Installation for Microsoft Windows

OnCommand Insight

NetApp
June 10, 2024

Table of Contents

Installation for Microsoft Windows

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.
- Disabled virus scan software

  During the installation of OnCommand Insight, you must completely disable all virus scanners. Following installation, the paths used by the Insight component (install, backup, and archiver paths) must be excluded from virus scanning, in addition to excluding the entire `sanscreen` directory from the scan.

  Additionally, you must also exclude the IBM/Db2 folder (for example *C:\Program Files\IBM\DB2*) from anti-virus scanning following installation.

> If you are performing a full installation as an upgrade or as a migration to new hardware and your existing system contains a non-default security configuration, you must back up the security configuration before you perform the installation. After the installation is complete, you must restore the security configuration before you restore the Server (which includes the local acquisition unit) or Data Warehouse database.You must restore the security configuration to all of your Insight servers before you restore the DWH Database.
>
> For in-place upgrade (available for Insight Server only), the security configuration is properly handled and you do not need to restore it.
>
> You use the `securityadmin` tool to create a backup of the configuration and to restore the saved configuration. For more information, search for `securityadmin` in the OnCommand Insight Documentation Center: http://docs.netapp.com/oci-73/index.jsp

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.

Virus scan software disablement

If antivirus software is active on your system, OnCommand Insight installation fails. You can prevent this problem by disabling the virus scan software before installation.

To prevent an installation failure due to active virus scan software, during the installation of each OnCommand Insight component, you must completely disable all virus scanners. Following installation, the paths used by the Insight component (install, backup, and archiver paths) must be excluded from virus scanning.

Additionally, you must also exclude the IBM/Db2 folder (for example *C:\Program Files\IBM\DB2*) from anti-virus scanning following installation.

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 local administrator permissions to install the OnCommand Insight Server software.

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 64-bit Microsoft Windows Server 2016, 2019, or 2022, with the latest service pack. The Resilient File System (ReFS) introduced with Windows Server 2012 is not compatible with OnCommand Insight. Windows installation of OnCommand Insight is only supported on the NTFS file system. 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 It is strongly recommended to set the paging file size to “Windows managed”. Small, fixed-size paging files may interfere with the successful storage of Insight performance data.
Available disk space	100 GB - 3 TB install disk space 50 GB - 1 TB performance archive disk space 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 • Dynamic port requirements on Win2008/2012 are 49152 through 65535 Ports 443 and 3306 require external access through any firewall that is present.
Permissions	Local administrator 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.
Virus scan	During the installation of this OnCommand Insight component, you must completely disable all virus scanners. Following installation, the paths used by the Insight component (install, backup, and archiver paths) must be excluded from virus scanning. Additionally, you must also exclude the IBM/Db2 folder (for example *C:\Program Files\IBM\DB2*) from anti-virus scanning following installation.

HTTP or HTTPS servers	Microsoft Internet Information Services (IIS) 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 and Reporting server requirements

You must run the Data Warehouse and the Reporting server on a computer that is compatible with established hardware and software requirements, ensuring 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 64-bit Microsoft Windows Server 2016, 2019, or 2022, with the latest service pack.
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 Best Practice: It is strongly recommended to set the paging file size to “Windows managed”. Small, fixed-size paging files may interfere with the successful storage of Insight performance data.
Available disk space	200 GB - 2 TB disk spaceInstallation requires a minimum of 20 GB free on the C: drive. On Windows, Insight Data Warehouse with Reporting requires the 8dot3 name creation support be enabled on the installation drive prior to installing. The C: drive typically has this enabled by default. You can validate if 8dot3 name creation is enabled on the target installation drive by running the following command (substitute D: with target installation drive): fsutil 8dot3name query D: To enable 8dot3 name creation execute the following command (substitute D: with target installation drive): fsutil 8dot3name set D: 0
Network	• 100 Mbps or 1 Gbps Ethernet connection • Static IP address • Port 50000 must be available before installing Data Warehouse with Reporting on Windows • For the OnCommand Insight DWH server process, ports 80, 443, 1098, 1099, 3873, 8083, and 4444 through 4446 • For the reporting engine, ports 1527, 9362, 9300, and 9399 • For MySQL, port 3306 • Ensure that DNS is properly working by doing an `nslookup` against the host
Virus Scan	During the installation of this OnCommand Insight component, you must completely disable all virus scanners. Following installation, the paths used by the Insight component (install, backup, and archiver paths) and all DWH component installation paths (SANscreen, DB2, and backup paths) must be excluded from virus scanning.

Visual Studio	Visual Studio 2019 redistributables must be installed before installing Data Warehouse with Reporting on Windows.

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 64-bit Microsoft Windows Server 2016, 2019, or 2022, with the latest service pack.
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	Local Administrator permissions on the RAU server
Virus scan	During the installation of this OnCommand Insight component, you must completely disable all virus scanners. Following installation, the paths used by the Insight component must be excluded from virus scanning. Additionally, you must also exclude the IBM/Db2 folder (for example *C:\Program Files\IBM\DB2*) from anti-virus scanning following installation.

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 you to install several OnCommand Insight components, including Insight Server, and Data Warehouse and Reporting. 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)
- 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
- For upgrades, upgrading OnCommand Insight reports.

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.

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

You can easily install the OnCommand Insight Server by using the OnCommand Insight Setup wizard.

Before you begin

You must have completed all of the installation prerequisites.

Steps

1. Log in to the Insight server using an account with administrator privileges.
2. Open Windows Explorer and navigate to the directory where the installation files are located.

3. Double-click the `.MSI` file that you downloaded.
4. Click **Next** to continue.
5. Read the License Agreement, select **I accept the terms in the License Agreement** check box, and then click **Next**.
6. Enter the customer name and site name in the **Customer Information** window, and click **Next**.

   Best Practice: Use the customer name as a prefix for the site: for example, NetApp.

7. In the **Customer Information: Configure NetApp ASUP** window, do the following:

   a. Select the database containing the data that you want to upload to ASUP by selecting one of the following options:

      - **No database backup**: A backup is not sent to ASUP.
      - **Backup without Performance data**: A backup is made and sent to ASUP but does not include performance data.
      - **Backup with Performance data**: A backup is made that includes performance data, but this could generate a huge `*.gz` file.

   ASUP is delivered using HTTPS protocol.

   a. In **Logs**, select whether you want no logs, base logs, or extended logs, which contain a data source recording.
   b. Click **Next**.

8. 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.
9. Click **Next**
10. In the **Configure Server** window, select or set the appropriate configuration parameters to configure the OnCommand Insight Server:

Option	Description
Portal Port (HTTP)	Ports used by the OnCommand Insight Server to support user Web services, including a portal to perform administration tasks. Use the default (80); however, if the default port is in use, change this to another port.
Portal Port (HTTPS)	Port used by remote acquisition units to send SAN change information to the OnCommand Insight Server through a secure channel. Use the default (443); however, if the default port is in use, change this to another port. You specify this same port number when configuring RAUs.

Internal Database Port (SQL)	Port used internally by the PC where the OnCommand Insight Server is running, to serve as an access point to the database. Use the default (3306); however, if the default port is in use, change this to another port.

11. Click **Next**.
12. Click **Install** to proceed.

    The installation should take approximately 20 minutes, depending on the applications installed.

13. Click **Finish**.

Installing OnCommand Insight Data Warehouse and Reporting

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

Before you begin

Please note the following before installing or upgrading.

- If you are upgrading, back up DWH.
- You must have local *administrator*permissions to install OnCommand Insight Data Warehouse with Reporting.
- Make sure Windows Modules Installer service is enabled (either automatically or manually).
- If installing on non-C: drive, Short File Names must be enabled. If it is not enabled, the installer will enable it.
- For the Db2 component, the Db2 User can be either *domain* user or *local* user.
  - If the Db2 User is a *domain* user, you must have the following:
    - Db2 User must have been already created, and you must know the user name and password
    - As the user who is installing DWH with Reporting, you must be able to query the Db2 User. You can validate this using the command:
      - `net user <db2 user name> /domain`
  - If Db2 User is a *local* user, you must have the following:
    - User name and password for the user which will be used to run as Db2 User. If this user does not exist, installation will create it.
  - [NOTE]

The Db2 user name as well as the Windows login name have the following restrictions: * Valid characters are: 'A' through 'Z'; 'a' through 'z'; '0' through '9'; '#'; '@'; *''; '!'; ' '('; ')'; '{'; '}'; '-'; and '.'. * If using the special characters '!'; ' '('; ')'; '{'; '}'; '-'; and '.' you must use all uppercase letters for the user name. * The first character in the string must be an alphabetic character, @, #, or $; it cannot be a number or the letter sequences _SYS*, *DBM*, or *IBM* * It cannot exceed 128 bytes in length. * It cannot be USERS, ADMINS, GUESTS, PUBLIC, LOCAL or any SQL reserved word.

- The Db2 user can not be the same as the user performing the installation.

Steps

1. Log in to the Data Warehouse server using an account with administrator privileges.
2. Download the Data Warehouse with Reporting .zip file and extract the files to an installation folder.
3. Navigate to the *<download location>\oci_dwh_installer* folder and run the *install_oci_dwh.bat* script.

   With OnCommand Insight 7.3.10 and later, you must run the script for proper DWH/Reporting installation. Do not run the .MSI installation executable.

4. Enter the Db2 domain, or press Enter for local domain.
5. Enter the Db2 User name. See above for user name restrictions.
6. Enter the password for the Db2 user. Re-enter the password when prompted.
7. Enter the installation path for the Db2 component, or press Enter for default.
8. You are presented with the information you entered. Verify all settings carefully. Press Enter to start installation.
9. If prompted, allow Windows to proceed with the Db2 installation.
10. Following Db2 Installation, the DWH installation wizard will run. Follow its directions to install DWH with Reporting.

    Data Warehouse with Reporting Installation may take up to an hour to complete.

Locating IBM Cognos documentation

For basic information such as how to start and stop the Reporting portal software, see the IBM Cognos documentation installed with the product. You can search with a web browser for information about any of the IBM Cognos reporting products, such as Query Studio, Report Studio, Business Insight, or Business Insight Advanced on the IBM website in the Information Centers for those software products.

Steps

1. To locate the IBM Cognos documentation installed with OnCommand Insight, navigate to this directory.

   ```
   <install_dir\>\cognos\c10_64\webcontent\documentation\help_docs.html
   ```

2. You can also display topics describing individual IBM Cognos windows used in the OnCommand Insight Reporting Portal. Click the **?** icon on the window toolbar.

Verifying the Data Warehouse and Reporting installation

After a successful OnCommand Insight Data Warehouse installation, you should ensure that all of the DWH and Reporting services are available in your Microsoft Windows services.

Steps

1. From the Windows Start menu, select **Control Panel › System and Security › Administrative Tools › Services**.
2. Ensure that the following entries appear in the list of services:

Name / State	Description
SANScreen Server / Running	The OnCommand Insight DWH server
MySQL / Running	The OnCommand Insight SQL database
IBM Cognos / Running	IBM Cognos Content Database
DB2- DB2COPY1 - DB2-0 / Running	Manage Db2 databases
DB2 Governor (DB2COPY1) / Not running	Collects statistics for applications connected to Db2 databases.
DB2 License Server (DB2COPY1) / Not running	Monitors Db2 license compliance.
DB2 Management Service (DB2COPY1) / Running	Manages Db2 registry entries for compatibility with earlier Db2 copy versions.
DB2 Remote Command Server (DB2COPY1) / Running	Supports remote Db2 command execution.
IBM Secure Shell Server for Windows / Not running	IBM Secure Shell Server for Windows

Installing a Remote Acquisition Unit (RAU)

Install one or more RAUs in your OnCommand Insight environment.

Before you begin

You must have completed all of the installation prerequisites.

At least one port needs to be open and available between the RAU server and the OnCommand Insight Server in order 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 may have been 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.

Steps

1. Log in to the RAU server using an account with administrator privileges.
2. Open Windows Explorer and navigate to the directory where the RAU installation file is located.
3. Double-click `.MSI` file to start the installation.
4. Click **Next** to continue to the window that shows the License Agreement. Read this and accept the terms of the License Agreement and click **Next**.
5. Select to install the RAU on a local hard drive or the entire feature on a local hard drive. (You can check the Disk Usage link to ensure you have enough space - 116MB is required.) Click **Next**.
6. In the Configure window, set these parameters that are specific to your site:
   - **OnCommand Insight Server Name or Address** - hostname or IP address to identify the OnCommand Insight Server. The RAU uses this name/IP to open a communications link with the server. If you specify a hostname, make sure it can be resolved through DNS.
   - **Acquisition Unit Name** - unique name that identifies the RAU.
   - **OnCommand Insight Secured Remote Acquisition Port (HTTPS)** - Port used by Remote Acquisition Units to send environment change information to the OnCommand Insight server. This setting should match the value entered when installing the OnCommand Insight server and must be the same on all RAUs.
7. Review your selections. Click **Back** to go back and make changes. Click **Next**.
8. Click **Install** to start the installation.

   Wait for the installation to complete. This should take approximately 5 to 10 minutes.

After you finish

When the installation is complete, a final window appears. Click the **Start Remote Acquisition Service** box to start the RAU, and click **Finish** to end this operation.

Verifying the remote acquisition unit service

After a successful remote acquisition unit (RAU) installation, the OnCommand Insight RAU service should be available in the Microsoft Windows services environment.

Steps

1. To verify that the RAU was added to the Windows services, open the Windows Start menu and select the **Control Panel** > **Administrative Tools** > **Services**.
2. Locate the **OnCommand Insight Acq - OnCommand Insight's Remote Acquisition Unit (RAU)** in the list.

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, you must contact technical support.

Checking the installation

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 new Insight services

After a successful installation, you should verify that the services for the Insight components are operating on your server.

Steps

1. To display a list of services that are currently operating:
   a. Click the **Start** button.
   b. Click **Run**.
   c. Type the following:

      ```
      cmd
      ```

   d. Press Enter.
   e. Type the following in the **Command Prompt** window:

      ```
      net start
      ```

2. Check for these Insight services in the list:
   - **SANscreen Server**
   - **SANscreen Acq** (the acquisition process)
   - **MySql** (Insight SQL database)
   - **Elasticsearch** (Data store for Insight data) If these services do not display in the list, 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 `<install directory>\SANscreen\wildfly\standalone\log` directory. Acquisition logs are located in the `<install directory>\SANscreen\Acq\Log` directory.

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

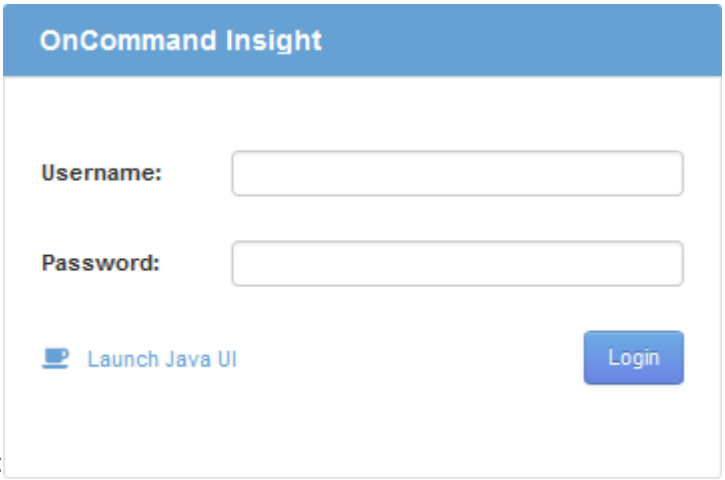
1. Do one of the following:
   - Open Insight on the Insight server:

     `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 OnCommand Insight

Normally, an upgrade must be performed on all of the Insight servers (Insight server, Data Warehouse server, Remote acquisition unit). You should always consult the Release Notes for the upgrade requirements for a new release of OnCommand Insight.

Unless otherwise indicated, the requirements and procedures apply to upgrading from Insight 7.x to the current version of Insight. If you are upgrading from a version prior to 7.0, contact your account representative.

Upgrading Insight to version 7.3.12 or later - Windows

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.
   - Open Powershell as Administrator.
3. Run the data migration tool using the following command:
   - `.\SANScreenDataMigrationTool.ps1`
4. Follow the instructions as needed. The following is an example.

```
.\SANScreenDataMigrationTool.ps1

NetApp SANScreen Data Migration Tool 7.3.12-121

Checking OnCommand Insight Installation...
OnCommand Insight 7.3.10 (139) is installed

Getting installation parameters...
Installation Directory:  C:\Program Files\SANscreen\
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.

```
.\SANScreenDataMigrationTool.ps1

NetApp SANScreen Data Migration Tool 7.3.12-127

Checking OnCommand Insight Installation...
OnCommand Insight 7.3.10 (139) is installed

Getting installation parameters...
Installation Directory:  D:\SANscreen\
Elasticsearch Rest Port: 9200

Checking Elasticsearch service...
Elasticsearch service is up

Checking for obsolete (version 5) indexes...
Found 5 obsolete indexes. Of these,
     5 indexes need to be migrated with OCI server stopped

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

Proceed with offline migration of 5 indexes (y or [n])?: y
Preparing to perform migration...
Preparing to migrate ociint-inventory-snmp_win2012_host: copied; backup;
delete old; restore new; cleanup; done.
Preparing to migrate ociint-inventory-snmp_win2012_interface: copied;
backup; delete old; restore new; cleanup; done.
Preparing to migrate ociint-inventory-snmp_win2012_load_average: copied;
backup; delete old; restore new; cleanup; done.
Preparing to migrate ociint-inventory-snmp_win2012_storage: copied;
backup; delete old; restore new; cleanup; done.
Preparing to migrate ociint-inventory-snmp_win2012_tcp_connection: copied;
backup; delete old; restore new; cleanup; done.
Execution time 0:00:15

Checking for obsolete (version 5) indexes...
No obsolete indexes found.  Upgrade to 7.3.12+ is supported.

C:\Users\root\Desktop\SANScreenDataMigrationTool-x64-7.3.12-127>
```

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.ps1

NetApp SANScreen Data Migration Tool V1.0

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

Invalid Insight version:

```
.\SANScreenDataMigrationTool.ps1

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.ps1

NetApp SANScreen Data Migration Tool 7.3.12-105

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

Getting installation parameters...
Installation Directory:  C:\Program Files\SANscreen\
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 (Windows)	Function

-s	Suppress all prompts
-perf_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.
-check	If present, the script will exit immediately after reporting the index counts.
-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.

Overview of the OnCommand Insight upgrade process

Before you begin upgrading Insight, it is important to understand the upgrade process. The upgrade process is the same for most versions of Insight.

The upgrade process for Insight includes the following high-level tasks:

- Downloading the installation packages
- Backing up the Data Warehouse database

  To avoid the possibility of misreporting data, you must back up the Data Warehouse database before you back up the Insight database.

- Backing up the Insight database

  The Insight database is automatically backed up when you perform the in-place upgrade. It is a best practice to back up the database before the upgrade, and place the backup in a location other than on the Insight server. During the upgrade process, Insight does not collect new data. To minimize the amount of data that is not collected, you must start the database backup within an hour or two of your planned upgrade time.

- Back up the Data Warehouse and Remote Acquisition Unit security configuration if the configuration has been changed from the default configuration.

  The non-default security configuration must be restored to the Data Warehouse and RAU server after the upgrade is complete and before the Data Warehouse database is restored to the system.

- Backing up any custom Data Warehouse reports

  When you back up the Data Warehouse database, custom reports are included. The backup file is created

on the Data Warehouse server. It is a recommended best practice to back up the custom reports to a location other than the Data Warehouse server.

- Uninstalling the Data Warehouse and the Remote Acquisition Unit software, if applicable

  The Insight server has an in-place upgrade; you do not have to uninstall the software. The in-place upgrade backs up the database, uninstalls the software, installs the new version, and then restores the database.

- Upgrading the software on the Insight server, Data Warehouse, and Remote Acquisition Unit(s)

  All previously applied licenses remain in the registry; you do not have to reapply these licenses.

- Completing the post-upgrade tasks

OnCommand Insight upgrade checklist

You can use the provided checklists to record your progress as you prepare for the upgrade. These tasks are intended to help mitigate the risk for upgrade failures and to expedite recovery and restoration efforts.

Checklist for preparing for the upgrade (required)

Condition	Complete?
Ensure that you have Windows local administrator permissions, which are required to perform the upgrade process, on all Insight servers.	
If your Insight, Data Warehouse, or Remote Acquisition Unit servers reside on 32-bit platforms, you must upgrade your servers to 64-bit platforms. As of Insight 7.x, upgrades are only available for 64-bit platforms.	
Ensure that you have the necessary permissions to modify or disable the antivirus software on all the servers in your environment. To prevent an upgrade failure due to active virus scan software, you must exclude the Insight installation directory (`disk drive:\install directory\sanscreen` from access to antivirus scanning during the upgrade. After you upgrade all of the components, you can safely reactivate the antivirus software; however, ensure that you configure the scan to still exclude everything in the Insight installation directory. Additionally, you must also exclude the IBM/Db2 folder (for example *C:\Program Files\IBM\DB2*) from anti-virus scanning following installation.	

Checklist for preparing for the upgrade (best practice)

Condition	Complete?
Plan when you are going to upgrade, taking into consideration that most upgrades take a minimum of 4 to 8 hours; larger enterprises will take longer. Upgrade times might vary depending on your available resources (architecture, CPU, and memory), the size of your databases, and the number of objects monitored in your environment.	
Contact your account representative about your upgrade plans and provide the version of Insight you have installed and what version you would like to upgrade to.	
Ensure that your current resources allocated to the Insight, Data Warehouse, and Remote Acquisition Unit(s) still meet recommended specifications. See the recommend sizing guidelines for all servers.Alternatively, you can contact your account representative to discuss sizing guidelines.	
Ensure that you have enough disk space for the database backup and restore process. The backup and restore processes require approximately five times the disk space used by the backup file on the Insight and Data Warehouse servers. For example, a 50 GB backup requires 250 to 300 GB of free disk space.	
Ensure that you have access to Firefox® or the Chrome™ browser when you back up the Insight and Data Warehouse databases. Internet Explorer is not recommended, because it experiences some issues when uploading and downloading files larger than 4 GB.	
Delete the `.tmp` files on the Insight server, which you can find in the following location: `<install directory>\SANscreen\wildfly\standalone\tmp`.	
Remove duplicate data sources and decommissioned data sources from the Insight client. Removing decommissioned or duplicate data sources decreases the amount of time required to perform the upgrade and mitigates the opportunity for data corruption.	

If you have modified any of the default reports shipped with Insight, you should save the reports with a different name and then save them to the Customer Reports folder so that you do not lose your modified report when you upgrade or restore the system.	
If you have any custom or modified Data Warehouse reports created by you or professional services, create a backup of them by exporting them to XML and then moving them to the Customer Reports folder. Ensure that the backup is not located on the Data Warehouse server. If you do not move your reports to the recommended folders, these reports might not be backed up by the upgrade process. For earlier versions of Insight, failure to locate reports in the appropriate folders may result in the loss of custom and modified reports.	
Record all settings in the IBM Cognos Configuration utility, because these are not included in the Data Warehouse backup; you have to reconfigure these settings after the upgrade. The utility is located in the `disk drive:\install directory\SANscreen\cognos\c10_64\bin64` directory on the Data Warehouse server and you run it using the `cogconfigw` command.Alternatively, you can perform a complete backup of Cognos and then import all of your settings. Refer to the IBM Cognos documentation for more information.	

Checklist for preparing for the upgrade (if applicable)

Condition	Complete?
If you have replaced the self-signed certificates that the Insight installation created due to browser security warnings with certificates signed by your internal certificate authority, back up your keystore file, which is in the following location: `disk drive:\install directory\SANscreen\wildfly\standalone\configuration` and restore it after the upgrade. This replaces the self-signed certificates that Insight creates with your signed certificates.	

If any of your data sources were modified for your environment and you are unsure if these modifications are available in the Insight version to which you are upgrading, make a copy of the following directory, which will help you troubleshoot if there are recovery issues: `disk drive:\install directory\SANscreen\wildfly\standalone\deployments\datasources.war`.	
Back up all custom database tables and views using the `mysqldump` command line tool.Restoring custom database tables requires privileged database access. Contact technical support for assistance with restoring these tables.	
Ensure that no custom integration scripts, third-party components required for Insight data sources, backups, or any other required data is stored in the `disk drive:\install directory\sanscreen` directory, because the contents of this directory is deleted by the upgrade process.Ensure that you move any of these things from the `\sanscreen` directory to another location. For example, if your environment contains custom integration scripts, ensure that you copy the following file to a directory other than the `\sanscreen` directory: `\install_dir\SANscreen\wildfly\standalone\deployments\datasources.war\new_disk_models.txt`.	

Downloading the OnCommand Insight installation packages

You should download the installation packages for Insight, Data Warehouse, and the Remote Acquisition Unit (if applicable) prior to the day that you choose to upgrade. Download times for the packages (`.msi` files) vary based on your available bandwidth.

About this task

You can download the installation packages using the Insight webUI or by navigating to the appropriate OnCommand Insight link from http://support.netapp.com/NOW/cgi-bin/software.

To download the installation package from within the Insight server, do the following:

Steps

1. Open the Insight web UI by opening a web browser and entering one of the following:
   - On the Insight server: `https://localhost`
   - From any location: `https://IP Address:port or fqdn:port`

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

2. Log in to Insight.
3. Click on the Help icon and select **Check for updates**.
4. If a newer version is detected, follow the instructions in the message box.

   You will be taken to the InsightDescription page for the newer version.

5. On the **Description** page, click **Continue**.
6. When the end-user license agreement (EULA) is displayed, click **Accept**.
7. Click the installation package link for each component (Insight server, Data Warehouse, Remote Acquisition Unit), etc.) and click **Save as** to save the installation package.

   Before you upgrade, you should ensure that you copy the Data Warehouse and Remote Acquisition Unit installation packages to disks that are local to their respective servers.

8. Click **CHECKSUM**, and make a note of the numerical values that are associated with each installation package.
9. Verify that the installation packages are complete and without error after you download them.

   Incomplete file transfers can cause issues with the upgrade process.

   To generate MD5 hash values for the installation packages, you can use a third-party utility like Microsoft'sFile ChecksumIntegrity Verifier utility.

Backing up the databases

Before you upgrade, you should back up both the Data Warehouse and OnCommand Insight databases. Upgrading requires a backup of the Data Warehouse database so that you can restore the database later in the upgrade process. The in-place upgrade for Insight backs up the database; however, you should back up the database before the upgrade as a best practice.

To avoid misreporting data, you should back up the Data Warehouse database prior to backing up the Insight database. Additionally, if you have a test environment, it is recommended that you ensure you can restore the backup before you continue with the upgrade.

Backing up the Data Warehouse database

You can back up the Data Warehouse database, which also includes a Cognos backup, to a file and later restore it using the Data Warehouse portal. Such a backup enables you to migrate to a different Data Warehouse server or upgrade to a new Data Warehouse version.

Steps

1. Log in to the Data Warehouse Portal at `https://fqdn/dwh`.
2. From the navigation pane on the left, select **Backup/Restore**.

3. Click **Backup** and select your backup configuration:

   a. All Datamarts except Performance Datamart

   b. All Datamarts

   This operation can take 30 minutes or more.

   + Data Warehouse creates a backup file and displays its name.

4. Right-click the backup file and save it to a location you want.

   You might not want to change the file name; however, you should store the file outside the Data Warehouse installation path.

   The Data Warehouse backup file includes the DWH instance's MySQL; custom schemas (MySQL DBs) and tables; LDAP configuration; the data sources that connect Cognos to the MySQL database (not the data sources that connect the Insight server to devices to acquire data); import and export tasks that imported or exported reports; reporting security roles, groups, and namespaces; user accounts; any modified Reporting Portal reports; and any custom reports, regardless of where they are stored, even in the My Folders directory. Cognos system configuration parameters, such as SMTP server setting, and Cognos custom memory settings are not backed up.

   The default schemas where custom tables are backed up include the following:

dwh_capacity
dwh_capacity_staging
dwh_dimensions
dwh_fs_util
dwh_inventory
dwh_inventory_staging
dwh_inventory_transient
dwh_management
dwh_performance
dwh_performance_staging
dwh_ports
dwh_reports
dwh_sa_staging

Schemas where custom tables are excluded from backup include the following:

information_schema
acquisition
cloud_model
host_data
innodb
inventory
inventory_private
inventory_time
logs
management
mysql
nas
performance
performance_schema
performance_views
sanscreen
scrub
serviceassurance
test
tmp
workbench

In any backup initiated manually, a `.zip` file is created that contains these files:

- A daily backup `.zip` file, which contains Cognos report definitions
- A reports backup `.zip` file, which contains all the reports in Cognos, including those in the My Folders directory
- A Data Warehouse database backup file In addition to manual backups, which you can perform at any time, Cognos creates a daily backup (automatically generated each day to a file called `DailyBackup.zip`) that includes the report definitions. The daily backup includes the top folders and packages shipped with the product. The My Folders directory and any directories that you create outside the product's top folders are not included in the Cognos backup.

Due to the way Insight names the files in the `.zip` file, some unzip programs show that the file is empty when opened. As long as the `.zip` file has a size greater than 0 and does not end with a `.bad` extension, the `.zip` file is valid. You can open the file with another unzip program like 7-Zip or WinZip®.

Backing up the OnCommand Insight database

Back up the Insight database to ensure that you have a recent backup if an issue occurs after the upgrade. During the backup and restore phase, performance data will not be collected; thus, the backup should occur as close as possible to the upgrade time.

Steps

1. Open Insight in your browser.
2. Click **Admin** > **Troubleshooting**.
3. On the **Troubleshooting** page, click **Backup**.

   The time to back up the database might vary depending on your available resources (architecture, CPU, and memory), the size of your database, and the number of objects monitored in your environment.

   When the backup is complete, you are asked if you want to download the file.
4. Download the backup file.

Backing up the security configuration

When your Insight components are using a non-default security configuration, you must back up the security configuration and then restore the configuration on all components after the new software is installed. The security configuration must be restored before the Data Warehouse database backup is restored.

About this task

You use the `securityadmin` tool to create a backup of the configuration and to restore the saved configuration. For more information, search for `securityadmin` in the OnCommand Insight Documentation Center: http://docs.netapp.com/oci-73/index.jsp

Backing up custom Data Warehouse reports

If you created custom reports and you do not have the `.xml` source files for them, then you should back up these reports before the upgrade. You should then copy them to a server other than the Data Warehouse server.

Steps

1. Log in to the Data Warehouse portal at `https://fqdn/dwh`.
2. On the Data Warehouse toolbar, click  to open the Reporting Portal and log in.
3. Select **File** > **Open**.
4. Select the folder that the report is located in, select the report, and then click **Open**.
5. Select **Tools** > **Copy report to clipboard**.
6. Open a text editor, paste the contents of the report, and save the file as `report_name.txt`, where `report _name` is the name of the report.
7. Store the reports on a server other than the Data Warehouse server.

Performing the software upgrade

After you complete all prerequisite tasks, you can upgrade all of the Insight components to a new release by downloading and running the applicable installation package on each server.

Upgrading Insight

After you complete all prerequisite tasks, you log in to the Insight server and run the installation package to complete the upgrade. The upgrade process uninstalls the existing software, installs the new software, and then reboots the server.

Before you begin

The Insight installation package must be located on the server.

Steps

1. Log in to the Insight server using an account that has Windows local administrator permissions.
2. Locate the Insight installation package (`SANscreenServer-x64-version_number-build_number.msi`) using Windows Explorer and double-click it.

   The OnCommand InsightSetup wizard displays.
3. Move the progress window away from the center of the screen and away from the **Setup** wizard window so that any generated errors are not hidden from view.
4. Follow the setup wizard prompts.

   It is a best practice to leave all the defaults selected.

After you finish

To verify if the upgrade is successful or if errors are generated, check the upgrade log in the following location: `<install directory>\SANscreen\wildfly\standalone\log`.

Upgrading Data Warehouse

After you complete all prerequisite tasks, you can log in to the Data Warehouse server and run the installation package to complete the upgrade.

About this task

Inline upgrade is not supported by the Data Warehouse (DWH). Use the following steps to upgrade to the new version of DWH software.

When upgrading DWH, the folder containing the *securityadmin* tool vault backup is deleted. It is highly recommended to back up the vault prior to upgrading DWH. For reference, the default vault folders are as follows:

- Vault folder (vaults in use):`%SANSCREEN_HOME%\wildfly\standalone\configuration\vault`
- Vault backups: `%SANSCREEN_HOME%\backup\vault`

See Managing security on the Data Warehouse for more information.

Steps

1. Log in to the DWH server using an account that has Windows local administrator permissions.
2. Back up the DWH DB and Reports using the DWH portal interface.
3. Back up the security configuration if the server is using a non-default security configuration.
4. Uninstall the DWH software from the server.
5. Reboot the server to remove components from memory.
6. Install the new version of DWH on the server.

   The installation takes approximately 2 hours. It is a best practice to leave all the defaults selected.
7. Restore the non-default security configuration to the DWH server.
8. Restore the DWH database to the server.

After you finish

After you upgrade, you must restore the Data Warehouse database, which can take as long or longer than the upgrade.

During an OnCommand Insight upgrade, it is not uncommon for a customer to switch to a different Insight server. If you have changed your Insight server, after you restore the data warehouse database the existing connectors will point to the previous server IP address or hostname. It is a best practice to delete the connector and create a new one, to avoid possible errors.

Preserving custom Cognos settings during a Data Warehouse upgrade

Custom Cognos settings, such as non-default SMTP email settings, are not automatically backed up as part of a Data Warehouse upgrade. You need to manually document and then restore the custom settings following an upgrade.

Prior to upgrading Data Warehouse, prepare a checklist with any custom Cognos settings that you want to preserve, and review the list prior to upgrading the system. After the upgrade is complete, you can restore the values manually to return them to the settings in the original configuration.

Backing up the security configuration

When your Insight environment is using a non-default security configuration, you must back up the security configuration and then restore the security configuration after the new software is installed. The security configuration must be restored before the Data Warehouse database backup is restored.

About this task

You use the `securityadmin` tool to create a backup of the configuration and to restore the saved configuration. For more information, search for `securityadmin` in the OnCommand Insight Documentation Center: http://docs.netapp.com/oci-73/index.jsp

Upgrading remote acquisition unit servers

After you complete all prerequisite tasks, you can log in to the remote acquisition unit server and run the installation package to complete the upgrade. You must perform this task on all remote acquisition servers in your environment.

Before you begin

- You must have upgraded OnCommand Insight.
- The OnCommand Insight installation package must be located on the server.

Steps

1. Log in to the remote acquisition unit server using an account that has Windows local administrator permissions.
2. Locate the Insight installation package (`RAU-x64-version_number-build_number.msi`) using Windows Explorer and double-click it.

   The OnCommand Insight Setup Wizard displays.
3. Move the installation wizard progress window away from the center of the screen and away from the installation wizard window so that any generated errors are not hidden from view.
4. Follow the Setup Wizard prompts.

   It is a best practice to leave all the defaults selected.

After you finish

- To verify if the upgrade is successful or if errors are generated, check the upgrade log in the following location: `<install directory>\SANscreen\bin\log`.
- Use the `securityadmin` tool to restore the saved security

  configuration. For more information, search for securityadmin in the OnCommand Insight

  Documentation Center: http://docs.netapp.com/oci-73/index.jsp
- Clear your browser's cache and history to ensure that you are receiving the latest data from the server.

Completing post-upgrade tasks

After you upgrade to the latest version of Insight, you must complete additional tasks.

Installing data source patches

If applicable, you should install the latest patches available for your data sources to take advantage of the latest features and enhancements. After uploading a data source patch, you can install it on all of the data sources of the same type.

Before you begin

You must have contacted technical support and obtained the `.zip` file that contains the latest data source patches by providing them with the version you are upgrading from and the version you want to upgrade to.

Steps

1. Place the patch file on the Insight server.
2. On the Insight toolbar, click **Admin**.
3. Click **Patches**.
4. From the Actions button, select **Apply patch**.
5. In the **Apply data source patch** dialog box, click **Browse** to locate the uploaded patch file.
6. Review the **Patch name**, **Description**, and **Impacted data source types**.
7. If the selected patch is correct, click **Apply Patch**.

   All data sources of the same type are updated with this patch. Insight automatically forces acquisition to restart when you add a data source. Discovery includes the detection of changes in network topology including the addition or deletion of nodes or interfaces.
8. To force the discovery process manually, click **Data Sources** and click **Poll Again** next to the data source to force it to collect data immediately.

   If the data source is already in an acquisition process, Insight ignores the poll again request.

Replacing a certificate after upgrading OnCommand Insight

Opening the OnCommand Insight web UI after an upgrade results in a certification warning. The warning message is displayed because a valid self-signed certificate is not

available after the upgrade. To prevent the warning message from being displayed in the future, you can install a valid self-signed certificate to replace the original certificate.

Before you begin

Your system must satisfy the minimum encryption bit level (1024 bits).

About this task

The certification warning does not impact the usability of the system. At the message prompt, you can indicate that you understand the risk, and then proceed to use Insight.

Steps

1. List the contents of the keystore: `C:\Program Files\SANscreen\java64\bin>keytool.exe -list -v -keystore "c:\Program Files\SANscreen\wildfly\standalone\configuration\server.keystore"`

   When prompted for a password, enter `changeit`.

   There should be at least one certificate in the keystore, `ssl certificate`.

2. Delete the `ssl certificate`: `keytool -delete -alias ssl certificate -keystore c:\ProgramFiles\SANscreen\wildfly\standalone\configuration\server.keystore`
3. Generate a new key: `keytool -genkey -alias OCI.hostname.com -keyalg RSA -keysize 2048 -keystore "c:\ProgramFiles\SANscreen\wildfly\standalone\configuration\server.keystore"`
   a. When prompted for first and last names, enter the fully qualified domain name (FQDN) that you intend to use.
   b. Provide the following information about your organization and organizational structure:
      - Country: two-letter ISO abbreviation for your country (for example, US)
      - State or Province: name of the state or province where your organization's head office is located (for example, Massachusetts)
      - Locality: name of the city where your organization's head office is located (for example, Waltham)
      - Organizational name: name of the organization that owns the domain name (for example, NetApp)
      - Organizational unit name: name of the department or group that will use the certificate (for example, Support)
      - Domain Name/ Common Name: the FQDN that is used for DNS lookups of your server (for example, www.example.com) The system responds with information similar to the following: `Is CN=www.example.com, OU=support, O=NetApp, L=Waltham, ST=MA, C=US correct?`
   c. Enter `Yes` when the Common Name (CN) is equal to the FQDN.
   d. When prompted for the key password, enter the password, or press the Enter key to use the existing keystore password.
4. Generate a certificate request file: `keytool -certreq -alias localhost -keystore "c:\Program Files\SANscreen\wildfly\standalone\configuration\server.keystore" -file c:\localhost.csr`

The `c:\localhost.csr` file is the certificate request file that is newly generated.

5. Submit the `c:\localhost.csr` file to your certification authority (CA) for approval.

   Once the certificate request file is approved, you want the certificate returned to you in `.der` format. The file might or might not be returned as a `.der` file. The default file format is `.cer` for Microsoft CA services.

6. Import the approved certificate: `keytool -importcert -alias localhost -file c:\localhost2.DER -keystore "c:\Program Files\SANscreen\wildfly\standalone\configuration\server.keystore"`

   a. When prompted for a password, enter the keystore password.

      The system displays the following message: `Certificate reply was installed in keystore`

7. Restart the SANscreen Server service.

Results

The web browser no longer reports certificate warnings.

Increasing Cognos memory

Before you restore the Data Warehouse database, you should increase the Java allocation for Cognos from 768 MB to 2048 MB to decrease report generation time.

Steps

1. Open a command prompt window as administrator on the Data Warehouse server.
2. Navigate to the `disk drive:\install directory\SANscreen\cognos\c10_64\bin64` directory.
3. Type the following command: `cogconfigw`

   The IBM Cognos Configuration window displays.

   > The IBM Cognos Configuration shortcut application points to `disk drive:\Program Files\SANscreen\cognos\c10_64\bin64\cognosconfigw.bat`. If Insight is installed in the Program Files (space between) directory, which is the default, instead of ProgramFiles (no space), the `.bat` file will not work. If this occurs, right click the application shortcut and change `cognosconfigw.bat` to `cognosconfig.exe` to fix the shortcut.

4. From the navigation pane on the left, expand **Environment**, expand **IBM Cognos services**, and then click **IBM Cognos**.
5. Select **Maximum memory for Tomcat in MB** and change 768 MB to 2048 MB.
6. On the IBM Cognos Configuration toolbar, click (Save).

   An informational message displays to inform you of the tasks Cognos is performing.

7. Click **Close**.
8. On the IBM Cognos Configuration toolbar, click (Stop).
9. On the IBM Cognos Configuration toolbar, click (Start).

Restoring the Data Warehouse database

When you back up the Data Warehouse database, Data Warehouse creates a `.zip` file that you can later use to restore that same database.

About this task

When you restore the Data Warehouse database, you can restore user account information from the backup as well. User management tables are used by the Data Warehouse report engine in a Data Warehouse only installation.

Steps

1. Log in to the Data Warehouse Portal at `https://fqdn/dwh`.
2. From the navigation pane on the left, click **Backup/Restore**.
3. In the **Restore Database and Reports** section, click **Browse** and locate the `.zip` file that holds the Data Warehouse backup.
4. It is a best practice to leave both of the following options selected:
   - **Restore database**

     Includes Data Warehouse settings, data marts, connections, and user account information.
   - **Restore reports**

     Includes custom reports, predesigned reports, changes to predesigned reports that you made, and reporting settings you made in the Reporting Connection.
5. Click **Restore**.

   Do not navigate away from the restore status. If you do, the restore status is no longer displays and you receive no indication when the restore operation is complete.
6. To check the upgrade process, view the `dwh_upgrade.log` file, which is in the following location: `<install directory>\SANscreen\wildfly\standalone\log`.

   After the restore process finishes, a message appears just below the **Restore** button. If the restore process is successful, the message indicates success. If the restore process fails, the message indicates the specific exception that occurred to cause the failure. In this case, contact technical support and provide them with `dwh_upgrade.log` file. If an exception occurs and the restore operation fails, the original database is automatically reset.

   If the restore operation fails with a “Failed upgrading cognos content store” message, restore the Data Warehouse database without its reports (database only) and use your XML report backups to import your reports.

Restoring custom Data Warehouse reports

If applicable, you can manually restore any custom reports you backed up before the upgrade; however, you only need to do this if you lose reports of if they have become corrupted.

Steps

1. Open your report with a text editor, and then select and copy its contents.
2. Log in to the Reporting portal at `https://fqdn/reporting`.
3. On the Data Warehouse toolbar, click  to open the Insight Reporting portal.
4. From the Launch menu, select **Report Studio**.
5. Select any package.

   Report Studio displays.

6. Click **Create new**.
7. Select **List**.
8. From the Tools menu, select **Open Report from Clipboard**.

   The **Open Report from Clipboard** dialog box displays.

9. From the File menu, select **Save As** and save the report to the Custom Reports folder.
10. Open the report to verify that it was imported.

    Repeat this task for each report.

You may see an “Expression parsing error” when you load a report. This means that the query contains a reference to at least one object that does not exist, which means there is no package selected in the Source window to validate the report against. In this case, right-click on a data mart dimension in the Source window, select Report Package, and then select the package associated with the report (for example, the inventory package if it is an inventory report or one of the performance packages if it’s a performance report) so Report Studio can validate it and then you can save it.

Verifying that Data Warehouse has historical data

After restoring your custom reports, you should verify that Data Warehouse is collecting historical data by viewing your custom reports.

Steps

1. Log in to the Data Warehouse portal at `https://fqdn/dwh`.
2. On the Data Warehouse toolbar, click  to open the Insight Reporting portal and log in.
3. Open the folder that contains your custom reports (for example, Custom Reports).
4. Click to open the output format options for this report.
5. Select the options you want and click **Run** to ensure that they are populated with storage, compute, and switch historical data.

Restoring the performance archive

For systems that perform performance archiving, the upgrade process only restores seven days of archive data. You can restore the remaining archive data after the upgrade is competed.

About this task

To restore the performance archive, follow these steps.

Steps

1. On the toolbar, click **Admin** > **Troubleshooting**
2. In the Restore section, under **Load performance archive**, click **Load**.

   Archive loading is handled in the background. Loading the full archive can take a long time as each day's archived performance data is populated into Insight. The status of the archive loading is displayed in the archive section of this page.

Testing the connectors

After you upgrade, you want to test the connectors to ensure that you have a connection from the OnCommand Insight Data Warehouse to the OnCommand Insight server.

Steps

1. Log in to the Data Warehouse Portal at `https://fqdn/dwh`.
2. From the navigation pane on the left, click **Connectors**.
3. Select the first connector.

   The Edit Connector page displays.

4. Click **Test**.
5. If the test is successful, click **Close**; if it fails, enter the name of the Insight server in the **Name** field and its IP address in the **Host** field and click **Test**.
6. When there is a successful connection between the Data Warehouse and the Insight server, click **Save**.

   If it does not succeed, check the connection configuration and ensure the Insight server does not have any issues.

7. Click **Test**.

   Data Warehouse tests the connection.

Verifying the Extract, Transform, and Load scheduling

After you upgrade, you should ensure that the Extract, Transform, and Load (ETL) process is retrieving data from the OnCommand Insight databases, transforming the data, and saving it into the data marts.

Steps

1. Log in to the Data Warehouse portal at `https://fqdn/dwh`.
2. From the navigation pane on the left, click **Schedule**.
3. Click **Edit schedule**.

4. Select **Daily** or **Weekly** from the **Type** list.

   It is recommended to schedule ETL to run once a day.

5. Verify that the time selected is the time at which you want the job to run.

   This ensures that the build job runs automatically.

6. Click **Save**.

Updating disk models

After upgrading, you should have any updated disk models; however, if for some reason Insight failed to discover new disk models, you can manually update them.

Before you begin

You must have obtained from technical support the `.zip` file that contains the latest data source patches.

Steps

1. Stop the SANscreen Acq service.
2. Navigate to the following directory: `<install directory>\SANscreen\wildfly\standalone\deployments\datasources.war`.
3. Move the current `diskmodels.jar` file to a different location.
4. Copy the new `diskmodels.jar` file into the `datasources.war` directory.
5. Start the SANscreen Acq service.

Verifying that business intelligence tools are running

If applicable, you should verify that your business intelligence tools are running and retrieving data after the upgrade.

Verify that business intelligence tools like BMC Atrium and ServiceNow are running and able to retrieve data. This includes the BMC connector and solutions that leverage REST.

Troubleshooting an upgrade

If you encounter issues after an OnCommand Insight upgrade, you might find it helpful to review the troubleshooting information related to some possible issues.

Unable to start Cognos from the Windows Start menu

The existence of a space before `\SANscreen\cognos` in the path name is an issue. See the following in the NetApp Customer Success Community for more information: https://forums.netapp.com/thread/62721.

"Not a valid win32 application" error message

This is an issue with Microsoft Windows. To resolve this issue, you must put quotation marks around the image path in the registry. See the following documentation for more information: https://support.microsoft.com/en-us/kb/812486/en-us.

Annotations are not present

When a Data Warehouse ETL job queries for annotations from an Insight instance, it sometimes receives an empty response (a 0 result) in error. This error results in annotations for certain objects moving back and forth between a “present” and “not present” state in Data Warehouse. See the following for more information: https://forums.netapp.com/docs/DOC-44167

Differences in values displayed in reports

Prior to 7.0, reports were integer-based. They are now decimal-based; therefore, after you upgrade, you may notice a increase or decrease in how the values display.

Data does not display in reports

In 7.0.1, several model names were changed (for example, Symmetrix was changed to Symmetrix VMAX). As a result, if a report contains a filter for “Symmetrix”, you will not see any data when you run the report. To change the report, you must open the report with Query Explorer in Report Studio, search for the model name, replace it with the new model name, and save the report.

Uninstalling the software

You must uninstall the old versions of the Data Warehouse and Remote Acquisition software to install the new versions. You should do this before you attempt to upgrade any of these components. The software on the Insight server is uninstalled during the in-place upgrade.

Uninstalling the OnCommand Insight Server

You can uninstall the OnCommand Insight server if needed.

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 administrator privileges.
2. Ensure that all of the Insight windows on the server are closed.
3. Open the **Uninstall a Program** feature from the control panel and select the OnCommand Insight application for removal.
4. Click **Uninstall** and follow the prompts.

Uninstalling the Data Warehouse software

You must uninstall the Data Warehouse software before you can upgrade.

Before you begin

If you made changes to reports you want to keep, it is critical that you create a backup before you uninstall Data Warehouse. Uninstalling Data Warehouse permanently deletes all previously collected data and removes all reports, including any newly created or edited reports.

Steps

1. Log in to the Data Warehouse server.
2. Ensure that all of the Insight windows on the server are closed.
3. To uninstall using Control Panel:
   a. Open **Uninstall a Program** from the control panel and select the OnCommand Insight application for removal. Click **Uninstall** and follow the prompts.
   b. Select the IBM Db2 application for removal. Click **Uninstall** and follow the prompts.
   c. Delete the Db2 install folder (for example *C:\Program Files\IBM\DB2*) to completely remove the Db2 database.
4. To uninstall using the provided script:
   a. Navigate to the *<download location>\oci_dwh_uninstall* folder and run the *uninstall_oci_dwh.bat* script.
5. Reboot the server.

Uninstalling the remote acquisition unit software

You must uninstall the existing version of the remote acquisition unit software before you can upgrade to a new version. You should perform this task on all remote acquisition unit servers in your environment.

Steps

1. Log in to the remote acquisition unit server.
2. Ensure that all of the OnCommand Insight windows on the server are closed.
3. Open the **Uninstall a Program** feature from the control panel and select the OnCommand Insight Remote Acquisition Unit program for removal.
4. Click **Uninstall** and follow the prompts.

Copyright information

Trademark information