



# Symantec NetBackup Blueprints

## Blueprint for OpsCenter

Symantec Backup and Recovery Technical Services



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## Notice



This NetBackup Blueprint presentation includes example diagrams that contain objects that represent applications and platforms from other companies such as Microsoft and VMware. These diagrams may or may not match or resemble actual implementations found in end user environments. Any likeness or similarity to actual end user environments is completely by coincidence.

The goal of the diagrams included in this blueprint presentation is not to recommend specific ways in which to implement applications and platforms from other companies such as Microsoft and VMware; the purpose of these diagrams is to illustrate NetBackup best practices only.

For guidelines and best practices on installing and configuring applications and platforms from other companies, please refer to best practice documentation and other resources provided by those companies.

These **Blueprints** are designed to show customer challenges and how NetBackup solves those.

- Each Blueprint consists of:
  - **Pain Points:** Explain the current challenges a customer faces.
  - **Whiteboards & Example Diagrams:** Describe the implementation of NetBackup solution.
  - **Best Practices:** Present NetBackup best practices to avoid common pitfalls
- Use these **Blueprints** to present the NetBackup best practice implementation example



## Introduction

- Symantec OpsCenter is a Web based software application that provides **visibility** into the data protection environments.
- It allows you to
  - Monitor and Manage NetBackup and NetBackup 52xx Appliance setups
  - Generate alerts depending on defined conditions
    - Proactive vs. Reactive management
  - Create and customize “Views”
    - Groups of NetBackup Objects
  - Comprehensive reporting options
  - Restore files and folders using Operational Restore

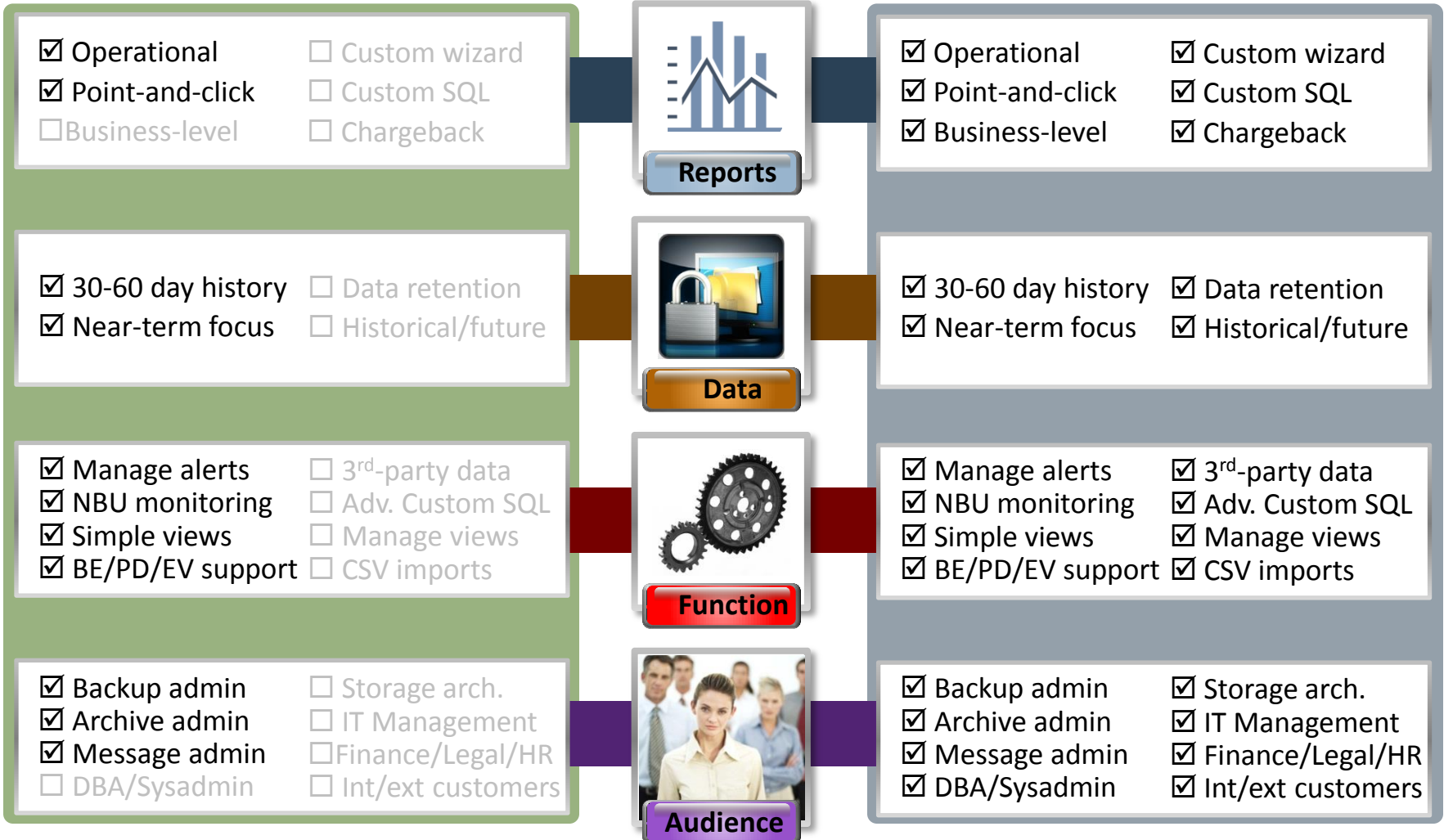
- Central location to view Backup data for multiple backup domains
- Capability to monitor storage utilization, backup/restore results, policy administration, and much more
- View Based Access Control limits access based on a define Role
- Provides alerting to send out direct emails or SNMP notification when an alert condition is met
- Allows customized reporting options which can assist with compliance, business planning, and service level agreements

### OpsCenter

*(does not require any license)*

### OpsCenter Analytics

*(licensed version of OpsCenter)*





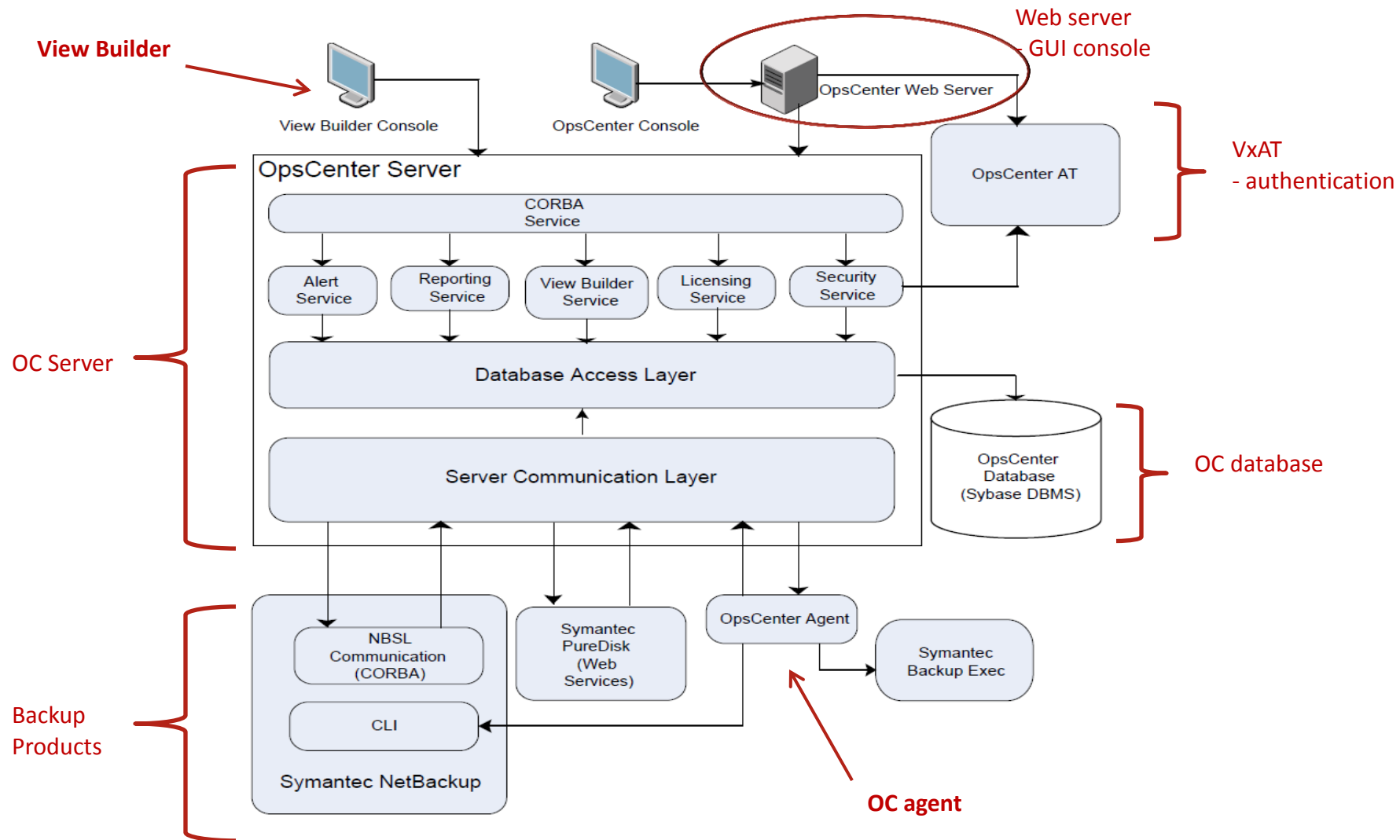
- OpsCenter Master
  - Heart of the architecture
  - Web application in front of a database that stores information sent from NetBackup for reporting purposes
  - Supported on Windows and UNIX platforms.
- OpsCenter View Builder
  - Create, Modify, and Manage OpsCenter Views
- OpsCenter Agent
  - Only required for license reporting as of 7.6

- Install OpsCenter Master on separate server from NBU Master
- Uses Sybase ASA database
- Access the OpsCenter GUI from any web browser
  - Check compatibility list for supported browser versions
- “All in one” installation included on OpsCenter installation media

- How does it work?
  - Data sent from NetBackup Masters using NBSL
  - Data is stored in OpsCenter database – separate from NetBackup database
  - It relies on the Java Runtime Environment (JRE) to perform its functions.
  - Uses embedded AT (Symantec Product Authentication Service) to authenticate itself with the OpsCenter Server

- A View is a grouping of NetBackup Objects
  - All clients used for Finance Servers
  - All Masters in the Chicago Data center
- View Builder is a separate install included on the OC install media
  - Requires login credentials
- Directly connects to the OpsCenter Master
  - Fetches the existing object view definitions from database and displays them in the View Builder console
  - Actions performed using the View Builder console are then stored in the OpsCenter database

# NetBackup OpsCenter High Level Architecture



- Symantec Private Branch Exchange (PBX)

PBX lets applications share a common TCP/IP port, which reduces the required number of open ports in firewalls. PBX also integrates with the Symantec Product Authentication Service to allow for authenticated connections and non-authenticated connections. Because PBX is an independent component, its port number can be changed using PBX configuration files.

- JRE (Java Runtime Environment)

The Symantec NetBackup OpsCenter Web server and the OpsCenter application require this component

- The NetBackup data collection and management logic that OpsCenter uses is built into NetBackup master servers. This logic is included in the NetBackup Service Layer (NBSL)
- If NBSL stops, OpsCenter may not capture any changes that were made to the NetBackup configuration
  - When NBSL restarts, OpsCenter correctly recaptures the latest state
- The OpsCenter server software collects data from NBSL in the following ways:
  - Initial data load
  - Listening for change notifications



## Installation



- The NetBackup media kit comprises NetBackup DVDs as well as OpsCenter DVDs.
- You can install OpsCenter Server on a physical computer or a virtual machine (VM).
- Installation of OpsCenter Server software on a NetBackup master server or media server is possible if you want to monitor only one master server with a maximum of 1000 jobs per day.
- To monitor more than one master server, Symantec recommends that you install the OpsCenter server software on a separate standalone server.
- Refer the following checklists before installing OpsCenter.

<http://www.symantec.com/docs/HOWTO87553>

- Installing Symantec OpsCenter Server on Windows

<http://www.symantec.com/docs/HOWTO87572>

- Installing Symantec NetBackup OpsCenter Server on UNIX

<http://www.symantec.com/docs/HOWTO87575>

- Installing Symantec OpsCenter Agent on Windows

<http://www.symantec.com/docs/HOWTO87573>

- Installing Symantec OpsCenter View Builder on Windows

<http://www.symantec.com/docs/HOWTO87574>

- Ensure that no other installation is in progress while you install OpsCenter.
- Enable 8.3 file name creation and restart the host
- Ensure that the antivirus software is disabled before you install OpsCenter
- Ensure that your OpsCenter server is configured as a fixed host with a static IP address
- Ensure that the fully qualified domain name (FQDN) of your OpsCenter Server has no more than 44 characters
- For a new OpsCenter installation, ensure that the database directory sufficient space
  - The database can grow to over 100GB in a large environment however this takes time
- In a clustered environment, install OpsCenter on the active node and then on passive nodes.

- The size of your OpsCenter server depends largely on the number of NetBackup objects that OpsCenter manages. The NetBackup objects that determine the OpsCenter server size are the following:

Master servers, policies, jobs, media, images, SLPs

- Review following article for sizing guidelines:

<http://www.symantec.com/docs/DOC7416>

# NetBackup OpsCenter

## Sizing considerations-example



System Configuration	No of master servers	No of alerts	No of job policies	No of media	No of jobs per day
2 Processors,8GB RAM	0-20	0 - 10,000	0-200	0-1000	0-20,000
4 Processors, 8 GB RAM	20-40	10,000-40,000	2000-4000	1000-10000	20000-40000
8 Logical Processors,8 GB RAM	40-60	40,000-60,000	4000-6000	10000-50000	40000-60000
16 Logical Processors,16 GB RAM	60-100	60,000 - 1,00,000	6000 – 10,000	50000-1,00,000	60000-150000



## Walkthrough

- Use the URL that is presented at the end of the OpsCenter Server installation to access the OpsCenter console. Alternately type the following in the Web browser address bar:

*`http://<server-host>/opscenter`*

- By default, OpsCenter tries to run on port 80 (HTTP). If port 80 is not available, OpsCenter can use a different port.
- To know the HTTP and HTTPS port that OpsCenter uses, run the configurePorts utility.  
(*`INSTALL_PATH\OpsCenter\gui\bin\goodies\configurePorts.bat`* )
- Log on as admin (user name) /password (password) on the private domain: OpsCenterUsers(vx)

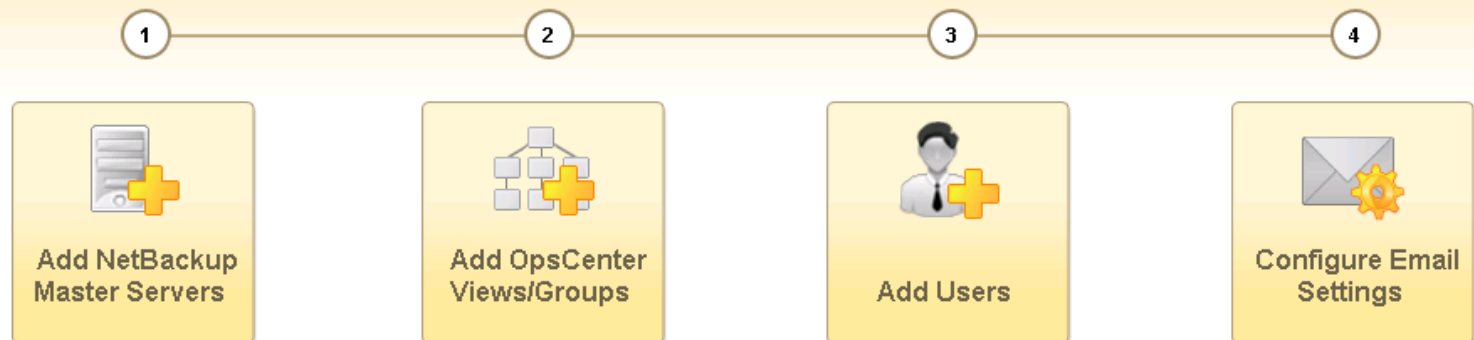
## Welcome to Symantec NetBackup OpsCenter Analytics

OpsCenter makes NetBackup environments easier to manage by providing centralized monitoring, alerting, recovery, grouping of NetBackup infrastructure with role-based access controls, with OpsCenter Analytics providing additional advanced custom reporting functionality across multiple NetBackup domains.



You are currently logged in as a **Security Administrator**.  
You are authorized to perform all OpsCenter functions including user management.  
[Learn More About the Default OpsCenter User Roles](#)

To get started with OpsCenter, carry out the initial steps in the following recommended sequence:





- **Security Administrator**

- This is a super admin user who can perform all OpsCenter functions including user management.

- **Administrator**

- This user can perform all OpsCenter functions except for user management.

- **Operator**

- This user is not involved in activities that are related to managing users, OpsCenter Server, and NetBackup configuration.

- **Restore Operator**

- The role of this user is to mainly perform restore operations. The Restore Operator can monitor, perform alert operations and run standard or custom reports..

- **Reporter**

- The role of this user is to mainly generate the operational and business-level reports for further analysis.

# NetBackup OpsCenter

## OpsCenter GUI console components



The screenshot shows the Symantec NetBackup OpsCenter Analytics interface. The top navigation bar includes 'Monitor', 'Manage', 'Reports', 'Search & Hold', and 'Settings'. Below this is a secondary navigation bar with 'Overview', 'Jobs', 'Services', 'Policies', 'Media', 'Devices', 'Hosts', 'Alerts', 'Audit Trails', 'Cloud', and 'Appliance Hardware'. The main content area displays a table of jobs with columns for Job ID, Master Server, Type, State, Status, and Policy. A 'Table settings icon' is located in the top right of the table. The left sidebar contains a 'View Pane' with a tree view of master servers and an 'Alert Summary' at the bottom. The bottom right of the interface shows 'Page controls' for navigating through 244 rows. A 'Details Pane' is visible at the bottom, showing job details for Job ID 24265.

**Content pane**

**Timeframe filters**

**Format content**

**Title bar links**

**Menu tabs and subtabs**

**View Pane**

**Task Pane (whole left side)**

**Quick links**

**Detail tabs**

**Table settings icon**

**Maximize / Minimize**

**Page controls**

**Alert Summary**

**Details Pane**

**Overview** | Jobs | Services | Policies | Media | Devices | Hosts | Alerts | Audit Trails | Cloud | Appliance Hardware

View ALL MASTER SERVERS

Jun 15, 2014 1:01:51 AM to Jun 16, 2014 1:01:51 AM (Last 24 Hours) Last 24 Hours Last 48 H

ALL MASTER SERVERS

- master2dfm30.nblab.com
- nbmaster10

Apply Selection

**Symantec ThreatCon**

Level 1: Normal [More Info...](#)

Restore

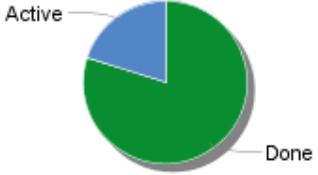
Alert Policies

NetBackup Data Collection

Views

Users

**Job Summary by State**




Done	4	80%
Active	1	20%

Total Job Count

● Done ● Active

**Job Summary by Job Status**



Total Job Count

● Failed ● Successful


**Top 7 Job Error Log Summary**


Job Exit Code	Failed Jobs
<a href="#">150</a>	2

**Top 7 Policies by Failed Jobs**

Policy Name	Failed Jobs
sharepoint-grt	1
exch-grt	1

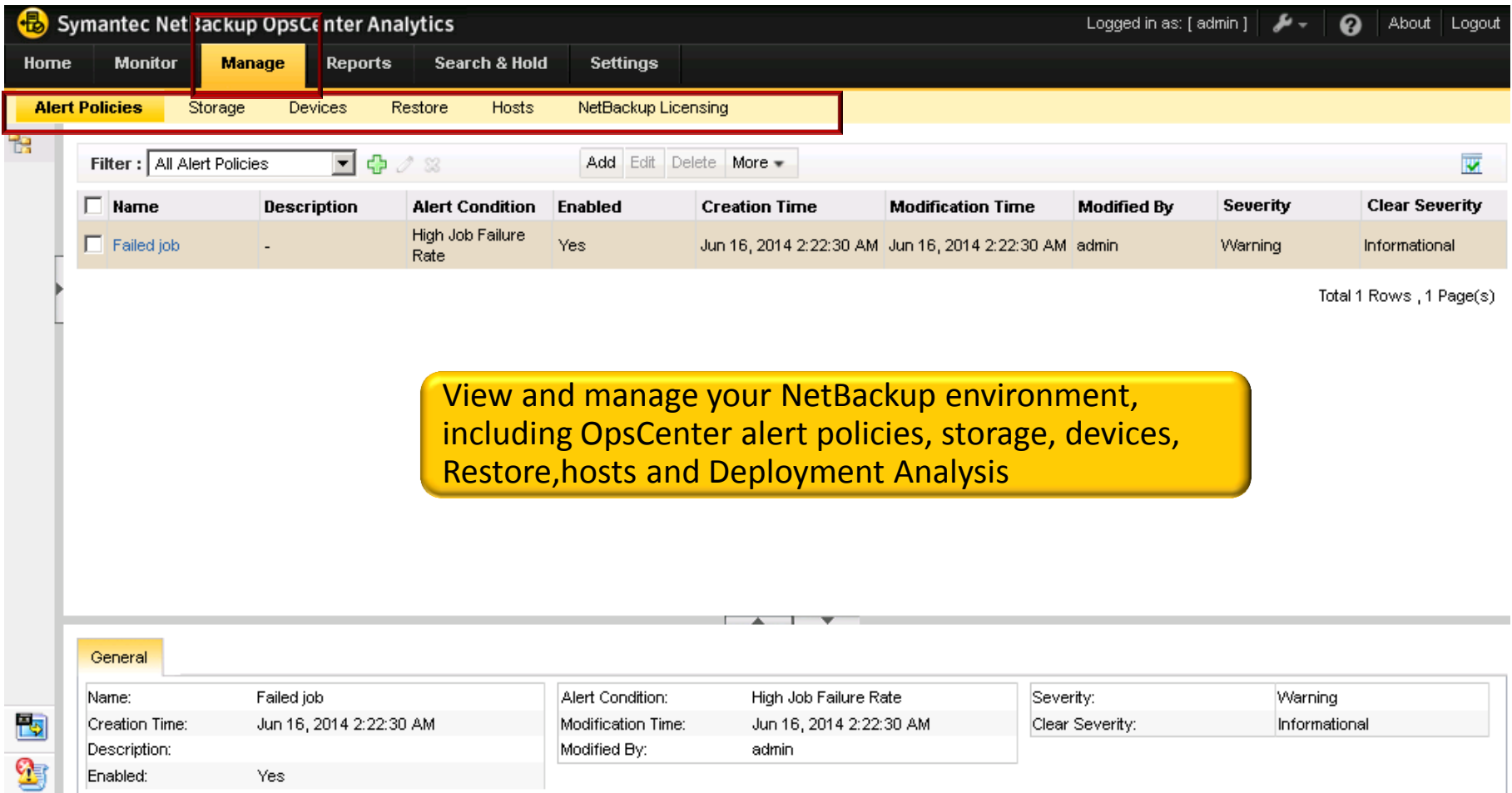
**Alert Summary by Severity**

Alert Summary: 

Page generated: [June 16, 2014 1:01:52 AM EDT] 

- Default Overview Homepage
- Centralized view for NetBackup Operations

Subtab	Functionalities
Jobs	Provides centralized view of all jobs
Services	View all NetBackup Services, add custom filters
Policies	Displays policy history and details. Allows to enable/disable/manually run the policies
Media	View media status, freeze/unfreeze/suspend/unsuspend the media
Devices	View the tape devices status, up/down tape drives
Hosts	Filters by severity. View audit log details, integrates with NBAC if configured.
Alerts	Filters by severity. Allows to manage the alerts
Audit Trails	View audit log details, integrates with NBAC if configured.
Cloud	Monitor NBU cloud storage activity View chargeback reports for cloud
Appliance Hardware	Monitor NBU appliance hardware health, connect directly to appliance console



The screenshot displays the Symantec NetBackup OpsCenter Analytics interface. The top navigation bar includes 'Home', 'Monitor', 'Manage', 'Reports', 'Search & Hold', and 'Settings'. The 'Manage' tab is active, and a sub-menu below it shows 'Alert Policies', 'Storage', 'Devices', 'Restore', 'Hosts', and 'NetBackup Licensing'. The 'Alert Policies' sub-tab is selected, showing a table of alert policies. A yellow callout box highlights the 'Manage' tab and the 'Alert Policies' sub-tab. Below the table, a 'General' tab is active, displaying details for the selected 'Failed job' alert policy.

Filter: All Alert Policies

<input type="checkbox"/>	Name	Description	Alert Condition	Enabled	Creation Time	Modification Time	Modified By	Severity	Clear Severity
<input type="checkbox"/>	Failed job	-	High Job Failure Rate	Yes	Jun 16, 2014 2:22:30 AM	Jun 16, 2014 2:22:30 AM	admin	Warning	Informational

Total 1 Rows , 1 Page(s)

**View and manage your NetBackup environment, including OpsCenter alert policies, storage, devices, Restore, hosts and Deployment Analysis**

**General**

Name:	Failed job	Alert Condition:	High Job Failure Rate	Severity:	Warning
Creation Time:	Jun 16, 2014 2:22:30 AM	Modification Time:	Jun 16, 2014 2:22:30 AM	Clear Severity:	Informational
Description:		Modified By:	admin		
Enabled:	Yes				

# NetBackup Blueprints: OpsCenter

## Managing NetBackup -subtabs



Subtab	Functionalities
Alert Policies	Create NetBackup-Specific alerts
Storage and Devices-	Are similar to monitor>storage and monitor>devices tabs in NetBackup Administration console
Restore	Perform operational restore or Guided recovery operations. The Restore subtab is not visible when you log on as Reporter.
Hosts	Enable auditing and retention for master servers
NetBackup Licensing	Run the reports about traditional and capacity licensing.

- OpsCenter comes with a set of predefined alert conditions. You can create alert policies based on these alert conditions to detect when something goes wrong in your NetBackup environment and troubleshoot NetBackup. The alerts help you to anticipate and handle problems before they occur.
- You can receive these alerts by logging on to OpsCenter, and also by email or SNMP traps. You can specify email and SNMP recipients while creating an alert policy.
- Alert conditions can be divided into the following categories:
  - Event-based alert conditions
    - For these alert conditions, OpsCenter retrieves data from NetBackup based on notifications from NBSL.
  - Periodic alert conditions
    - For these alert conditions, OpsCenter retrieves data from NetBackup based on a wait time (of up to 15 minutes).

**Alert Policies** Storage Devices Restore Hosts NetBackup Licensing

### Alert Policy Wizard

- General
- Alert Condition Properties
- Scope
- Actions

**Specify general properties and select alert condition**

\* Indicates required field

**Name :**
















**Description:**

**Alert Condition:**

Job	
<input checked="" type="radio"/> High Job Failure Rate	An alert is generated when the job failure rate becomes more than the specified rate.
<input type="radio"/> Hung Job	An alert is generated when a job for a selected policy/client hangs for a specified period.
<input type="radio"/> Job Finalized	An alert is generated when a job of a specified type of the specified policy/client ends in the specified status.
<input type="radio"/> Incomplete Job	An alert is generated when a job of a specified type of the specified policy/client moves to an incomplete state.
Media	
<input type="radio"/> Frozen Media	An alert is generated when any of the selected media is frozen.
<input type="radio"/> Suspended Media	An alert is generated when any of the selected media is suspended.
<input type="radio"/> Exceeded Max Media Mounts	An alert is generated when a media exceeds the threshold number of mounts.
<input type="radio"/> Media Required for Restore	An alert is generated when a restore operation is not running due to non-availability of media.
<input type="radio"/> Low Available Media	An alert is generated when the number of available media becomes less than the present threshold value.
<input type="radio"/> High Suspended Media	An alert is generated when the number of suspended media exceeds the predefined threshold value.
<input type="radio"/> High Frozen Media	An alert is generated when the number of frozen media exceeds the predefined threshold value.
<input type="radio"/> Zero Cleaning Left	An alert is generated if a cleaning tape has zero cleaning left.
Catalog	
<input type="radio"/> Catalog Space low	An alert is generated when the space available for catalogs becomes less than the threshold value.

Various alerts conditions available in OpsCenter.



Name	Description
 Report Templates	-
 Audit Reports	NetBackup Audit Trails reports of all user-initiated actions for auditing NetBackup operational changes.
 Backup Reports	NetBackup backup operations including job activity, deduplication rates, and success rates.
 Catalog Reports	NetBackup Catalog backup operations for both NetBackup and NetBackup Appliances.
 Chargeback Reports	Chargeback estimates for the specific costs of providing backup services and backup storage consumed.
 Client Reports	Protection status of all NetBackup Clients (physical and virtual) with Bare Metal Recovery (BMR) status.
 Cloud Reports	NetBackup cloud storage status including storage forecasting, throughput performance, and chargeback costs.
 Deduplication Reports	NetBackup deduplication storage including deduplication rates and storage space saved.
 Disk & Tape Device Activity Reports	NetBackup disk, tape, and SAN Client storage unit utilization and free space available.
 Media Reports	NetBackup media status, expiration, and availability, including tape, disk, Appliances, and NetBackup Vault.
 Performance Reports	Reporting for overall performance and throughput statistics on NetBackup Master and Media Servers.
 Policy Reports	Reporting for NetBackup Policy information including Policies consuming the most storage space.
 Restore Reports	Reporting for all NetBackup restore and recovery operations.
 Storage Lifecycle Policy Reports	NetBackup Storage Lifecycle Policies (SLP's) and NetBackup Auto Image Replication (AIR) status.
 Workload Analyzer Reports	Heat map reporting on the overall past, current, and projected workload of your NetBackup environment.

Default report templates

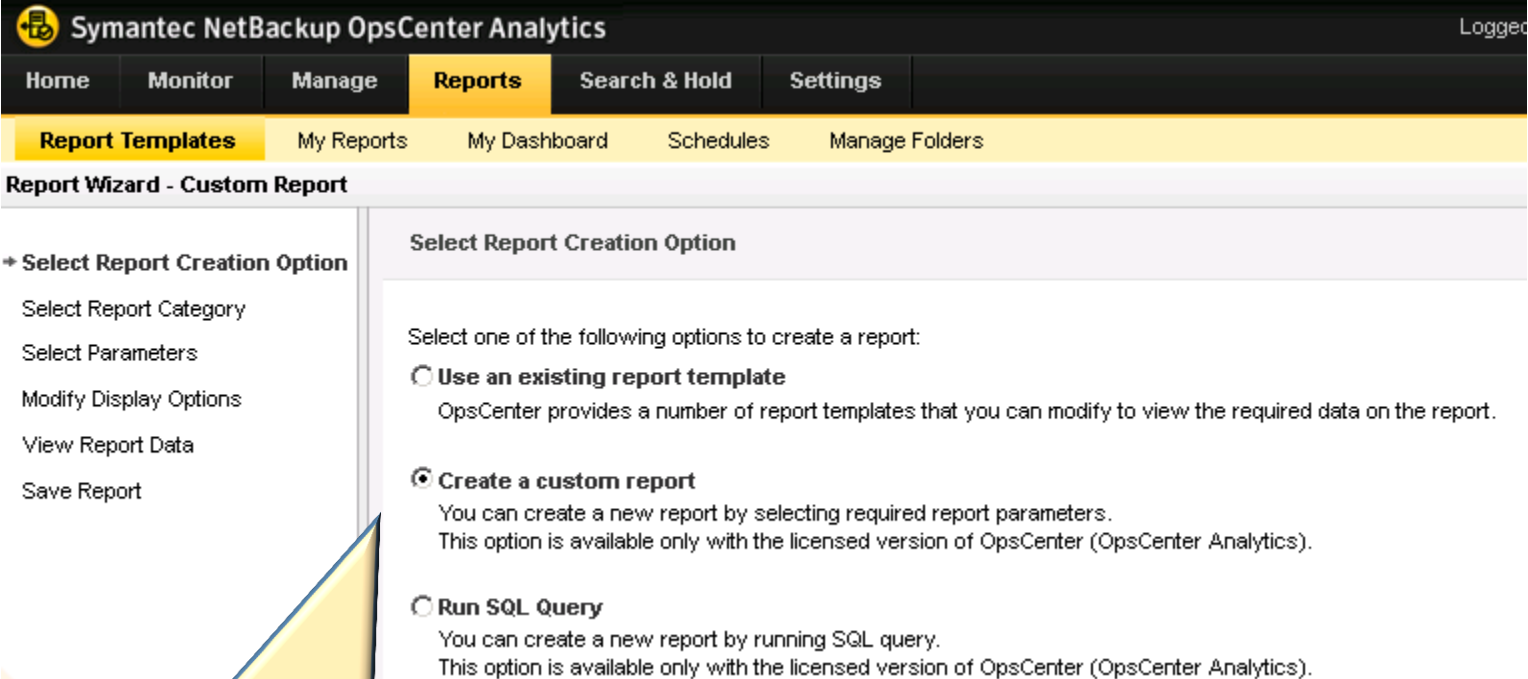
Following are some of the advanced Basic Reporting Options available in OpsCenter:

- Advanced Success Rate Report
- All Failed Backups (similar to ASR but focuses on failures)
- Consecutive Failures
- Clients Risk Analysis
- Virtual Client Summary

Subtab	Functionalities
Report Templates	Set of Report Templates that have parameters set to default values. You can modify the default parameters and generate reports to view the required data.
My reports	You can save generated reports for your future use. These saved reports are stored in the My Reports tab.
My dashboard	Your saved reports are preserved in My Reports tab, which you can select and publish on My Dashboard tab. You can add only 10 reports in a dashboard.
Schedules	Provides a way to export or email a report on a specific schedule. For this task you need to create a report schedule that is associated with a time schedule on which the specified reports are exported or emailed.
Manage Folders	you can add new report folders, edit names of the existing folders, or delete them.

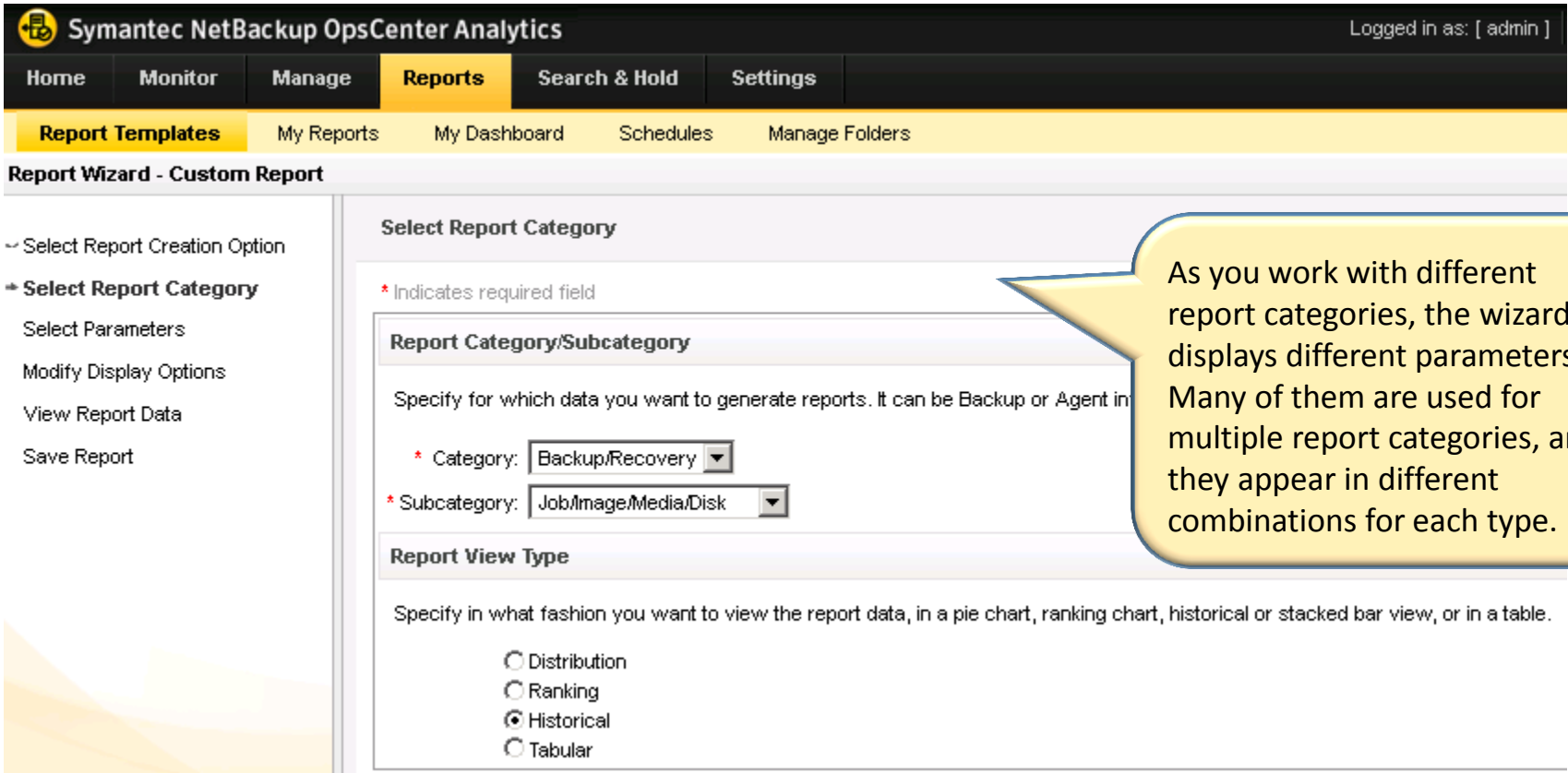
# NetBackup OpsCenter

## Creating a custom report (1)



The screenshot shows the Symantec NetBackup OpsCenter Analytics interface. The top navigation bar includes Home, Monitor, Manage, Reports, Search & Hold, and Settings. Below this is a secondary navigation bar with Report Templates, My Reports, My Dashboard, Schedules, and Manage Folders. The main content area is titled "Report Wizard - Custom Report" and features a sidebar on the left with the following options: Select Report Creation Option, Select Report Category, Select Parameters, Modify Display Options, View Report Data, and Save Report. The main panel is titled "Select Report Creation Option" and contains the following text: "Select one of the following options to create a report:" followed by three radio button options: "Use an existing report template" (with a description: "OpsCenter provides a number of report templates that you can modify to view the required data on the report."), "Create a custom report" (which is selected, with a description: "You can create a new report by selecting required report parameters. This option is available only with the licensed version of OpsCenter (OpsCenter Analytics)."), and "Run SQL Query" (with a description: "You can create a new report by running SQL query. This option is available only with the licensed version of OpsCenter (OpsCenter Analytics).").

In addition to using the default reports, you can use the Custom Report Wizard to create custom reports that are unique to your installation.



~ Select Report Creation Option

➔ **Select Report Category**

Select Parameters

Modify Display Options

View Report Data

Save Report

### Select Report Category

\* Indicates required field

#### Report Category/Subcategory

Specify for which data you want to generate reports. It can be Backup or Agent in

\* Category: Backup/Recovery

\* Subcategory: Job/Image/Media/Disk

#### Report View Type

Specify in what fashion you want to view the report data, in a pie chart, ranking chart, historical or stacked bar view, or in a table.

Distribution

Ranking

Historical

Tabular

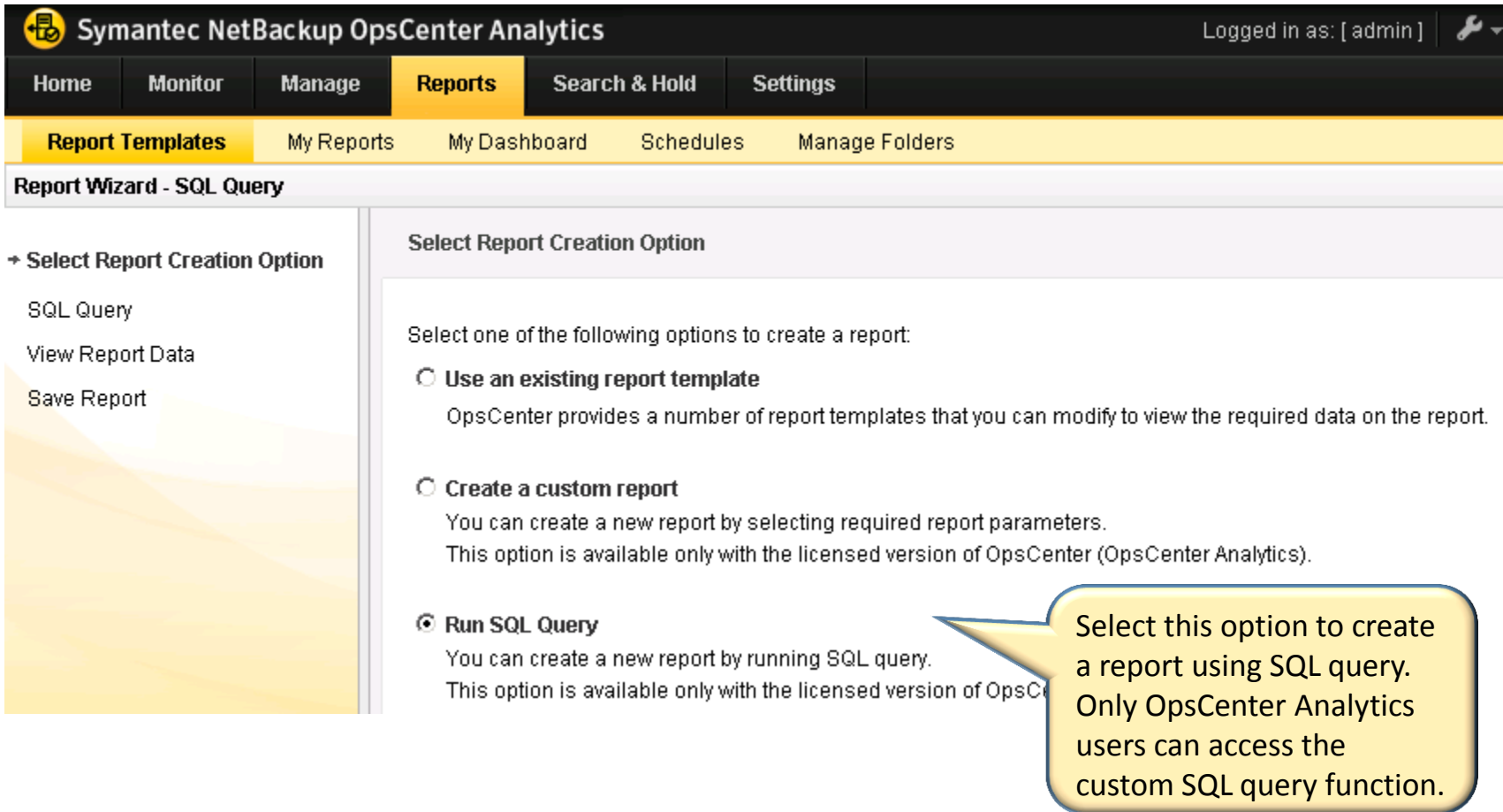
As you work with different report categories, the wizard displays different parameters. Many of them are used for multiple report categories, and they appear in different combinations for each type.

For more information, refer to

<http://www.symantec.com/docs/HOWTO88004>

# NetBackup OpsCenter

## Running a SQL query (1)



Symantec NetBackup OpsCenter Analytics

Logged in as: [ admin ]

Home Monitor Manage **Reports** Search & Hold Settings

Report Templates My Reports My Dashboard Schedules Manage Folders

### Report Wizard - SQL Query

→ Select Report Creation Option

- SQL Query
- View Report Data
- Save Report

#### Select Report Creation Option

Select one of the following options to create a report:

- Use an existing report template  
OpsCenter provides a number of report templates that you can modify to view the required data on the report.
- Create a custom report  
You can create a new report by selecting required report parameters.  
This option is available only with the licensed version of OpsCenter (OpsCenter Analytics).
- Run SQL Query  
You can create a new report by running SQL query.  
This option is available only with the licensed version of OpsCenter (OpsCenter Analytics).

Select this option to create a report using SQL query. Only OpsCenter Analytics users can access the custom SQL query function.

# NetBackup OpsCenter

## Running a SQL query (2)

Symantec NetBackup OpsCenter Analytics

Logged in as: [ admin ]

Home Monitor Manage **Reports** Search & Hold Settings

Report Templates My Reports My Dashboard Schedules Manage Folders

### Report Wizard - SQL Query

Select Report Creation Option

SQL Query

View Report Data

Save Report

SQL Query

\* Indicates required field

Enter SQL Query

OpsCenter provides the facility to generate reports by directly running SQL queries. With this option, you do not need to select multiple report parameters. [Refer to the OpsCenter Database Schema Document](#)

```
select * from domain_masterserver
```

Click this link to open the PDF that contains detailed information about the OpsCenter database schema

This example query will be used to view all NetBackup master servers that monitored and managed by OpsCenter

### Report Wizard - SQL Query

Select Report Creation Option

SQL Query

View Report Data

Save Report

View Report Data

This report data is based on the report parameters and other settings that you have specified.

id	networkName	friendlyName	GUID	pbxPort	preferredNetworkAddress	osType	hardware	product	versionLabel	offsetF
61	nbmaster1	nbmaster1	69780C37-FB5D-4BAC-AE80FC1E31CAF780	1556	localhost/127.0.0.1	41	0	1	7.6.0.2	

Total 1 Rows , 1 Page(s)

Output of the above query which can be saved as a custom report.

Home Monitor Manage Reports Search & Hold **Settings**

**User Preferences** Configuration Views Users Recipients Chargeback

General My Profile

### Basic Preferences

\* Indicates required field

\*Default Locale: English

\*Data Display Time Zone:  OpsCenter Server (America/New\_York(GMT-05:00))  
 Other: America/New\_York(GMT-05:00)

\*Start 24 Hour Day at: 00:00

Disable Auto Refresh:

Auto Refresh Interval (Minutes): 1

### View Preferences

Default View: ALL MASTER SERVERS

Report Template Default View: All My Views

Allow Multiple Selection In View Pane:

### Report Export Layouts

PDF Tabular Report Export Layout:  **Portrait:**  
Displays a maximum of seven columns of data per page

**Landscape:**  
Displays a maximum of ten columns of data per page

**Portrait for less than eight headers:**  
Displays data in the Portrait format for data up to seven headers and Landscape format for more than seven headers

**Expand to fit:**  
Displays the entire data across a single page

Save Reset

Settings tab allows you to customize the OpsCenter server, define user preferences, add and configure views etc.



# NetBackup OpsCenter

## Settings- Enabling Data Collection



Home Monitor Manage Reports Search & Hold **Settings**

User Preferences **Configuration** Views Users Recipients Chargeback

NetBackup Agent License Data Purge SMTP Server Host Alias Object Merger Tape Library Copy User Profile Report Export Location Object Type

Add Edit Delete Disable Data Collection Enable Data Collection

<input checked="" type="checkbox"/>	Master Server Name	Display Name	Operating System	Product	Server Status	Reason
<input checked="" type="checkbox"/>	nbmaster1	nbmaster1	Windows Server 2008 R2	Symantec NetBackup 7.6.0.2	Connected [Since Jun 3, 2014 2:53 AM]	

Total 1 Rows , 1 Page(s)

General **Data Collection Status**

Data Type	Last Successful Data Load	Last Run Time	Collection Status	Last Exception Message
Appliance Hardware	Jun 3, 2014 8:26 PM	Jun 3, 2014 8:26 PM	Completed	-
Audit	Jun 3, 2014 8:11 PM	Jun 3, 2014 8:11 PM	Completed	-
BMR, Skipped Files and Job Throughput	Jun 3, 2014 7:41 PM	Jun 3, 2014 7:41 PM	Completed	-
Client	Jun 3, 2014 6:41 PM	Jun 3, 2014 6:41 PM	Completed	-
Cloud	Jun 3, 2014 8:37 PM	Jun 3, 2014 8:37 PM	Completed	-
Disk	Jun 3, 2014 8:11 PM	Jun 3, 2014 8:11 PM	Completed	-

You can disable or enable OpsCenter data collection for a particular managed NetBackup master server or an appliance master server depending on your needs.

Subtab	Functionalities
User Preferences	Set your preferences, such as default locale or time zone and personal details, such as email ID or name. You can also change your password
Configurations	Allows you to configure SMTP server, host alias, object manager, tape library. You can specify the data purge options, manage license keys ,collect data from here.
Views	OpsCenter displays all view types that are supported by OpsCenter View Builder under this tab. However, you cannot perform operations like add, edit, delete, manage nodes and objects from the OpsCenter GUI on view types like File System. You need to use the OpsCenter View Builder.
Users	Add, edit or delete users and user groups
Recipients	Specify the recipients to whom you want to send alert notifications or email reports.
Chargeback	Is available only to Symantec NetBackup OpsCenter Analytics users. You can choose the currency that you want to be displayed on cost reports. If you have OpsCenter administrator privilege, you can set multiple global currencies, one of which can be set as default currency. You can set the cost variable, cost formulae, and cost estimation that you want to run the cost reports.

- A database view is a restricted presentation of data by particular constraint. For example, an employee database may have a view that restricts presentation to “employee.state = “oregon””.
  - In this way employee data for Idaho is excluded without having to specifically mention it.
- Symantec NetBackup OpsCenter views are logical groups of IT assets (master servers or clients) organized in a hierarchical manner.
  - A Security Administrator or an Administrator can create views either from OpsCenter console or the OpsCenter View Builder (formerly called Java View Builder) and make them available in the OpsCenter console.
- OpsCenter has a default view, “All Master Servers”. All data is related to the NetBackup master servers from which it originated.

# NetBackup OpsCenter

## Example of a view



Symantec NetBackup OpsCenter Analytics View Builder

Actions Edit Tools Settings Help

Reload All Data Load current view Create View Recycle Bin Help

Views

Emocionante Data Center

- Emocionante Data Center
  - Client area
    - SouthEast Corner
      - win23kx64client**
    - Server area
    - Northwest Corner
      - win23kx64-2

Object Properties | Unassigned Objects | Recently Accessed | Search Objects | All Objects | Objects not in selected view

**win23kx64client** Help

[Emocionante Data Center, Client area, SouthEast Corner, win23kx64client]

Object type : Client

View type : Client

Property Name	Value
Name	win23kx64client
Master Server	win23kx64-2
Operating System	Windows2003
Hardware	Windows-x64
Deleted	false

Object	Type	Master Object
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Logged in as: [ admin ]; User Role: [ Security Administrator ]



## Useful Documentation

- What's new in Symantec NetBackup OpsCenter 7.6

<http://www.symantec.com/docs/DOC6757>

- About tuning OpsCenter for more performance

<http://www.symantec.com/docs/HOWTO42977>

- Links to Release Notes, OpsCenter Administration , Performance and Tuning ,and Reporting Guide

<http://www.symantec.com/docs/DOC5808>

- Backing up OpsCenter database in case of a disaster

<http://www.symantec.com/docs/TECH129948>

- Restoring the OpsCenter database

<http://www.symantec.com/docs/HOWTO42874>

OpsCenter Server Logs	Path
OpsCenter Server	Windows : <install_path>\OpsCenter\server\logs\58330-148-*.log Unix : /opt/SYMCOpsCenterServer/logs/58330-148-*.log
Data Purge log	Windows : <install_path>\OpsCenter\server\logs\purge-status.log Unix : /opt/SYMCOpsCenterServer/logs/purge-status.log
SMTP Mail log (Alerts & Reports)	Windows : <install_path>\OpsCenter\server\logs\mail_<time_stamp>.log Unix : /opt/SYMCOpsCenterServer/logs/mail_<time_stamp>.log
SNMP Trap log (Alerts)	Windows : <install_path>\OpsCenter\server\logs\trap_<time_stamp>.log Unix : /opt/SYMCOpsCenterServer/logs/trap_<time_stamp>.log

OpsCenter Web GUI Logs	Path
OpsCenter Web GUI	Windows : <install_path>\OpsCenter\gui\logs\58330-147-*.log Unix : /opt/SYMCOpsCenterGUI/logs/58330-147-*.log
Tomcat	Windows : <install_path>\OpsCenter\gui\webserver\logs Unix : /opt/SYMCOpsCenterGUI/webserver/logs

Log Name	Path
OpsCenter Agent	Windows : <install_path>\OpsCenter\agent\logs\58330-146*.log Unix : /opt/SYMCOpsCenterAgent/logs/58330-146*.log
OpsCenter View Builder	Windows : %HOMEPATH%\admingui.log



# Thank You!

Symantec Backup and Recovery Technical Services