Installation for Linux

OnCommand Insight

NetApp
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Table of Contents

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Installation prerequisites

Before you install OnCommand Insight, you must download the current software version, acquire the appropriate license, and set up your environment.

Before installing OnCommand Insight, ensure that you have the following:

- OnCommand Insight software files in the downloaded installation package for the current version
- A license to operate the downloaded OnCommand Insight version
- The minimum hardware and software environment

  The current product might consume additional hardware resources (due to enhanced OnCommand Insight product functionality) that were not consumed with earlier versions of the OnCommand Insight product.

- A deployment plan that includes the hardware and network configurations for the OnCommand Insight Server, Data Warehouse and Reporting, and remote acquisition units.

Planning the deployment

To ensure a successful deployment, you must consider certain system elements before you install OnCommand Insight.

About this task

Planning your Insight deployment includes considering these system elements:

- Insight architecture
- Your network components to be monitored
- Insight installation prerequisites and server requirements
- Insight web browser requirements

Data source support information

As part of your configuration planning, you should ensure that the devices in your environment can be monitored by Insight. To do so, you can check the Data source support matrix for details about operating systems, specific devices, and protocols. Some data sources might not be available on all operating systems.

Location of the most up-to-date version of the Data Source Support Matrix

The OnCommand Insight Data Source Support Matrix is updated with each service pack release. The most current version of the document can be found at the NetApp Support Site. .

Device identification and data source planning

As part of your deployment planning, you should collect information about the devices in

your environment.

You need the following software, connectivity, and information about each device in your environment:

- IP address or hostname resolvable by the OCI server
- Login name and password
- Type of access to the device, for example, controller and management station

> Read-only access will be sufficient for most devices, but some devices require administrator permissions.

- Port connectivity to the device depending on data source port requirements
- For switches, SNMP read-only community string (user ID or password to give access to the switches)
- Any third-party software required on the device, for example, Solutions Enabler.
- See the "Vendor-specific data source reference" in the web UI Help or in the *OnCommand Insight Configuration and Administration Guide* for more information on data source permissions and requirements.

Network traffic generated by OnCommand Insight

The network traffic that OnCommand Insight generates, the amount of processed data traversing the network, and the load that OnCommand Insight places on devices differ based on many factors.

The traffic, data, and load differ across environments based on the following factors:

- The raw data
- Configuration of devices
- Deployment topology of OnCommand Insight
- Different inventory and performance data source polling intervals, which can be reduced to allow for slow devices to be discovered or bandwidth to be conserved

The raw configuration data that OnCommand Insight collects can vary significantly.

The following example illustrates how the configuration data can vary and how traffic, data, and load are affected by many configuration factors. For example, you might have two arrays each having 1,000 disks:

- Array 1: Has 1,000 SATA disks all 1 TB in size. All 1,000 disks are in one storage pool, and there are 1,000 LUNs, all presented (mapped and masked) to the same 32 nodes in an ESX cluster.
- Array 2: Has 400 2-TB data disks, 560 600-GB FC disks, and 40 SSD. There are 3 storage pools, but 320 of the FC disks are used in traditional RAID groups. The LUNs carved on the RAID groups use a traditional masking type (symmaskdb), while the thin provisioned, pool-based LUNs use a newer masking type (symaccess). There are 600 LUNs presented to 150 different hosts. There are 200 BCVs (full block replica volumes of 200 of the 600 LUNs). There are also 200 R2 volumes, remote replica volumes of volumes that exist on an array in a different site.

These arrays each have 1,000 disks and 1,000 logical volumes. They might be physically identical in the amount of rack space they consume in the data center, and they might even be running the same firmware, but the second array is much more complex in its configuration than the first array.

Uninstalling MariaDB

You must uninstall MariaDB on the Insight or Data Warehouse servers before you install OnCommand Insight or the Data Warehouse; otherwise, you can not proceed with the installation. MySQL is not compatible with MariaDB. If you attempt an installation on either server without removing MariaDB, the installation terminates with an error message instructing you to uninstall MariaDB.

Before you begin

You must have sudo privileges.

Steps

1. Log in to the Insight server.
2. Obtain a list of MariaDB components:

   ```
   rpm -qa | grep mariadb
   ```

3. Type the following for each MariaDB component that is installed on the server:

   ```
   yum remove component_name
   ```

Insight Server requirements

A dedicated server is recommended. Do not install Insight on a server that has any other applications installed. Both physical and virtual servers are supported, provided that the product requirements are met.

You must have sudo permissions to install the OnCommand Insight Server software.

Some Insight components may require dependent packages during installation. Ensure YUM repository is accessible prior to installing Insight.

> Sizing for OnCommand Insight has multiple dependencies, such as data source type and size, number of assets in your environment, polling intervals, and more. The following sizing examples are guidelines only; they represent some of the environments in which Insight has been tested. Changing any of these or other factors in the environment can change the sizing requirements for Insight. These guidelines include disk space for up to 90 days of performance archive data.

It is recommended to contact your Sales Engineer for detailed sizing guidance before installing or upgrading Insight.

Examples:

Environment factors:	Disk space, CPUs, and Memory tested:

80 storage arrays4,000 Volumes 4,000 VMs 4,000 switch ports	250 GB disk space8 cores 32 GB RAM
160 storage arrays40,000 Volumes 8,000 VMs 8,000 switch ports	1 TB of disk space12 cores 48 GB RAM

Requirements:

Component	Required
Operating system	A computer running a licensed version of one of the following, that is running no other application-level software: • Red Hat Enterprise Linux 7.9, 8.10, 9.4 • CentOS 8 Stream, CentOS 9 Stream • Oracle Enterprise Linux 7.9, 8.10, 9.4 A licensed version ensures that dependencies required by the installation are resolved automatically by the operating system. You must uninstall MariaDB before installing Insight. Uninstalling MariaDB also removes the Postfix Mail Transport Agent. A dedicated server is recommended.
Virtual machine (VM)	This component can run in a virtual environment, provided that the CPU and memory resources for your instance are reserved.
Memory and CPU	24 - 256 GB RAM 8 - 32 cores

Available disk space	100 GB - 3 TB install disk space 50 GB - 1 TB performance archive disk space The following partition breakdowns are recommended for an example 500 GB environment: • /opt directory — 50 GB • /var/log directory — 100 GB • /var/lib directory — 350 GB It is a best practice to mount `/opt` and `/var` on separate disks from the root file system (`/`). SSD disks are recommended for the Insight installation space.
Network	Ethernet connection and ports: • 100 Mbps or 1 Gbps Ethernet connection with dedicated (static) IP address and IP connectivity to all components in the SAN, including FC devices and remote acquisition units. • Port requirements for the OnCommand Insight Server process are 80, 443, 1090 through 1100, 3873, 8083, 4444 through 4446, 5445, 5455, 4712 through 4714, 5500, and 5501. • Port requirements for the acquisition process are 12123 and 5679. • Port requirement for MySQL is 3306. • Port requirements for Elasticsearch are 9200 and 9310 Ports 443 and 3306 require external access through any firewall that is present.
Permissions	Sudo permissions are required on the OnCommand Insight Server. If any of the following folders are symbolic links, ensure that the destination directories have '755' permissions. • /opt/netapp • /var/lib/netapp • /var/log/netapp

Remote connectivity	Internet connectivity to allow WebEx access or a remote desktop connection to facilitate installation and post-installation support.
Accessibility	HTTPS access is required.
HTTP or HTTPS servers	Apache HTTP servers or other HTTPS servers should not compete for the same ports (443) as the OnCommand Insight server and should not start automatically. If they must listen to port 443, then you must configure the OnCommand Insight server to use other ports.

Data Warehouse server requirements

The Data Warehouse server must run on a computer that is compatible with established hardware and software requirements. You must ensure that Apache web server or reporting software is not already installed on this machine.

Sizing for OnCommand Insight has multiple dependencies, such as number of assets in your environment, amount of historical data retained, and more. The following data warehouse sizing examples are guidelines only; they represent some of the environments in which Insight has been tested. Changing any of these or other factors in the environment can change the sizing requirements for Insight.

It is recommended to contact your Sales Engineer for detailed sizing guidance before installing or upgrading Insight.

Examples:

Environment factors:	Disk space, CPUs, and Memory tested:
18 storage arrays3,400 VMs 4,500 switch ports	200 GB hard disk8 cores 32 GB RAM
110 storage arrays11,500 VMs 14,500 switch ports	300 GB hard disk8 cores 48 GB RAM

Requirements:

Component	Required

Operating system	A computer running a licensed version of one of the following, that is running no other application-level software: • Red Hat Enterprise Linux 7.9, 8.10, 9.4 • CentOS 8 Stream, CentOS 9 Stream • Oracle Enterprise Linux 7.9, 8.10, 9.4
Virtual machine (VM)	This component can run in a virtual environment, provided that the CPU and memory resources for your instance are reserved.
CPU	8 - 40 CPU cores
Memory	32 GB - 2 TB RAM
Available Disk Space	200 GB - 512 GB disk space There should be at least 50 GB of free disk space in the `/var/lib` partition and 25 GB of free disk space in the `/opt` and `/var/log` partitions.
Network	• 100 Mbps or 1 Gbps Ethernet connection • Static IP address • For the OnCommand Insight DWH server process, ports 80, 443, 1098, 1099, 3873, 8083, and 4444 through 4446 • For MySQL, port 3306

Remote Acquisition Unit server requirements

You must install a Remote Acquisition Unit (RAU) to acquire information from SAN devices that are behind a firewall, at a remote site, on a private network, or in different network segments. Before you install the RAU, you should ensure that your environment meets RAU operating system, CPU, memory, and disk space requirements.

Component	Requirement
Operating system	A computer running a licensed version of one of the following, that is running no other application-level software: • Red Hat Enterprise Linux 7.9, 8.10, 9.4 • CentOS 8 Stream, CentOS 9 Stream • Oracle Enterprise Linux 7.9, 8.10, 9.4 A dedicated server is recommended.

CPU	4 CPU cores
Memory	16 GB RAM
Available disk space	40 GB
Network	100 Mbps /1 Gbps Ethernet connection, static IP address, IP connectivity to all FC devices, and a required port to the OnCommand Insight server (80 or 443).
Permissions	Sudo permissions on the RAU server

Browsers supported by OnCommand Insight

The browser-based OnCommand Insightweb UI can operate on several different browsers.

Insight supports newer, non-beta releases of the following browsers:

- Mozilla Firefox
- Google Chrome
- Microsoft Edge

For a full list of browser versions qualified for OnCommand Insight, please see the NetApp Interoperability Matrix Tool.

Insight installation instructions

Installation requires installing several OnCommand Insight components, Insight Server, and Data Warehouse.

The installation includes the following major tasks:

- Downloading the OnCommand Insight installer
- Installing OnCommand Insight server
- Installing licenses
- Optionally, installing DWH and Reporting (must be installed on a separate machine or virtual machine. Reporting requires Microsoft Windows.)
- Optionally, installing a remote acquisition unit (RAU), which acquires information from your device resources that reside behind a firewall, are located at a remote site, or are on a private network

After installation, you must configure Insight to acquire information about your environment. The tasks required are described in the *OnCommand Insight Configuration and Administration Guide*.

Downloading the OnCommand Insight installer

You can download the OnCommand Insight installer from the NetApp Support Site.

Before you begin

You must have a login to the NetApp Support Site at mysupport.netapp.com.

Additionally, you must have an unzip utility with which to open the installation `.ZIP` files.

Steps

1. Log in to the server on which you want to install OnCommand Insight.
2. Download the installation file from the NetApp Support site.

Installing the OnCommand Insight Server

OnCommand Insight Server is installed by using the command line.

Before you begin

You must have completed all of the installation prerequisites.

Steps

1. Log in to the Insight server using an account with sudo privileges.
2. Navigate to the directory on the server where the installation files are located and type the following command:

   `unzip oci-<version>-linux-x86_64.zip`

   Ensure that you check the version number of the installation file; the version number might be different than the one shown in the command.

3. You can view syntax, command arguments, and parameter usage for `oci-install.sh` :

   `sudo ./oci-<version>-linux-x86_64/oci-install.sh --help`

4. Run the installation script:

   `sudo ./oci-<version>-linux-x86_64/oci-install.sh`

   When installing Insight Server on CentOS 9 Stream, Red Hat Enterprise Linux 9.4, or Oracle Linux 9.4, you must first change to the directory containing the installer file and then execute the install command using the "--install-mysql-dependencies" command-line option:

   ```
   cd /tmp/oci-7.3.16.1.297-linux-x86_64
   sudo ./oci-install.sh --install-mysql-dependencies
   ```

5. Read the License Agreement, accept it, and follow the prompts.

6. If you are using the Insight consumption licensing model, you must enable sending of usage information to NetApp. Enter `Y` at this prompt.

Results

After you answer all the prompts, the installation begins and should take approximately 10 minutes, depending on the applications installed.

1. If you will be installing a Remote Acquisition Unit (RAU), you must run the SecurityAdmin Tool to create a password for the *acquisition* user. You will need this password when installing the RAU.

   Note: If you have created this password, you do *not* need to Synchronize the Server and RAU as noted below.

Synchronize Server with DWH and RAU

After installing the Remote Acquisition Unit and/or the Data Warehouse, you **must** synchronize the RAU/DWH with the OnCommand Insight Server. Follow the steps as noted below:

Synchronize Server and RAU (Windows)

Synchronize Server and DWH (Windows)

Synchronize Server and RAU (Linux)

Synchronize Server and DWH (Linux)

Installing OnCommand Insight Data Warehouse

The installation is self-contained and includes the elements required to run and operate OnCommand Insight Data Warehouse (DWH).

Before you begin

You must have completed all of the installation prerequisites.

About this task

Data Warehouse has Cognos reporting capabilities. If you install Insight on a Linux server, you can use these capabilities, however, only if you install the Data Warehouse on a Windows server. For information about installing the Data Warehouse on Windows and Cognos reporting capabilities, refer to the *OnCommand Insight Installation Guide for Microsoft Windows*.

Steps

1. Log in to the Data Warehouse server using an account with sudo privileges.
2. Navigate to the directory on the server where the installation files are located and type the following command:

   ```
   unzip oci-dwh-<version>-linux-x86_64.zip
   ```

   Ensure that you check the version number of the installation file; the version number might be different than

the one shown in the command.

3. You can view syntax, command arguments, and parameter usage for `oci-install.sh` before you begin the installation:

   ```
   sudo ./oci-dwh-<version>-linux-x86_64/oci-install.sh --help
   ```

4. Run the installation script:

   ```
   sudo ./oci-dwh-<version>-linux-x86_64/oci-install.sh
   ```

   When installing Insight Server or Data Warehouse on CentOS 9 Stream, Red Hat Enterprise Linux 9.4, or Oracle Linux 9.4, you must first change to the directory containing the installer file and then execute the install command using the "--install-mysql-dependencies" command-line option:

   ```
   cd /tmp/oci-7.3.16.1.297-linux-x86_64
   sudo ./oci-install.sh --install-mysql-dependencies
   ```

5. Read the License Agreement, accept it, and follow the prompts.

Results

After you answer all the prompts, the installation begins and should take approximately 10 minutes, depending on the applications installed.

Synchronize Server and DWH

After installing the Data Warehouse, you **must** synchronize the Data Warehouse with the OnCommand Insight Server. Follow these steps:

1. On the OnCommand Insight Server system, start the **SecurityAdmin** tool in interactive mode

   ```
   securityadmin -i
   ```

2. Change the password for the *inventory* and *dwh_internal* users to passwords of your choice. **Make note of these passwords** as you will require them below.
3. Restart the DWH service
4. On **each Connector** start the **SecurityAdmin** tool in interactive mode. You will need the passwords you noted from step 2 above.

   ```
   securityadmin -i
   ```

5. Change the passwords for the *inventory* and *dwh_internal* users to the passwords used in step 2.
6. Restart services on the Connectors.
7. Add the Connectors to DWH, using the passwords for *inventory* and *dwh_internal* users from step 2

Installing a Remote Acquisition Unit

You can install one or more Remote Acquisition Units (RAUs) in your OnCommand Insight environment. Acquisition units run in the network that accesses (through modules called data *sources*) and collect data from different devices in the data center.

Before you begin

You must have completed all of the installation prerequisites.

At least one port must be open and available between the RAU server and the OnCommand Insight Server to forward change information to the server. If you are unsure about this, validate it by opening a Web browser on the RAU computer and directing it to the OnCommand Insight server:

```
https://< OnCommand Insight Server hostname >:< acquisition_port >
```

The acquisition port defaults to 443, but it might have changed during the server installation. If the connection is successful, you see a OnCommand Insight response page, indicating an open and available port between the RAU and the OnCommand Insight server.

For environments using Network Address Translation or Port Address Translation (NAT/PAT: i.e, any translation of IP addresses), Insight only supports insertion of an RAU between NAT and the Device.

- Supported: OnCommand Insight -> NAT -> RAU -> Device
- Unsupported: OnCommand Insight -> RAU -> NAT -> Device

Steps

1. Log in to the RAU server using an account with sudo privileges.
2. Navigate to the directory on the server where the installation files are located and type the following command:

   ```
   unzip oci-rau-<version>-linux-x86_64.zip
   ```

3. You can view syntax, command arguments, and parameter usage for `oci-install.sh`:

   ```
   sudo ./oci-rau-<version>-linux-x86_64/oci-install.sh --help
   ```

4. Run the installation script:

   ```
   sudo ./oci-rau-<version>-linux-x86_64/oci-install.sh
   ```

5. Read the License Agreement, accept it, and then follow the prompts.

   After you answer all the prompts, the installation begins and should take approximately 10 minutes, depending on the applications installed.

If your data begins acquiring, you are all set; you do *not* need to synchronize the Server and RAU as noted below.

Synchronize Server and RAU

If data does not begin acquiring after installing the Remote Acquisition Unit, synchronize the RAU with the OnCommand Insight Server. Follow these steps:

1. On the OnCommand Insight Server system, start the **SecurityAdmin** tool in interactive mode

```
securityadmin -i
```

2. Change the password for the *acquisition* user for the Insight Server to a password of your choice. **Make note of this password** as you will require it below.
3. Restart the server/LAU.
4. On the Remote Acquisition Unit (RAU) system, start the **SecurityAdmin** tool in interactive mode. You will need the password you noted from step 2 above.

```
securityadmin -i
```

5. Change the password for the *acquisition* user to the password used in step 2.
6. Restart the RAU.

Validating the remote acquisition unit installation

To validate proper installation of the Remote Acquisition Unit, you can view the status of the Remote Acquisition Units connected to your server.

Steps

1. On the Insight toolbar, click **Admin**.
2. Click **Acquisition Units**.
3. Verify that the new Remote Acquisition Unit was registered correctly and that it has a Connected status.

   If it does not have a Connected status, try restarting the service. Log into the Remote Acquisition Unit system and execute the following command:

```
oci-service.sh restart acquisition
```

   If it still does not connect, contact technical support.

Checking the installation

After you complete the installation, the installation directory is located in `/opt/netapp/oci`. You can open Insight in a supported browser to check the installation. You might also want to check the Insight log files.

When you first open Insight, the license setup page opens. After you enter the license information, you must

set up the data sources. See the *OnCommand Insight Configuration and Administration Guide* for information about entering data source definitions and setting up Insight users and notifications.

If you have experienced installation problems, contact technical support and provide the requested information.

Verifying that new Insight components are installed

After installation, you should verify the existence of the new components on your server.

Steps

1. To display a list of services that are currently operating on the server you are logged in to, type:

   ```
   sudo oci-service.sh status all
   ```

2. Depending on the server you are logged in to, check for the following Insight services in the list and ensure they have a status of “running”.
   - Insight server: wildfly, acquisition, mysql, elasticsearch
   - Data Warehouse server: wildfly, mysql
   - Remote Acquisition server: acquisition

Results

If these components are not listed, contact technical support.

Insight logs

Insight supplies many log files to assist you with research and troubleshooting. The available logs are listed in the log directory. You might want to use a log monitoring tool, such as BareTail, to display all of the logs at one time.

The log files are located in the `/var/log/netapp/oci/wildfly/` directory. Acquisition logs are located in the `/var/log/netapp/oci/acq` directory. The data files are located in `/var/lib/netapp/oci`.

Accessing the web UI

After you install OnCommand Insight, you must install your licenses and then set up Insight to monitor your environment. To do this, you use a web browser to access the Insight web UI.

Steps

1. Do one of the following:
   - Open Insight on the Insight server:

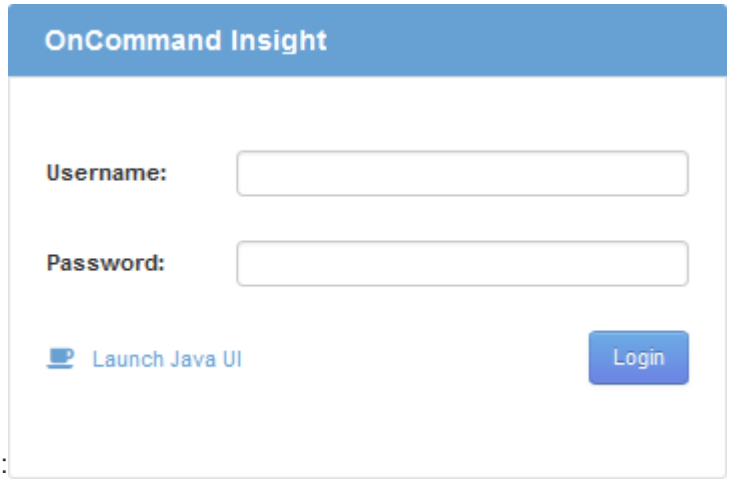
     ```
     https://fqdn
     ```

   - Open Insight from any other location:

     ```
     https://fqdn:port
     ```

The port number is either 443 or another port configured when the Insight server was installed. The port number defaults to 443 if you do not specify it in the URL.

The OnCommand Insight dialog box displays:



2. Enter your user name and password and click **Login**.

   If the licenses have been installed, the data source setup page displays.

> An Insight browser session that is inactive for 30 minutes is timed out and you are automatically logged out of the system. For added security, it is recommended to close your browser after logging out of Insight.

Installing your Insight licenses

After you receive the license file containing the Insight license keys from NetApp, you can use the setup features to install all of your licenses at the same time.

About this task

Insight license keys are stored in a `.txt` or `.lcn` file.

Steps

1. Open the license file in a text editor and copy the text.
2. Open Insight in your browser.
3. On the Insight toolbar, click **Admin**.
4. Click **Setup**.
5. Click the **Licenses** tab.
6. Click **Update License**.
7. Copy the license key text into the **License** text box.
8. Select the **Update (most common)** operation.
9. Click **Save**.
10. If you are using the Insight consumption licensing model, you must check the box to **Enable sending usage information to NetApp** in the **Send usage information** section. Proxy must be properly configured and enabled for your environment.

After you finish

After installing the licenses, you can perform these configuration tasks:

- Configure data sources.
- Create OnCommand Insight user accounts.

OnCommand Insight licenses

OnCommand Insight operates with licenses that enable specific features on the Insight Server.

- **Discover**

  Discover is the basic Insight license that supports inventory. You must have a Discover license to use OnCommand Insight, and the Discover license must be paired with at least one of the Assure, Perform, or Plan licenses.

- **Assure**

  An Assure license provides support for assurance functionality, including global and SAN path policy, and violation management. An Assure license also enables you to view and manage vulnerabilities.

- **Perform**

  A Perform license supports performance monitoring on asset pages, dashboard widgets, queries, and so on, as well as managing performance policies and violations.

- **Plan**

  A Plan license supports planning functions, including resource usage and allocation.

- **Host Utilization pack**

  A Host Utilization license supports file system utilization on hosts and virtual machines.

- **Report Authoring**

  A Report Authoring license supports additional authors for reporting. This license requires the Plan license.

OnCommand Insight modules are licensed for annual term or perpetual:

- By terabyte of monitored capacity for Discover, Assure, Plan, Perform modules
- By number of hosts for Host Utilization pack
- By number of additional units of Cognos pro-authors required for Report Authoring

License keys are a set of unique strings that are generated for each customer. You can obtain license keys from your OnCommand Insight representative.

Your installed licenses control the following options that are available in the software:

- **Discover**

  Acquire and manage inventory (Foundation)

Monitor changes and manage inventory policies

- **Assure**

  View and manage SAN path policies and violations

  View and manage vulnerabilities

  View and manage tasks and migrations

- **Plan**

  View and manage requests

  View and manage pending tasks

  View and manage reservation violations

  View and manage port balance violations

- **Perform**

  Monitor performance data, including data in dashboard widgets, asset pages, and queries

  View and manage performance policies and violations

The following tables provide details of the features that are available with and without the Perform license for admin users and non-admin users.

Feature (admin)	With Perform license	Without Perform license
Application	Yes	No performance data or charts
Virtual machine	Yes	No performance data or charts
Hypervisor	Yes	No performance data or charts
Host	Yes	No performance data or charts
Datastore	Yes	No performance data or charts
VMDK	Yes	No performance data or charts
Internal volume	Yes	No performance data or charts
Volume	Yes	No performance data or charts
Storage pool	Yes	No performance data or charts
Disk	Yes	No performance data or charts

Storage	Yes	No performance data or charts
Storage node	Yes	No performance data or charts
Fabric	Yes	No performance data or charts
Switch port	Yes	No performance data or charts; “Port Errors” shows “N/A”
Storage port	Yes	Yes
NPV port	Yes	No performance data or charts
Switch	Yes	No performance data or charts
NPV switch	Yes	No performance data or charts
Qtrees	Yes	No performance data or charts
Quota	Yes	No performance data or charts
Path	Yes	No performance data or charts
Zone	Yes	No performance data or charts
Zone member	Yes	No performance data or charts
Generic device	Yes	No performance data or charts
Tape	Yes	No performance data or charts
Masking	Yes	No performance data or charts
ISCSI sessions	Yes	No performance data or charts
ICSI network portals	Yes	No performance data or charts
Search	Yes	Yes
Admin	Yes	Yes
Dashboard	Yes	Yes

Widgets	Yes	Partially available (only asset, query, and admin widgets are available)
Violations dashboard	Yes	Hidden
Assets dashboard	Yes	Partially available (storage IOPS and VM IOPS widgets are hidden)
Manage performance policies	Yes	Hidden
Manage annotations	Yes	Yes
Manage annotation rules	Yes	Yes
Manage applications	Yes	Yes
Queries	Yes	Yes
Manage business entities	Yes	Yes

Feature	User - with Perform license	Guest - with Perform license	User - without Perform license	Guest - without Perform license
Assets dashboard	Yes	Yes	Partially available (storage IOPS and VM IOPS widgets are hidden)	Partially available (storage IOPS and VM IOPS widgets are hidden)
Custom dashboard	View only (no create, edit, or save options)	View only (no create, edit, or save options)	View only (no create, edit, or save options)	View only (no create, edit, or save options)
Manage performance policies	Yes	Hidden	Hidden	Hidden
Manage annotations	Yes	Hidden	Yes	Hidden
Manage applications	Yes	Hidden	Yes	Hidden
Manage business entities	Yes	Hidden	Yes	Hidden
Queries	Yes	View and edit only (no save option)	Yes	View and edit only (no save option)

Troubleshooting installations

OnCommand Insight installations are generally managed through the installation wizards. However, customers might experience problems during upgrades or with conflicts due to computer environments.

You should also be certain that you install all of the necessary OnCommand Insight licenses for installing the software.

Missing licenses

Different licenses are required for different OnCommand Insight functionality. What you see displayed in OnCommand Insight is controlled by your installed licenses. Refer to the OnCommand Insight licenses section for information on functionality controlled by each license.

Refer to the OnCommand Insight licenses section for information on functionality controlled by each license.

Submitting an online technical support request

If you have problems with the Insight installation, as a registered support customer, you can submit an online technical support request.

Before you begin

Using your corporate email address, you must register as a support customer to obtain online support services. Registration is performed through the support site (http://support.netapp.com).

About this task

To assist customer support in solving the installation problem, you should gather as much information as possible, including these items:

- Insight serial number
- Description of the problem
- All Insight log files
- Screen capture of any error messages

Steps

1. Create a `.zip` file of the information you gathered to create a troubleshooting package.
2. Log in to the support site at mysupport.netapp.com and select **Technical Assistance**.
3. Click **Open a Case**.
4. Follow the instructions to your package of data.

After you finish

You can use **Check Case Status** on the Technical Assistance page to follow your request.

Upgrading Insight

When a new version of OnCommand Insight is available, you might want to upgrade to take advantage of new features and fixes to issues. You must upgrade the Insight server and Data Warehouse (DWH) separately.

> You should not store any automatic or manual backups in Insight installation directories, because the entire installation folder is overwritten during the upgrade process. If you have stored backup files in any of those directories, you must move your backups to a different location before you perform any upgrade or uninstall process.

Newer versions of Insight have greater disk space, memory and CPU requirements. Before upgrading to the latest version of Insight, review the Installation requirements. It is strongly recommended to contact your Sales Engineer for detailed sizing guidance before installing or upgrading Insight.

It is Best Practice to perform a security backup and a database backup before upgrading Insight software.

Upgrading Insight to version 7.3.12 or later - Linux

Prior to upgrading from OnCommand Insight 7.3.10 - 7.3.11 to version 7.3.12 or later, you must run the OCI Data Migration Tool.

Background

OnCommand Insight versions 7.3.12 and later utilize underlying software that may be incompatible with previous versions. Insight versions 7.3.12 and later include a **Data Migration Tool** to assist with upgrading.

> OnCommand Insight versions 7.3.9 and earlier are no longer supported. If you are running one of these versions, you *must* upgrade to Insight version 7.3.10 or later (7.3.11 is strongly recommended) prior to upgrading to 7.3.12 or later.

What Does The Data Migration Tool Do?

The migration tool performs an initial compatibility check and then follows one of three different upgrade paths. The path selected is based on the data compatibility of your current version.

> Prior to upgrading, you must run the Data Migration Tool and follow the recommended steps.

Before you Begin

- It is strongly recommended to back up your OnCommand Insight system prior to running the Data Migration Tool.
- The Elasticsearch service on the server needs to be up and running.
- The Data Migration Tool *must* be run for the database and any performance archives before you upgrade Insight.

Running the Data Migration Tool

1. Download the latest version of the Data Migration Tool (for example, *SANScreenDataMigrationTool-x86-7.3.12-97.zip*) to your Insight server, as well as the appropriate Insight installer file. Unzip into a working

folder. Downloads can be found on the NetApp Support Site.

2. Open a command window and navigate to your working folder.
   - Bash shell is recommended.
3. Run the data migration tool using the following command:
   - `*sudo ./SANScreenDataMigrationTool.sh*`
4. Follow the instructions as needed. The following is an example.

```
sudo ./SanscreenDataMigrationTool.sh

NetApp SANScreen Data Migration Tool 7.3.12-132

OCI 7.3.10.8.139 is installed
Elasticsearch REST port = 9200

Checking Elasticsearch service...
Elasticsearch service is up

Checking for obsolete (version 5) indexes...
Found 54 obsolete indexes. Of these,
    54 indexes may be migrated with OCI server running,
       the most recent of which is for 2021-05-13

Verifying migration component is present...
SANscreen Server service is Running

Proceed with online migration of 54 indexes (y or [n])?:
```

The Data Migration Tool will check for the presence of obsolete indexes on your system and report if any are found. If none are present the tool will exit.

Some indexes may be migrated while the SANscreen Server service is running. Others may only be migrated when the server is stopped. If there are no indexes that may be migrated the tool will exit. Otherwise follow the instructions as prompted.

After the Data Migration Tool completes it will recheck for obsolete indexes. If all indexes have been migrated, the tool will inform you that upgrade to OnCommand Insight 7.3.12 is supported. You can now proceed with upgrading Insight.

```
sudo ./SanscreenDataMigrationTool.sh

NetApp SANScreen Data Migration Tool 7.3.12-132

OCI 7.3.10.8.139 is installed
Elasticsearch REST port = 9200

Checking for obsolete (version 5) indexes...
Found 76 obsolete OCI indexes. Of these,
76 indexes may be migrated with OCI server running

SANscreen Server service is running

Proceed with online migration of 76 indexes (y or [n])? y
If you supply performance archive location, entries for any dates with
migrated
indexes will be replaced. Each orginal entry will be renamed and you may
delete
it after migration is completed.
When prompted enter the archive location including the site-name
directory.

Enter the location of the performance archive or blank if none:
Performance archive entries will not be updated

Running the migration application with options -u http://localhost:9200
--online -sa -

Preparing to migrate oci-timeseries-disk-2021-03-22: copied; backup;
delete old; restore new; cleanup; done.
Preparing to migrate oci-timeseries-internalvolume-2021-03-22: copied;
backup; delete old; restore new; cleanup; done.
Preparing to migrate oci-timeseries-port-2021-03-22: copied; backup;
delete old; restore new; cleanup; done.
...
Preparing to migrate oci-timeseries-disk-2021-03-27: copied; backup;
delete old; restore new; cleanup; done.
Execution time 0:08:17
Checking for obsolete (version 5) indexes...

No obsolete indexes found. Upgrade and Inline Upgrade to 7.3.12+ are
supported
```

If you were prompted to stop the SANScreen service, restart it before upgrading Insight.

Validation failures

In the event that index validation fails, the migration tool will inform you of the problem before quitting.

OnCommand Insight is not present:

```
./SanscreenDataMigrationTool.sh

NetApp SANScreen Data Migration Tool V1.0

Checking OnCommand Insight Installation...
ERROR: OnCommand Insight is not installed
```

Invalid Insight version:

```
./SanscreenDataMigrationTool.sh

NetApp SANScreen Data Migration Tool 7.3.12-105

Checking OnCommand Insight Installation...
OnCommand Insight 7.3.4 (126) is installed
ERROR: The OCI Data Migration Tool is intended to be run against OCI 7.3.5
- 7.3.11
```

Elasticsearch service is not running:

```
./SanscreenDataMigrationTool.sh
NetApp SANScreen Data Migration Tool 7.3.12-105

Checking OnCommand Insight Installation...
OnCommand Insight 7.3.11 (126) is installed

Getting installation parameters...
Elasticsearch Rest Port: 9200

Checking Elasticsearch service...
ERROR: The Elasticsearch service is not running

Please start the service and wait for initialization to complete
Then rerun OCI Data Migration Tool
```

Command-line options

The Data Migration Tool includes some optional parameters that affect its operation.

Option (Linux)	Function
-s | --silent	Suppress all prompts
-a | --archive	If specified, existing archive entries for any date whose index(es) are migrated will be replaced. The path should point to the directory containing the archive entry zip files. An argument of '-' may be specified to indicate there is no performance archive to be updated. If this argument is present, the prompt for the archive location will be suppressed.
-c | --check	If present, the script will exit immediately after reporting the index counts.
-d | --dryrun	If present, then the migration executable will report the actions that would be taken (to migrate data and update archive entries) but will not perform the operations.
-p | --port	If present, use the supplied value as Elasticsearch's REST port. If absent, obtain the value from the installation if possible; otherwise use the default value of 9200. In some Linux OnCommand Insight installations, the Elasticsearch REST port might not be running on the default 9200 port. in this case use the --port option to supply the value
-h | --help	Display usage information

Troubleshooting

If archive entries were updated, you *must* make sure that the ownership and permissions on the updated archives are correct. They should be **ocisys ocisys 644**. If they are not, navigate into the performance archive folder and run the following commands:

```
chown ocisys *
chgrp ocisys *
chmod 644 *
```

Upgrading Insight Server software

You can check for OnCommand Insight server updates after you log into the server.

> It is strongly recommended to back up the vault and the database prior to upgrading OnCommand Insight.
>
> See the SecurityAdmin Tool instructions for more information about the vault.

Steps

1. On the Insight toolbar, click the **Help** icon.
2. Select **Check for updates**.
3. Click **OK** if the `Version is up to date` message displays.
4. If a newer version is detected, click the **download here** link in the message box.
5. In the **Download** page, click **download**. Note the download directory location.

   You can also download the newer version from the NetApp support site.
6. Log in to the Insight server using an account with sudo privileges.
7. Navigate to the download directory and type the following command:

   ```
   unzip oci-<version>-linux-x86_64.zip
   ```

   Ensure that you have the correct the version number of the installation file.
8. You can view syntax, command arguments, and parameter usage for `oci-install.sh` :

   ```
   sudo ./oci-<version>-linux-x86_64/oci-install.sh --help
   ```
9. Run the installation script:

   ```
   sudo ./oci-<version>-linux-x86_64/oci-install.sh
   ```
10. Accept the License Agreement and follow the prompts.

Upgrading Data Warehouse software

After upgrading the Insight server software, you must upgrade your data warehouse software.

About this task

> It is strongly recommended to back up the vault and the database prior to upgrading DWH.
>
> See the SecurityAdmin Tool instructions for more information about the vault.

Steps

1. Log in to the Data Warehouse (DWH) server using an account with sudo privileges.
2. Download the Insight DWH software from the NetApp support site.
3. Navigate to the download directory and type the following command:

   ```
   unzip oci-dwh-<version>-linux-x86_64.zip
   ```

   Ensure that you have the correct the version number of the installation file.

4. You can view syntax, command arguments, and parameter usage for `oci-install.sh` :

   ```
   sudo ./oci-dwh-<version>-linux-x86_64/oci-install.sh --help
   ```

5. Run the installation script:

   ```
   sudo ./oci-dwh-<version>-linux-x86_64/oci-install.sh
   ```

6. Accept the License Agreement and follow the prompts.

Upgrading Remote Acquisition Unit software

After upgrading the Insight server software, you must upgrade your remote acquisition software.

It is strongly recommended to back up the vault and the database prior to upgrading DWH.

See the SecurityAdmin Tool instructions for more information about the vault.

Steps

1. Log in to the Remote Acquisition Unit (RAU) server using an account with sudo privileges.
2. Download the Insight RAU software from the NetApp support site.
3. Navigate to the download directory and type the following command:

   ```
   unzip oci-rau-<version>-linux-x86_64.zip
   ```

   Ensure that you have the correct the version number of the installation file.

4. You can view syntax, command arguments, and parameter usage for `oci-install.sh` :

   ```
   sudo ./oci-rau-<version>-linux-x86_64/oci-install.sh --help
   ```

5. Run the installation script:

   ```
   sudo ./oci-rau-<version>-linux-x86_64/oci-install.sh
   ```

6. Accept the License Agreement and follow the prompts.

Migrating from Windows to Linux

To use Insight on Linux when you have an existing Windows installation, you must perform a migration. You must perform this procedure on both the Insight server and Data Warehouse components.

Steps

1. Back up your current Insight installation on your server.

   Refer to the *OnCommand Insight Configuration and Administration Guide* for information about how to back up the OCI database.

2. Install Insight for Linux.
3. Restore the database for your previous version.

   Refer to the *OnCommand Insight Configuration and Administration Guide* for information about how to restore the OCI database.

4. Uninstall your previous version of Insight for Windows.

Uninstalling OnCommand Insight

You can uninstall the OnCommand Insight components if needed. You must uninstall the OnCommand Insight components separately.

> **It is strongly recommended to back up the vault** before uninstalling OnCommand Insight.
>
> See the SecurityAdmin Tool instructions for more information.

Each component is uninstalled separately.

Uninstalling the OnCommand Insight Server

You can uninstall the OnCommand Insight server if needed.

> **It is strongly recommended to back up the vault** before uninstalling OnCommand Insight.
>
> See the SecurityAdmin Tool instructions for more information.

Before you begin

Best practice: before uninstalling Insight, back up the OnCommand Insight database.

Steps

1. Log in to the OnCommand Insight server using an account with sudo privileges.
2. Ensure that any OnCommand Insight windows are closed.
3. You can view syntax, command arguments, and parameter usage for `oci-uninstall.sh` by entering the following command:

```
sudo /usr/bin/oci-uninstall.sh --help
```

A normal uninstall does not remove the Insight license or any daily backups. To remove the entire installation, use the `--purge` optioon with the`oci-install.sh` command.

4. Type the following command:

```
sudo /usr/bin/oci-uninstall.sh
```

Uninstalling Data Warehouse

You can uninstall Data Warehouse if needed.

It is strongly recommended to back up the vault before uninstalling OnCommand Insight.

See the SecurityAdmin Tool instructions for more information.

Before you begin

Back up the current version of the OnCommand Insight Data Warehouse (DWH) database.

About this task

Uninstalling the OnCommand Insight Data Warehouse permanently deletes all previously collected data.

Steps

1. Log in to the Data Warehouse server using an account with sudo privileges.
2. Ensure that any OnCommand Insight windows are closed.
3. You can view syntax, command arguments, and parameter usage for `uninstall.sh` by entering the following command: `sudo /usr/bin/oci-uninstall.sh --help`
4. Type the following command: `sudo /usr/bin/oci-uninstall.sh`

Uninstalling a Remote Acquisition Unit

You can uninstall a Remote Acquisition Unit when you no longer need it.

It is strongly recommended to back up the vault before uninstalling OnCommand Insight.

See the SecurityAdmin Tool instructions for more information.

Steps

1. Log in to the Remote Acquisition Unit server using an account with sudo privileges.
2. Ensure that any OnCommand Insight windows are closed.
3. You can view syntax, command arguments, and parameter usage for `uninstall.sh` by entering the following command: `sudo /usr/bin/oci-uninstall.sh --help`
4. Type the following command: `sudo /usr/bin/oci-uninstall.sh`

The uninstall script runs. Follow any prompts.

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