Manage licenses (cluster administrators only)

ONTAP 9

NetApp
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Manage licenses overview (cluster administrators only)

A license is a record of one or more software entitlements. In ONTAP 8.2 through ONTAP 9.9.1, license keys are delivered as 28-character strings, and there is one key per ONTAP feature. A new license key format called a NetApp License File (NLF) was introduced in ONTAP 9.2 for cluster-wide features only, such as FabricPool.

Beginning with ONTAP 9.10.1, all license are delivered as NLFs. NLF licenses can enable one or more ONTAP features, depending on your purchase. You can retrieve NLF licenses from the NetApp Support Site by searching for the system (controller) serial number.

You can find licenses for your initial or add-on software orders at the NetApp Support Site under **My Support** > **Software Licenses** (login required). For more information on license replacements, see the Knowledge Base article Post motherboard replacement process to update licensing on a AFF/FAS system.

ONTAP enables you to manage feature licenses in the following ways:

- Display information about installed licenses (`system license show`)
- Display the packages that require licenses and their current license status on the cluster (`system license status show`)
- Delete a license from the cluster or a node whose serial number you specify (`system license delete`)
- Display or remove expired or unused licenses (`system license clean-up`)

ONTAP enables you to monitor feature usage and license entitlement risk in the following ways:

- Display a summary of feature usage in the cluster on a per-node basis (`system feature-usage show-summary`)

  The summary includes counter information such as the number of weeks a feature was in use and the last date and time the feature was used.

- Display feature usage status in the cluster on a per-node and per-week basis (`system feature-usage show-history`)

  The feature usage status can be `not-used`, `configured`, or `in-use`. If the usage information is not available, the status shows `not-available`.

- Display the status of license entitlement risk for each license package (`system license entitlement-risk show`)

  The risk status can be `low`, `medium`, `high`, `unlicensed`, or `unknown`. The risk status is also included in the AutoSupport message. License entitlement risk does not apply to the base license package.

  The license entitlement risk is evaluated by using a number of factors, which might include but are not limited to the following:

  - Each package's licensing state

- The type of each license, its expiry status, and the uniformity of the licenses across the cluster
- Usage for the features associated with the license package If the evaluation process determines that the cluster has a license entitlement risk, the command output also suggests a corrective action.

Note: ONTAP 9.10.1 also supports 28-character license keys using System Manager or the CLI. However, if an NLF license is installed for a feature, you cannot install a 28-character license key over the NLF license for the same feature. For information about installing NLFs or license keys using System Manager, see “Enable new features.”

Related information

What are Data ONTAP 8.2 and 8.3 licensing overview and references?

How to verify Data ONTAP Software Entitlements and related License Keys using the Support Site

FAQ: Licensing updates in Data ONTAP 9.2

NetApp: Data ONTAP Entitlement Risk Status

License types and licensed method

Understanding license types and the licensed method helps you manage the licenses in a cluster.

License types

A package can have one or more of the following license types installed in the cluster. The `system license show` command displays the installed license type or types for a package.

- Standard license (`license`)

  A standard license is a node-locked license. It is issued for a node with a specific system serial number (also known as a *controller serial number*). A standard license is valid only for the node that has the matching serial number.

  Installing a standard, node-locked license entitles a node to the licensed functionality. For the cluster to use licensed functionality, at least one node must be licensed for the functionality. It might be out of compliance to use licensed functionality on a node that does not have an entitlement for the functionality.

- Site license (`site`)

  A site license is not tied to a specific system serial number. When you install a site license, all nodes in the cluster are entitled to the licensed functionality. The `system license show` command displays site licenses under the cluster serial number.

  If your cluster has a site license and you remove a node from the cluster, the node does not carry the site license with it, and it is no longer entitled to the licensed functionality. If you add a node to a cluster that has a site license, the node is automatically entitled to the functionality granted by the site license.

- Evaluation license (`demo`)

  An evaluation license is a temporary license that expires after a certain period of time (indicated by the `system license show` command). It enables you to try certain software functionality without purchasing

an entitlement. It is a cluster-wide license, and it is not tied to a specific serial number of a node.

If your cluster has an evaluation license for a package and you remove a node from the cluster, the node does not carry the evaluation license with it.

Licensed method

It is possible to install both a cluster-wide license (the `site` or `demo` type) and a node-locked license (the `license` type) for a package. Therefore, an installed package can have multiple license types in the cluster. However, to the cluster, there is only one *licensed method* for a package. The `licensed method` field of the `system license status show` command displays the entitlement that is being used for a package. The command determines the licensed method as follows:

- If a package has only one license type installed in the cluster, the installed license type is the licensed method.
- If a package does not have any licenses installed in the cluster, the licensed method is `none`.
- If a package has multiple license types installed in the cluster, the licensed method is determined in the following priority order of the license type--`site`, `license`, and `demo`.

  For example:

  - If you have a site license, a standard license, and an evaluation license for a package, the licensed method for the package in the cluster is `site`.
  - If you have a standard license and an evaluation license for a package, the licensed method for the package in the cluster is `license`.
  - If you have only an evaluation license for a package, the licensed method for the package in the cluster is `demo`.

Commands for managing licenses

You use the `system license` commands to manage feature licenses for the cluster. You use the `system feature-usage` commands to monitor feature usage.

If you want to…	Use this command…

Add one or more licenses	`system license add`
	
	Examples
	The following example adds a list of licenses with the keys AAAAAAAAAAAAAAAAAAAAAAAAAAAA and BBBBBBBBBBBBBBBBBBBBBBBBBBBB to the cluster:
	
	`cluster1::> system license add -license-code AAAAAAAAAAAAAAAAAAAAAAAAAAAA, BBBBBBBBBBBBBBBBBBBBBBBBBBBB`
	
	The following example installs the licenses from the local node "/mroot/etc/lic_file":
	
	`cluster1::> system license add -use-license-file true`

Display information about installed licenses, for example: • License package name and description • License type (`site`, `license`, or `demo`) • Expiration date, if applicable • The cluster or nodes that a package is licensed for • Whether the license was installed prior to Data ONTAP 8.2 (`legacy`) • Customer ID	`system license show` Some information is displayed only when you use the `-instance` parameter.

If you want to…	Use this command…
Display all packages that require licenses and their current license status, including the following: • The package name • The licensed method • The expiration date, if applicable	`system license show-status` **Example** The following example displays the license status of the cluster: cluster1::> system license show-status Status License Scope Detailed Status --------- ------------------- --------- ---------- partially-installed CIFS node License missing on: Node2-Cluster1. SnapRestore node License missing on: Node2-Cluster1. valid FCP node - FabricPool cluster The system is using 1TB, and can use up to 25TB. not-installed NFS - - iSCSI - - SnapMirror - - FlexClone - - SnapVault - - SnapLock - - SnapManagerSuite - - SnapProtectApps - - V_StorageAttach - - Insight_Balance - - OCShift - - TPM - - VE - - DP_Optimized - - not-applicable Cloud - - Select - - 20 entries were displayed.
Delete the license of a package from the cluster or a node whose serial number you specify	`system license delete` **Examples** The following example deletes a license named CIFS and serial number 1-81-000000000000000000000123456 from the cluster: cluster1::> system license delete -serial-number 1-81-000000000000000000000123456 -package CIFS The following example deletes from the cluster all of the licenses under the installed-license Core Bundle for serial number 123456789: cluster1::> system license delete { -serial-number 123456789 -installed-license "Core Bundle" }

If you want to…	Use this command…
Display or remove expired or unused licenses	`system license clean-up` **Examples** The following example simulates and displays the licenses that can be cleaned up: cluster-1::> system license clean-up -expired -unused The following licenses were safely deleted: Serial number: 1-80-000011 Owner: cdancluster-1 Package Reason ---------- ---------- CIFS License has expired Serial number: 4067154888 Owner: none Package Reason ---------- ---------- Cloud License has expired Serial number: 1-81-00000000000000004067154999 Owner: none Package Reason ---------- ---------- iSCSI License unused by any node in the cluster The following licenses are either expired or unused but cannot be safely deleted: Serial number: 4067154778 Owner: node1 Package Reason ---------- ---------- Cloud Feature would be impaired upon removal Serial number: 4067154779 Owner: node2 Package Reason ---------- ---------- Cloud System generated license
Display summary of feature usage in the cluster on a per-node basis	`system feature-usage show-summary`
Display feature usage status in the cluster on a per-node and per-week basis	`system feature-usage show-history`
Display the status of license entitlement risk for each license package	`system license entitlement-risk show` Some information is displayed only when you use the `-detail` and `-instance` parameters.

Related information

ONTAP 9 Commands

Knowledge Base article: ONTAP 9.10.1 and later licensing overview

Use System Manager to install a NetApp license file

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