Backup Server

DOC-OEMSPP-S/6-BUS-EN-21062011

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Table of Contents

About this manual . . . . . **iii**

Typographical conventions iii

Chapter 1: Overview **1-1**

Chapter 2: Installation **2-3**

Chapter 3: Configuration **3-5**

Status 3-5
Configuration 3-6
Email 3-7
Folders 3-8

Chapter 4: Process Description **4-9**

Chapter 5: Licensing **5-11**

The SBS Pack 5-11
The Standard Path 5-11

About this manual

Typographical conventions

This manual distinguishes between different types of information using the following conventions:

- Terms taken from the interface itself, such as commands, appear in **bold**.
- Keys appear in small caps, for example: “Press the SHIFT key.”
- Numbered lists mean there is a procedure to follow.
- When the conjunction -or- appears next to a paragraph, it means there is the choice of another procedure for carrying out a given task.
- When a menu command contains submenus, the menu name followed by the command to select appear in bold. Thus, “Go to **File > Open**” means choose the **File** menu then the **Open** command.

This symbol highlights warnings and other important information on how a particular command or procedure works.

Following this symbol, you will find hints and tips for optimizing tasks, speeding up commands, and so on.

CHAPTER 1

Overview

The SENTINEL Backup Server (SBS) application allows a secondary server to act as a backup in the case of failure of the primary server.

The application manages the duplication of the last known configuration from the primary server to the secondary server.

When the primary server shuts down, after a hardware failure or after a manual stop for a maintenance operation, the secondary server takes over and becomes the primary server.

When the SBS service is started on a PC, it begins by verifying if the SBS service is already active on the second PC (attempt of a TCP/IP connection with the alternate SBS server). If it is active, it runs as a secondary server. Otherwise, it runs as a primary server.

When the primary SBS service stops (after a shut down or deliberate stop for maintenance or an update), the secondary SBS detects the loss of connection on the TCP/IP port and runs as a primary server. It opens a TCP/IP port as a server and starts the SENTINELs who were activated on the previous primary server.

To switch the secondary SBS into primary, it is enough to stop the SBS service of the primary server.

To be compatible with the backup system, the configuration must meet the following requirements:

- Both PCs have to be on the same network domain.
- Their respective IP addresses must be fixed (no automatic allocation).
- The installation of SENTINEL and the other associated applications must be made in identical directories.
- Both SENTINEL services must be configured to work in accounts having identical rights, or in the same account. Their starting up must not be set-up to be automatic (they are forced in manual mode by SBS).
- Every machine has to know the IP address of its double (this information is to be specified in the configuration window of the SBS).
- The sentinels will have to use the file capture plug-in on a network shared directory, to ensure the system works properly.

CHAPTER 2

Installation

SBS must be installed on the two PCs after the SENTINEL application has been installed.

It is automatically stored in the same installation folder as the SENTINEL product.

After the installation, you must ensure that the SENTINEL service (Label Print Manager 5) is not set to run automatically (the execution of the SENTINEL service must be controlled by the SBS).

Note

Once launched, the SBS service resets the SENTINEL service's launch method to manual.

By default, the SBS service is set to the manual starting mode. To make it available at boot time, the configuration must be changed in the Windows Service Manager.

CHAPTER 3

Configuration

The Sentinel Backup Server is a Windows service. It can be set to automatically start up.

If it is launched by a user in a Windows session with the **-cfg** argument, it produces a dialog box for its configuration. The window contains four windows: Status, Connection, Email, and Folder.

Status

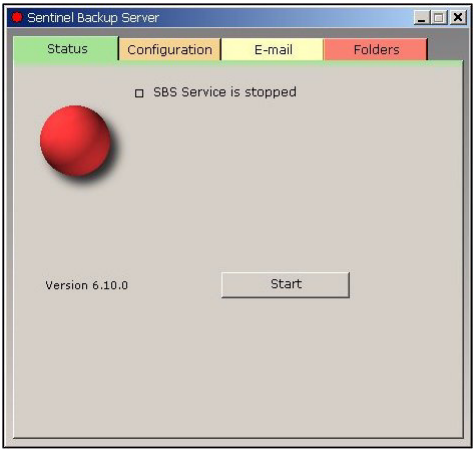

Figure 1 Status tab

The Status tab shows the state of the backup service

(stopped, running as primary or secondary) and features a button for the starting or stopping of the service. The logo on the left, as well as the color of the icon in the caption and in the Windows task bar will reflect the status.

Configuration

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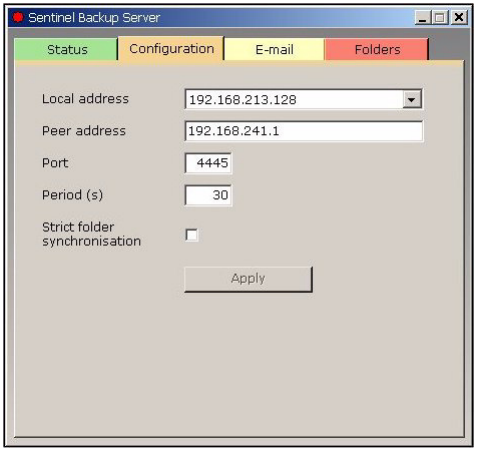

Figure 2 Configuration tab

The Configuration tab allows the user to set the local address to use (there is only one unless you have a network card with multiple ports), the address of the peer server, the communication port and the updating period in seconds.

These settings are to be defined on both servers.

Strict Synchronization:

By default, the synchronization mechanism verifies that files found on the primary server are duplicated on the secondary server.

The strict sync also verifies that files NOT FOUND on the primary server are DELETED on the secondary server.

In both cases, the mechanism only checks the SENTINEL settings folder and the optional folders added to the Folders tab.

Email

This tab allows you to define the emailing parameters to have an automatic email sent on primary server failure.

The secondary server will send the email when it takes over.

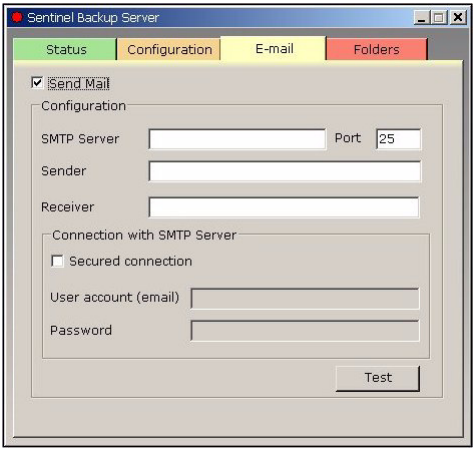

Figure 3 Email tab

Folders

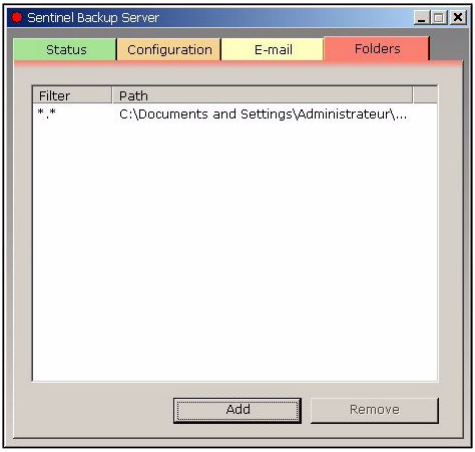

Figure 4 Folders tab

The Folders tab lets the user define a set of folders and filters to ensure the replication of custom files on the secondary server.

These settings are passed to the secondary server when it connects. There is no need to enter them on the secondary.

Only the first tab is available when the SBS service is active.

While thermal printers installed through the labeling plug-ins will be correctly duplicated from primary to secondary, Windows printers cannot be created without the installation of their driver. These printers will need to be installed on the secondary server. You can also use the PrintMig utility available for download on Microsoft's site.

CHAPTER 4

Process Description

When the SBS service starts, it first finds out if it is running as the primary or secondary server by trying to contact the other server through a TCP/IP connection (port 4445 by default).

- If the peer address is not provided, the start-up fails.
- If the other server answers, SBS works in secondary mode
- If the opposite server does not answer, it runs as primary and opens a TCP/IP socket server process.

In summary, the primary SBS opens a TCP/IP port as a server.

The secondary SBS connects to this port as a client.

Periodically (the period in seconds is user definable), and as long as a TCP/IP client is connected, the primary server proceeds to the update of the secondary server going through the following steps:

1. Execution of the updating scripts. They generate a list of files modified since last check (all files are considered modified on the first cycle).
2. Listing the active sentinels.
3. Sending the two lists and the modified files content to the secondary PC.

4 System suspends until next period.

Note

During a user stop of the primary backup server, steps 1 to 3 are also executed.

In the case where both SENTINEL servers are started simultaneously and the SBS service is configured in automatic launch mode, SBS may start in primary mode on both servers.

This type of situation may produce itself in the case where both servers are on similar machines which use the same failing power source.

With this type of configuration, it is important to verify after re-launching the servers that the backup service on the main server is working in primary mode, and that the backup service on the backup server is in secondary mode.

To do this, you must start the SBS service configuration interface on the secondary server.

Verify that the status of the service is started and that it is working in secondary mode.

If this is not the case, stop the service using the **Stop** button on the configuration interface.

Wait for it to stop and re-start the service using the **Start** button.

The service will then work in secondary mode.

CHAPTER 5

Licensing

The SBS Pack

Implementing a secured solution built around the use of the SENTINEL Backup Server product makes two available license types:

- The SENTINEL product license, which is installed on your main server.
- The SBS product license, which is installed on your backup server.

The first type of license gives access to all of the functionality available with your SENTINEL product. The second type of license forbids the launching of sentinels if the backup server on which the license is installed launches directly in primary mode.

However, if SENTINEL is started by SBS after the primary server has failed, all operations are allowed.

For the reasons listed above, the SENTINEL service should not be stopped and restarted on the backup server, otherwise the above mentioned limitations would apply. If the backup machine continues in primary mode for a long time and that the SBS license limitations do not meet your requirements, the server roles can be switched by installing the standard SENTINEL key on the backup server turning it into the main server.

To guarantee the proper execution of the secured solution, the administrator must ensure that the server on which the

SENTINEL Backup Server key is installed is just a backup server; it should only be used to ensure the smooth running of the service when the main server is not available.