Managing clusters

Active IQ Unified Manager

NetApp
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Managing clusters

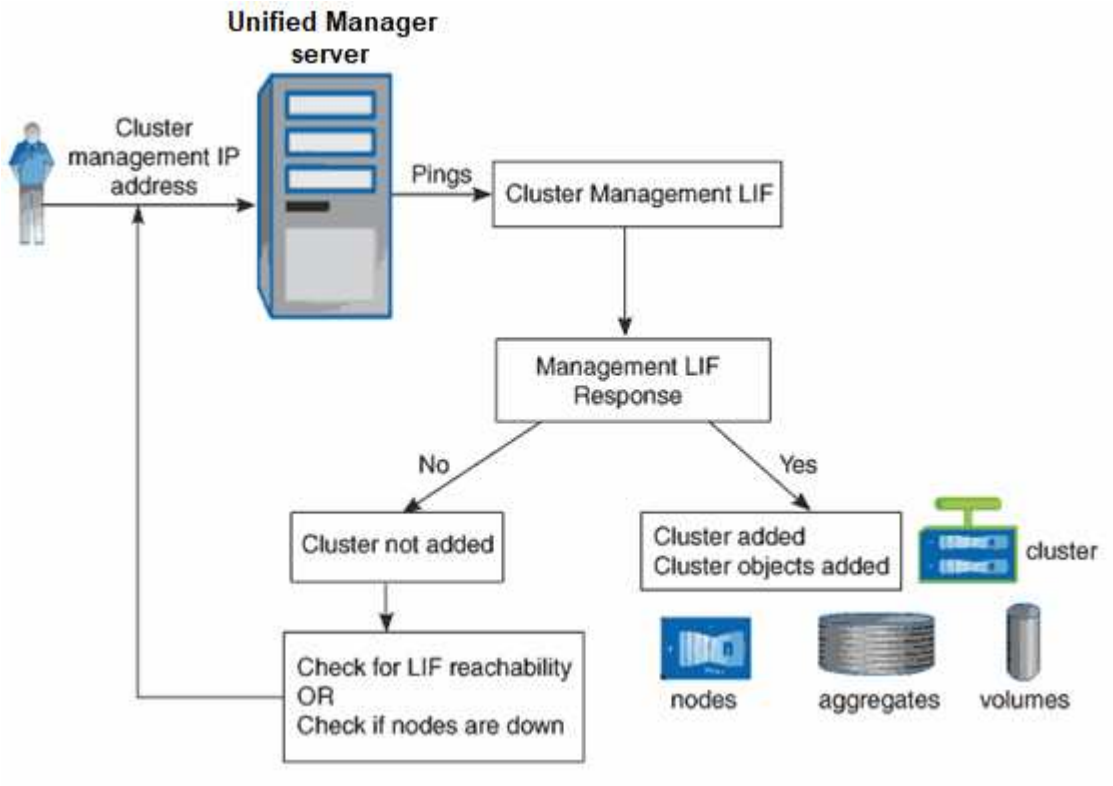
You can manage the ONTAP clusters by using Unified Manager to monitor, add, edit, and remove clusters.

How the cluster discovery process works

After you have added a cluster to Unified Manager, the server discovers the cluster objects and adds them to its database. Understanding how the discovery process works helps you to manage your organization's clusters and their objects.

The monitoring interval for collecting cluster configuration information is 15 minutes. For example, after you have added a cluster, it takes 15 minutes to display the cluster objects in the Unified Manager UI. This time frame is also true when making changes to a cluster. For example, if you add two new volumes to an SVM in a cluster, you see those new objects in the UI after the next polling interval, which could be up to 15 minutes.

The following image illustrates the discovery process:



After all the objects for a new cluster are discovered, Unified Manager starts to gather historical performance data for the previous 15 days. These statistics are collected using the data continuity collection functionality. This feature provides you with over two weeks of performance information for a cluster immediately after it is added. After the data continuity collection cycle is completed, real-time cluster performance data is collected, by default, every five minutes.

Because the collection of 15 days of performance data is CPU intensive, it is suggested that you stagger the addition of new clusters so that data continuity collection polls are not running on too many clusters at the same time.

Viewing the list of monitored clusters

You can use the Cluster Setup page to view your inventory of clusters. You can view details about the clusters, such as their name or IP address and communication status.

What you'll need

You must have the Operator, Application Administrator, or Storage Administrator role.

The list of clusters is sorted by the collection state severity level column. You can click a column header to sort the clusters by different columns.

Step

1. In the left navigation pane, click **Storage Management** > **Cluster Setup**.

Related information

Configuration/Cluster Data Sources page

Adding clusters

You can add a cluster to Active IQ Unified Manager so that you can monitor the cluster. This includes the ability to obtain cluster information such as the health, capacity, performance, and configuration of the cluster so that you can find and resolve any issues that might occur.

What you'll need

- You must have the Application Administrator role or the Storage Administrator role.
- You must have the host name or cluster management IP address (IPv4 or IPv6) for the cluster.

  When using the host name, it must resolve to the cluster management IP address for the cluster management LIF. If you use a node management LIF, the operation fails.

- You must have the user name and password to access the cluster.

  This account must have the *admin* role with Application access set to *ontapi*, *ssh*, and *http*.

- You must know the port number to connect to the cluster using the HTTPS protocol (typically port 443).
- The cluster must be running ONTAP version 9.1 software or greater.
- You must have adequate space on the Unified Manager server. You are prevented from adding a cluster to the server when greater than 90% of space is already consumed.
- You have the required certificates. Two types of certificates are required:

  Server certificates: Used for registration. A valid certificate is required for adding a cluster. If the server certificate expires, you should regenerate it and restart Unified Manager for the services to be automatically registered again. For information about certificate generation, see the knowledge base (KB) article: How to renew an SSL certificate in ONTAP 9

  Client certificates: Used for authentication. A valid certificate is required for adding a cluster. You cannot add a cluster to Unified Manager with an expired certificate and if the client certificate has already expired,

you should regenerate it before adding the cluster. However, if this certificate expires for a cluster that is already added, and is being used by Unified Manager, EMS messaging continues to function with the expired certificate. You do not need to regenerate the client certificate.

You can add clusters which are behind a NAT/firewall by using the Unified Manager NAT IP address. Any connected Workflow Automation or SnapProtect systems must also be behind the NAT/firewall, and SnapProtect API calls must use the NAT IP address to identify the cluster.

- Each cluster in a MetroCluster configuration must be added separately.
- A single instance of Unified Manager can support a specific number of nodes. If you need to monitor an environment that exceeds the supported node count, you must install an additional instance of Unified Manager to monitor some of the clusters.
- You can monitor a single cluster by two instances of Unified Manager provided that you have configured a second cluster-management LIF on the cluster so that each instance of Unified Manager connects through a different LIF.

Steps

1. In the left navigation pane, click **Storage Management** > **Cluster Setup**.
2. On the Cluster Setup page, click **Add**.
3. In the Add Cluster dialog box, specify the values as required, and then click **Submit**.
4. In the Authorize Host dialog box, click **View Certificate** to view the certificate information about the cluster.
5. Click **Yes**.

   Unified Manager checks the certificate only when the cluster is added initially. Unified Manager does not check the certificate for each API call to ONTAP.

After all the objects for a new cluster are discovered, Unified Manager starts to gather historical performance data for the previous 15 days. These statistics are collected using the data continuity collection functionality. This feature provides you with over two weeks of performance information for a cluster immediately after it is added. After the data continuity collection cycle is completed, real-time cluster performance data is collected, by default, every five minutes.

Because the collection of 15 days of performance data is CPU intensive, it is suggested that you stagger the addition of new clusters so that data continuity collection polls are not running on too many clusters at the same time. Additionally, if you restart Unified Manager during the data continuity collection period, the collection will be halted and you will see gaps in the performance charts for the missing timeframe.

If you receive an error message that you cannot add the cluster, check to see if the following issues exist:

- If the clocks on the two systems are not synchronized and the Unified Manager HTTPS certificate start date is later than the date on the cluster. You must ensure that the clocks are synchronized using NTP or a similar service.
- If the cluster has reached the maximum number of EMS notification destinations the Unified Manager address cannot be added. By default only 20 EMS notification destinations can be defined on the cluster.

Related information

Adding users

Viewing the cluster list and details

Editing clusters

You can modify the settings of an existing cluster, such as the host name or IP address, user name, password, and port, by using the Edit Cluster dialog box.

What you'll need

You must have the Application Administrator role or the Storage Administrator role.

Starting with Unified Manager 9.7, clusters can be added using HTTPS only.

Steps

1. In the left navigation pane, click **Storage Management** > **Cluster Setup**.
2. On the **Cluster Setup** page, select the cluster you want to edit, and then click **Edit**.
3. In the **Edit Cluster** dialog box, modify the values as required.
4. Click **Submit**.

Related information

Adding users

Viewing the cluster list and details

Removing clusters

You can remove a cluster from Unified Manager by using the Cluster Setup page. For example, you can remove a cluster if cluster discovery fails, or when you want to decommission a storage system.

What you'll need

You must have the Application Administrator role or the Storage Administrator role.

This task removes the selected cluster from Unified Manager. After a cluster is removed, it is no longer monitored. The instance of Unified Manager registered with the removed cluster is also unregistered from the cluster.

Removing a cluster also deletes all its storage objects, historical data, storage services, and all associated events from Unified Manager. These changes are reflected on the inventory pages and the details pages after the next data collection cycle.

Steps

1. In the left navigation pane, click **Storage Management** > **Cluster Setup**.
2. On the Cluster Setup page, select the cluster that you want to remove and click **Remove**.
3. In the **Remove Data Source** message dialog, click **Remove** to confirm the remove request.

Related information

Adding users

Viewing the cluster list and details

Rediscovering clusters

You can manually rediscover a cluster from the Cluster Setup page in order to obtain the latest information about the health, monitoring status, and performance status of the cluster.

You can manually rediscover a cluster when you want to update the cluster—such as by increasing the size of an aggregate when there is insufficient space—and you want Unified Manager to discover the changes that you make.

When Unified Manager is paired with OnCommand Workflow Automation (WFA), the pairing triggers the reacquisition of the data cached by WFA.

Steps

1. In the left navigation pane, click **Storage Management** > **Cluster Setup**.
2. On the **Cluster Setup** page, click **Rediscover**.

   Unified Manager rediscovers the selected cluster and displays the latest health and performance status.

Related information

Viewing the cluster list and details