



Comprehensive Video Analytics Solutions

Redundant Vi-Server Installation Guide





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1 Overview

1.1 savVi Redundancy Mechanisms

Redundancy is supported for the following savVi components, eliminating any single point of failure:

- Database Redundancy

Achieved by utilizing a secondary DB instance (mirroring/replication), or by using a cluster (in the case of a cluster, the replication is transparent to the system, e.g., the cluster appears as a single DB instance). The replication/clustering process is managed by Microsoft® components/tools and is transparent to the LBS, which only holds the primary and secondary DB addresses and instance names (in the case of a cluster, only a single address and instance name is required).

- Load Balancing Server (LBS) Redundancy

Redundancy is achieved by installing a secondary LBS which takes over when the primary LBS becomes unavailable. This guide focuses on installation and configuration of the LBS redundancy mechanism.

- Application Server (AS) Redundancy

Managed by the LBS. Redundancy is achieved by installing additional AS instances on additional machines so that if one of the machines running AS instances becomes unavailable, the LBS will distribute the analytics load among the available AS instances.

- Vi-Agent Proxy (VAP)

Managed by LBS. Redundancy is achieved by installing additional VAP instances on additional machines so that if one of the machines running VAP instances becomes unavailable, the LBS will distribute the VMS video streams among the available VAP instances.

2 System Requirements

2.1 Hardware

- To implement LBS redundancy, two servers are required (one for the primary LBS and the other for the secondary LBS). The hardware specification of the secondary LBS server should be identical to the specification of the primary LBS server. Submit a Request for Hardware & Software Specification on Agent Vi website [here](#).
- Microsoft® SQL Server Standard or Enterprise editions are required for redundancy. Two servers are required for the SQL Server instances.

2.2 Software

- Operating System requirements:
For Agent Vi software components, submit a Request for Hardware & Software Specification as mentioned in 2.1 above.

Database redundancy cannot be achieved with the SQL Express Edition, bundled with the savVi installer. SQL Server Standard/Enterprise software and licenses are required for the DB servers.

SQL should be installed and configured using Windows credentials (not SQL credentials). For Microsoft® SQL components and licenses, please refer to Microsoft®.
- In addition to the main server Agent Vi license, a Redundant Server license must be obtained (SKU VIRDNT). Note that the main server license should be activated on the primary server, and the Redundant Server license should be activated on the secondary server.

3 Installing Redundant Vi-Servers

3.1 Before Installing Redundant Vi-Servers

- Confirm that your system meets the requirements outlined in Section 2 above.
- Install and configure the SQL components.

When using Windows Authentication to SQL servers, use the same Windows credentials (either a domain user or identical local credentials on each machine) for installing/configuring SQL and for running savVi installers.

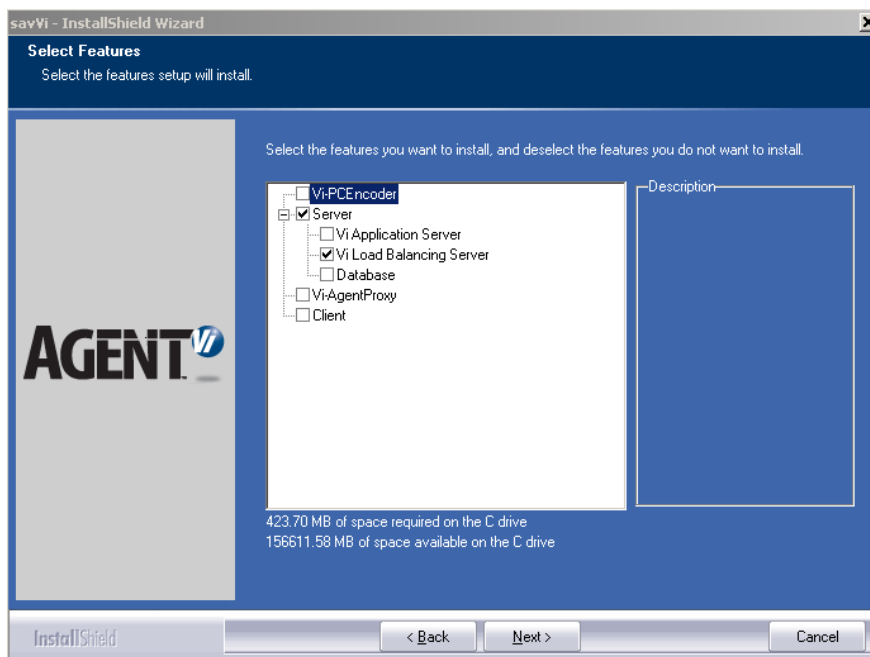
- Make sure all machine network cards are configured with the same subnet mask.

3.2 Installation Procedure

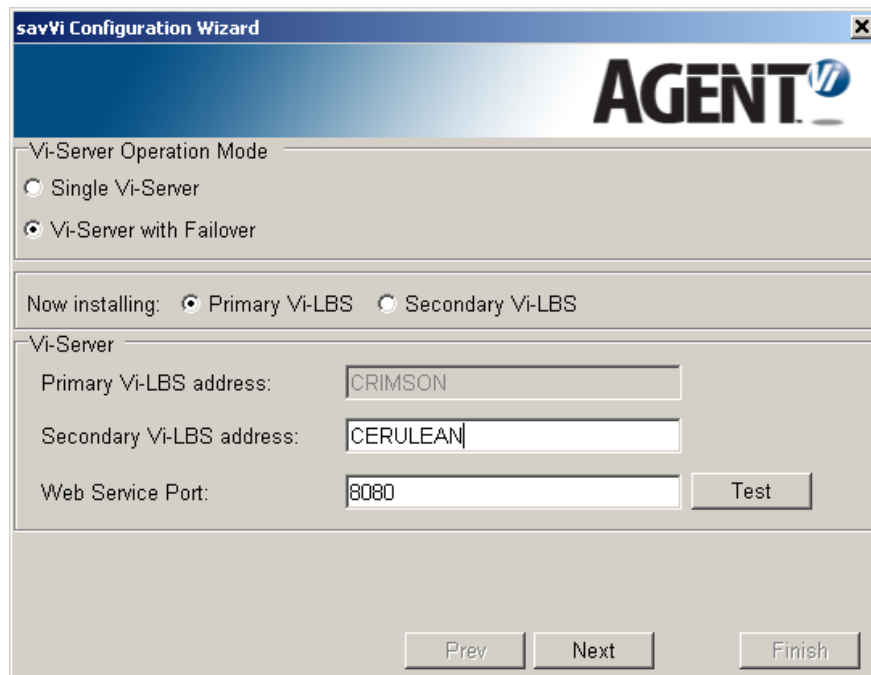
Perform the following steps in the order in which they appear.

3.2.1 Installing Redundant System on Primary LBS Server

1. On primary LBS server, run the savVi installer and select a Custom installation. When prompted for required features, select Vi Load Balancing Server. You may select other components depending on the scale of the deployment. You may select to install savVi's Database at this stage. Please note, that Database installation should be performed only once, i.e. it should not be selected to be installed again when installing the secondary LBS server.



2. In the **savVi Configuration Wizard** screen, select the **Vi-Server with Failover** option and define secondary LBS address:

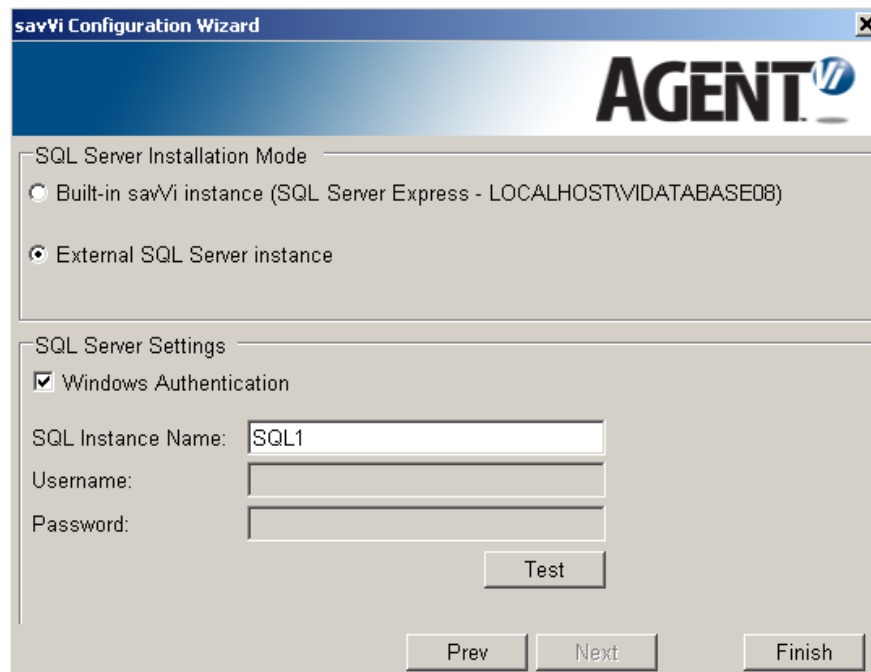


The screenshot shows the 'savVi Configuration Wizard' window. The title bar reads 'savVi Configuration Wizard'. The window features the AGENT^{vi} logo in the top right corner. The main content area is divided into sections:

- Vi-Server Operation Mode:** Two radio buttons are present: 'Single Vi-Server' (unselected) and 'Vi-Server with Failover' (selected).
- Now installing:** Two radio buttons: 'Primary Vi-LBS' (selected) and 'Secondary Vi-LBS' (unselected).
- Vi-Server:** Three text input fields: 'Primary Vi-LBS address:' containing 'CRIMSON', 'Secondary Vi-LBS address:' containing 'CERULEAN', and 'Web Service Port:' containing '8080'. A 'Test' button is located to the right of the port field.

At the bottom of the window, there are three buttons: 'Prev', 'Next', and 'Finish'.

3. When prompted for the SQL server configuration, define the primary (or the cluster) SQL server and the SQL instance name.



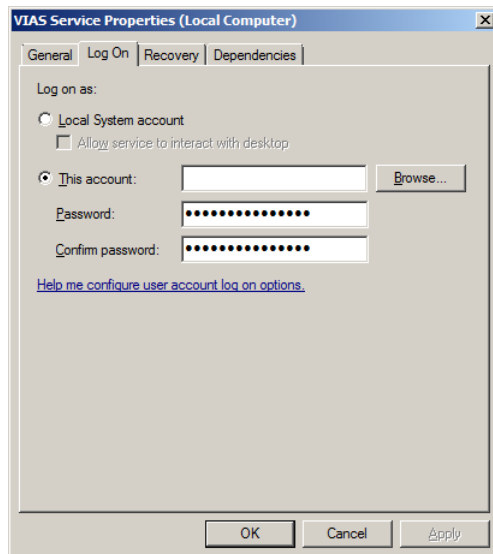
The screenshot shows the 'savVi Configuration Wizard' window. The title bar reads 'savVi Configuration Wizard'. The window features the AGENT^{vi} logo in the top right corner. The main content area is divided into sections:

- SQL Server Installation Mode:** Two radio buttons: 'Built-in savVi instance (SQL Server Express - LOCALHOST\VIDATABASE08)' (unselected) and 'External SQL Server instance' (selected).
- SQL Server Settings:** A checked checkbox for 'Windows Authentication'. Below it are three text input fields: 'SQL Instance Name:' containing 'SQL1', 'Username:', and 'Password:'. A 'Test' button is located to the right of the password field.

At the bottom of the window, there are three buttons: 'Prev', 'Next', and 'Finish'.

4. Activate the license for the primary LBS server.

5. Change the Service > Log On to the previously defined Windows user for the VILBS and VIAS services on the machine:



3.2.2 Installing Redundant Vi-Server on Secondary LBS Server

1. Perform steps 1 – 3 and 5 as in section 3.2.1 – “Installing Redundant System on LBS1”. In step 2, select “Secondary Vi-LBS”
2. To activate the license on the secondary LBS server, rename the license file to “savvi.lic”, and replace the \Program Files (x86)\AgentVi\savVi\License\savvi.lic file with it.

3.2.3 Configuring SQL Redundancy

After installation of primary and secondary LBS servers, and installing the database (either along with one of the LBS installations or as a separate run of the installer, selecting only “Database” in custom installation) you must configure SQL redundancy.

Two redundancy modes are supported:

1. **SQL Failover Cluster**
Implements multiple servers (nodes) connected to shared or individual storage, that operate as a cluster. In this case, the DB maintains the same address (and instance name), and the failover process is transparent to savVi.
2. **SQL Replication**
Implements two (primary and secondary) SQL servers, with the secondary server subscribed to the SQL transactions of the primary server. In this case, there are two addresses for the DB servers (one for the primary, the other for the secondary).

See the Microsoft® Knowledge Base for guidelines on how to set a redundant SQL environment: <http://support.microsoft.com/ph/1044>

3.2.4 Configuring SQL Addresses on LBS Servers.

Following SQL redundancy configuration, LBS configuration files need to be updated on both LBS servers:

Locate a file named LoadBalancingServer.conf, under \Program Files (x86)\AgentVi\savVi\vi-server\

The following fields should contain the relevant values:

Primary SQL server:

```
"DBServerAddress"="SQLSERVER\INSTANCE"
```

Secondary SQL server:

```
"SecondaryDBServerAddress"="SQLSERVER\INSTANCE"
```

Where SQLSERVER is the SQL server address, and INSTANCE is the instance name. For unnamed instances, only SQLSERVER should be provided.

4 Troubleshooting Installation/Configuration

savVi installer fails to install the DB into the required SQL instance

➤ **To troubleshoot:**

1. Verify that the savVi installer is run by a user who has sufficient permissions to connect and modify the needed SQL instance.
2. Verify that the SQL Browser service is running on the machine that runs the SQL instance.
3. Run Microsoft® SQL Management Studio tool (with the same user who is used for running the savVi installer) and verify that the required SQL instance is accessible with Windows credentials.
4. On the machine running the SQL instance, open the SQL Configuration Manager and verify that the required SQL instance is configured to accept TCP/IP connections.

After installation and redundancy configuration, savVi fails to connect to the DB

➤ **To troubleshoot:**

1. Verify that the DB is accessible with Microsoft® Management Studio.
2. All VILBS and VIAS services should log on with the Windows user used for configuring SQL servers.
3. Verify LBS log files.

LBS logs are located under \Program Files\AgentVi\savVi\logs\, and are named with the following convention:

VILBS_<YEAR>_<MONTH>_<DAY>_part_<NUMBER>.log

Open the latest VILBS log file, and scroll to the end of it. If there is a connectivity issue of the LBS to the SQL instance, the log should reveal the error details.



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