

# Veritas™ DLO 9.1 Storage Estimation Tool User Guide

## Disclaimer

The software described in this document is furnished under a license agreement and may be used only in accordance with the terms of the agreement.

## Legal Notice

Copyright (c) 2017 Veritas Technologies LLC. All rights reserved. Veritas and the Veritas Logo are trademarks or registered trademarks of Veritas Technologies LLC or its affiliates in the U.S. and other countries. Other names may be trademarks of their respective owners.

This Veritas product may contain third party software for which Veritas is required to provide attribution to the third party ("Third Party Programs"). Some of the Third Party Programs are available under open source or free software licenses. The License Agreement accompanying the Software does not alter any rights or obligations you may have under those open source or free software licenses. Please see the Third Party Legal Notice Appendix to this Documentation or TPIP ReadMe File accompanying this Veritas product for more information on the Third Party Programs.

This Veritas product may contain open source and other third party materials that are subject to a separate license. Please see the applicable Third Party Notice at <https://www.veritas.com/about/legal/license-agreements/>.

The product described in this document is distributed under licenses restricting its use, copying, distribution, and decompilation/reverse engineering. No part of this document may be reproduced in any form by any means without prior written authorization of Veritas Technologies LLC and its licensors, if any.

THE DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID. VERITAS TECHNOLOGIES LLC SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE FURNISHING, PERFORMANCE, OR USE OF THIS DOCUMENTATION. THE INFORMATION CONTAINED IN THIS DOCUMENTATION IS SUBJECT TO CHANGE WITHOUT NOTICE.

The Licensed Software and Documentation are deemed to be commercial computer software as defined in FAR 12.212 and subject to restricted rights as defined in FAR Section 52.227-19 "Commercial Computer Software - Restricted Rights" and DFARS 227.7202, "Rights in Commercial Computer Software or Commercial Computer Software Documentation", as applicable, and any successor regulations. Any use, modification, reproduction release, performance, display or disclosure of the Licensed Software and Documentation by the U.S. Government shall be solely in accordance with the terms of this Agreement.

Veritas Technologies LLC  
500 East Middlefield Road  
Mountain View, CA 94043  
<http://www.Veritas.com/>

## Contents

- Storage Estimation Tool User Guide ..... 4**
- Input Parameters Description ..... 4
- Default Input Values ..... 5
- Output Description ..... 5
- Other Details..... 5
- Calculation ..... 6
- Single Site Configuration ..... 6
- Multiple site configuration ..... 7

# Storage Estimation Tool User Guide

This user guide should be referred while using the *Veritas\_DLO\_9.1\_Sizing\_Calculator.xlsx*.

## Input Parameters Description

Input variable	Description	Example
<b>Number of years – plan period</b>	Number of years one wishes to plan the Storage Estimate for	3 years
<b>Number of users</b>	The total number of users	1000 users
<b>YoY User growth rate</b>	Expected growth rate of the number of users per year	10 %
<b>Data size per user</b>	Enter the average Data size to be backed up per user	20 GB
<b>YoY Data growth rate</b>	Expected growth rate of the average data size per user	10%
<b>Percentage duplicates in Data</b>	Approximate percentage of duplicate data	20 %
<b>Rollback Window</b>	Enter a certain number of days to maintain the latest revision of the respective days in the network user data folder.	5 Days
<b>Number of backup revisions</b>	Maximum number of revisions of a file need to be kept at storage	3
<b>Percentage of PST size in overall data</b>	Percentage of PST size in overall data	40 %
<b>Estimation Buffer</b>	Additional store size(as percentage of total size) added as buffer	10 %
<b>Site bandwidth to main server</b>	Maximum bandwidth which is supported by the site	30 Mbps
<b>Data Center bandwidth</b>	Maximum bandwidth at data center	1024 Mbps

**Note:** Configuring the Rollback Window will impact the number of revisions that are being maintained in the NUDF.

E.g.: If the Number of revisions in the NUDF is 3, where the user is looking to retain the last 3 changes made to the file. But the administrator has also configured the 'Rollback Window' to 5 days, so that the user files can be moved back in time by 5 days. So the number of revisions maintained in the NUDF is no longer only 3. The revisions are maintained such that the number of NUDF revision specified and rollback window is honored.

Thus at any given point in time, the total number of revisions maintained cannot be greater than the **Total Number of days + Number of revisions in NUDF**.

In the example above there will be  $5 + 3 = 8$  revisions maintained in the NUDF.

## Default Input Values

Input variable	Description	Default Value
Changing non pst data	Approximate percentage of non pst data which changes over time	10%
Percentage of attachment size in PST	Approximate percentage of attachment size in the overall pst data	70%

## Output Description

Output Values	Description	Example
Total Size of Backup Data	Total amount of data to be backed-up ultimately	39.55 TB
Required bandwidth for incremental backups	Bandwidth required for incremental (delta) backup in case of any file change, after the seed backup has already been taken	27.26 Mbps
Total IOPS	Total Input Output operations per second considering both the server and client	655.36 operations/second

## Other Details

Output values	Description	Example
DLO Storage	Total backup store size including modified file backup for all users and size of the PST files with Delta for all users	18210.33 GB
Dedupe Storage	Chunk store size for normal file backup data and attachment file backup data for all users (for one revision)	22267.87 GB
Dedupe Database Size	Typically chosen as 0.2% of the Dedupe Storage	22.27 GB
Absolute Dedupe Ratio	Ratio of Total backup size for all users and dedupe backup size for all users; Denotes the overall ratio in which data was finally compressed	1.51
Absolute Bandwidth & Storage Savings %	Total savings owing to the overall compression of the data including both normal & pst files (i.e. Total data to be backed up (normal + pst files) vs. data to be backed up after deduplication)	39.77 %
Traditional Backup Size	Total backup size the data would have required for all users and revisions without considering any compression or deduplication etc. It does not consider the proportion of pst or normal files.	280.76 TB

<b>Savings against traditional backup size %</b>	Aggregate savings of the total backup data size with respect to the traditional backup size	85.91 %
--	---	---------

## Calculation

### Single Site Configuration

INPUT DESCRIPTION	Input Value	Range/Metric
<i>(Enter input values in the orange boxes)</i>		
Number of years - plan period	3	Years > 0
Number of users	1000	No > 0
YOY user growth rate	10%	0% - 100%
Data size per user	20	GBs > 0
YOY data growth rate	10%	0% - 100%
Percentage duplicates in Data	20%	0% - 100%
Rollback Window	5	0 - 99
Number of backup revisions	3	No > 1
Percentage of PST size in overall data	40%	0% - 100%
Estimation Buffer	10%	0% - 100%
Site bandwidth to main server	30	Mbps > 0
Data Center Bandwidth	1024	Mbps > 0

Figure 1

### Storage Calculation:

Enter all the inputs as asked for in the 'Site input parameters' section as shown in the figure 1. The final result is displayed on the Results section as shown in figure 2. This backup data size refers to the final storage in terabytes required after taking into consideration DLO storage savings. Further details related to storage benefits are listed in the second tab 'Details' under the 'Storage benefits' section. The storage trend analysis can be seen in the 'Analysis' tab which shows the storage benefit by comparing the traditional backup size required vs DLO storage.

Backup Data Size		
Total Size of Backup Data	39.55	TB

Figure 2

### Bandwidth Requirement Calculation:

Enter all the inputs as asked for in the 'Site input parameters' section as shown in figure 1. The final result is displayed on the Results section as in figure 3. This bandwidth requirement refers to the bandwidth required in Mbps during incremental backup of the data. In the 'Details' tab, the bandwidth required for first time full backup of the data is also displayed in addition to the appropriate recommendation.

Bandwidth		
Required Bandwidth for incremental backups	27.26	Mbps

Figure 3

*IOPS calculation:*

After entering all the inputs as in figure 1, the final Input/ Output operations per second required is displayed in the results section (as in figure 4), taking into consideration the site bandwidth as well as the data center bandwidth.

IOPS		
Total IOPS	655.36	Operations/sec

Figure 4

Multiple site configuration:

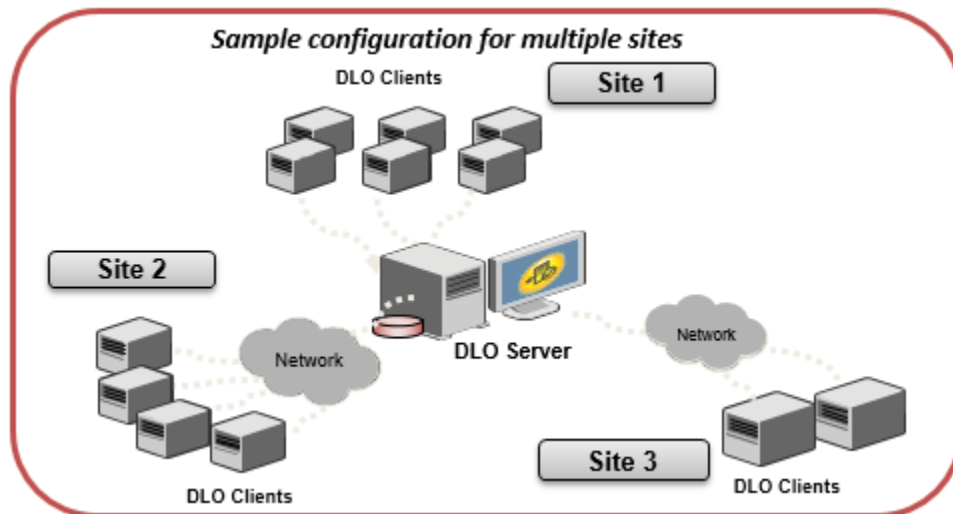


Figure 5

*IOPS Calculation:*

In case of multiple site configuration, the IOPS value will not be additive. A sample configuration of multiple sites is provided in the above (figure 5).

Another input table is provided for carrying out this calculation. The input required will be the number of users and the site bandwidth (in Mbps) at each of the sites as shown in figure 6. Maximum number of sites as of now in the calculator is kept 10.

Sites	Number of Users	Site Bandwidth (Mbps)
Site 1		
Site 2		
Site 3		
Site 4		
Site 5		

Figure 6

The final IOPS value is shown at the same column i.e. the IOPS heading under Results section, as in case of single site case (figure 4).