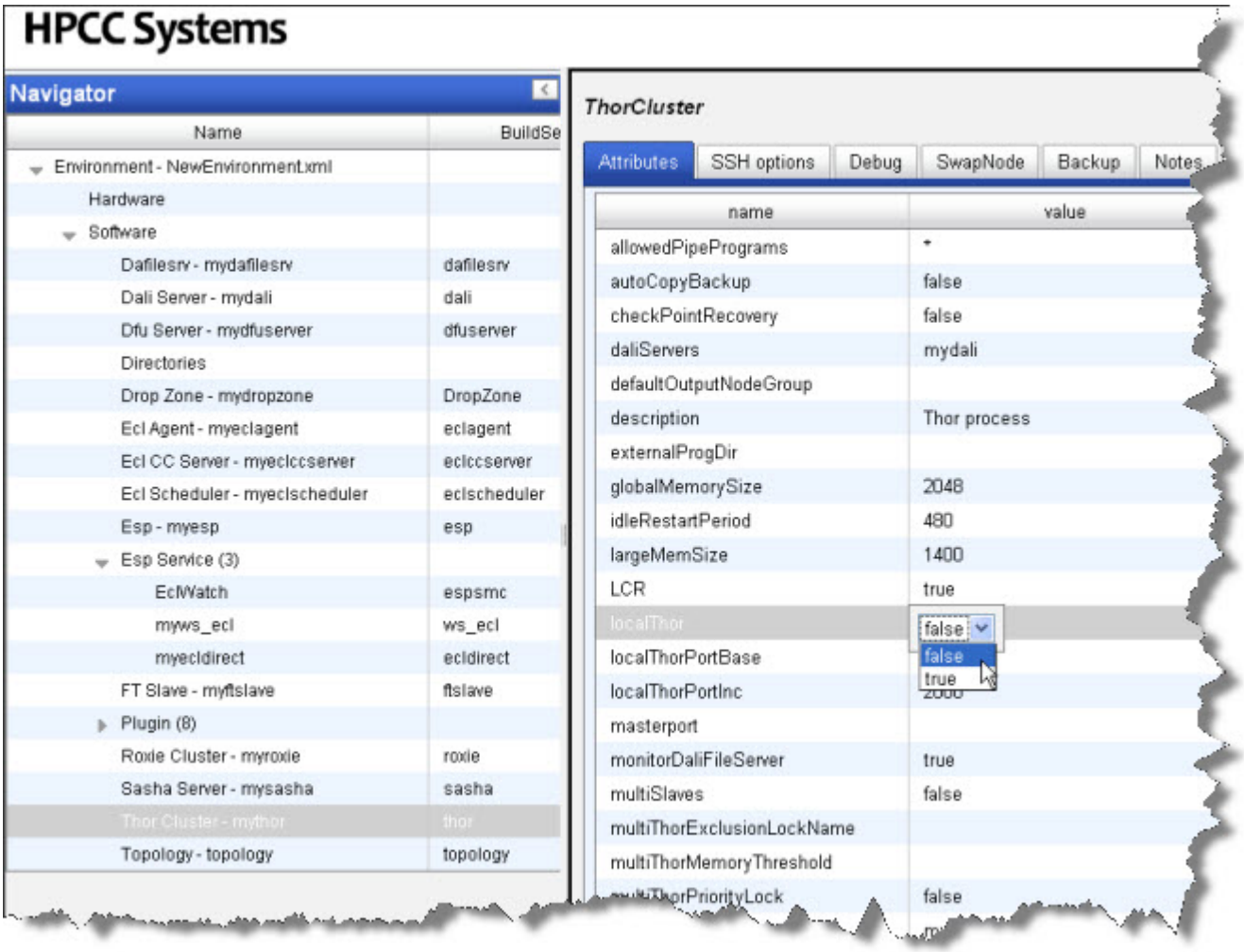
- Select the computers to use as slaves from the list, then press the OK button. Use CTRL+CLICK to multi-select or SHIFT+CLICK to select a range.



The Nodes now display below the Thor Master node.

- Select Thor Cluster - mythor in the Navigator panel on the left side.

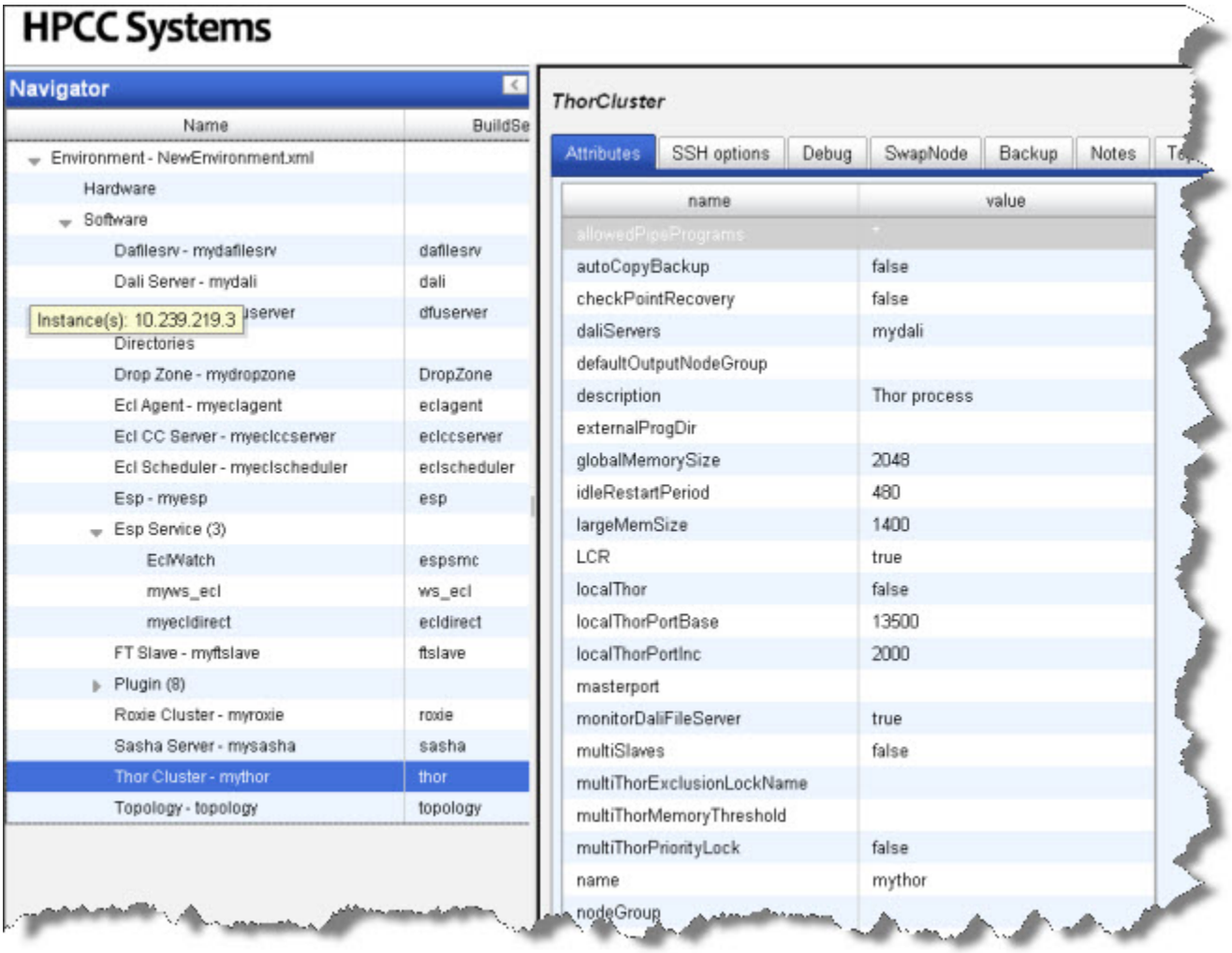
- Select the Attributes tab.



- Change the value of the localThor to **false**
- Click the  disk icon to save

ThorCluster Attributes

This section describes the Thor Cluster Attributes tab.

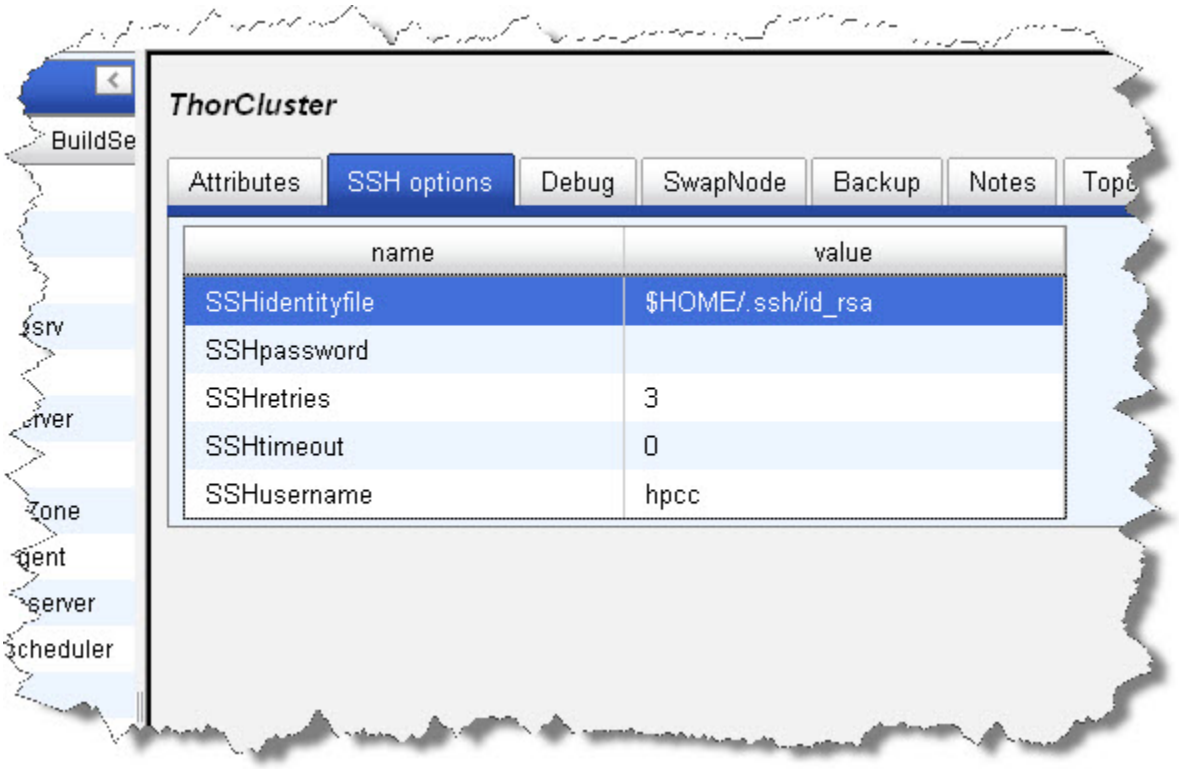


Attribute	Definition
allowedPipePrograms	ThorCluster Process description
autoCopyBackup	True or False
checkPointRecovery	True or False
daliServers	The Dali Server
defaultOutputNodeGroup	
description	ThorCluster Process description
externalProgDir	Location of externals
globalMemorySize	ThorCluster Process description
idleRestartPeriod	ThorCluster Process description
largeMemSize	ThorCluster Process description
LCR	True or False
localThor	True or False

localThorPortBase	
localThorPortInc	
masterport	
monitorDaliFileServer	Specifies whether to monitor for DaFileSrv process (True or False)
multiSlaves	True or False
multiThorExclusionLockName	
multiThorMemoryThreshold	
multiThorPriorityLock	True or False
name	Name of cluster
nodeGroup	
pluginsPath	Location of plugins
queueName	
replicateAsync	True or False
replicateOutputs	True or False
slaveDownTimeout	
slaveport	
smallSortThreshold	
verifyDaliConnectionInterval	
watchdogEnabled	True or False
watchdogProgressEnabled	True or False
watchdogProgressInterval	ThorCluster Process description

ThorCluster SSH Options

This section describes the ThorCluster SSH Options tab.



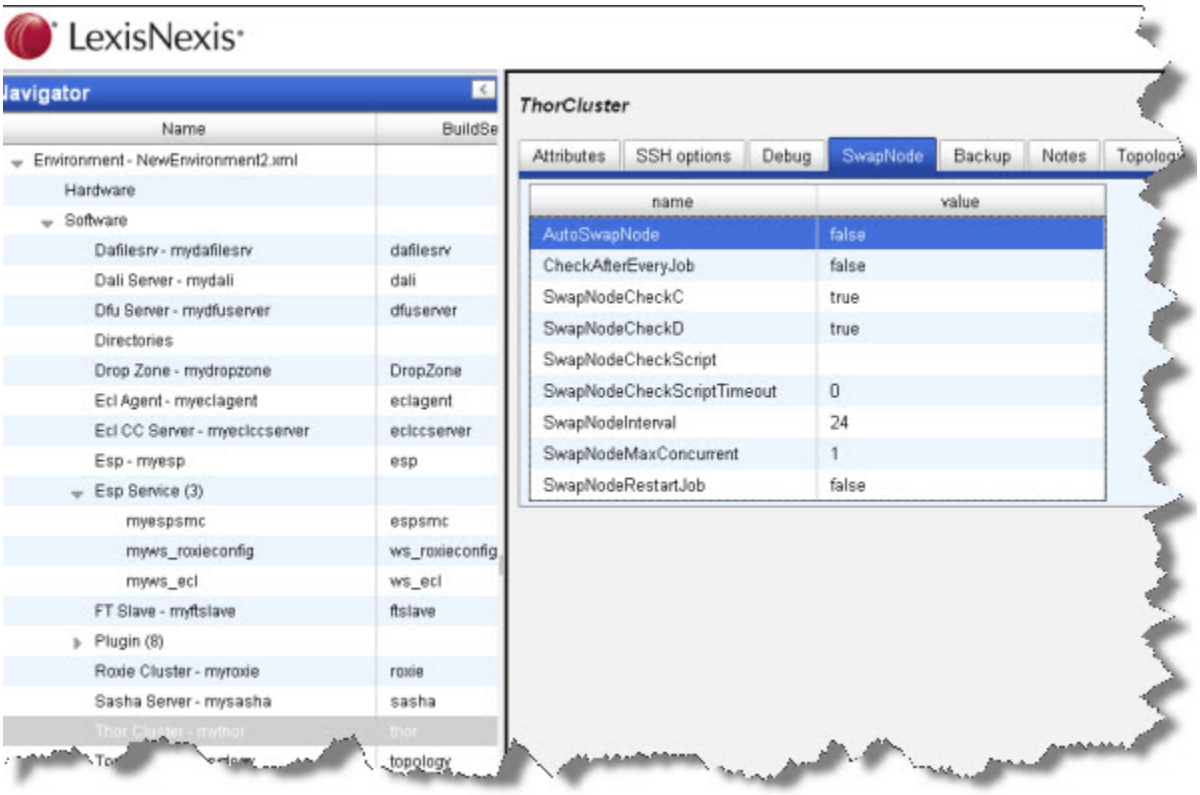
Attribute	Definition
SSHidentityfile	Location of the SSH keys component files.
SSHpassword	
SSHretries	The number of times...
SSHtimeout	Timeout
SSHusername	The user name of the account the SSH keys are associated with

ThorCluster Debug

The debug tab is for internal use only

ThorCluster Swap Node

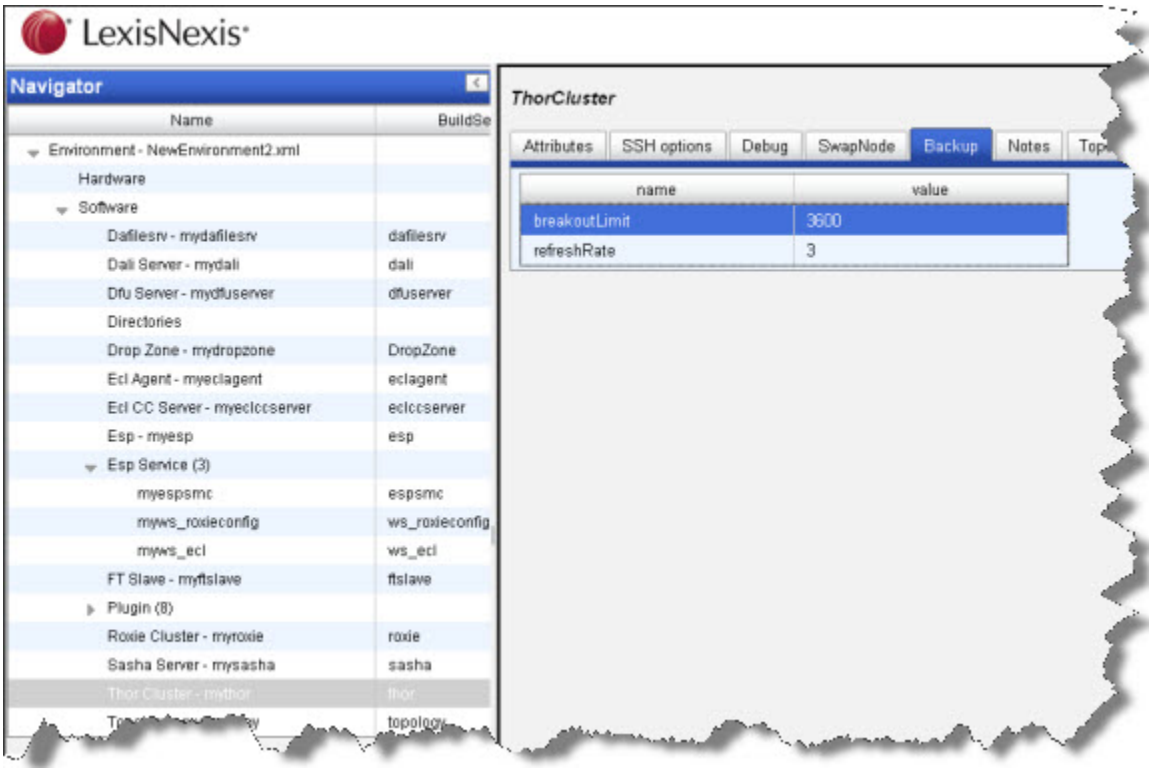
This section describes the ThorCluster Swap Node tab.



Attribute	Definition
AutoSwapNode	True or False. Set to True to enable AutoSwapNode
CheckAfterEveryJob	True or False. Set to True to Check after Every Job
SwapNodeCheckC	True or False. Set to True to ...
SwapNodeCheckD	True or False. Set to True to...
SwapNodeCheckScript	
SwapNodeCheckScriptTimeout	The number ...
SwapNodeInterval	The number ...
SwapNodeMaxConcurrent	value of Maximum number of concurrent...
SwapNodeRestartJob	True or False. Set to True...

ThorCluster Backup

This section describes the ThorCluster Backup tab.



Attribute	Definition
breakoutLimit	value of...
refreshRate	value of...

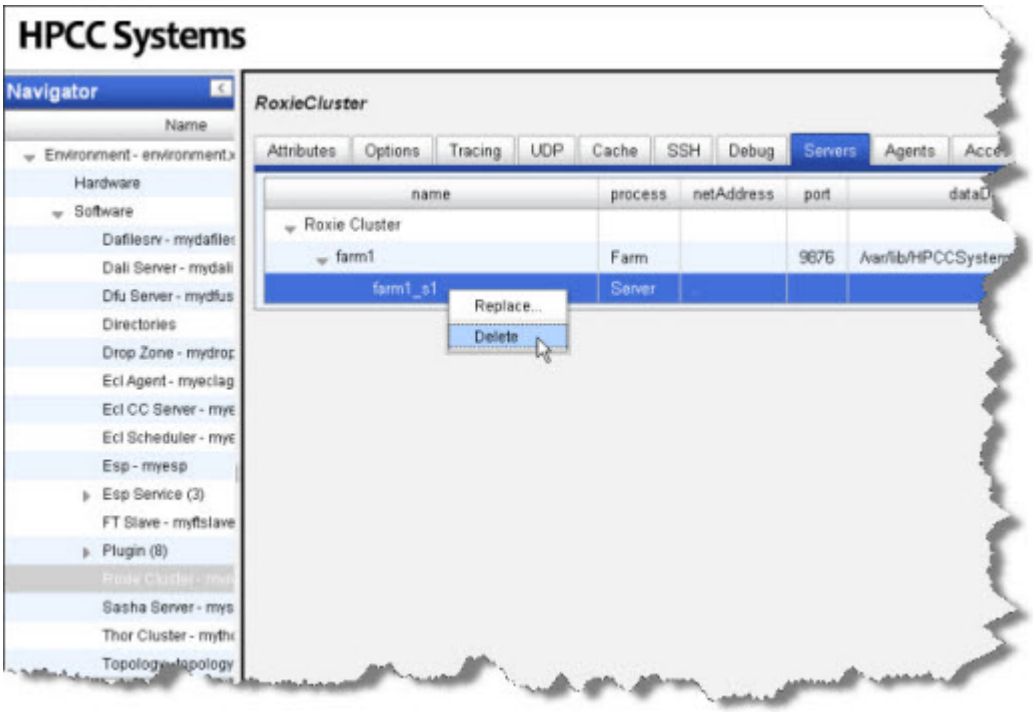
ThorCluster Notes

This tab allows you to add any notes pertinent to the component's configuration. This can be useful to keep a record of changes and to communicate this information to peers.

Roxie

This section details how to define a Rapid Data Delivery Engine (Roxie) cluster. Before you begin, you should decide the width of the cluster (i.e., how many agent nodes will you have).***Change the value of the localslave to **false*****

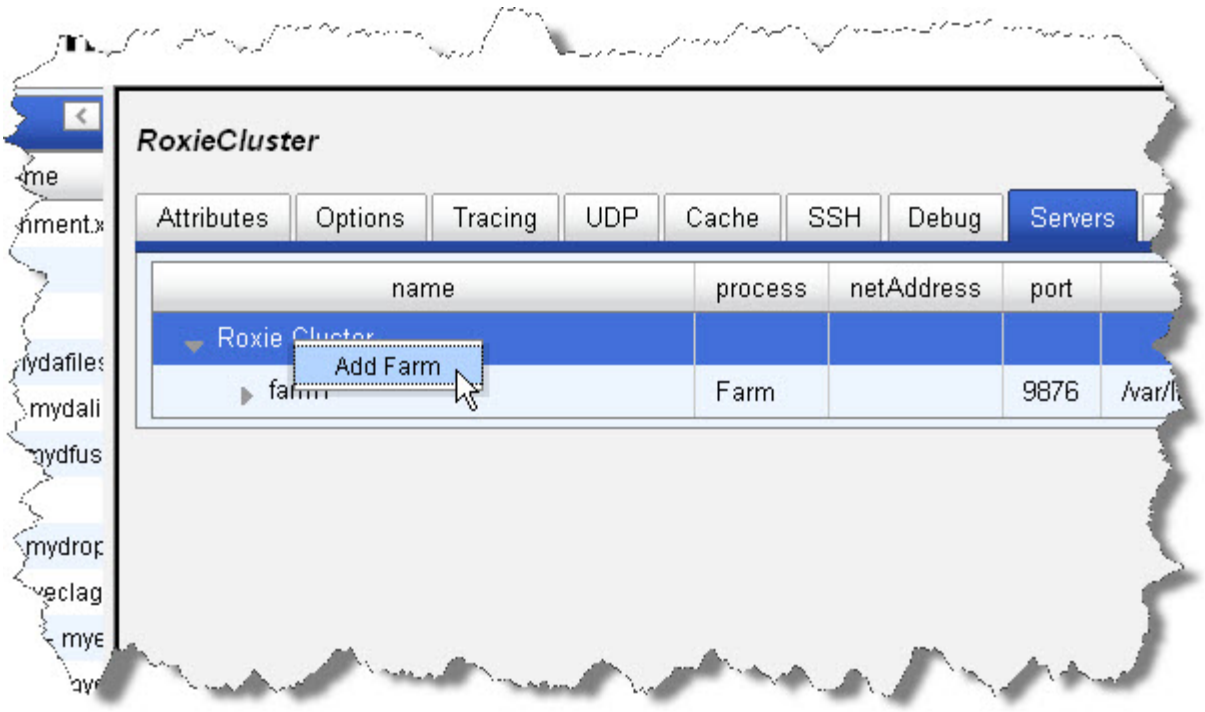
- Select Roxie Cluster in the Navigator panel on the left side.
- Select the Servers tab.
- Expand the RoxieCluster >> farm1, if needed, then RT-CLICK the Server and select Delete.



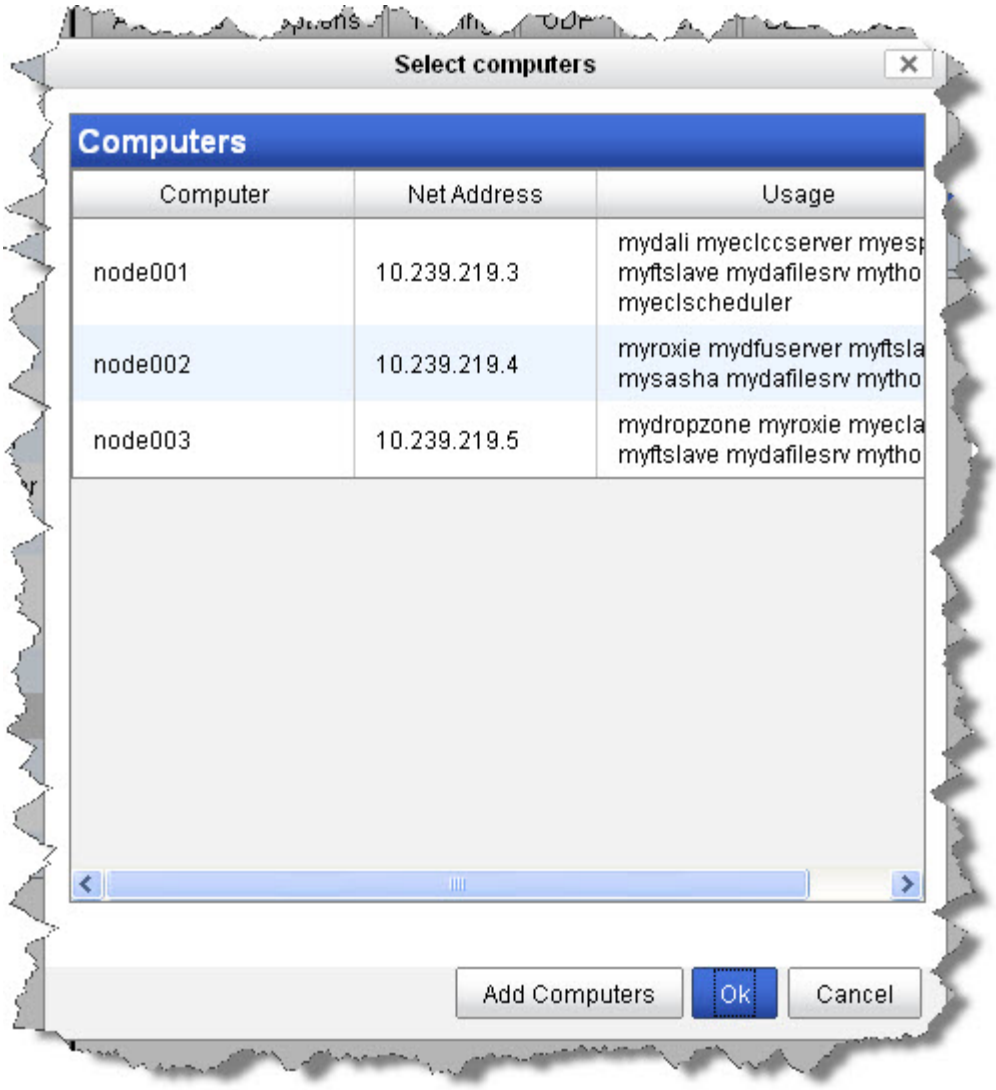
This deletes the sample one-node Roxie Server.

You will replace this with several servers to act as Roxie Servers.

- RT-CLICK on the Roxie Cluster and select Add Farm.



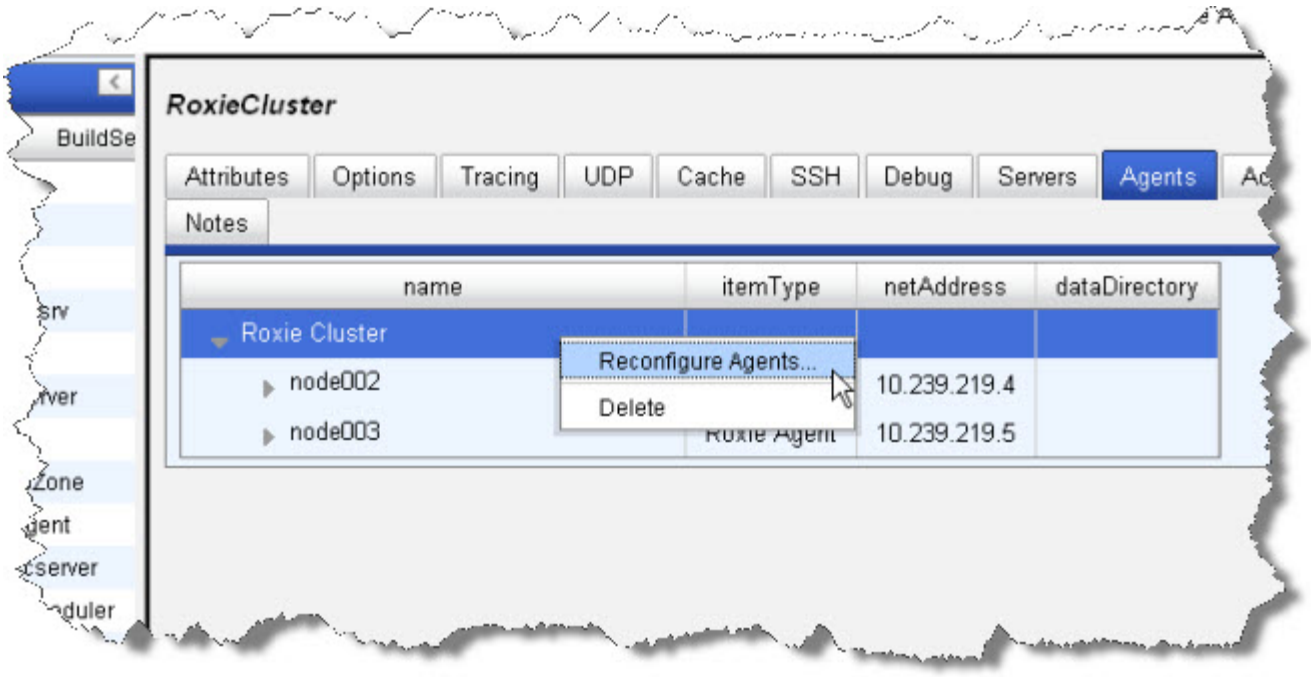
- Select the computers to use as Servers from the list, then press the OK button. Use Ctrl+click to multi-select or shift+click to select a range.



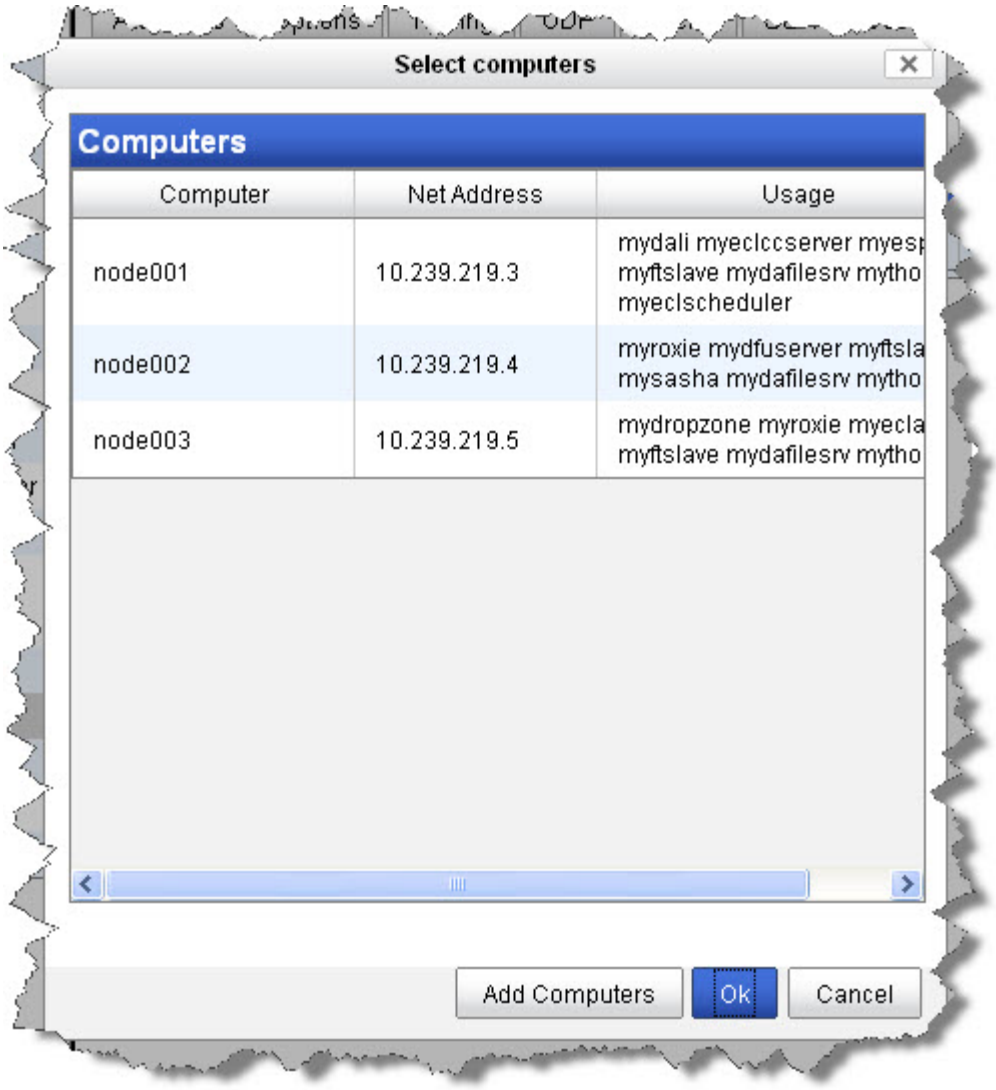
- Select the Agents tab.

- Select the RoxieCluster, then RT-CLICK select Reconfigure Agents.

  This allows you to replace the single agent with the multiple nodes you added as Servers.

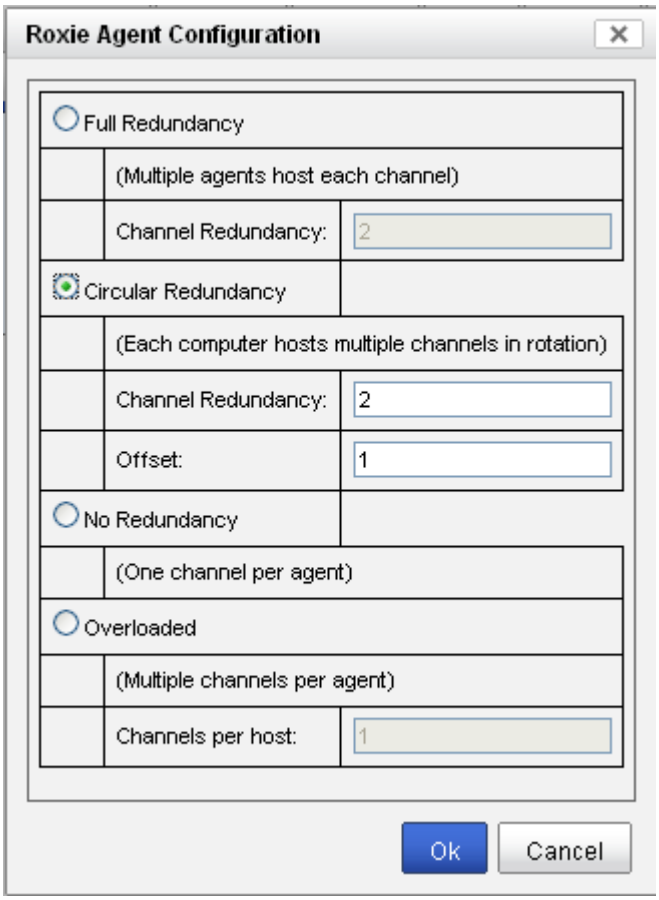


- Select the computers to use as Agents from the list, then press the **OK** button. Use Ctrl+click to multi-select or shift +click to select a range.



Note: In this example, we are using the same five nodes that were made to be Servers. This is a typical configuration.

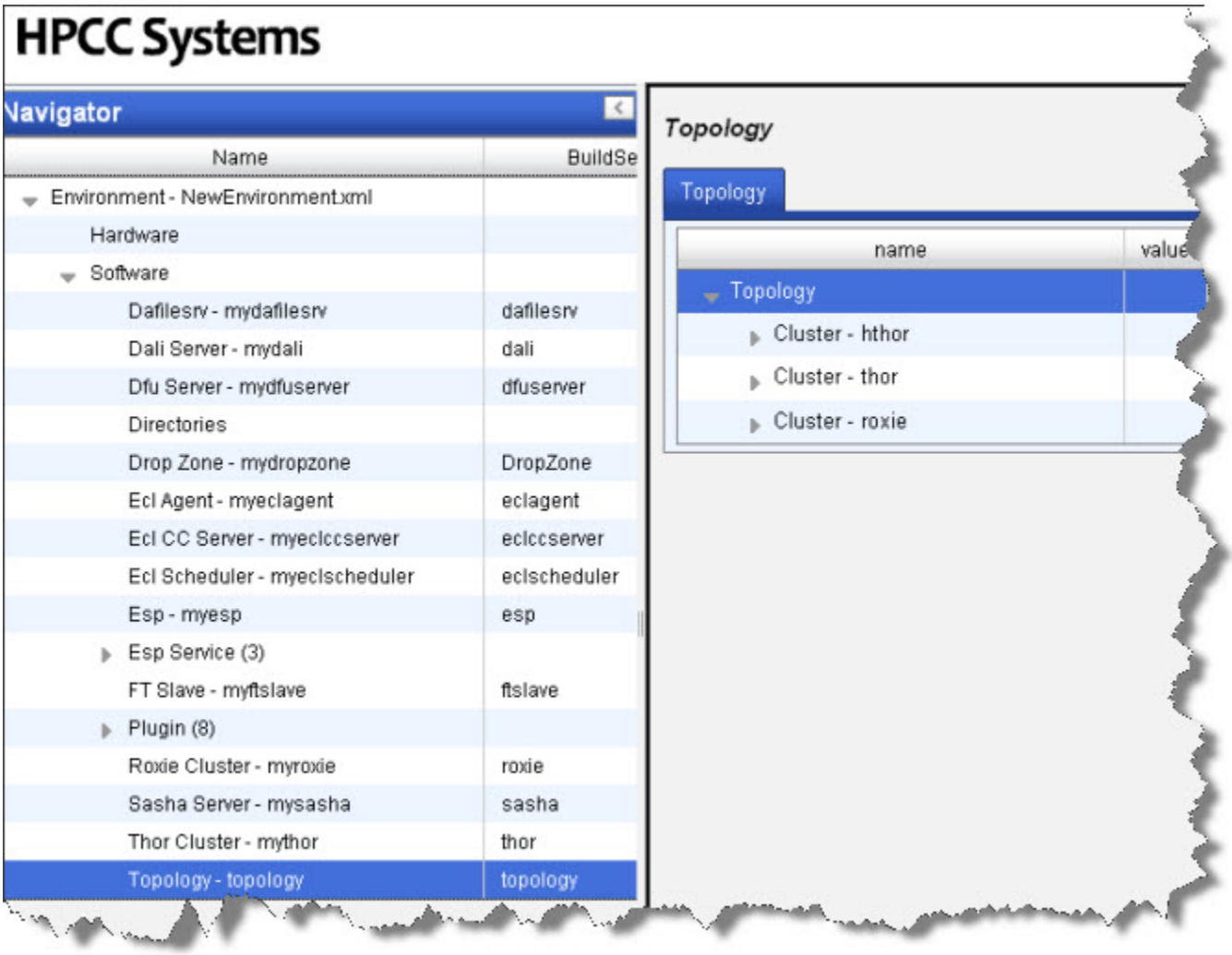
- Select the redundancy scheme to use. Typically, this is Circular Redundancy, as shown below.



- Click the  disk icon to save
- Close Configuration Manager by pressing ctrl+C in the command window where it is running.

Topology

This section describes the topology tab.



Attribute name	Definition
Topology	describes the system topology
Cluster - thor	describes the Thor clusters
Cluster - hthor	describes the hthor clusters
Cluster - roxie	describes the Roxie clusters

Distribute Configuration Changes to all Nodes

Once your environment is set up as desired, you must copy the configuration file out to the other nodes.

- If it is running, stop the system

Be sure system is stopped before attempting to move the Environment.xml file.

- Back up the original environment.xml file

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/environment.xml /etc/HPCCSystems/environment.bak
```

Note: the "live environment.xml file is located in your **/etc/HPCCSystems/** directory. ConfigManager works on files in **/etc/HPCCSystems/source** directory. You must copy from this location to make an environment.xml file active.

- Copy the NewEnvironment.xml file from the source directory to the /etc/HPCCSystems and rename the file to environment.xml

```
# for example
sudo -u hpcc cp /etc/HPCCSystems/source/NewEnvironment.xml /etc/HPCCSystems/environment.xml
```

- Copy the /etc/HPCCSystems/environment.xml to the /etc/HPCCSystems/ on every node.

- Restart the HPCC system

You might prefer to script this process, especially if you have many nodes. See the Example Scripts section in the Appendix of the Installing_and_RunningtheHPCCPlatform document. You can use the scripts as a model to create your own script to copy the environment.xml file out to all your nodes.