Table of Contents

GETTING STARTED ........................................................................................................................................... 3
  Welcome to Delphix Mission Control ............................................................................................................. 3
  User Roles and Permissions ............................................................................................................................ 3
  Logging In ......................................................................................................................................................... 3
  Mission Control Toolbar .................................................................................................................................. 3

SEARCH AND RUN REPORTS FOR AUDITS ..................................................................................................... 4
  Activity One: Access a List of Reports ........................................................................................................... 9
  Filtering .......................................................................................................................................................... 12
  Activity Two: Extracting Data for Audits ....................................................................................................... 13

UNDERSTANDING AND INTERACTING WITH THE NEW GRAPH INTERFACE ............................................. 14
  Activity Three: Viewing Graphs in the Breakdown Tab .................................................................................. 14
    Working with Total Storage Graphs ............................................................................................................... 14
  Activity Four: Working with Source Usage Graphs ...................................................................................... 15
  Activity Four: Working with Graphs in the Historical Tab .......................................................................... 16

RESOURCES ....................................................................................................................................................... 17

SUPPORT .............................................................................................................................................................. 17
Getting Started

Welcome to Delphix Mission Control
Mission Control is a centralized reporting and auditing tool for overseeing multiple Delphix Engine deployments. Mission Control allows administrators to combine, sort, and audit data from multiple Delphix Engines. A centralized view of data from many Delphix Engines allows administrators to identify promptly any issues with the deployment, determine where resources are allocated, quickly locate deployed databases, and properly size future additions.

User Roles and Permissions
Mission Control has two types of users:

Admin User
Admin users have full access to all report data and can configure the Mission Control appliance. For example, they can add/delete Delphix Engines, add/delete reports, add/delete users, change tunable settings, and add/delete tags.

Auditor User
Auditor users can only view report data. Admin users can also assign auditor users a set of tags (arbitrary text strings) to restrict which report data they can view. There is no default auditor account. The first Delphix Administrator will need to create the auditor users and will be responsible for creating their User IDs and Passwords.

Logging In
1. Access Mission Control by opening a web browser using the IP address or DNS qualified host name. Mission Control does not currently support ssl connections, so you should use http, not https.
2. Login with the User ID and Password the Delphix Administrator has provided you.

Navigating the Mission Control Toolbar and User Interface
The Mission Control Toolbar appears after logging into Mission Control. The navigation bar enables you to analyze, manage, and configure data reporting for a Delphix deployment. The View Report functionality appears on the left-hand side of the toolbar. The configuration, help, and login buttons appear on the right-hand side of the toolbar. Below is a screenshot of the toolbar key functionality as well as a brief summary of the functionality available.
Viewing Reports

The View Report tab provides aggregated data across all connected Delphix Engines and presents it as a set of different reports. You can select these reports from the drop-down menu. Mission Control has automated features that check for updates across all Delphix Engines and sync these updates into reports every 10 minutes. To refresh the currently displayed report manually, click Refresh.

Interactive reports such as Storage Breakdown and History display interactive graphical representations of historical and current storage usage across all Delphix Engines you are monitoring. These visualizations of
storage and disk capacity enable you to analyze and mediate storage across Delphix Engines from multiple perspectives.

Configure Mission Control

Clicking on the configuration icon in the upper right-hand corner of the screen navigates you to four configuration tabs, including Reports, Engines, Users, and System. Read below for more details.

Delphix Engine Configuration

Configure Reports

To navigate to the Report Scripts screen, as seen below:

1. Click the configuration icon on the right-hand side of the toolbar.
2. Click Reports.

The Report Scripts screen provides settings to:
• Enable/disable individual reports to determine which ones are available in the **reports drop-down menu**
• Delete reports
  - Deleted reports are no longer generated in Mission Control
• Upload new reports
  - This is an experimental feature. Please contact Delphix if you are interested in customizing existing reports or creating new ones.
• Configure tunable parameters for specific reports
  - Click the field in the **value** column to make it editable
• View current version of Mission Control

**Configure Engines**

To navigate to the **Engines** screen, as seen below:

1. Click the configuration icon on the right-hand side of the toolbar.
2. Click **Engines**.

![Configure Engines Tab - Version 1.2.](image)

The **Engines** tab lists all Delphix Engines that you have added to Mission Control. The **Status** column shows whether Mission Control is connected to each Engine; it will prompt a specific error message if it is unable to connect. To remove an engine from Mission Control:

1. Click the X icon next to the engine you wish to delete.
2. In the confirmation dialog, click **OK**.

**Configure Users**

To navigate to the **Users** screen, as seen below:

1. Click the configuration icon on the right-hand side of the toolbar.
2. Click **Users**.

© 2015 Delphix Corp. All rights reserved
The **Users** tab displays the set of user accounts that have permission to access Mission Control. You can assign tags to auditor users to restrict which Delphix Engines and containers they can see. For more information, refer to the “How to Assign Tags” activity in a later section.

### Managing the Operating System

Mission Control runs as an open virtual appliance. The underlying operating system, CentOS, can be modified or patched as needed. For best practices, please refer to the official documentation: [https://www.centos.org/docs/](https://www.centos.org/docs/)

**Note:** Any changes to files related to Delphix may result in an unusable system. These files are stored in the following locations:

- `/opt/delphix`
- `/var/delphix`
- `/var/log/delphix`

To manage the appliance or the Operating System or to upgrade, you must have root access. The default root password is “delphix.” You should change this as soon as possible.

To navigate to the **System** screen, as seen below:

1. Click the configuration icon on the right-hand side of the toolbar.
2. Click **System**.
Configuration — System

Upgrade
Version: 1.1.1.0
Git hash: 05e8a27
Upgrade bundle
Note: download mission-control-installer<&version>.sh from Delphix

Support
Appliance UUID: 38b578cf-3d20-4ba4-97f3-5cf50e54aa74
Upload support bundle
Case number (optional): 

Submit
Search and Run Reports for Audits

Reports are the heart of Mission Control. Reports gather data that span all connected Delphix Engines and present the data in a single location.

Activity One: Access a List of Reports

1. Click View Report.
2. Click the report drop-down menu to reveal a selection of report options, as seen below.

Five new category sections appear to help you quickly locate the report of your choice. These include Engine Activity, Health, Source, Storage, and VDB.

Reports of interest may include the Storage Summary report found under Storage, allowing you to view, compare, and analyze storage usage across Delphix Engines. Other useful reports include Active Faults, SnapSync, and Replication Summary. Below is a summary list of all reporting categories found under View Reports and a description of the reports found under each category.

Reports of interest may include the Storage Summary report found under Storage, allowing you to view, compare, and analyze storage usage across Delphix Engines. Other useful reports include Active Faults, SnapSync, and Replication Summary. Below is a summary list of all reporting categories found under View Reports and a description of the reports found under each category.

The following is a list of all available reports and a description of their purpose:

**Engine Activity Reports**

**Audit Log**: Provides a view of all actions that have been performed on all Delphix Engines. This includes both user- and system-executed actions.
**Recent Jobs**: Covers all jobs across all engines, such as provisioning or refreshing a VDB.

**Replication Status**: Allows you to validate that replication is running successfully across all Delphix Engines where it has been configured. If replication is not running successfully, it allows you to determine the cause.

**Health Reports**

**Active Faults**: Presents a consolidated view of faults across all Delphix Engines, along with suggested actions (in the “Action” column) to resolve the fault. When you have identified and fixed a fault, an administrator can go to the affected engine and mark the fault as resolved through the GUI or CLI.

**Engine Summary**: A high-level overview report of all Delphix Engines. It contains version and platform information, the number of faults and recent jobs, and critical alerts for each engine.

**Recent Alerts**: Alerts are events that have occurred, their severity, and the point in time at which they occurred. The **Recent Alerts** report combines the alerts and their associated information across engines.

**Source Reports**

**dSource Usage**: Shows a list of dSources with the following information for each:
- Actual disk capacity the dSource uses
- Unvirtualized capacity – that is, the disk space that would be required if not using Delphix Engines
- Percentage storage saved
- Number of VDBs that are currently provisioned from the dSource
**SnapSync Summary:** Allows you to validate that SnapSync is occurring as expected and to compare the current and average duration of SnapSync operations. The duration of SnapSync operations may vary based on the size of the database, available network bandwidth, and database configuration – for example, whether change block tracking (CBT) is enabled. You can use this report to easily find the dSources for which SnapSyncs take the longest.

**Storage Reports**

**Storage Breakdown**

Using the information displayed with the **Total** button, you can:

- Determine which engines have the most free space and identify good candidates for new dSources/VDBs
- Determine which engines have the least free space, identify which engines need additional storage or require storage to be freed, and identify which engines may require different retention policies
- Determine which engines have the most space used by VDBs and take actions such as refreshing VDBs or removing unneeded VDBs and/or VDB snapshots
- Determine which engines have the most space used by dSources and identify source breakdown to see how capacity is used for dSource data. If needed, you can make appropriate changes to free up space.

Using the information displayed with the **Source** button, you can determine which engines have the most space used for logs and snapshots and modify retention policies or refresh VDBs to release old snapshots.

**Storage History:** Clicking the **Historical** tab summarizes total storage usage of all monitored engines for the past 30 days.

**Storage Summary:** Shows the total, used, and available storage for each engine, which allows you to identify when you are approaching a low-storage availability state.
VDB Reports

**VDB Inventory:** Shows a consolidated list of all virtual datasets (VDBs and vFiles) that have been provisioned from a data source using the Delphix Engine. This report contains the same data as the top-level **Containers** tab. You can use this report to easily identify where each virtual database is located.

**VDB Refresh Summary:** Allows you to verify that refreshes are happening as expected and to compare the current and average duration of refresh operations.

**VDB Usage:** Shows a list of VDBs with the following information for each:

- Actual disk capacity the VDB uses
- Unvirtualized capacity
- Percentage of storage saved
- Date of most recent refresh operation or, if never refreshed, date when VDB was provisioned

**Filtering**

Each report contains a free text filter field. Using this filter allows you to search all displayed columns and returns all rows that have at least one match. Examples of report filtering include:

- Identifying certain types of faults
- Identifying all assets related to an engine
- Locating a virtual database by name
Activity Two: Extracting Data for Audits

Once you have selected the report you are interested in viewing, you will be able to extract the report data with a variety of options. Extract and save the report data by clicking Copy, CSV, PDF, or Print on the right-hand side. Click the option of your choice to extract and save the report. The screenshot below highlights the sequence of steps to extract reports.

You can then save and use the data in the form and location of your choice, such as an Excel document as seen in the screenshot below.
Understanding Interactive Storage Graphs

The View Report drop-down menu on the Mission Control Toolbar includes interactive graphical representations of historical and current storage usage across all Delphix Engines you are monitoring. These include visualizations of Storage Breakdown and Storage History. Storage Breakdown provides different ways of viewing data, including Total to interact with graphs containing the current total storage on all engines and Source to view the breakdown of disk capacity currently used for dSource data. Storage History provides a graphical interface to analyze all historical storage data collected by monitored engines in the past 30 days.

The following activities provide more detail for how to interact with the graphs.

Activity Three: Viewing Storage Breakdown Reports

Selecting Storage Breakdown allows you to analyze current storage usage by Total and Source.

Working with Total Storage Graphs

Clicking the Total button presents an interactive data visualization of total storage on each Delphix Engine. The bar graphs show the breakdown of all disk capacity between:
- **Source** – The capacity used for dSource data
- **Virtual** – The capacity used for VDBs
- **Free space** - The amount of available free space on the engine
Resources and Support

© 2015 Delphix Corp. All rights reserved

The **Category Legend Key** on the right-hand side, shown in the screenshot below, helps you see how your current storage is distributed.

![Graphical Visualization of Storage Capacity Breakdown for All Delphix Engines - Version 1.2.](image)

To display engines according to a particular category:

1. Click a **category** in the **Category Legend Key**.

The engines will appear in order according to the category you chose to prioritize. In the screenshot above, **Total** has been prioritized.

Using the information displayed with the **Total** button, you can:

- Determine which engines have the most free space and identify good candidates for new dSources/VDBs
- Determine which engines have the least free space, identify which engines need additional storage or require storage to be freed, and change retention policies
- Determine which engines have the most space used by VDBs and take actions such as refreshing VDBs or removing unneeded VDBs and/or VDB snapshots
- Determine which engines have the most space used by dSources and identify **Source** breakdown to see how capacity is used for dSource data. If needed, make appropriate changes to free up space

**Working with Source Usage Graphs**

Selecting the **Source** button presents an interactive data visualization from a source perspective. The bar graphs show how much of each engine’s storage space is used by:

- **Active Source Data** – The capacity used for current active copy of dSources
- **Manually Retained Snapshots** – The capacity held exclusively due to manually retained snapshots
- **Snapshot Retention** – The capacity held due to snapshot retention policy, either exclusively or in combination with manual settings
- **Snapshots for Dependent VDBs** – The capacity of snapshots held due to VDBs that have been provisioned from them, either exclusively or in combination with policy or manual settings
- **Log Retention** – The capacity held due to LogSync retention policy

The **Category Legend Key** on the right-hand side helps you see how your current storage is distributed.
To display engines according to a particular category:

1. Click a **category** in the **Category Legend Key**.

The engines will appear in order according to the category you chose to prioritize. In the screenshot above, **Active Source Data** has been prioritized.

Using the information displayed with the **Source** button, you can determine which engines have the most space used for logs and modify log retention policy to free space. For example, snapshots can use excessive space due to a combination of factors: manually retained snapshots, snapshot retention policy, or VDBs provisioned from those snapshots.

**Activity Four: Viewing Storage History Reports**

Clicking the **Storage History Report** visually summarizes total storage usage of all monitored engines for the past 30 days. In this tab, a line graph appears with the historical storage data for the selected Delphix Engine(s) and a drop-down list of Delphix Engines from which to choose, as seen in the screenshot below.
By default, the graph shows historical details of the top five engines, based on the most recent data point. However, you can choose which engine’s details to display by selecting it from the drop-down menu.

The screenshot below illustrates using the scroll bar at the bottom to hone in on a particular time and date of capacity use. Use your mouse and hover over interesting points on the graph for specific storage information. A rollover box will appear with specific information.

Resources
https://www.centos.org/docs/

Support
Ask the community for support @ https://community.delphix.com/delphix under the “Mission Control” category.

In some situations, Delphix may need to inspect the Mission Control logs to diagnose a problem. To generate a support bundle containing these logs, run the /opt/delphix/bin/support_info.sh script on the Mission Control virtual appliance. This will generate a compressed tar file under the /var/delphix/service directory which can be copied to your local machine and uploaded to http://upload.delphix.com.