Veritas™ Desktop and Laptop Option 9.1

Quick Reference Guide for DLO Installation and Configuration

VERITAS

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Veritas Desktop and Laptop Option: Quick Reference Guide for DLO Installation and Configuration.

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Introduction

Veritas DLO is an easy to use application which provides automated file protection for desktops and laptops (collectively referred to as end-points). Protection is provided regardless of whether the computer is connected to the network (corporate or public) or offline.

This Quick Reference document intends to provide the basic steps in setting up a DLO environment so as to facilitate a smooth product evaluation process. If an administrator is implementing the product for a Production environment, please refer to the latest version of the DLO Administrator's Guide and Best Practices document available here, to understand the various implementation possibilities through DLO.

What's New in DLO

This section provides a brief introduction about the new features included in this release. This release also focuses on the stability of the product.

Capabilities	Description
Rollback Window	DLO now provides the administrator with the ability to configure a rollback window for maintaining day-wise revisions to restore from, in case of ransomware attacks. For more information, see An Introduction to Rollback Capabilities .
Rollback Restore	DLO now provides the administrator with the ability to perform a point in time restore of the backed up data within the defined rollback window. For more information, see An Introduction to Rollback Capabilities .
Enhanced Restore Experience	Simplified restore UI for better restore experience to administrators.
Restore Reporting	Detailed reporting of restore activities that are closely integrated with the alerts and notifications for better visibility into restore operations.
Scheduled Database Backup	DLO now provides the administrator with the capability to schedule regular database backups of the DLO and Dedupe database files.
Enhanced Backup Status Report	DLO now includes the information for MAC endpoints in the backup status report.

An Introduction to Rollback Capabilities

The Rollback capabilities have been provided considering the rise in ransomware attacks that are impacting the endpoints in the organizations. From a ransomware protection strategy perspective, the rollback capabilities consist of two parts - first being the backup strategy in order to be prepared for the ransomware attack and next, the restore capabilities in case an actual attack occurs.

In terms of the backup strategy, DLO's scheduled backup capability and revision control policy can be leveraged to create multiple revisions that the customer can restore from. For maintaining day-wise revisions, a certain number of days can be configured as the Rollback Window by the administrator. The latest revision of the respective days will be maintained in the network user data folder.

In case of an attack, the files may get encrypted resulting in a file change that will be backed up. Hence the administrator may want to prevent further backups before proceeding with restores, for which the Disable options can be used.

For restore capabilities, in addition to a simplified restore UI, a point in time restore of the backed up data can be initiated by selecting a date from the restore dialog, to restore the latest revision of the file on that particular date. Once the restore activities are completed, the detailed summary can be viewed.

Note: Rollback capabilities are not supported for Windows and Mac endpoints with DLO versions prior to 9.1. Configuring Rollback Window is not supported on Mac endpoints.

DLO Components System Requirements

Veritas DLO is designed with the flexibility of a various possible implementations. However, some factors that affect DLO efficiency and performance should be considered in the planning process for DLO.

Veritas DLO has the following components:

1. Administration Server: Moderately loaded component.
2. Administration Console: On demand GUI.
3. Maintenance Server: IO and CPU intensive.
4. Database: IO and CPU intensive.
5. Dedupe Server: CPU intensive and can leverage on multiple cores/processors.
6. File Server: IO intensive, CPU load is based on the Network Speed.
7. Edge Server: Apache Web server used for Front-Ending Application Servers.
8. IO Server: Service hosted on Tomcat Web server.

DLO Server components can be installed as a *Standalone* setup in the same machine or can be installed in a *Distributed* setup, across different server machines as well. Within the scope of this document, the *Standalone* setup configuration will be discussed, where all these components reside on the same hardware.

Installation of DLO and its components on a VMware ESXi and Hyper-V servers is supported. The administrator can install all DLO Server components on Microsoft Azure and Amazon Web Services (AWS) cloud.

Please note that the IO Server and Edge Server components are optional components that need to be configured only when opting for the Backup over Internet (BOI) capability that allows VPN-less backups.

DLO Server Setup System Requirements:
The hardware configuration for a Standalone setup for both non-BOI and BOI modes are as follows.

Users	Administration Server, Maintenance Server, Database, Dedupe Server (Excludes Edge Server and IO Server)		Administration Server, Maintenance Server, Database, Dedupe Server, Edge Server, IO Server	
	CPU	RAM	CPU	RAM
<=1000	64 Bit Quad Core Xeon, or compatible	8 GB	64 Bit Quad Core Xeon, or compatible	12 GB

The latest software configuration is preferred for the DLO Server setup as follows.

OS Version	Platform
Windows 2016 Server (Standard, Data Center)	x64
Windows 2012 R2 Server – with Update 2919355 (Standard, Data Center)	x64

Desktop Agent System Requirements:

CPU	RAM	OS Version
32/64-bit Pentium, Xeon, AMD, or compatible	2 GB	Windows 10, 8.1, 8, 7 SP1, 7, Vista SP2. Mac 10.12, 10.11, 10.10, 10.9.

Downloading Veritas DLO

The administrator can download the latest available version from the Trialware Download link: https://www.veritas.com/content/trial/en/us/desktop-and-laptop-option.html. If already a customer of Veritas DLO, the administrator can find it from the MyVeritas webpage as well.

1. Download the appropriate files into a temporary directory:

   Veritas_Desktop_and_Laptop_Option_Y.Y_xxxxxx_32-bit.zip
   Veritas_Desktop_and_Laptop_Option_Y.Y_xxxxxx_64-bit.zip,

   Where, Y.Y is the product version number and xxxxxx is the build number

2. To extract the files, double-click the .zip file.

Prerequisites for Installing Veritas DLO

The prerequisites for installing and managing a DLO setup are detailed here. Please ensure these prerequisites are taken care before the actual installation begins, to ensure that there are no problems during the installation process.

Domains and Active Directory

All DLO Server Components must be in a Windows Domain or Active Directory. Computers running the Desktop Agent can be outside of a Windows Domain or Active Directory, but should be able to authenticate with the domain or active directory to access the DLO components.

User Privileges for Installing and Managing DLO

DLO requires domain user accounts. Any user with local administrative rights can install and manage the Veritas DLO components in a standalone or distributed setup.

User Account Privilege	Required for	Description
Domain user or domain administrator	Veritas DLO Administration Service	This user should have local administrator privilege on DLO administration server machine, storage server and SQL Server.
Local System account	Veritas DLO Maintenance Service	This account has access to all local system resources.
Domain user or domain administrator	Mindtree Store Smart Dedupe Server Service	This user should have local administrator privilege on the DLO administration server machine. This account should be the same as DLO Administration Server service account.
Domain user or domain administrator	SQL Server (SQL instance)	This user should have local administrator privilege on DLO administration Server, SQL server machine and storage server.
Domain user or domain administrator	SQL Server Browser	This user should have local administrator privilege on the SQL server machine.
Local System account	Veritas DLO Edge Server Service	This account has access to all local system resources.
Domain user or domain administrator	Veritas DLO Web Server Service	This user should have local administrator privilege on DLO administration server machine. This account should be the same as DLO Administration Server service account.
Domain user account	Accessing the Dedupe Storage Location	This low privilege domain user account is also known as “Dedupe Storage Location Access Credential” and will be used by the Desktop Agent to access the Dedupe Storage Location. A user account with administrator rights is not permitted to be configured as Dedupe Storage Location Access Credential account. The administrator needs to ensure that the password for this user account does not expire frequently. If the password expires, then reset the password for the domain user.

Database Selection

DLO Databases can be installed as one of the following options:

Option 1 : Local SQL Express 2014 SP1 Instance	
Prerequisite	• DLO Database Service requires minimum 6 GB hard disk space.
Details	• By default DLO installs its own instance of SQL Server Express edition. • On a 32-bit machine, the DLO and Dedupe databases will be stored on a new local SQL Express 2014 SP1 instance located on C:\Program Files\Microsoft SQL Server\MSSQL10_50.DLO. • On a 64-bit machine, the DLO and Dedupe databases will be stored on a new local SQL Express 2014 SP1 instance located on C:\Program Files (x86)\Microsoft SQL Server\MSSQL10_50.DLO.
Option 2 : Existing Local SQL Server Instance	
Prerequisite	• For existing local SQL server instance, the named pipes and TCP/IP must be enabled on the computer where the SQL server is installed. To enable the TCP/IP and named pipes protocol on the SQL instance by following the link: https://msdn.microsoft.com/en-us/library/ms191294.aspx. • Once the named pipes and TCP/IP are enabled, restart the SQL server and SQL server browser services. Ensure that the computer browser services are running. • Ensure that the SQL service is running under domain administrator credentials and provide the same user account credential that was used to install the SQL server, else there can be database connectivity issues.
Details	• The DLO and Dedupe databases will be stored on a local existing SQL Server 2008, SQL Server 2008 R2 Express, SQL Server 2012, SQL Server 2014, or SQL 2016 instance on this computer. Select an instance from the list provided. C:\Program Files (x86)\Microsoft SQL Server\MSSQL10_50.DLO.
Option 3 : Existing Remote SQL Server Instance	
Prerequisite	• For existing remote SQL server instance, the named pipes and TCP/IP must be enabled on the computer where the SQL server is installed. To enable the TCP/IP and named pipes protocol on the SQL instance by following the link: https://msdn.microsoft.com/en-us/library/ms191294.aspx. • Once the named pipes and TCP/IP are enabled, restart the SQL server and SQL server browser services. Ensure that the computer browser services are running. • Ensure that the SQL service is running under domain administrator credentials and provide the same user account credential that was used to install the SQL server, else there can be database connectivity issues.
Details	• The DLO and Dedupe databases will be stored on a remote SQL server instance. Provide the IP address or host name of the computer where SQL is installed.

For more information on SQL supportability, refer DLO Compatibility Matrix, latest document is available here .

Time Synchronization

All computers running the DLO Administration Console or the Desktop Agent should be set to a common time. This can be accomplished by configuring the Windows Time Synchronization service on the network. See www.microsoft.com for more information.

Firewalls

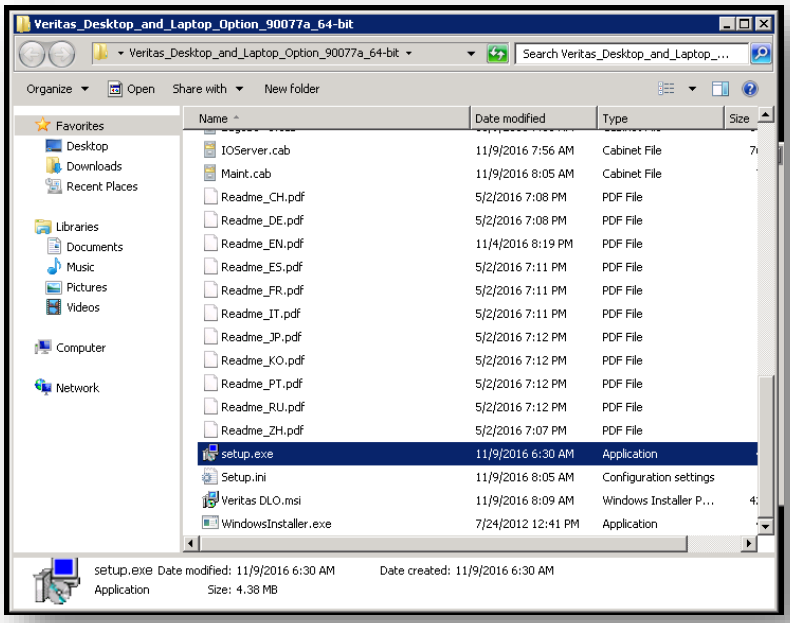
DLO is designed to work in firewall environments. The following table provides detailed information on which ports need to be opened between the components.

Services or Process	Default Ports	Port Type	Source(Outbound) and Destination(Inbound)
File Sharing/ Browsing	135-139	TCP/UDP	**Source**: Clients, IO Server, Maintenance Server, DLO Administration Server, DLO Administration Console and Dedupe Server. **Destination**: Storage Location (SL) and Dedupe Storage Location (DSL) machines.
File Sharing/ Browsing	445	TCP/UDP	**Source**: Clients, IO Server, Maintenance Server, DLO Administration Server, DLO Administration Console and Dedupe Server. **Destination**: Storage Location (SL) and Dedupe Storage Location (DSL) machines.
SQL Server Browser	1434	UDP	**Source**: Client, IO Server, Dedupe Server, DLO Administration Server, DLO Administration Console. **Destination**: SQL Server
SQL Server	1433 or dynamic port	TCP	**Source**: Agent, IO Server, Dedupe Server, DLO Administration Server, DLO Administration Console. **Destination**: SQL Server
Additional Ports for Push Installation	135, 1037,441,1125	TCP	**Source**: DLO Administrator Server and DLO Administration Console. **Destination**: Client machine.
Dedupe Port	8443	HTTPS	**Source**: Clients, DLO Administration Console. **Destination**: Dedupe Server
Dedupe Port	8080	HTTP	**Source**: Clients, DLO Administration Console. **Destination**: Dedupe Server
Edge Server Port	443	HTTPS	**Source**: Clients, DLO Administration Console, Web restore machine. **Destination**: Edge Server
Edge Server Port	90	HTTP	**Source**: DLO Administration Console **Destination**: Edge Server
IO Server Port	7080	HTTP	**Source**: DLO Administration Console **Destination**: IO Server
IO Server Port	7009	AJP	**Source**: Edge Server **Destination**: IO Server
Dedupe Port	8009	AJP	**Source**: Edge Server **Destination**: Dedupe Server
DLO Administration Service	3999	TCP/UDP	**Source**: DLO Administration Console **Destination**: DLO Administration Server

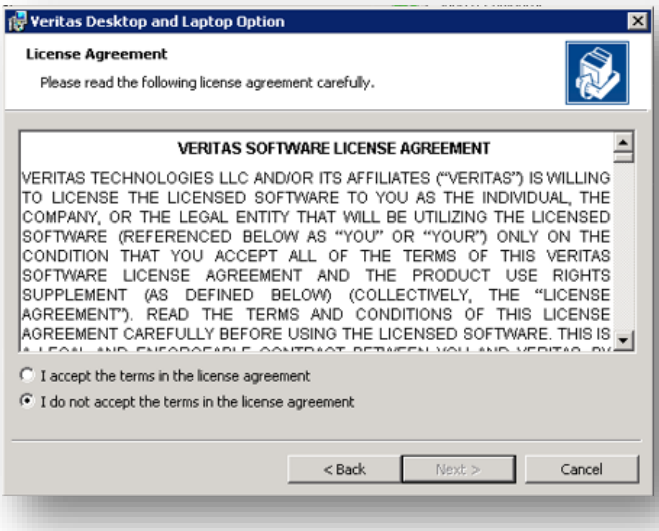
Installing the Veritas Desktop and Laptop Option

The steps to install the DLO setup are as follows:

1. Run setup.exe to start the installation wizard.

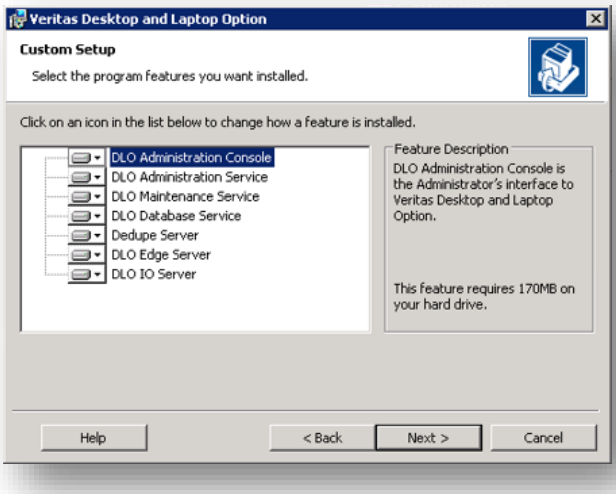


2. View DLO Pre-Requisites and click **Yes** on the DLO prerequisite dialog.
3. Read the license agreement, and if the administrator accept the terms, select **I accept the terms in the license agreement**.

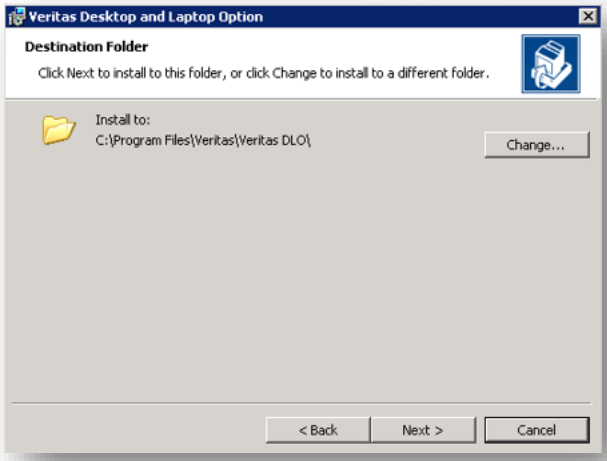


4. Click **Next**.
5. Select the components that the administrator wants to install on the computer.
    - DLO Administration Console: Installs the DLO Administration Console.
    - DLO Administration Server: Installs the DLO Administration Server.
    - DLO Maintenance Server: Installs the DLO Maintenance Server.
    - DLO Database Service: Installs the DLO database and Dedupe database.
    - Dedupe Server: Installs the Dedupe Server.
    - Edge Server: Installs the Edge Server.
    - IO Server: Installs the IO Server.

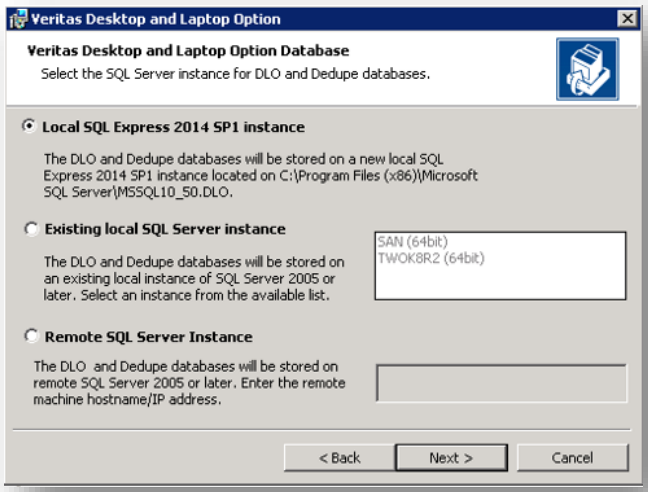
    Note: The administrator can select and install each component on a separate computer, except the DLO Database Service. The DLO Database Service alone cannot be selected for installation, it can be installed along with the DLO Administration Server service.



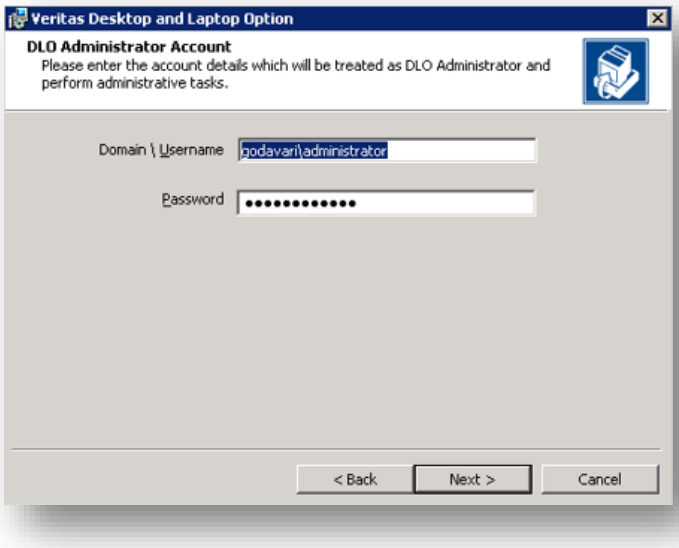
6. To install DLO in a different directory, click **Change**.



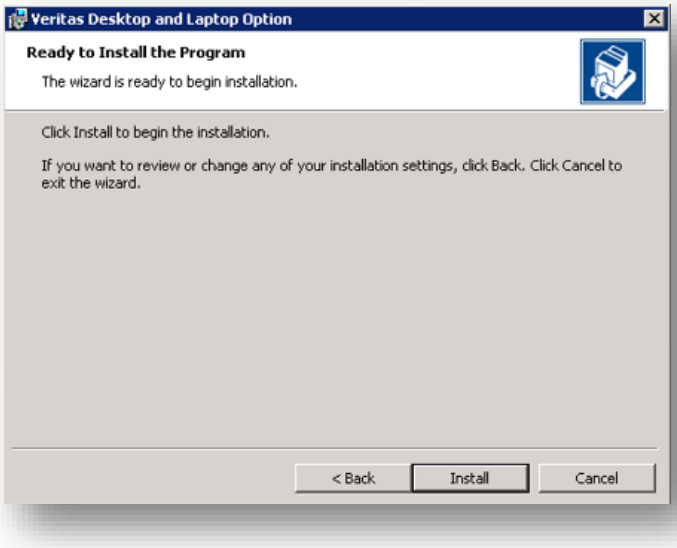
7. Select the new directory and click **OK**.
8. Click **Next**.
9. Click **Browse** and select the DLO License file.
10. Click **Next**.
11. Select one of the following options for the DLO database.



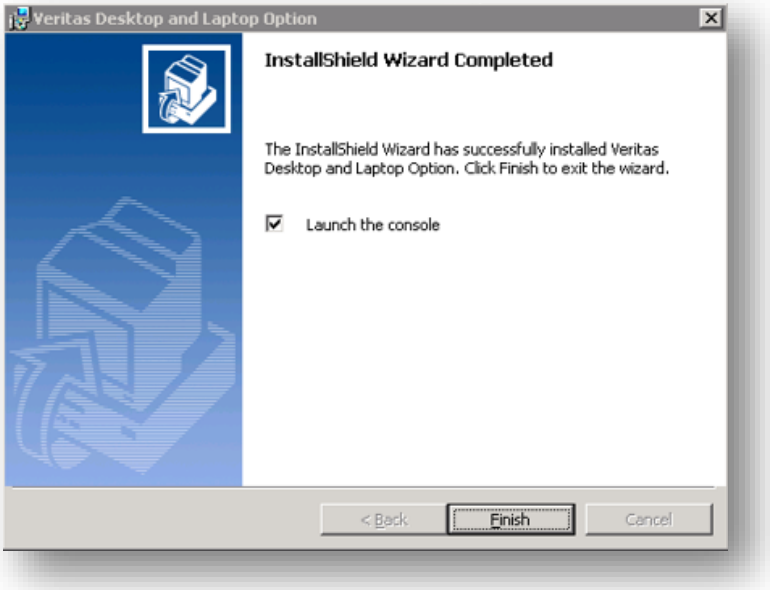
12. Click **Next**.
13. Enter the account credentials, which will be used to create DLO Storage.



14. Click **Next**.
15. Click **Install** to begin the installation.



16. Click **Finish** once installation is completed.



Once the DLO Server components are installed and on the first launch of the DLO Administration Console, the Recovery Password wizard appears. The administrator needs to set the recovery password.

The recovery password enables the administrator to retrieve encrypted data that would otherwise be lost if the DLO database is damaged or corrupted. For detailed information on setting Recovery Password, refer to the *Veritas Desktop and Laptop Option Administrator's Guide* available here.

Configuring Desktop and Laptop Option

The following sections provide the administrator with the details to configure DLO to protect the endpoints in the organization.

The administrator can configure DLO and manage backup and restore operations from the DLO Administration console, which appears as soon as the administrator launches DLO.

DLO configuration can be initiated from the **Getting Started** pane in DLO **Overview** tab or **User Tasks** pane which appears on the left side of the DLO Administration Console.

Let us consider the Getting Started view for the scope of this document.
To access the getting started view

1. On the DLO navigation bar, click **Overview**.
2. Click the **Getting Started** tab.

The Getting Started view provides links to help the administrator set up and manage DLO. From this page, the administrator can add the Dedupe Server, create storage locations, create profiles, and register users to DLO Servers either manually or through Automated User Assignment.

Steps to Configure DLO Server Setup

For DLO to start functioning, follow the below steps in the same order:

1. Add the Dedupe Server to the DLO Administration Server.
2. Add DLO Storage Locations.
3. Create and configure a Profile.
4. Configure users to the created Profile.

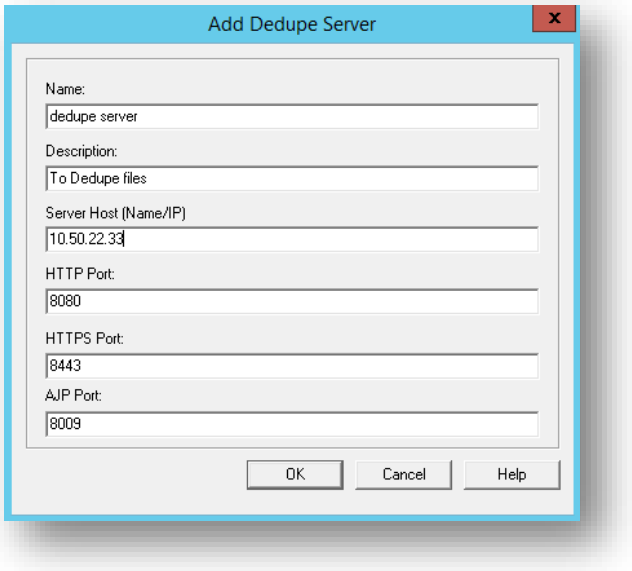
The details for each of the configuration steps are covered below:

Step 1 - Add the Dedupe Server to the DLO Administration Server

Dedupe server manages the deduplication of backup files

To add a Dedupe Server

1. Launch the Veritas DLO Administration Console.
2. On the DLO navigation bar, click **Setup**.
3. Select one of the following options to Add a Dedupe Server:
   - In the **Settings** pane, right-click **Dedupe Server**, and select **New Dedupe Server** Or **New Dedupe Server using Wizard**.
   - In the **Task** pane, under **Setting Tasks**, click **New Dedupe Server** or **New Dedupe Server using Wizard**.



Step 2 - Add DLO Storage Locations

Storage location determines where the user data will be stored on the network. Storage Locations should be in the same domain as the DLO Administration Server or in a domain that trusts the administration server's domain.

To create DLO storage locations

1. On the DLO navigation bar, click **Setup**.
2. Select one of the following options to create a new DLO Storage Location.
    - In the **Settings** pane, right-click **Storage Locations** and select **New Storage Location** or **New Storage Location using Wizard**.
    - In the **Task** pane, under **Settings Tasks**, click **New Storage Location**.

3. Select the appropriate options as described in the following table:

Item	Description
Computer name	Type a computer name or browse to a computer where the administrator wants to create the Storage Location.
Path	Type or browse to a location on the computer where the Storage Location will be created. **Note**: Storage Locations should be in the same domain as the DLO Administration Server or in a domain that trusts the administration server's domain.
Storage Location name	Type a name for the new DLO Storage Location. The name cannot contain any of the following characters: \"@#$%^&*()=+|/{}[]'

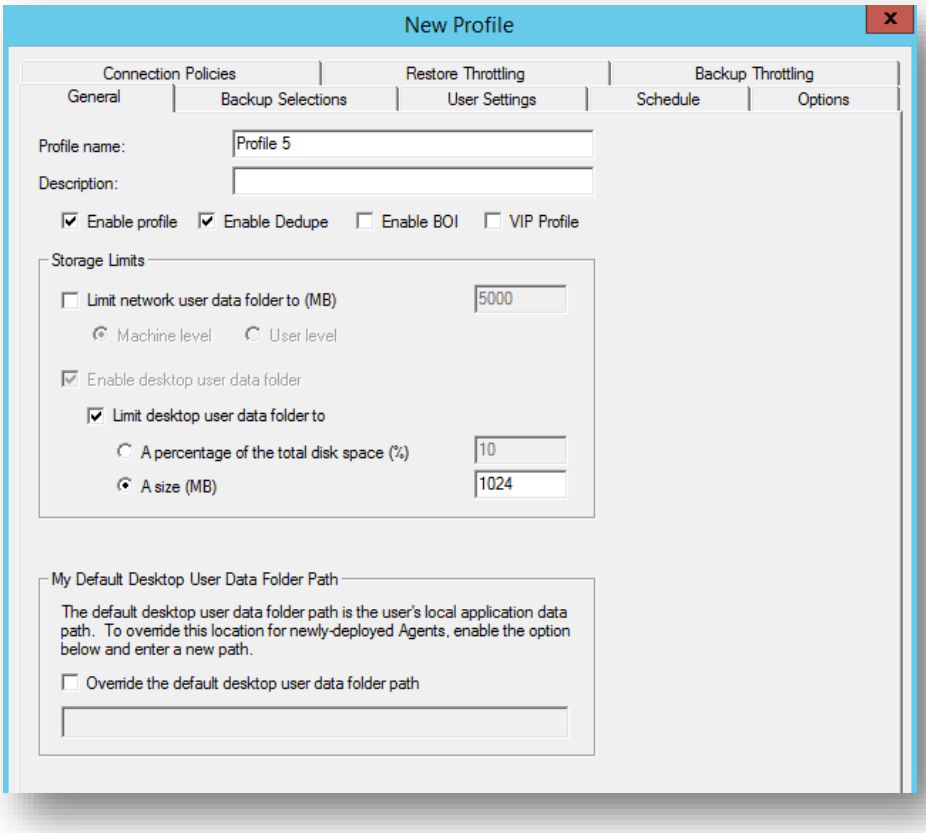
Assign Dedupe Properties	Assign the Dedupe Storage Location by selecting the Automatic mode.
Automatic	In the Automatic mode, both the DLO Storage Location and Dedupe Storage Location will be created in the same storage location path that was specified earlier, and the Dedupe Storage Location will be assigned to the default Dedupe Storage Pool. As the administrator is selecting the Automatic mode for the first time provide the user credentials for the Dedupe Storage Location. **Note**: For security reasons, read/write access to the Dedupe Storage Locations is not granted to all the users even though they need to read and write data from the Dedupe Storage Locations. Instead, while creating the Dedupe Storage Location, the administrator configures a new user account called “Dedupe Storage Location Access Credential”, which is a low privilege domain user account and will be used by the Desktop Agent to access the Dedupe Storage Location. The credentials to be provided as follows DomainName\UserName. A user account with administrator rights is not permitted as a Dedupe Storage Location Access Credential.
Assign IO Server	Assign an IO Server by selecting from the drop-down list.

4. Click **OK**.

Step 3 - Create and configure a Profile

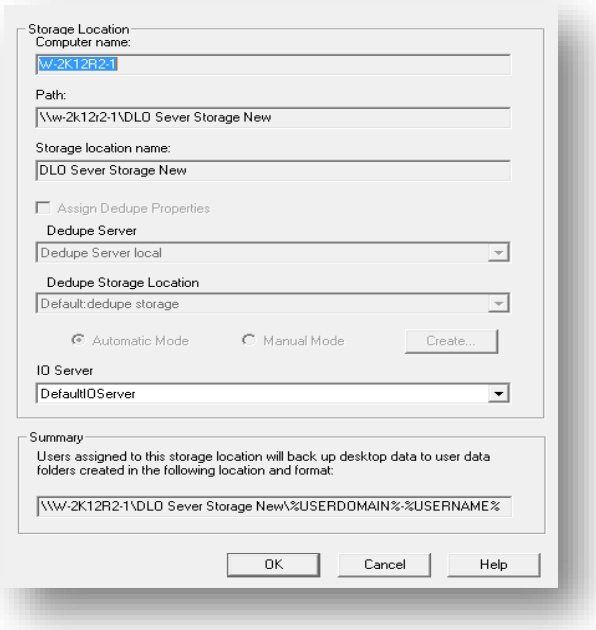
Profiles are used to customize settings for specific groups of similar users. For example, a group of highly technical users may require the option to modify the backup selections and schedules while less experienced users may require a fully automated backup service.

Create a profile, which determines what files are backed up (Backup Selection), when files are backed up (Schedule), and the level of interaction the desktop user has with the Desktop Agent (User Settings) .Multiple Profiles can be created and assigned to users as per backup selection.



In a profile, the administrator can set the following options:

- Backup file and folder selections
- Desktop and network user data folder storage limits
- Backup schedules
- The desktop user's level of interaction with the Desktop Agent
- Logging options
- Network bandwidth usage options for backup and restore operations
- Dedupe backup
- The following profile settings are not supported for Mac computers:
    - Dedupe backup
    - Setting storage limits
    - Backup of Outlook and Lotus Notes files, including incremental and VSS backup of such files, MAPI and non-MAPI files
    - Backup of My Favorite folder
    - Throttling feature
    - Connection policies

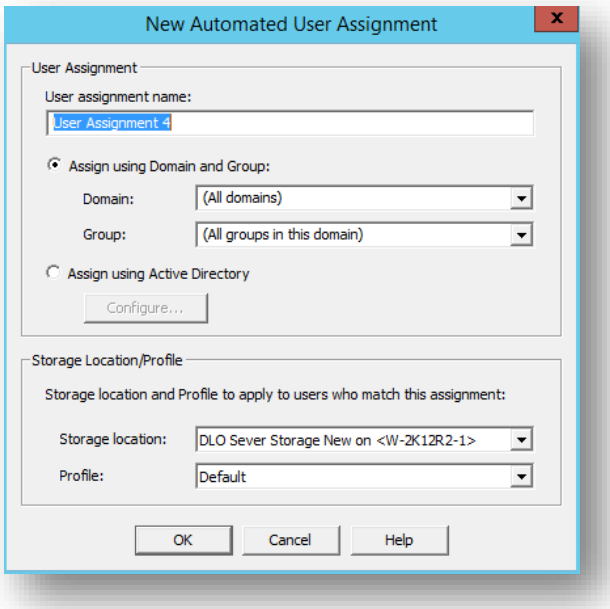


Step 4 - Configure Users to the created profile

The users can either be manually added to the profile or the administrator can choose to create an automated user assignment to do this.

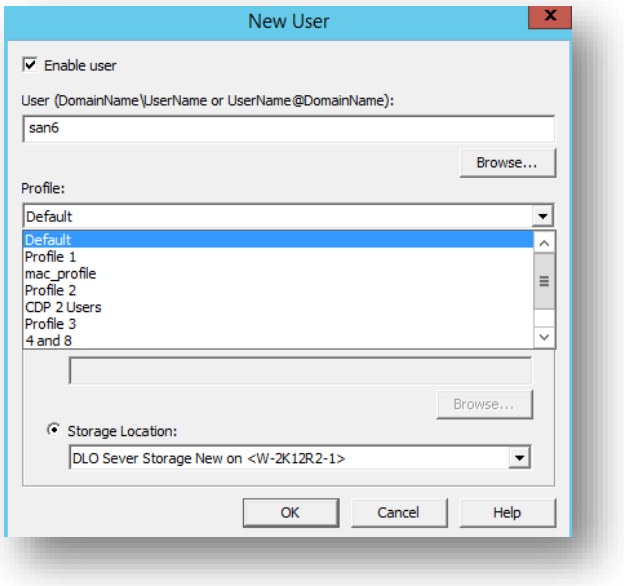
Step 4a -Create Automated User Assignment

Create an Automated User Assignment (AUA) to automatically assign a Storage Location and Profile to new users. Once the administrator selects the Domain and a Group in the domain, selected Storage locations and Profile get assigned to all the users in that Group.



Step 4b Adding user to the profile manually

Instead of using AUA, the administrator can manually add users to DLO and assign a profile and storage location to them. This is particularly useful when network shares already exist for storing user data. Users can be added individually or multiple users can be added at the same time by importing the user names from a list.



Deploying the Desktop Agent

Once the DLO Server is configured, proceed to deploy the DLO Agents on to the endpoints that need to be protected. The Desktop Agent package is available in the Server installation directory and is accessible via a UNC path. The Desktop Agent can be deployed through a Pull or Push installation, the details of which are as follows.

Pull Install the Desktop Agent from the Client machines

1. Access this path \\<DLO ServerName\IP>\DLOAgent from the client machine.
2. Copy the DLO agent folder to the client machine
3. Initiate the agent installation.

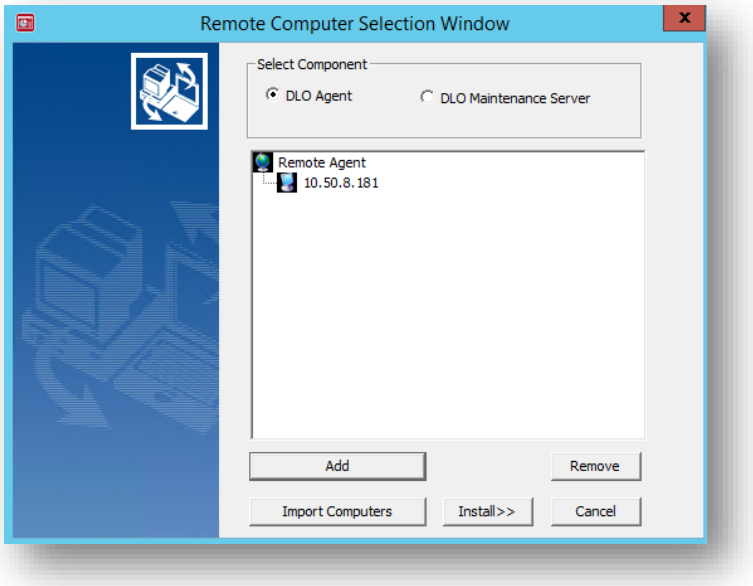
Push Deployment of the Desktop Agent

For push installation of the Desktop Agent on a computer that has Windows 8 or later version, ensure that the remote registry services should be enabled and running on that computer.

Proceed with the following steps for the Push Deployment:

1. Launch the DLO Administration Console.
2. On Tools, select **Install Agents and maintenance services on remote computers** and click **Next**.

3. On **Install Agent** | **Maintenance Server to Remote Computers**, select **DLO Agent**.
4. Click **Add**.
5. In Manual Entry of Remote Computer Name, enter the following details:
    a. **Name/IP Address**: Enter the computer name manually or click the **Browse** button to choose the computer name.
    b. **Domain Name**: Enter the domain name of the remote computer.
    c. Click **OK**
6. Enter the domain user credential through which installation should be proceeded. Make sure this credential has local administrator privileges on the client machines.
7. Click **OK**.
8. In **Remote Computer Selection Window**, click on **Install** to proceed with the installation.



9. To exit, click **Finish**.

For deploying the Desktop Agents onto the Mac endpoints, refer to the *DLO Mac Getting Started Guide* available here.

Backup and Restore Verification

Once the DLO Agents are deployed on the client machines, the administrator can configure the backup jobs to ensure the endpoints are protected.

Configuring a Backup Job

To configure a backup job, select the appropriate options available for profile creation. For the scope of this document, Enable Dedupe option is selected for the backup profile. In case the Edge Server and the IO server have been configured, Enable BOI option can be selected.

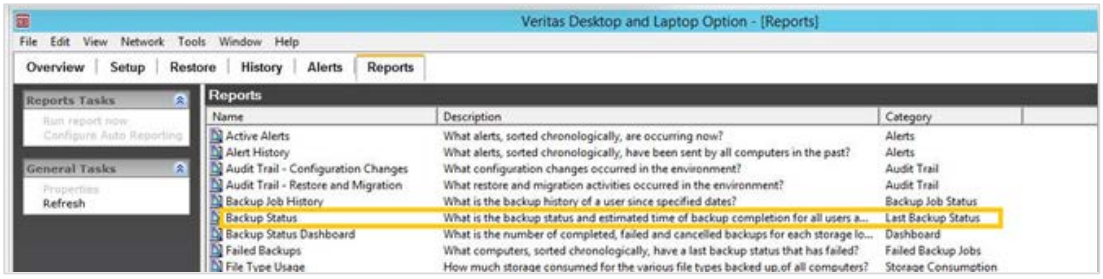
To add a backup selection

1. On the DLO navigation bar, click **Setup**.
2. In the **Settings** pane, click **Profiles**.
3. In the **Results** pane, select the profile for which the administrator wants to add a backup selection.
4. In the **Task** pane, under **General Tasks**, click **Properties**.
5. Click the **Backup Selections** tab in the **Profile** Properties dialog box.
6. Choose the backup selection from the available list and click **Add**.
7. Click **OK**.

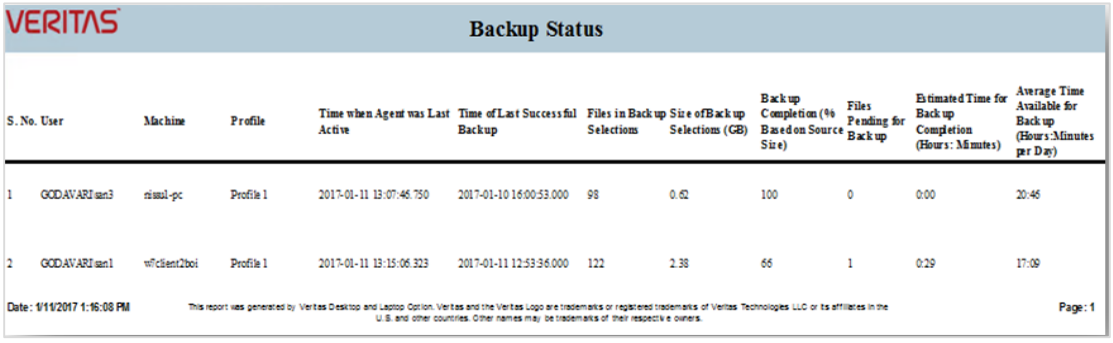
Backup Verification

For running the Backup Status Report:

1. Launch DLO Server Console.
2. Go to **Reports** tab.
3. Run **Backup Status** Report.



4. Backup Status report appears.



Interpretation of the Backup Status Report

- Time when Agent was Last Active – This column displays DLO Agent's last active time when the Desktop Agent was able to communicate to the server. The DLO agent in a computer interacts with the DLO server every 15 minutes to update the status of that computer and that's when the report gets updated as well. As long as there is network connectivity between the agent and the server, this communication continues and this latest time of interaction is what is displayed here.

- Time of Last Successful Backup – This column displays the last time when the Desktop Agent backed up user's data completely. In simpler terms, this is the time stamp when the machine had achieved a 100% Backed up status (all files in the Backup selection backed up). In case of this column being blank for a computer, it could be interpreted as the first backup, as the computer has not been backed up completely even once.

- Files in Backup Selections– This column displays the Total number of files that are available in the Backup Selections. In case some file extensions were excluded from the backup selection using the filters, these files are not included in the count.

- Size of Backup Selections (GB) - This column displays the Total Size of files that are available in the Backup Selections. . In case some file extensions were excluded from the backup selection using the filters, these files are not included for this size calculation.

- Backup Completion (% Based on Source Size) – This column displays the Percentage of Backups completed. This completion percentage is in terms of the Size of the files in the Backup Selection. For example, 4 Files, namely – A, B, C and D are in backup selection with sizes 1, 1, 2 and 6 GBs respectively. When A, B and C files have been backed up, the Backup completion shows 40%.

- Files pending for backup – This column displays the total count of files in the Backup Selection that are still not backed up. In the above example, file D is still not backed up and hence the count 1 is displayed.

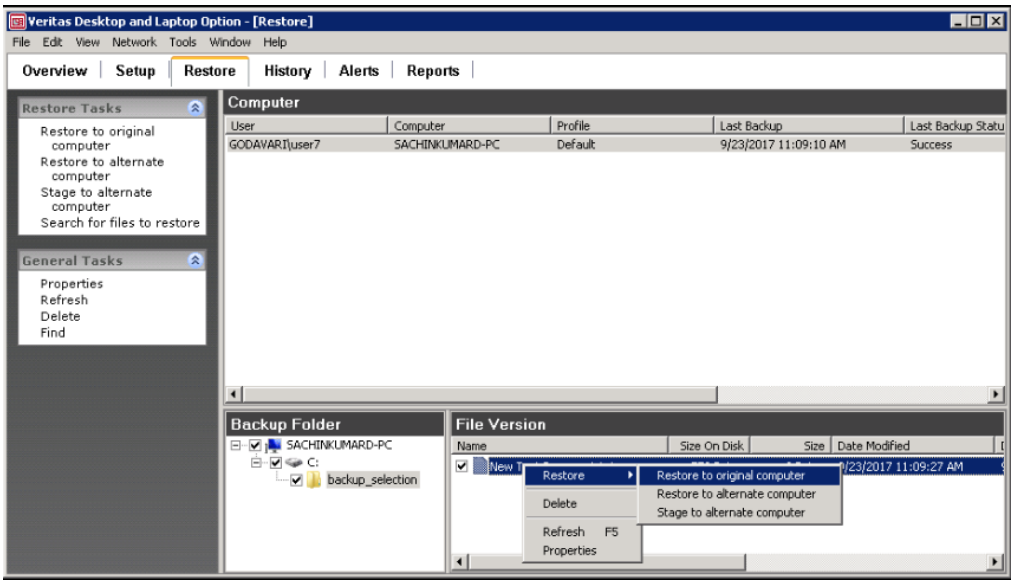
- Estimated time for backup completion - This column displays the amount of time required for the remaining backups to complete. These estimates are calculated based on the time taken for backups taken in that machine in the past 7 days. It is displayed in Hours: Minutes format. This column was added with the DLO 8.0 SP4 version and will not feature for the DLO 8.0 SP3 version.

- Average time available for backup – This column displays the average time that the Desktop Agent is available for a backup in a day. It is calculated based on the average availability of the agent in the past 7 days. It is displayed in Hours: Minutes per Day. Based on this information and the estimated time for backup completion, in the previous column, the Administrator can calculate the Time for Backup completion in Days.

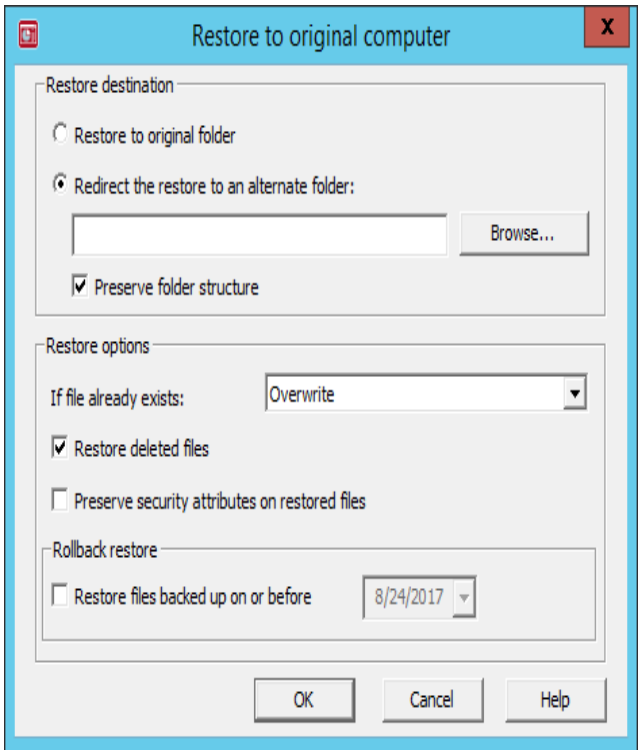
Restore Verification

Restoring files to an Alternate Path on the Same Machine

- Launch the DLO Server Console.
- Go to **Restore** tab.
- Select the User-Machine that needs to be restored.



- Traverse to the required folder, select the files right click and select **Restore to Original Computer**, below dialog appears.



- Select **Redirect the restore to an alternate folder** and specify an alternate folder path.

  Note: With this option it's easy to validate the Restore size and Count of files restored.

- Click on **OK** to initiate and track the restore progress on the Client machine.
- To validate the integrity of the Restore data, compare the File count and File size of the Restored folder with the 'Backup Status' report columns like - Files in Backup Selections and Size of Backup Selections (GB).

In case of any discrepancies, it may be because of:

- All folders are not selected for Restores
- New files would have been backed up after the Backup Status report was generated.

DLO Documents Reference Links

All DLO documents for this release are available here.