Reporting made easy

OnCommand Insight

NetApp
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Reporting made easy

You can generate pre-defined reports from the OnCommand Insight Reporting Portal, email them to other users, and even modify them. Several reports enable you to filter by device, business entity, or tier. The reporting tools use IBM Cognos as a foundation and give you many data presentation options.

- The OnCommand Insight pre-defined reports show your inventory, storage capacity, chargeback, performance, storage efficiency, and cloud cost data. You can modify these pre-defined reports and save your modifications.

The report data available to you is controlled by several things, including the following:

- Login access to the OnCommand Insight Reporting Portal, which is defined by roles.
- The setup of the OnCommand InsightData Warehouse, which stores the data for the reports.

You can generate reports in various formats, including HTML, PDF, CSV, XML, and Excel.

OnCommand Insight accommodates multiple tenancy in reporting by enabling you to associate users with business units. With this feature, administrators can separate data or reports according to the attributes of a user or his affiliation.

> With Cognos version 11.1.2 onward, reporting URLs are not considered "stable" and are subject to change. If you have bookmarked reporting URLs, these bookmarks may subsequently fail. More information can be found here: http://queryvision.com/ibm-analytics-11-x-urls-they-are-a-changing/

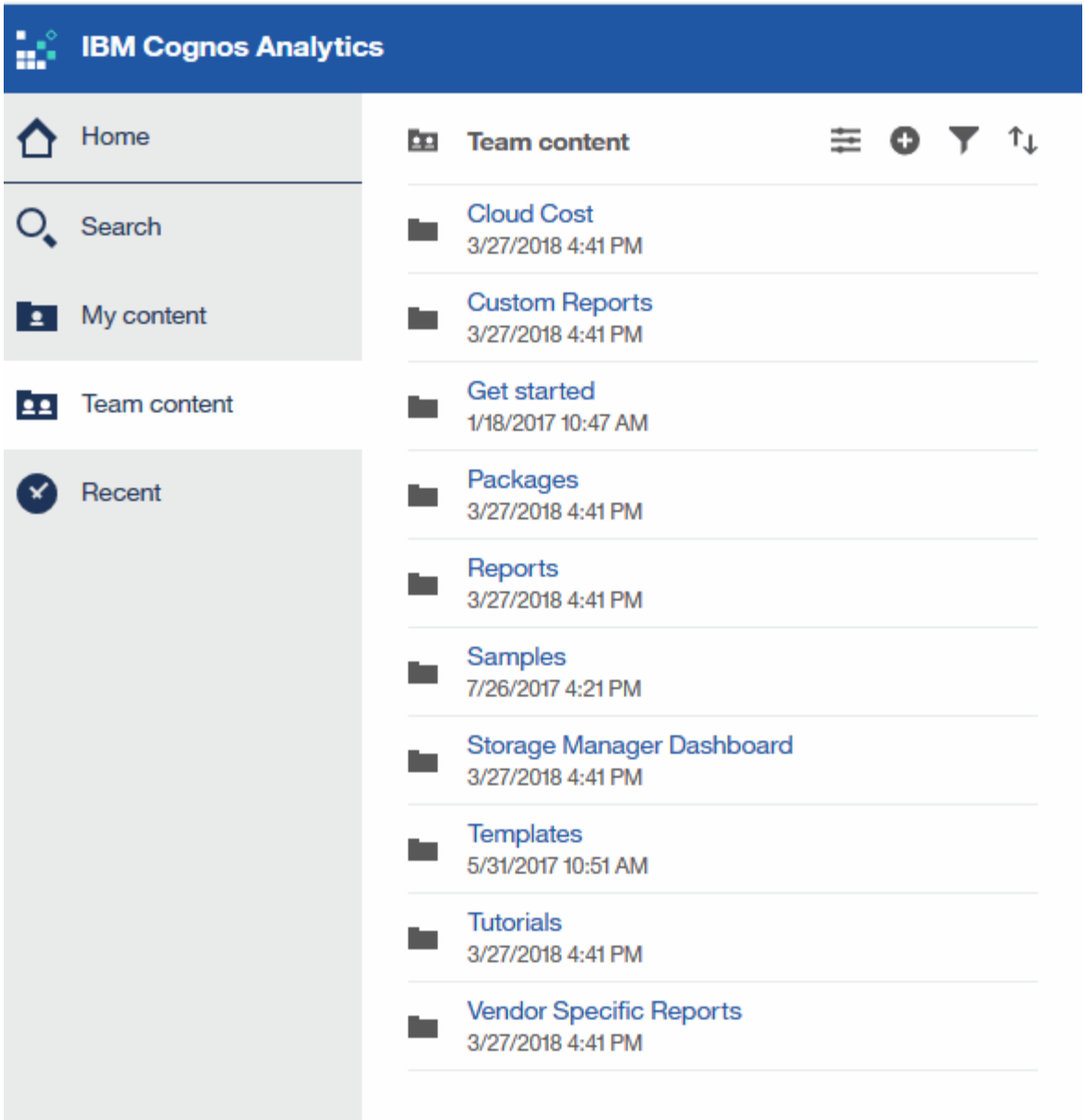
> OnCommand Insight does not support any Dashboards created using Packages in IBM Cognos, unless using the new Data Module feature.

Navigating to pre-defined OnCommand Insight reports

When you open the Reporting Portal, the Team content folder is the starting point for you to select the type of information that you require in the OnCommand Insight reports.

Steps

1. In the left navigation pane, click **Team content** and select the information category that you want to use.



2. Click **Reports** to access the pre-defined reports.
3. Click **Get Started**, **Samples** or **Tutorials** to learn how to create reports.

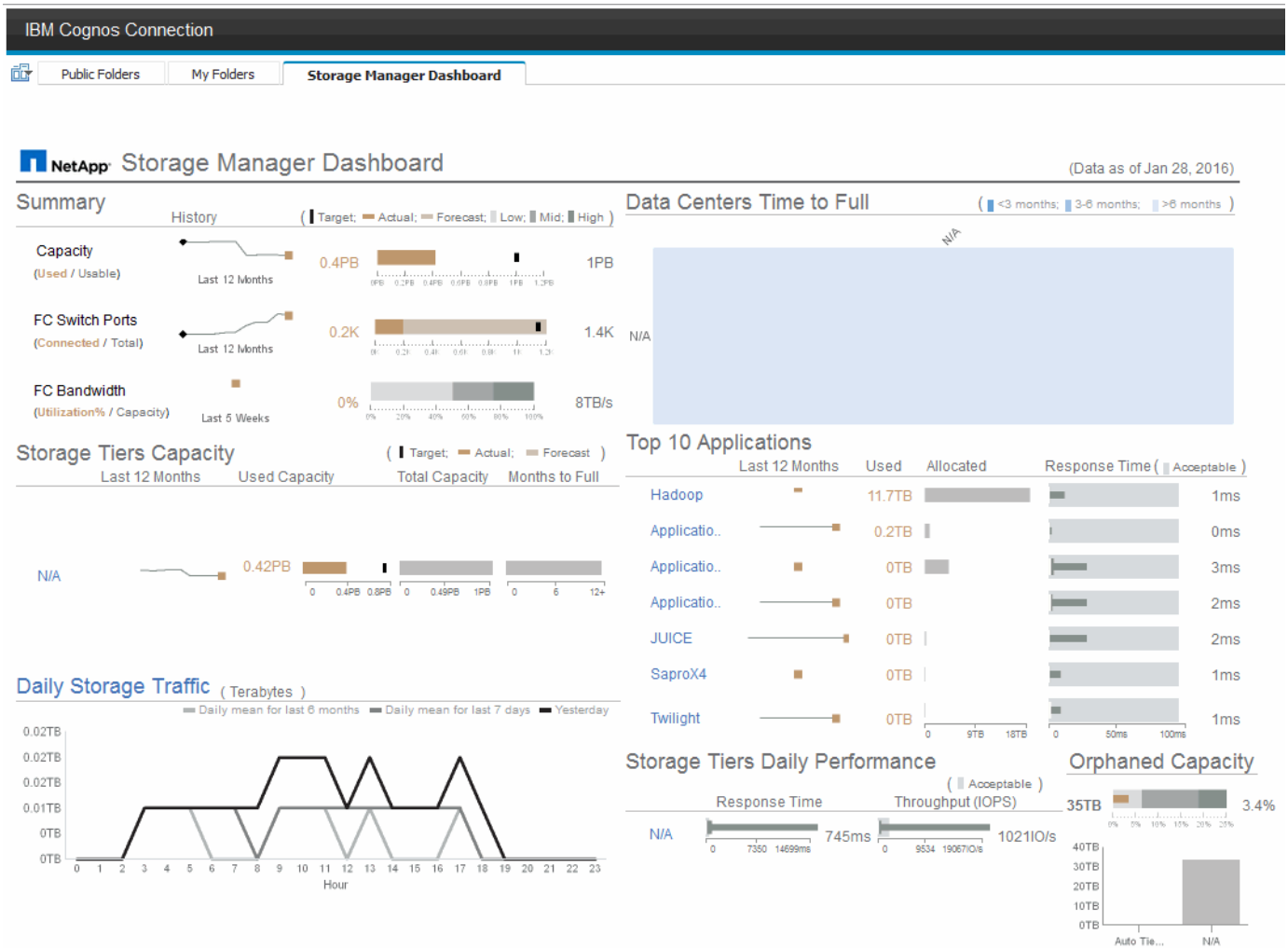
What the Storage Manager Dashboard enables you to do

You can use the Storage Manager Dashboard for the daily management of your storage services.

The Storage Manager Dashboard provides you with a centralized visualization that enables you to compare and contrast resource usage over time against the acceptable ranges and previous days of activity. Showing only the key performance metrics for your storage services, you can make decisions about how to maintain your data centers.

The dashboard comprises seven components that contain contextual information on certain aspects of your storage environment. You can drill down on the aspects of your storage services to perform an in-depth of analysis of a section that interests you most.

Summary



This component shows the used versus usable storage capacity, total switch ports versus the number of switch ports connected, and total connected switch port utilization versus the total bandwidth, and how each of these trend over time. You can view the actual utilization compared against the low, mid, and high ranges, which enables you to compare and contrast usage between Insight projections and your desired actuals, based on a target. For capacity and switch ports, you can configure this target. The forecast is based on an extrapolation of the current growth rate and the date you set. When the forecasted used capacity, which is based on future usage projection date, exceeds the target, an alert (solid red circle) appears next to Capacity.

Storage Tiers Capacity

This component shows the tier capacity used versus the capacity allocated to the tier, which indicates how the used capacity increases or decreases over a 12-month period and how many months are remaining to full capacity. Capacity usage is shown with values provided for actual usage, the usage forecast by Insight, and a target for capacity, which you can configure. When the forecasted used capacity, which is based on future usage projection date, exceeds the target capacity, an alert (solid red circle) appears next to a tier.

You can click any tier to display the Storage Pools Capacity and Performance Details report, which shows free versus used capacities, number of days to full, and performance (IOPS and Response Time) details for all the pools in the selected tier. You can also click any storage or storage pool name in this report to display the asset page summarizing the current state of that resource.

Daily Storage Traffic

This component shows how the environment is performing, if there is any large growth, changes, or potential issues compared to the previous six months. It also shows the average traffic versus the traffic for the previous seven days, and for the previous day. You can visualize any abnormalities in the way the infrastructure is performing because it provides information that highlights both cyclical (previous seven days) and seasonal variations (previous six months).

You can click the title (**Daily Storage Traffic**) to display the Storage Traffic Details report, which shows the heat map of the hourly storage traffic for the previous day for each storage system. Click any storage name in this report to display the asset page summarizing the current state of that resource.

Data Centers Time to Full

This component shows all the data centers versus all of the tiers and how much capacity remains in each data center for each tier of storage based on Insight forecasted growth rates. Tier capacity level is shown in blue; the darker the color, the lesser time the tier at the location has left before it is full.

You can click a section of a tier to display the Storage Pools Days to Full Details report, which shows total capacity, free capacity, and number of days to full for all the pools in the selected tier and the data center. Click any storage or storage pool name in this report to display the asset page summarizing the current state of that resource.

Top 10 Applications

This component shows the top 10 applications based on the used capacity. Regardless of how the tier organizes the data, this area displays the current used capacity and share of the infrastructure. You can visualize the range of user experience for the previous seven days to see if consumers experience acceptable (or, more importantly, unacceptable) response times.

This area also shows trending, which indicates if the applications meet their performance service level objectives (SLO). You can view the previous week's minimum response time, the first quartile, the third quartile, and the maximum response time, with a median shown against an acceptable SLO, which you can configure. When the median response time for any application is out of the acceptable SLO range, an alert (solid red circle) appears next to the application. You can click an application to display the asset page summarizing the current state of that resource.

Storage Tiers Daily Performance

This component shows a summary of the tier's performance for response time and IOPS for the previous seven days. This performance is compared against a SLO, which you can configure, enabling you to see if there is opportunity to consolidate tiers, realign workloads delivered from those tiers, or identify issues with particular tiers. When median response time or median IOPS is out of the acceptable SLO range, an alert (solid red circle) appears next to a tier.

You can click a tier name to display the Storage Pools Capacity and Performance Details report, which shows free versus used capacities, number of days to full, and performance (IOPS and response time) details for all the pools in the selected tier. Click any storage or storage pool in this report to display the asset page summarizing the current state of that resource.

Orphaned Capacity

This component shows the total orphaned capacity and orphaned capacity by tier, comparing it against acceptable ranges for total usable capacity and showing the actual capacity that is orphaned. Orphaned

capacity is defined by configuration and by performance. *Storage orphaned by configuration* describes a situation in which there is storage allocated to a host. However, the configuration has not been performed properly and the host cannot access the storage. *Orphaned by performance* is when the storage is correctly configured to be accessed by a host. However, there has been no storage traffic.

The horizontal stacked bar shows the acceptable ranges. The darker the gray, the more unacceptable the situation is. The actual situation is shown with the narrow bronze bar that shows the actual capacity that is orphaned.

You can click a tier to display the Orphaned Storage Details report, which shows all the volumes identified as orphaned by configuration and performance for the selected tier. Click any storage, storage pool, or volume in this report to display the asset page summarizing the current state of that resource.

Using predefined reports to answer common questions

OnCommand Insight includes predefined reports that address a number of common reporting requirements, providing critical insight that stakeholders need to make informed decisions about their storage infrastructure.

The following predefined reports are available in **Team content** > **Reports** or **Team content** > **Vendor Specific Reports**.

Newer versions of reports might be available at the NetApp Storage Automation Store. You should check the Automation Store regularly for reports.

- **AWS Cloud Cost Data**

  The Cloud cost report provides a consolidated view of all assets so you can track, analyze and optimize usage and cost of cloud-based as well as on-prem services as they dynamically scale in your environment.

  The report provides infrastructure-to-cost correlation, giving clear and actionable reporting to ensure right-sizing through focused capacity planning and waste detection.

- **Application Service Level Capacity and Performance**

  The Application Service Level Capacity and Performance report provides a high level overview of your applications. You can use this information for capacity planning or for a migration plan.

- **Chargeback**

  The Chargeback report provides storage capacity chargeback and accountability information by hosts, application, and business entities, and includes both current and historical data.

  To prevent double counting do not include ESX servers, only monitor the VMs.

  An updated version of this report is available at the NetApp Storage Automation Store.

- **Data Sources**

  The Data Sources report shows all the data sources that are installed on your site, the status of the data source (success/failure), and status messages. The report provides information about where to start troubleshooting data sources. Failed data sources impact the accuracy of Insight reporting and the general usability of the product.

- **ESX vs VM Performance**

  The ESX vs VM Performance report provides a comparison of ESX servers and VMs, showing average and peak IOPs, throughput, and latency and utilizations for ESX servers and VMs. To prevent double counting, exclude the ESX servers; only include the VMs.

  An updated version of this report is available at the NetApp Storage Automation Store.

- **Fabric Summary**

  The Fabric Summary report identifies switches and switch information, including port counts, firmware versions, and license status. The report does not include NPV switch ports.

- **Host HBAs**

  The Host HBAs report provides an overview of the hosts in the environment and provides the vendor, model, and firmware version of HBAs, and the firmware level of the switches to which they are connected. This report can be used to analyze firmware compatibility when planning a firmware upgrade for a switch or an HBA.

- **Host Service Level Capacity and Performance**

  The Host Service Level Capacity and Performance report provides an overview of storage utilization by host for block only applications.

- **Host Summary**

  The Host Summary report provides an overview of storage utilization by each selected host with information for Fibre Channel and iSCSI hosts. The report enables you to compare ports and paths, the Fibre Channel and ISCSI capacity, and violation counts.

- **License Details**

  The License Details report shows the entitled quantity of resources you are licensed for across all sites with active licenses. The report also shows a summation of actual quantity across all the sites with active licenses. The summation may include overlaps of storage arrays managed by multiple servers.

- **Mapped but not Masked Volumes**

  The Mapped but not Masked Volumes report lists the volumes whose logical unit number (LUN) has been mapped for use by a particular host, but is not masked to that host. In some cases these could be decommissioned LUNs that have been unmasked. Unmasked volumes can be accessed by any host, making them vulnerable to data corruption.

- **NetApp Capacity and Performance**

  The NetApp Capacity and Performance report provides global data for allocated, utilized, and committed capacity with trending and performance data for NetApp capacity.

- **OCI Scorecard**

  The OCI Scorecard report provides a summary and general status of all assets discovered by OnCommand Insight. Status is indicated with green, yellow, and red flags:

  - Green indicates normal condition

- Yellow indicates a potential issue in the environment
- Red indicates an issue that requires attention All of the fields in the report are described in the Data Dictionary provided with the report.

- **Storage Summary**

  The Storage Summary report provides a global summary of used and unused capacity data for raw, allocated, storage pools, and volumes. This report provides an overview of all of the storage discovered.

  A newer version of this report is available at the NetApp Storage Automation Store.

- **VM Capacity and Performance**

  Describes the virtual machine (VM) environment and its capacity usage. VM tools must be enabled to view some data, such as when VMs were powered down.

- **VM Paths**

  The VM Paths report provides data store capacity data and performance metrics for which virtual machine is running on which host, which hosts are accessing which shared volumes, what the active access path is, and what comprises capacity allocation and usage.

- **HDS Capacity by Thin Pool**

  The HDS Capacity by Thin Pool report shows the amount of usable capacity on a storage pool that is thin provisioned.

- **NetApp Capacity by Aggregate**

  The NetApp Capacity by Aggregate report shows raw total, total, used, available, and committed space of aggregates.

- **Symmetrix Capacity by Thick Array**

  The Symmetrix Capacity by Thick Array report shows raw capacity, useable capacity, free capacity, mapped, masked, and total free capacity.

- **Symmetrix Capacity by Thin Pool**

  The Symmetrix Capacity by Thin Pool report shows raw capacity, useable capacity, used capacity, free capacity, used percentage, subscribed capacity, and subscription rate.

- **XIV Capacity by Array**

  The XIV Capacity by Array report shows used and unused capacity for the array.

- **XIV Capacity by Pool**

  The XIV Capacity by Pool report shows used and unused capacity for storage pools.

Creating a report using Cognos 11

Creating reports with Cognos 11 differs from previous versions of Cognos. Use this procedure to create a report using the pre-defined OnCommand Insight reports.

About this task

Use the following steps to generate a simple report on physical capacity of storage and storage pools in a number of data centers.

Steps

1. In the toolbar, click 
2. Click **Report**
3. Click **Templates** > **Blank**
4. Click **Themes** > **Cool Blue** > **OK**

   The Source and Data tabs is displayed

5. Click **Source** > 
6. In the Open file dialog, click **Team content** > **Packages**

   A list of available packages is displayed.

7. Click **Storage and Storage Pool Capacity** > **Open**
8. Click 

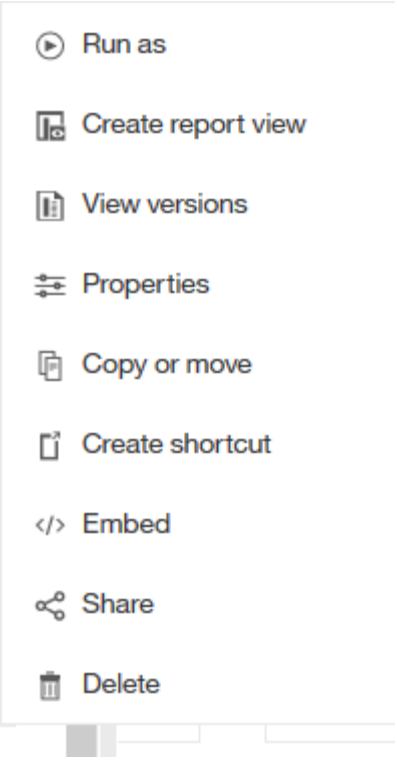
   The available styles for your report are displayed.

9. Click **List**

   Add appropriate names for List and Query

10. Click **OK**
11. Expand **Physical Capacity**
12. Expand to the lowest level of **Data Center**
13. Drag 

to the Reporting palate.
14. Expand **Capacity (MB)**
15. Drag **Capacity (MB)** to the Reporting palate.
16. Drag **Used Capacity (MB)** to the Reporting palate.
17.

Run the report, by clicking 

and selecting an output type.

Results

A report similar to the following is created:

Data Center	Capacity (MB)	Used Capacity (MB)
Asia	122,070,096.00	45,708,105.00
BLR	100,709,506.00	54,982,204.00
Boulder	22,883,450.00	12,011,075.00
DC01	1,707,024,715.00	1,407,609,686.00
DC02	732,370,688.00	732,370,688.00
DC03	314,598,162.00	65,448,975.00
DC04	573,573,884.00	282,645,615.00
DC05	89,245,458.00	62,145,011.00
DC06	19,455,433,799.00	11,283,487,744.00
DC08	100,709,506.00	44,950,171.00
DC10	112,916,718.00	43,346,818.00
DC14	23,565,735,054.00	17,357,431,924.00
DC56	137,549,084.00	10,657,793.00
Europe	743,942,208.00	240,369,325.00
HIO	9,823,036,853.00	4,216,750,338.00
London	0.00	0.00
N/A	9,049,939,023.00	5,887,911,992.00
RTP	12,386,326,262.00	5,638,948,477.00
SAC	9,269,642,330.00	6,197,549,437.00

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