

VERITAS™

User Guide

Version 2.7.5.0



BALANCE

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CHAPTER 1

Welcome to Balance

This chapter gives a general overview of the Veritas Balance product. It includes:

- Introduction
- System requirements

Introduction

Veritas Balance is a Windows Service application which is managed by the Windows Service Control Manager. The service can be controlled by either the Services Microsoft Management Console Snap-In or by the command line interface `sc.exe`.

Veritas Balance has one main function. It sets an alternative recipient address for an Exchange Journal Mailbox. The application can be configured to provide a list of alternative recipient addresses that will be cycled through allowing a balance of the load between multiple Exchange server journal mailboxes.

Implementing this approach can assist with the consolidation of journal activity across multiple servers to fewer shared journals. These shared journals, targeted by Enterprise Vault Journal Archiving Tasks, reduce the amount of index duplication, and assist in the performance of journal related searches.

Balance Manager is delivered with Balance service. It is a Windows application that includes Balance configuring and reporting features. Balance Manager provides the possibility of adding/removing journal mailboxes, configuring and validating journal mailboxes settings. Also, Balance Manager provides real-time visual feedback relating to the current item amount in each alternative mailbox and graphic depicting a timeline of the last 24 hours of Balance activity.

System Requirements

Veritas Balance runs on any Intel-based computer. Make sure that the following elements are installed prior to the installation and usage of Veritas Balance:

- Windows 2012 R2 and higher versions. Only x64 platform is supported.
- Windows PowerShell v4 or higher
- Microsoft .Net Framework 4.6.1
- Microsoft .Net Framework 3.5 (includes .NET 2.0 and 3.0)
- Microsoft SQL Server 2012 and higher version.

Once you have installed all the above-mentioned elements, it is recommended to restart the computer.

Accounts and Permissions

Veritas Balance can be installed on the same computer where Microsoft Exchange server is installed. In this case the Veritas Balance service can be run as LocalSystem account.

It is also possible to install Veritas Balance on a separate server which is a member of an Active Directory domain/forest where Exchange Server is located.

Service account permissions required in Windows:

- Local Administrator
- Log on as a Service

Roles required in Microsoft Exchange are as follows:

- User Options
- View-Only Recipients
- View-Only Configuration

Permissions required in Microsoft SQL Server:

- DB Creator (in case of creating a new database)
- DB Owner (in case of using an existing database)



CHAPTER 2

Setting Up Balance

This chapter includes the following sections:

- Installing Balance

Installing Balance

Before the installation, make sure that all the requirements, mentioned in the previous section, are met. For the installation of Veritas Balance, you need to obtain the executable installation file from your Veritas sales representative. Additionally, you can contact [Veritas Customer Support](#) to request the download link or if you encounter any problems at any point during the installation. We are ready to help you 24 hours a day, 7 days a week.

Once you have it, follow the steps as described below.

Installation

1. Save the Microsoft Installer (.msi) file to the computer where Veritas Balance will run. Double click the file to start the application wizard. It will guide you through the installation process.
2. On the Welcome screen that appears, click **Next** (Figure 1).

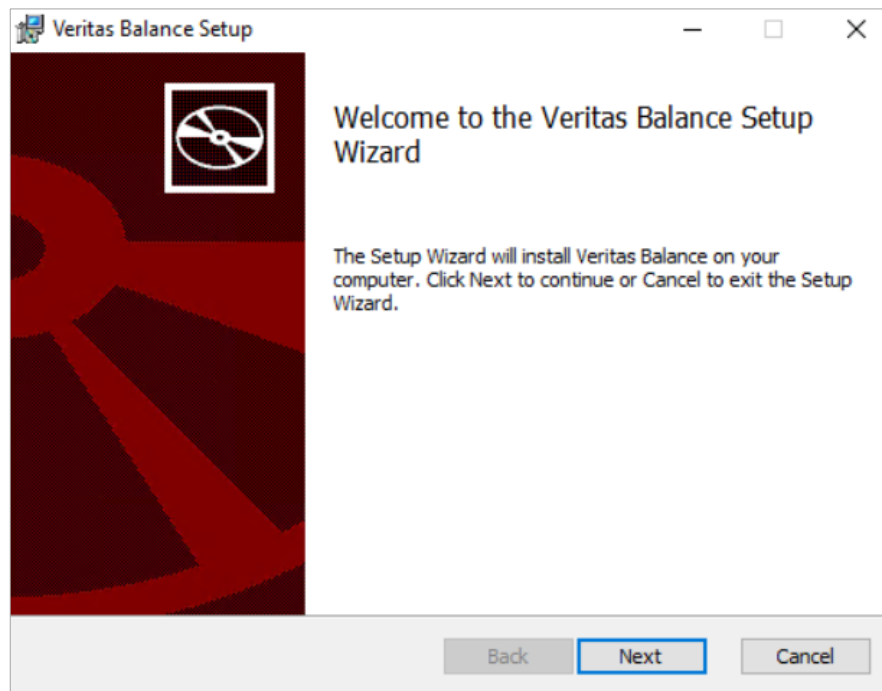


Figure 1: Setup Wizard

3. Read and accept the **End-User License Agreement**, then click **Next** (Figure 2).

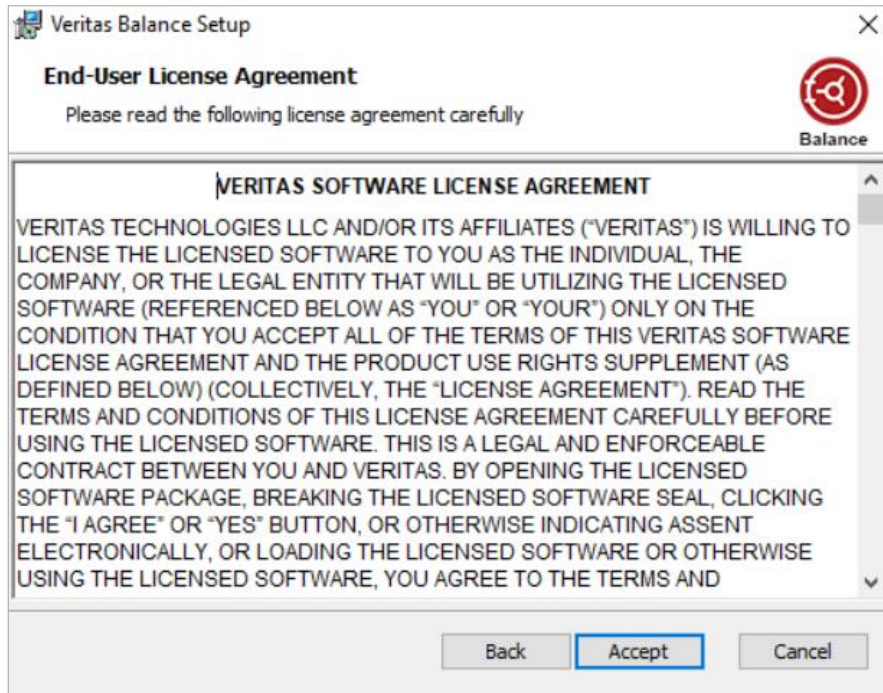


Figure 2: End-User License Agreement

4. On the **Destination Folder** page, enter the location of the installation in the provided text box. The default folder location is `C:\Program Files\Veritas Balance\`. To find another location, click **Change...** and choose where to install the program in the Change Destination Folder dialog box. Click **OK**. Then click **Next** (Figure 3).

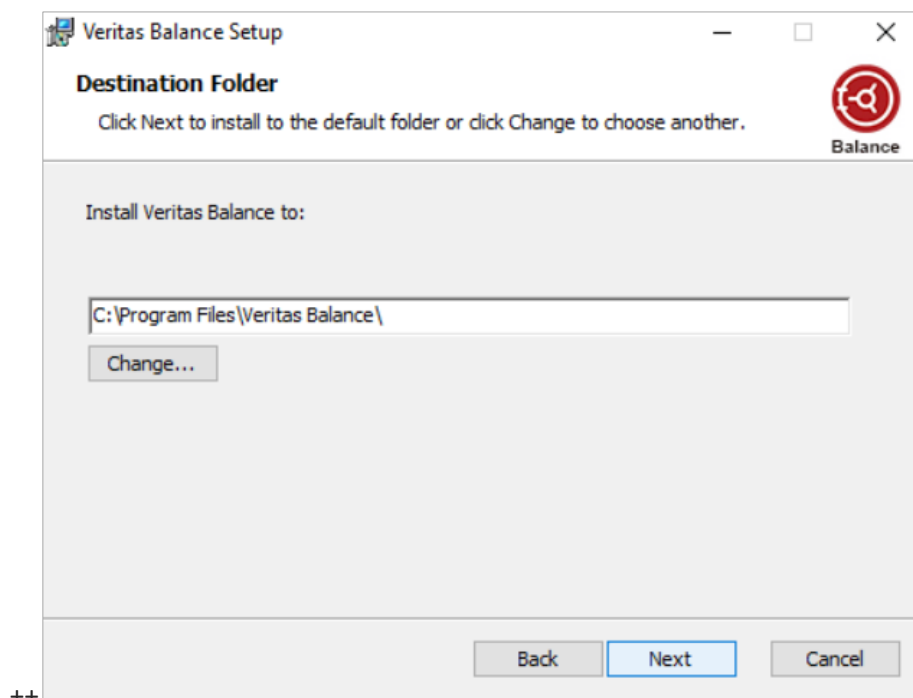
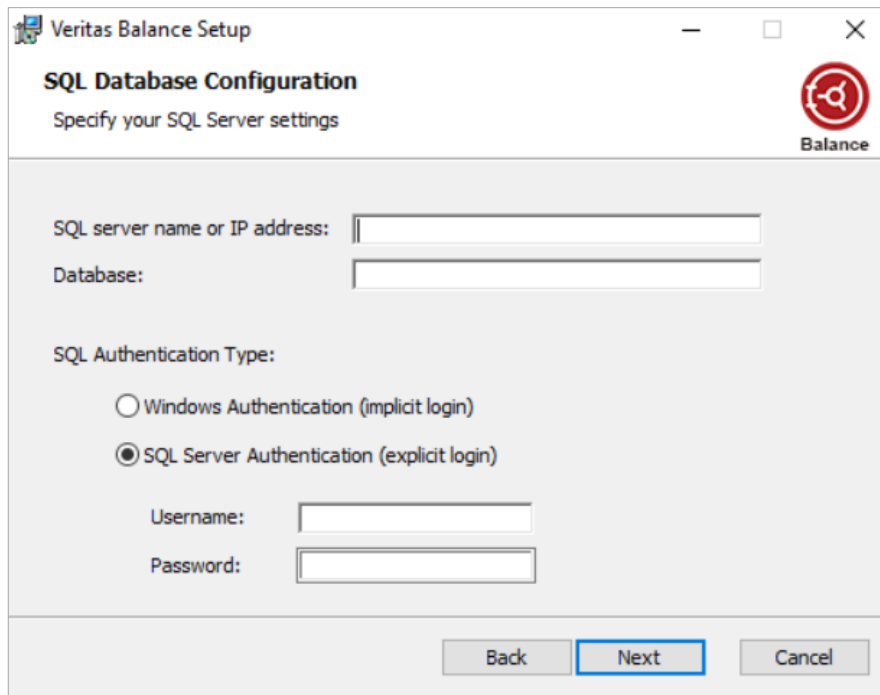


Figure 3: Destination Folder

5. On the **SQL Database Configuration** page fill in the following:

- **SQL server name or IP address** of server
- Set a **Database** name for the product. The user must have a DB creator role as a minimum.
- Select the **SQL Authentication Type**. In Balance we have two types:
 - *Implicit login*, which is done through Windows Authentication method.
 - *Explicit login*, which is carried out through SQL Server Authentication. When choosing this type, you will need to provide username and password.

6. After filling in all the fields, click **Next** (Figure 4).



The screenshot shows a window titled "Veritas Balance Setup" with a sub-header "SQL Database Configuration" and the instruction "Specify your SQL Server settings". The window contains several input fields: "SQL server name or IP address:", "Database:", "Username:", and "Password:". Under "SQL Authentication Type:", there are two radio buttons: "Windows Authentication (implicit login)" and "SQL Server Authentication (explicit login)", with the latter selected. At the bottom, there are three buttons: "Back", "Next" (highlighted with a blue border), and "Cancel". A "Balance" logo is visible in the top right corner of the dialog.

Figure 4: SQL Database Configuration

7. On the **Veritas Balance Service**, you will need to provide the following credentials:

- **Local System**
- **Custom account**

If you choose to use the **Custom Account**, you will have to provide an account name, that has permissions as mentioned in the *Accounts and Permissions*, password and confirm password. After filling all the fields click **Next** (Figure 5).

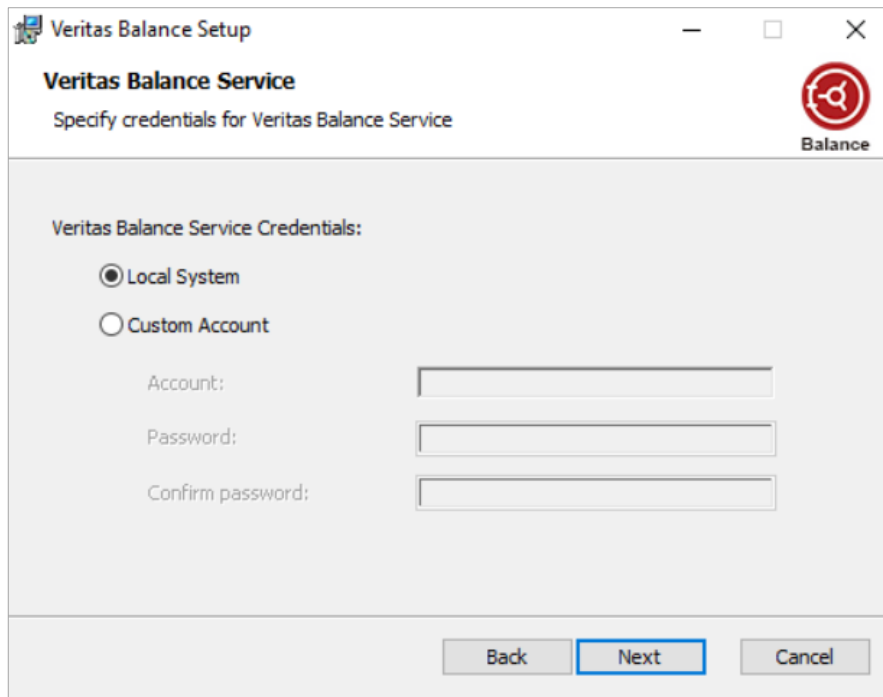


Figure 5: Veritas Balance Service

8. On the **Ready to install Veritas Balance** page, click **Install** and the installation will begin (Figure 6).

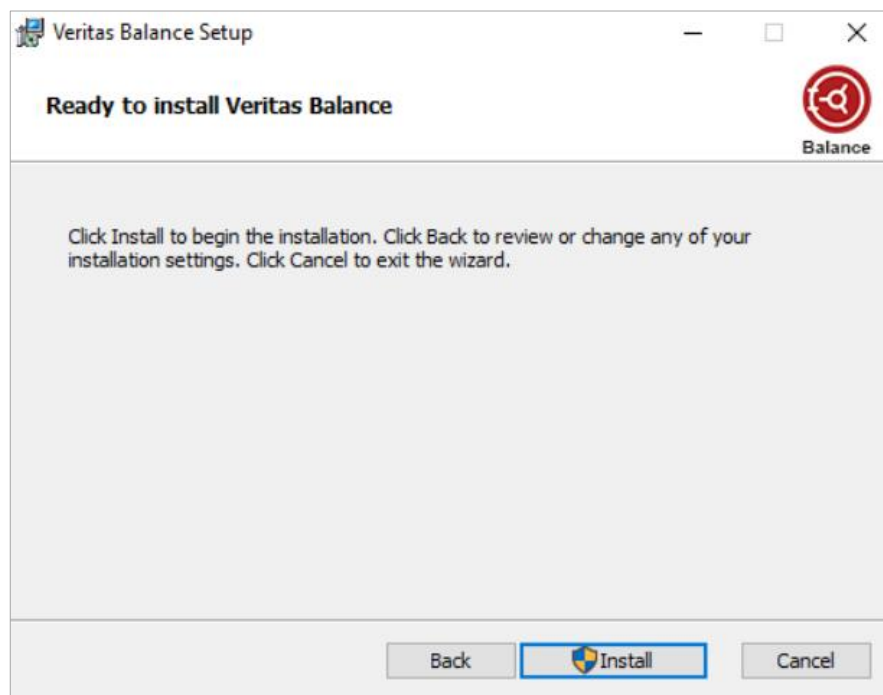


Figure 6: Beginning the Installation

9. When the installation is completed, the screen in Figure 7 will appear. Click the **Finish** button to exit the Setup Wizard.

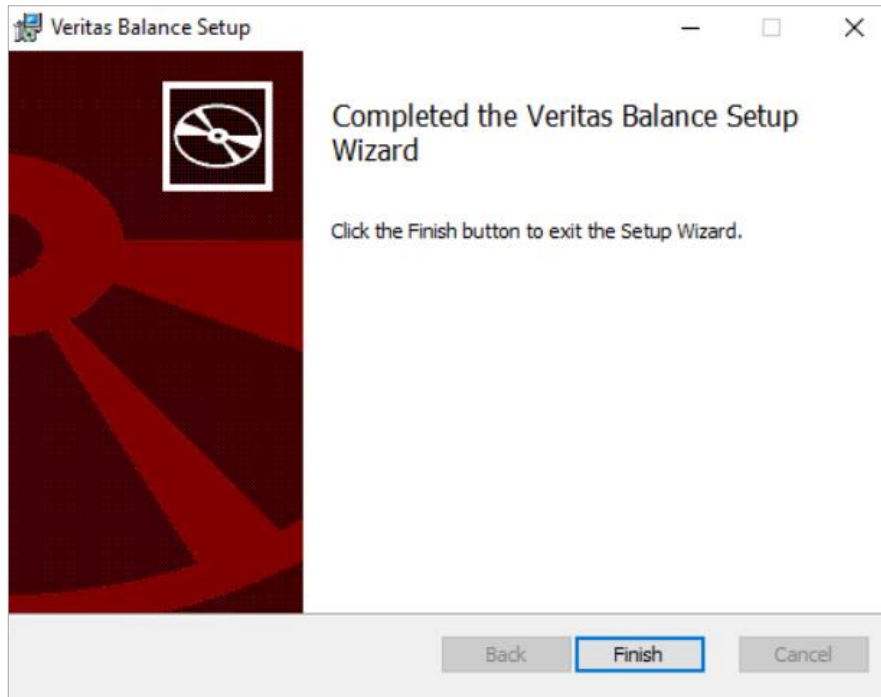


Figure 7: Installation Complete

When the installation is completed, a new service, Veritas Balance, will be added and it will start automatically. So, you do not need to start it manually. To use Veritas Balance, do the following:

Configure journal mailboxes in the Veritas Balance Manager application. See the section [***Journal Mailboxes Settings***](#) for more details.



CHAPTER 3

Running Balance

This chapter includes the following sections:

- Veritas Balance Manager
- Veritas Balance Service

Veritas Balance Manager

You use Balance Manager to configure journal mailboxes. To run the Balance Manager application, double-click the Balance Manager.exe file from the Balance installation folder. When Balance Manager starts for the first time, it will look like this:

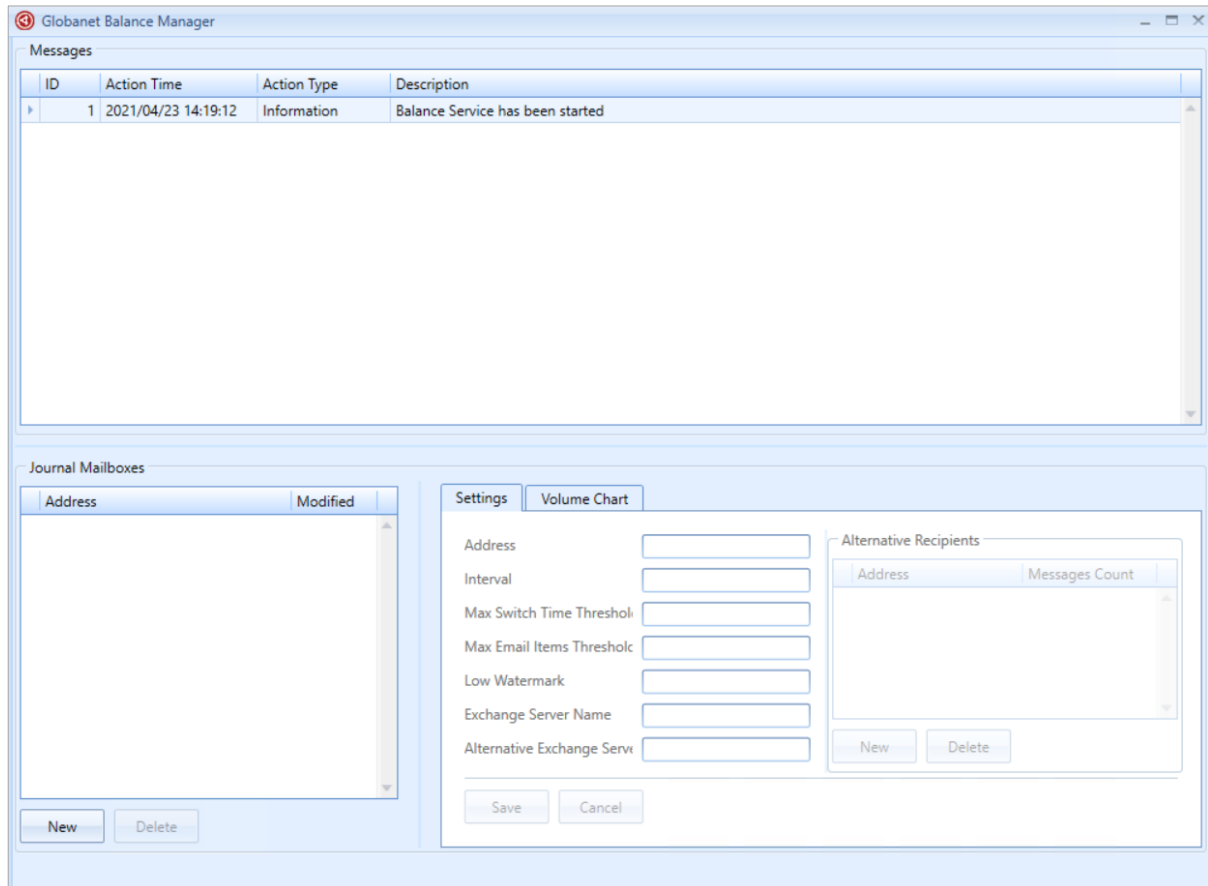


Figure 8: Main Window

Balance Manager has two main components: **Messages** and **Journal Mailboxes**.

Journal Mailboxes has two tabs: **Settings** and **Volume Chart**.

Messages

This is read-only information that reports about actions performed by the Balance service. Messages are sorted by Action Time, so the latest messages are at the top of the grid. Balance Manager works in real-time mode; every 10 seconds it queries the service and if new information is available, it is displayed at the top of the grid (Figure 9).

Note that only the past 24-hour information is available in Messages. This is done to avoid increasing the size of the local database. The whole Balance service action history is available in the daily log files and Windows Application Event Log.

ID	Action Time	Action Type	Description
6	2021/04/23 14:35:10	Information	journal1@gn-lab-03.local set as alternative recipient with the lowest items count for journal mailbox journal@gn-lab-03.local. Reason: EmailItemsCount 98610 >= EmailItemsThreshold 30000 for current alternative recipient Journal3@gn-lab-03.local
5	2021/04/23 14:34:06	Information	journal3@gn-lab-03.local set as alternative recipient with the lowest items count for journal mailbox journal@gn-lab-03.local. Reason: EmailItemsCount 98245 >= EmailItemsThreshold 30000 for current alternative recipient Journal1@gn-lab-03.local
4	2021/04/23 14:33:01	Information	No action taken: alternative recipient with the lowest items count is current forwarding address. JournalMailbox: journal@gn-lab-03.local, CurrentAltRecipient: Journal1@gn-lab-03.local, EmailItemsCount: 96697, MaxEmailItemsThreshold: 30000, TimeLastChangeOccured: 1, MaxSwitchTimeThreshold: 60
3	2021/04/23 14:31:57	Information	journal1@gn-lab-03.local set as alternative recipient with the lowest items count for journal mailbox journal@gn-lab-03.local. Reason: EmailItemsCount 97107 >= EmailItemsThreshold 30000 for current alternative recipient Journal3@gn-lab-03.local
2	2021/04/23 14:29:53	Warning	Low watermark threshold: journal3@gn-lab-03.local was not set as alternative recipient for journal mailbox journal@gn-lab-03.local for reason: EmailItemsCount 94304 >= EmailItemsThreshold 30000 for current alternative recipient Journal3@gn-lab-03.local. EmailItemsCount 94303 >= LowWatermarkValue 15000.

Figure 9: Messages Grid

The messages types are as follows:

Information. An information message indicates that the service is working as expected; it notifies about the actions.

Example:

u1_alt2@test-dc.local set as alternative recipient with the lowest items count for journal mailbox u1@testdc.local. Reason: EmailItemsCount 90384 >= EmailItemsThreshold 30000 for current alternative recipient u1_alt1@test-dc.local

No action taken: neither condition for the address forwarding was not satisfied. JournalMailbox: u1@testdc.local, CurrentAltRecipient: u1_alt2@test-dc.local, EmailItemsCount: 12878, MaxEmailItems- Threshold: 30000, TimeLastChangeOccured: 2, MaxSwitchTimeThreshold: 30

Warning. A warning message means that some expected operation was not performed by the service because of an invalid configuration or specific rule applied (low watermark, for example). The service continues working but the issue needs to be resolved.

Example:

Low watermark threshold: u1_alt2@test-dc.local was not set as alternative recipient for journal mailbox u1@test-dc.local for reason: EmailItemsCount 90384 >= EmailItemsThreshold 30000 for current alternative recipient u1_alt1@test-dc.local. EmailItemsCount 10013 >= LowWatermarkValue 10000. Could not get email item count for u1_alt2@test-dc.local.

Error. An error message means that some expected operation failed because of licensing (expiration) or some unexpected exception. Error needs to be manually resolved by the user.

Example:

You have exceeded the maximum count of journal mailboxes: 10

Component BA is inactive already: Validity Time has expired

Journal Mailboxes Settings

Creating a Journal Mailbox

To configure a new journal mailbox:

1. Click **New** under **Journal Mailboxes**. The **Create Journal Mailbox** dialog window will appear (Figure 10).

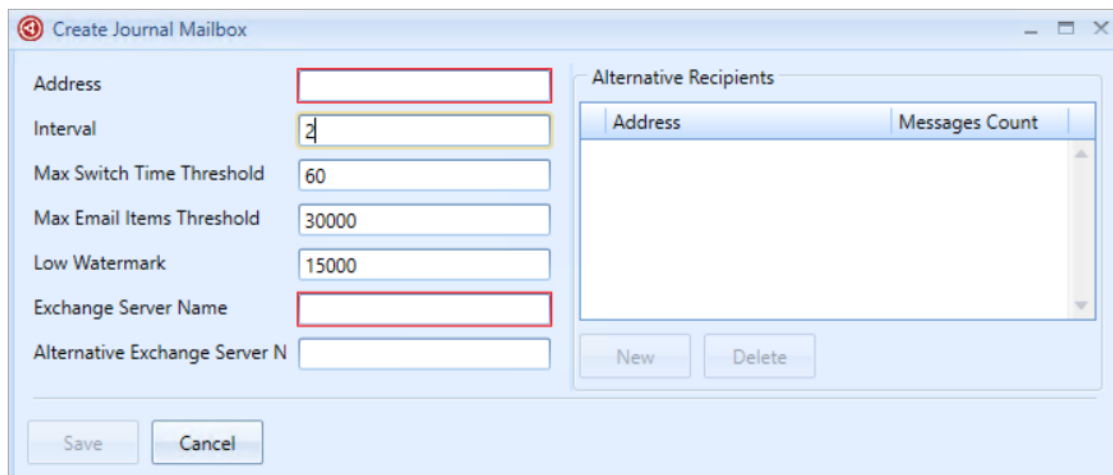


Figure 10: Creating a New Journal Mailbox

2. Specify all the parameters. The description of the parameters is provided in the [Veritas Balance Service](#) section.
3. To add a new alternative recipient, click the **New** button under **Alternative Recipients**. Enter an alternative recipient address in the **Add Alternative Recipient** window and click **OK** (Figure 11).

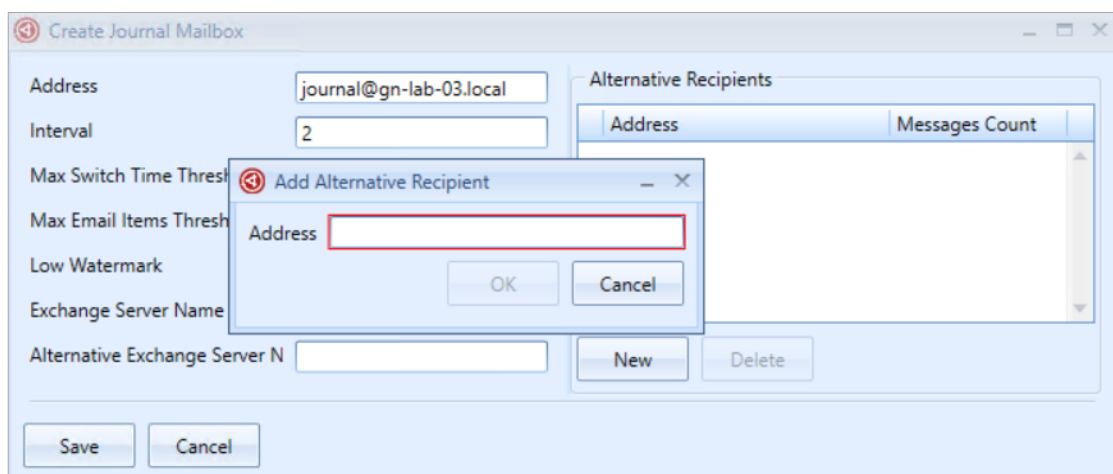


Figure 11: Adding an Alternative Recipient

4. To delete an alternative recipient, select it in the list and click the **Delete** button under **Alternative Recipients**. Confirm the deletion by clicking **Yes** in the confirmation message box.

5. To save the journal mailbox configuration, click the **Save** button on the **Create Journal Mailbox** window. If the data is valid, a new journal mailbox will appear in the **Journal Mailboxes** grid and the Balance service will begin to process this journal mailbox.

Updating a Journal Mailbox

To modify the settings for an already existing journal mailbox, do the following:

1. Select the journal mailbox in **Journal Mailboxes** and click the **Settings** tab. The fields in the **Settings** will be filled with the journal mailbox parameters (Figure 12).

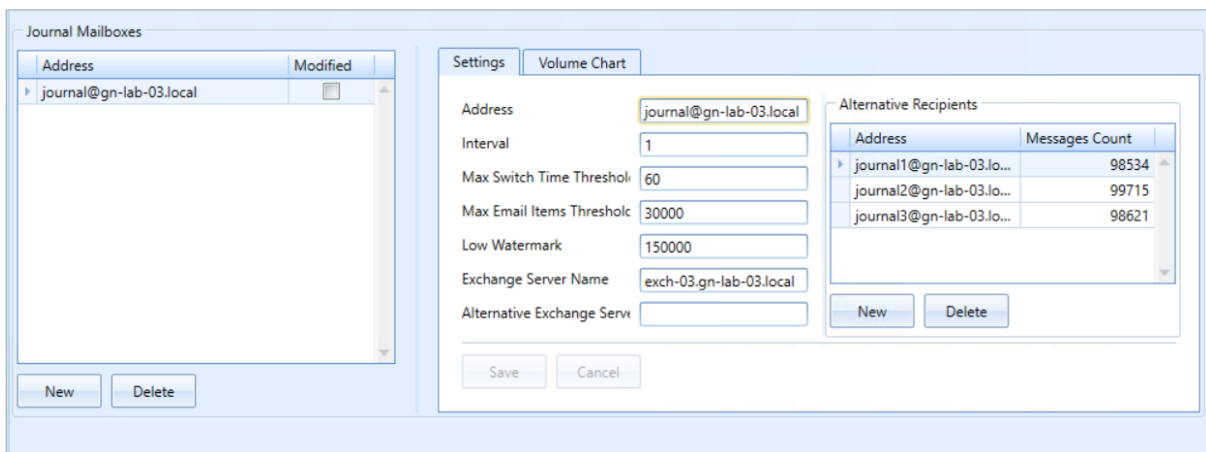


Figure 12: Journal Mailbox Settings

When you modify some parameters, the Modified checkbox in **Journal Mailboxes** becomes checked to inform you that you have unsaved changes. You can modify another journal mailbox safely; the previous modifications will remain until you save or cancel them.

2. To commit your modifications, click **Save** within the **Settings** tab. If the data is valid, the Balance service will use the new parameters for the modified journal mailbox(es) in the next iteration. To cancel the changes, click **Cancel**.

Deleting a Journal Mailbox

If you want to delete a journal mailbox, select it in the **Journal Mailboxes** and click **Delete**. Confirm the deletion by clicking **Yes** in the confirmation message box. The Balance service will no longer process this journal mailbox. The actual journal mailbox will not be deleted.

Journal Mailbox Settings Validation

When you set or update journal mailbox settings, the data is subject to validation. The following conditions should be satisfied for successful validation:

- The Exchange Server you specified should be accessible.

- Journal and all alternative mailboxes should exist in the specified Exchange Environment. If the validation fails for some reason, a corresponding warning message will be displayed.

Alternative Recipients Messages Count

It is possible to see the current amount of emails in each alternative mailbox. This information is shown within the **Messages Count** column under **Alternative Recipients**. Messages count is updated dynamically in the background every 15 seconds, so the information is always up to date.

If journal mailbox configuration data is not valid, the sign “-” is shown in **Messages Count**.

Volume Chart

Veritas Balance Manager depicts a timeline of Balance activity for the last 24 hours. Selecting a journal mailbox and switching to the Volume Chart tab shows a chart with a recorded number of messages in each alternative mailbox at each check interval (Figure 13).

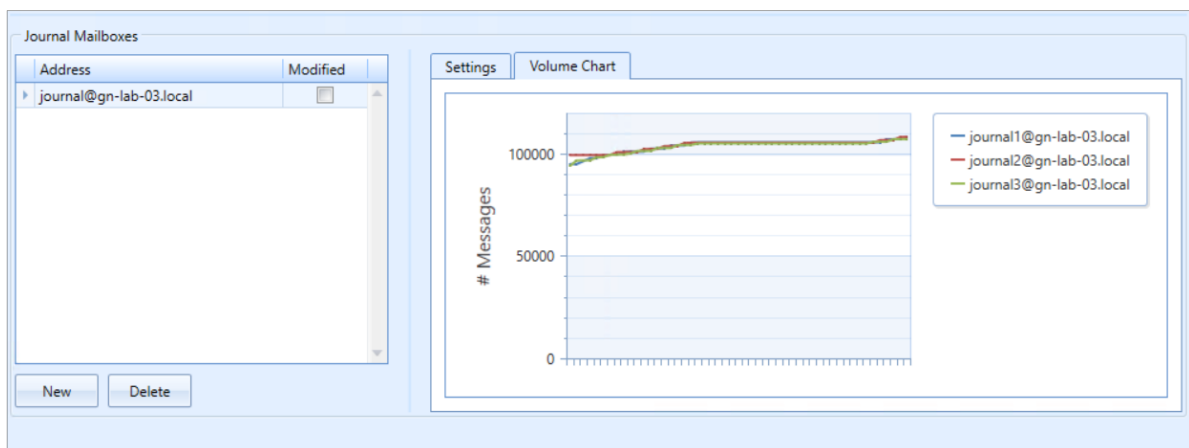


Figure 13: Volume Chart

The chart is not updated dynamically. It is rebuilt with the latest information every time you go to the **Volume Chart** tab. Balance service populates the data for the chart every *Interval* value.

To see exact information for each alternative mailbox volume, hover the mouse over any point of the chart series. The tooltip appears with additional information: **Alternative Recipient** address, **Time** when the data has been captured and **Volume** as alternative mailbox items count.

Veritas Balance Service

Veritas Balance must be configured for the use in the customer environment (see [Journal Mailboxes Settings](#)).

Balance Service has the following parameters:

Address. The SMTP address of the journal mailbox.

Interval. This is the interval of time in minutes between checks to determine if the **Max Switch Time Threshold** or the **Max Email Items** threshold has been reached. This value should be less than the **Max Switch Time** threshold.

Max Switch Time threshold. The maximum time in minutes between switching alternative recipient addresses.

Max Email Items threshold. The maximum number of items in the inbox before switching to an alternative recipient address.

Low Watermark. This is the threshold above which the alternative recipients are not switched.

Exchange Server. The Exchange Server that will respond to the requests made by Veritas Balance application.

Alternative Recipients. The list of alternative recipient SMTP addresses.

The Veritas Balance service switching logic is as follows: Every *Interval* value service checks whether the current forwarding address for journal mailbox should be switched. The conditions for switching are as follows:

- No alternative recipient (forwarding address) is set currently for the journal mailbox.
- Current alternative recipient items count is greater than or equal to **Max Email Items** threshold.
- Time when last switching occurred is greater than or equal to **Max Switch Time** threshold.

If at least one of the above conditions is satisfied, the next alternative mailbox is selected as the mailbox with the lowest items count.

Next, **Low Watermark** threshold is checked: if the alternative mailbox with the lowest messages count contains items greater than the **Low Watermark** threshold, Balance does not consider the particular alternative as a viable option to switch to, and instead submits an alert to the UI and the event logs, and then goes to sleep for the next interval.

If the **Low Watermark** rule was not applied, the alternative mailbox with the lowest messages count is set as the current forwarding address for the journal mailbox.



CHAPTER 4

Configuring Balance on a Cluster

This chapter includes the following sections:

- Configuring Balance on a Cluster
- Service Configuration on Failover Cluster Manager
- Troubleshooting Balance
- Questions and Answers

Configuring Veritas Balance on a Cluster

To configure Veritas Balance on a cluster, follow the below steps:

1. Install Balance on a cluster computer by following the instructions described in the [Installing Balance](#) section.
2. After the installation completes, stop the Balance service from the Services snap-in.
3. Copy both `BalanceData.sqlite` and `SharedConfiguration.config` files from the Balance directory to the shared folder on the server. The name of the folder is irrelevant, but it will be used later in the configuration.
4. Change the configuration files to `Balance Manager.exe.config` and `Balance Service.exe.config`. In both files in the `<add>` tag of the `<connectionStrings>` tag replace `|DataDirectory|` to the name of the shared folder on the server.
5. Install either Microsoft Exchange Server 2010 or Exchange PowerShell Tools on the cluster.
6. Set account settings in the Veritas Service on the cluster: select the service from the list in the Services snap-in and then Properties > Log On.

Service Configuration on Failover Cluster Manager

A failover cluster is a group of independent servers working together to increase the availability of services and applications. When a failure occurs on one computer in a cluster, resources are redirected, and the workload is redistributed to another computer in the cluster. You can use failover clusters to ensure that users have nearly constant access to important server-based resources.

Failover Cluster Manager snap-in is used to validate failover cluster configurations, create, and manage failover clusters, and migrate some resource settings to a cluster.

To configure a service on Failover Cluster Manager:

1. Open **Failover Cluster Manager**. Select **Configure a Service or Application...** from the Services and applications item.
2. Read the information on the **Before You Begin** screen and click **Next**.
3. Select **General Service** option for Veritas Service. Click **Next**.
4. Configure **Client Access Point** by entering the name and IP address.
5. Select a storage that you want to assign to the service.
6. There are no registry keys needed to be shared across clusters. Leave this option as it is and click **Next** on the **Replicate Registry Settings** screen.
7. Read the information on the **Confirmation** screen and click **Next**.
8. Click **Next** when the configuration process finishes.
9. Read the summary information and complete the configuration.
10. Find more information on Failover Clustering by following this link:

<https://docs.microsoft.com/en-us/windows-server/failover-clustering/failover-clustering-overview>.

Troubleshooting Veritas Balance

All errors with the Veritas Balance service are logged in the Windows Application Event Log.

Operational errors are written to a daily log file located in the Logs folder in the applications installation directory.

Few error events logged Veritas Balance have event IDs:

```
Error "Could not get email item count for journal1@example.com " -  
Event Id = 1
```

```
Error "Journal mailbox journal@example.com doesn't exist" - Event Id =  
2
```

To file a problem report for Veritas Balance, please send an e-mail message to [Veritas Customer Support](#).

Questions and Answers

- Question 1:** Does the application require XP_cmdshell?
Answer: No.
- Question 2:** Does the application require objects defined in the system database?
Answer: No.
- Question 3:** Does the application require any of the following SQL Server Features?
Answer: Yes, it requires SQL Server Default.
- Question 4:** What is the size of application databases (GB)?
Answer: 1GB.
- Question 5:** What is the anticipated growth rate (yearly)?
Answer: 10%.
- Question 6:** What is the number of application transactions?
Answer: < 10,000 per week per journal mailbox, if the interval in the settings is 1 minute.
- Question 7:** What is the business impact if this application is down for less than 2 hours during peak business hours?
Answer: Small loss of productivity.
- Question 8:** Which maintenance windows fits my application requirements?
Answer: Whenever the traffic of messages is the lowest.