

Redundant Server Installation Guide

Valerus SmartAnalytics



XX306-40-00

Valerus **SmartAnalytics**

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1 Overview

1.1 Redundancy Mechanisms

Redundancy is supported for the following Valerus SmartAnalytics 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 Load Balancing Server (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.

■ Analytics 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.

■ Valerus 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.

■ Note

Setting up the Redundant Server is a complex process and should only be done by qualified personnel. It is recommended to contact Vicon Technical Support before starting this procedure.

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.
- 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:
Database redundancy cannot be achieved with the SQL Express Edition, bundled with the Valerus Smart 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 Valerus SmartAnalytics license, a Redundant Server license must be obtained (VLR-ANA-RUN). 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 Servers

3.1 Before Installing Redundant 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 Valerus SmartAnalytics installers.

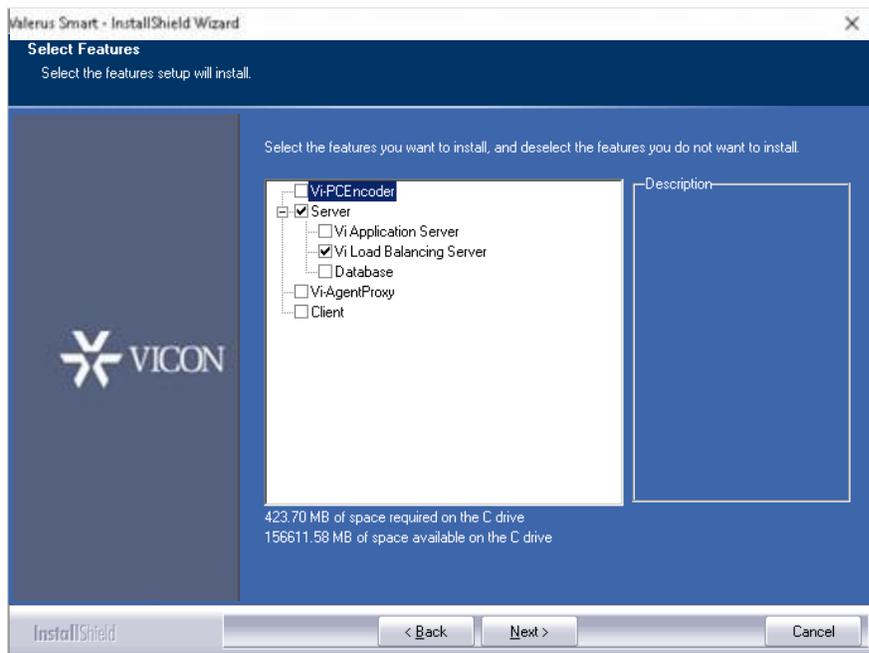
- Make sure all machine network cards are configured with the same subnet mask.

3.2 Installation Procedure

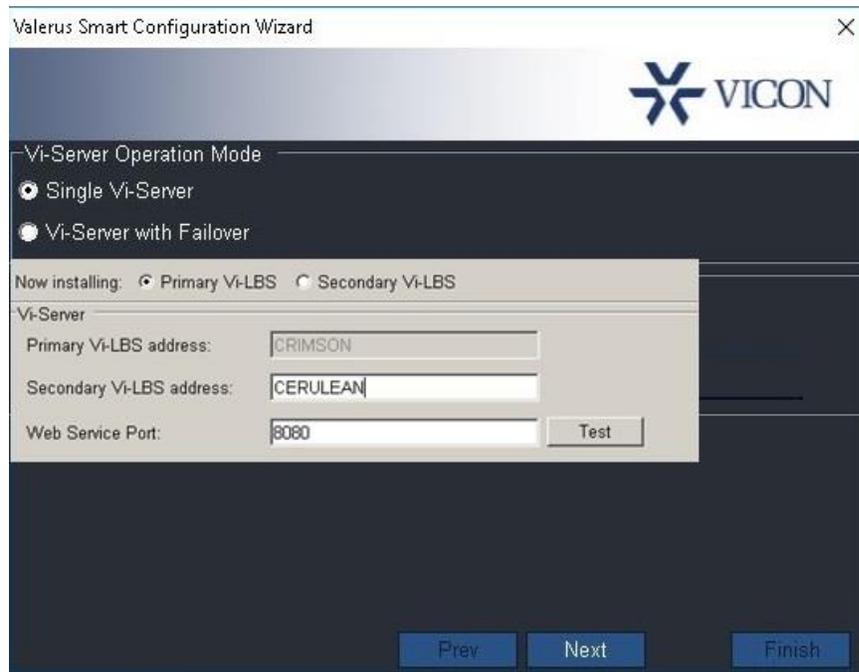
Perform the following steps in the order in which they appear.

3.2.1 Installing Redundant System on Primary LBS Server

1. On primary LBS server, run the Valerus Smart 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 Valerus SmartAnalytics'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.

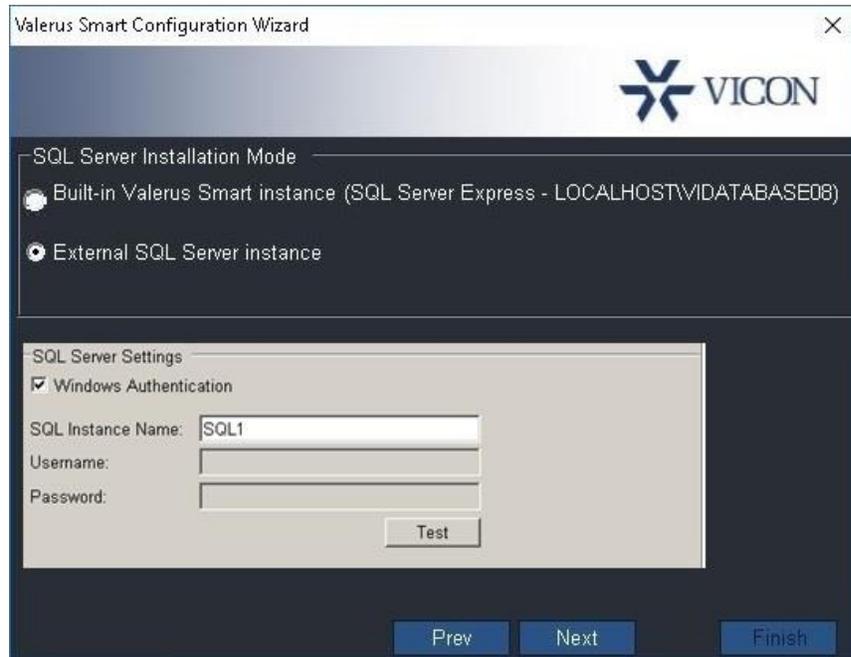


2. In the **Valerus Smart Configuration Wizard** screen, select the **Vi-Server with Failover** option and define secondary LBS address:



The screenshot shows the 'Valerus Smart Configuration Wizard' window with the VICON logo. The 'Vi-Server Operation Mode' section has two radio buttons: 'Single Vi-Server' (selected) and 'Vi-Server with Failover'. Below this, the 'Now installing:' section has two radio buttons: 'Primary Vi-LBS' (selected) and 'Secondary Vi-LBS'. The 'Vi-Server' section contains three input fields: 'Primary Vi-LBS address' with the value 'CRIMSON', 'Secondary Vi-LBS address' with the value 'CERULEAN', and 'Web Service Port' with the value '8080'. A 'Test' button is located to the right of the port field. At the bottom of the wizard are three buttons: 'Prev', 'Next', and 'Finish'.

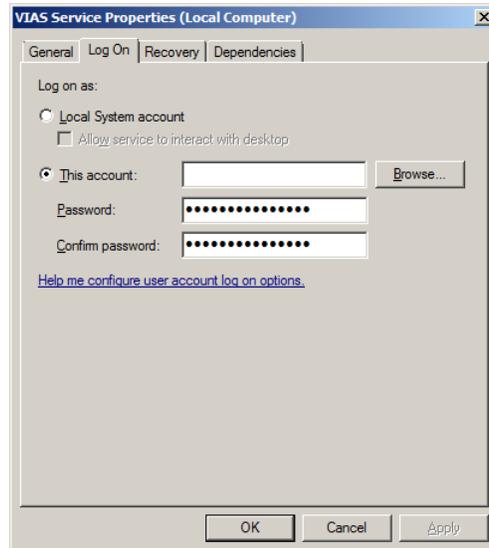
3. When prompted for the SQL server configuration, define the primary (or the cluster) SQL server and the SQL instance name.



The screenshot shows the 'Valerus Smart Configuration Wizard' window with the VICON logo. The 'SQL Server Installation Mode' section has two radio buttons: 'Built-in Valerus Smart instance (SQL Server Express - LOCALHOST\VIDATABASE08)' (selected) and 'External SQL Server instance'. Below this, the 'SQL Server Settings' section has a checked checkbox for 'Windows Authentication'. It also contains three input fields: 'SQL Instance Name' with the value 'SQL1', 'Username', and 'Password'. A 'Test' button is located to the right of the password field. At the bottom of the wizard 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 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 Valerus SmartAnalytics.
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)\AgentV\lsavV\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

Valerus Smart Installer fails to install the DB into the required SQL instance

➤ **To troubleshoot:**

1. Verify that the Valerus Smart 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 Valerus Smart 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 Valerus SmartAnalytics 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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