
Aperture VISTA[®] 600 Installation Guide

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January 2009

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VISTA600.090115

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What's New in This Guide

The VISTA Installation Guide is being released as a part of the Aperture VISTA 600 documentation set. The following changes have been made to this Guide since the VISTA 500 Service Pack 3 release:

- Added "Appendix B: Setting SQL Default Directories," on pages 64-69. This section contains instructions for setting default directories using both SQL Server 2000 and SQL Server 2005 Service Pack 2.
- Added "Appendix C: Encrypting the Symbols Database User ID and Password in the AWSettings Table," on page 70.

Overview

The VISTA Installation Guide contains the step-by-step instructions you will use to install each of the components that make up Aperture VISTA. Its aim is to make your VISTA installation simple and straightforward. This Guide contains information about the following:

- System components that must be in place prior to the VISTA installation
- Single and multiple machine configurations
- The purpose of each Aperture VISTA component installer
- The steps you will take to install each component.

This document is distributed with the following guides:

- VISTA Pre-Installation Configuration Guide - detailed pre-installation instructions you may need when using VISTA in an IT environment with more stringent policies
- Hardware Requirements Guide - hardware required to install VISTA
- Software Configuration Guide - software required to use VISTA
- VISTA Post-Installation Guide - configuration of your VISTA production and development servers

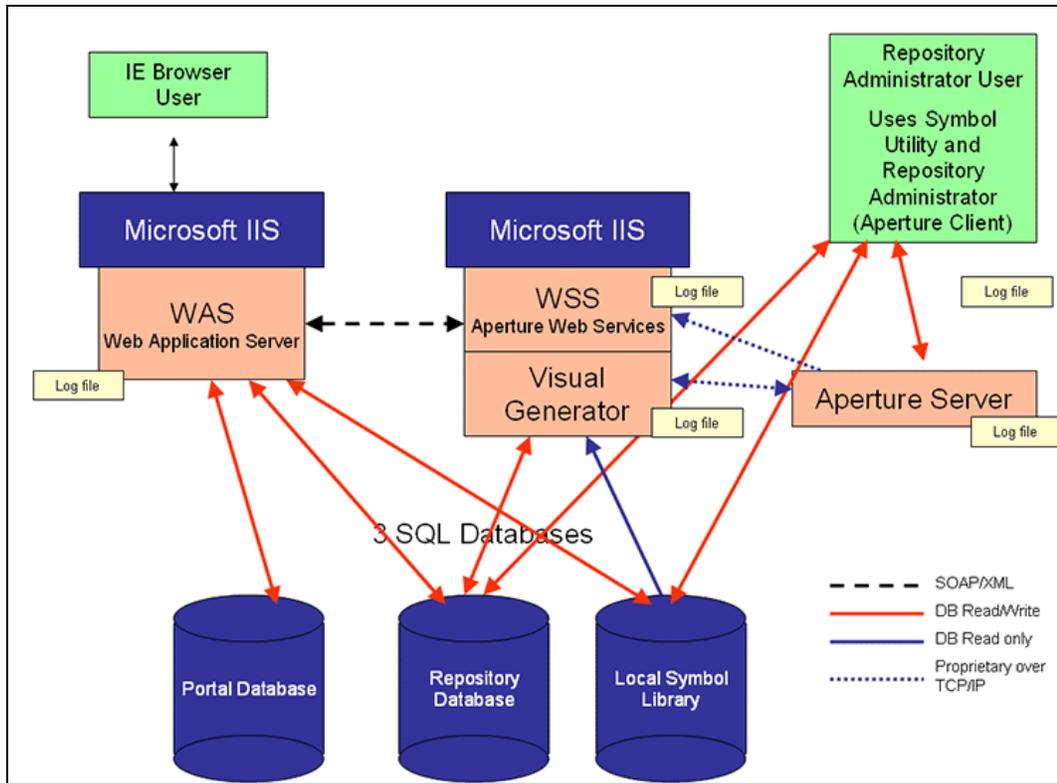
Note:

If you have additional requirements with how VISTA will interact with your environment, see the Pre-Installation Configuration Guide.

Aperture VISTA Components

Aperture VISTA is comprised of the following components, shown in the diagram on the following page.

- Aperture Server – manages drawings in the VISTA repository.
- Aperture Web Application Server (requires IIS) – manages the web interface for data entry and workflow in Aperture VISTA.
- Aperture VISTA Visual Generator - manages the creation, modification, and removal of elevation drawings.
- Aperture Web Services Server (requires IIS) – manages programmatic interface for returning drawing images and repository information.
- Aperture VISTA Repository – handles repository data for Aperture VISTA.
- Aperture VISTA Repository Administrator – used to modify the VISTA drawing repository, mainly to add top-down drawings.



VISTA Installers

In order to install VISTA, eight components need to be installed. Each component has its own installer to place the component on the desired hardware, initialize database tables in SQL Server, and load initial system data into the repository.

Note:

When Repository/Portal databases are created, they rely on the default settings of Microsoft SQL Server.

1. Aperture VISTA Databases 600 installer
2. Aperture Server 8.08 installer
3. Aperture VISTA Repository 600 installer
4. Aperture Web Services Server 600 installer
5. Aperture VISTA Visual Generator 600 installer
6. Aperture Web Application Server 600 installer
7. VISTA Portal Applications 600 installer
8. VISTA Repository Administrator 8.08 installer

Note:

There are two different sets of installers that you can download from Aperture: VISTA Demo or VISTA Template installers. The only difference between the sets of installers is the SQL and Repository zip files. The “impl” denotes Template, and “demo” denotes Demo (or sometimes referred to as “sample”) projects. The platform components are identical between them.

Installing VISTA in a Virtual Machine Operating System Environment

You can install Aperture VISTA within a virtual machine operating system environment that complies with the requirements provided in the Hardware Requirements Guide for VISTA. Aperture software interacts with the virtual machine operating environment in the same way it would interact with a hardware-based (non-virtual) environment.

Support for the operation, configuration, and administration of the virtual machine environment is not the responsibility of Aperture, and questions about these topics will be referred to the virtual machine manufacturer.

Our experience with running VMWare internally suggests that it supports the necessary operating environment well for running our products when run on a machine with the appropriate resources allocated. Our Quality Assurance Department uses this product when testing our products. No specific tests are run to prove the operation of VMWare, however, our products are subjected to the full regression test plans while running on VMWare.

Aperture Customer Support will respond to any problem reported against Aperture software. However, in cases where a reported problem is attributed to the virtual machine environment, Aperture Customer Support will refer the customer to the VM manufacturer. Examples of this are problems with respect to printer redirection and sharing within a virtual machine environment.

Note:

See the Hardware Requirements Guide for information on minimum VMWare configurations.

Server Configurations

You can organize the VISTA server components in two ways – single machine or multiple-machine configurations. The single machine configuration is not recommended for production use – it is intended to develop and test new system configurations. The multiple-machine configurations possible are as follows:

Note:

VISTA 600 currently supports the Windows 2003 32-bit operating system.

Two Machine Configurations

The two-machine configurations house server components on two machines.

Two Machines – Configuration One

Approximately 30 updaters of the system (entering VISTA requests)

Approximately 200 general users (viewing VISTA data and drawings)

Server One -- Aperture Server, Aperture Web Application Server, Aperture Web Services Server, Aperture Visual Generator Server

Server Two -- SQL Server

The minimum requirements for production servers in this configuration are as follows:

Server One (Aperture Server, Web Application Server, Web Services Server, Visual Generator Server)

- Processor: Pentium Dual 2.4 GHz
- Memory: 2 GB
- HD (space used): 200MB used by system
- HD (minimum): 100 GB (accounts for future growth).
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)
- Crystal Reports 10 Service Pack 5 (Developer, Advanced or Enterprise Edition) or Crystal Reports XI (Developer or Server Edition)

Server Two (MS SQL Server)

- Processor: Pentium Dual 2.0 GHz
- Memory: 2 GB
- HD (space used): 250 MB used by system
- HD (minimum): 100 GB (for expansion)
- Video card must support 256 colors

- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)

Two Machines – Configuration Two

Approximately 40 updaters of the system (entering VISTA requests)

Approximately 300 general users (viewing VISTA data and drawings)

Server One -- MS SQL Server, Aperture Server, Web Services Server, Visual Generator

Server Two – Web Application Server

The minimum requirements for production servers in this configuration are as follows:

Server One (MS SQL Server, Aperture Server, Web Services Server, Visual Generator)

- Processor: Pentium Dual 3 GHz
- Memory: 2 GB
- HD (space used): 250MB used by system
- HD (minimum): 200 GB
- Video card must support 256 colors
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)

Server Two (Web Application Server)

- Processor: Pentium Dual 3 Ghz
- Memory: 2 GB
- HD (space used): 200 MB used by system
- HD (minimum): 200 GB (accounts for future growth)
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)
- Crystal Reports 10 Service Pack 5 (Advanced or Enterprise Edition) or Crystal Reports XI (Developer or Server Edition)

Note:

Performance can be improved by increasing processor speed, increasing memory, or adding processors to each machine configuration.

Three Machine Configuration

In the three-machine configuration, VISTA components are distributed so that optimal performance can be achieved.

Three Machines

Approximately 50 updaters of the system (entering VISTA requests)

Approximately 500 general users (viewing VISTA data and drawings)

Server One: Aperture Server, Aperture Web Services Server, Aperture Visual Generator Server

Server Two: Aperture Web Application Server, VISTA Portal Applications

Server Three: SQL Server

Aperture VISTA 600 cannot utilize more than a three-machine configuration.

The minimum requirements for production servers in this configuration are as follows:

Server One (Aperture Server, Aperture Web Services Server, Aperture Visual Generator Server)

- Processor: Pentium Dual 3 GHz
- Memory: 2 GB
- HD (space used): 250 MB used by system
- HD (minimum): 200 GB (20GB recommended for repository data future growth).
- Video card must support 256 colors
- Windows 2000 Server / Windows 2000 Advanced Server, or Windows 2003 Standard or Enterprise Edition

Server Two (Aperture Web Application Server, VISTA Portal Applications)

- Processor: Pentium Dual 3 GHz
- Memory: 2 GB
- HD (space used): 200 GB used by system
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)
- Crystal Reports 10 Service Pack 5 (Advanced or Enterprise Edition) or Crystal Reports XI (Developer or Server Edition)

Server Three (Microsoft SQL Server)

- Processor: Pentium Dual 2 GHz
- Memory: 2 GB
- HD (space used): 250MB used by system
- HD (minimum): 100 GB (for expansion)
- Video card must support 256 colors
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)

Note:

Performance can be improved by increasing processor speed, increasing memory, or adding processors to each machine in the configuration.

VISTA Installation Process

Before you begin the installation process, make sure that the system requirements described below are in place, you have your product fulfillment e-mail containing the installation serial numbers, and you have the installation files for each VISTA component.

Required System Components

Aperture VISTA relies on the following system components to do its work. Prior to installing Aperture VISTA, make sure that these components are installed and operating correctly.

- Microsoft SQL Server 2000 Service Pack 3 (or higher) or SQL Server 2005 Service Pack 2 – This component is not included with the installation package and is to be licensed and installed by the customer.
- Windows 2000 Server (Standard or Advanced) / Windows 2003 Advanced Server (Standard, Enterprise, or R2)

Note:

VISTA 600 currently supports the Windows 2003 32-bit operating system.

-
- Microsoft Internet Information Server (IIS) – This component is included as part of Windows 2000/2003 Server.

Note:

If you have Microsoft IIS 6.0 installed, the VISTA Portal installer configures IIS for 5.0 isolation mode, which is required for VISTA Portal operation.

-
- TCP/IP – must be activated as a protocol for all VISTA server machines.
 - Crystal Reports Version 10 Service Pack 5 (Developer, Advanced, or Enterprise edition) or Crystal Reports Version XI (Developer or Server Edition) – This component is not included with the installation package. The customer must install this on the Web Application Server machine in order to run the Crystal Reports packaged with VISTA.

Serial Numbers

To run a VISTA installer, launch the Setup.exe file. You must have a serial number in order to install each component. Serial and feature key numbers are contained in the product fulfillment e-mail you receive from Aperture.

Default SQL Directories

VISTA Installers require an SQL Server default directory for data and transaction files. Please see Appendix B, "Setting Default SQL Directories," for instructions on how to do this using SQL Server 2000 and SQL Server 2005 Service Pack 2.

VISTA Installation Process

The installation process is as follows:

Note:

The detailed procedures for each of these processes are provided on the pages that follow.

1. Install the Aperture VISTA Databases.
2. Install the Aperture Repository Server – the manager of VISTA repository drawings.
3. Install the Aperture VISTA Repository – the basic drawings, data linkages, and reports for VISTA, and the VISTA SQL database definition and initial data set for VISTA on SQL Server. This is installed on the same machine as the Aperture Repository Server.
4. Install the Aperture Web Services Server – the program interface for returning drawing repository information.
5. Install the Aperture VISTA Visual Generator (requires IIS) - manages the creation, modification, and removal of elevation drawings.
6. Install the Aperture Web Application Server – the web interface and process manager.
7. Install the Aperture VISTA Portal Applications 600 – the application definitions for forms, workflow, and data linkages for VISTA. This is installed on the Web Application Server machine.
8. Install Aperture VISTA Repository Administrator on specific workstations – Key role players in the VISTA process will use the Aperture VISTA Repository Administrator to maintain the Repository information during periods of significant change (such as adding or removing floor space). Please consult with your Aperture representative to identify the correct use, and determine the assigned users for this component.
9. Set up the Operational SQL Server IDs for VISTA.
10. Set up Visual Generator System Information.

Step 1: Installing the Aperture VISTA Databases

The database definition and initial data for these databases is contained within a set of SQL Server database files. Each of the database definition files is a database image ready to be attached to the SQL Server database server: The VISTA solution consists of three separate databases:

- VISTA Repository database
- VISTA Portal database
- VISTA Symbols database

For more information, see “Appendix A: Aperture VISTA Databases,” page 63.

To install the Aperture VISTA databases using SQL Server 2000 (Service Pack 3 or higher):

Note:

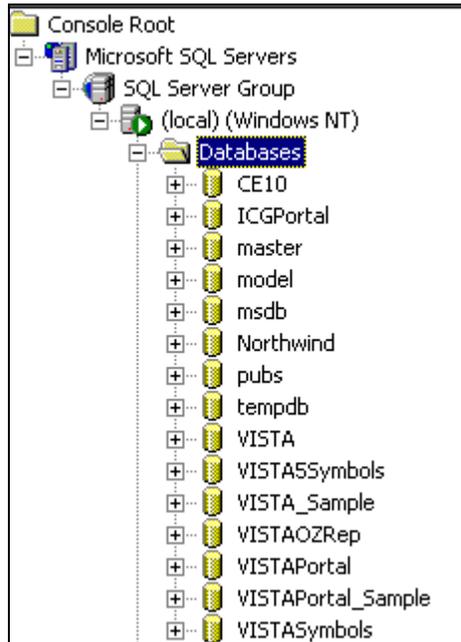
If you are using SQL Server 2005 Service Pack 2, see “Installing the Capacity Database Using SQL Server 2005 Service Pack 2,” page 15, for instructions.

1. On the Start menu, select **Programs->Microsoft SQL Server->Enterprise Manager**.

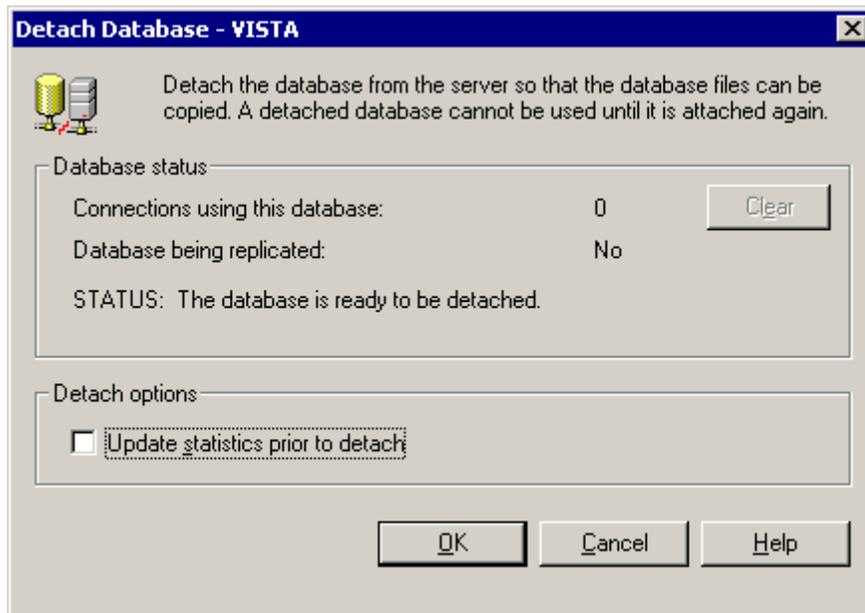
The SQL Server Enterprise Manager appears.



2. Check to see if you already have databases defined on the server named VISTA, VISTAPortal, and VISTASymbols. Click the plus sign to the left of Microsoft SQL Servers and select **SQL Server Group-> (local) (Windows NT)->Databases**. The Databases folder appears.

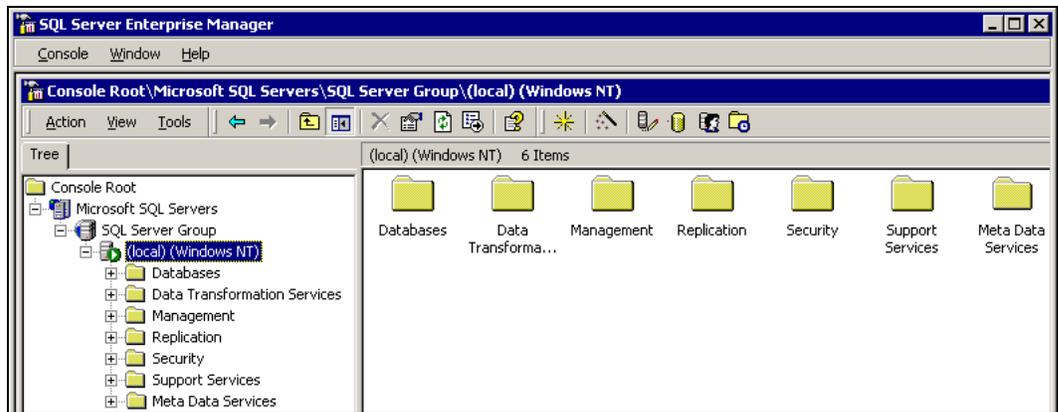


3. If the three databases already appear in the Databases folder, as shown above, go to step 4. If they do not appear, go to step 7.
4. In the Databases folder, right-click the **VISTA** database and select **All Tasks – Detach Database**.
The Detach Database screen appears.

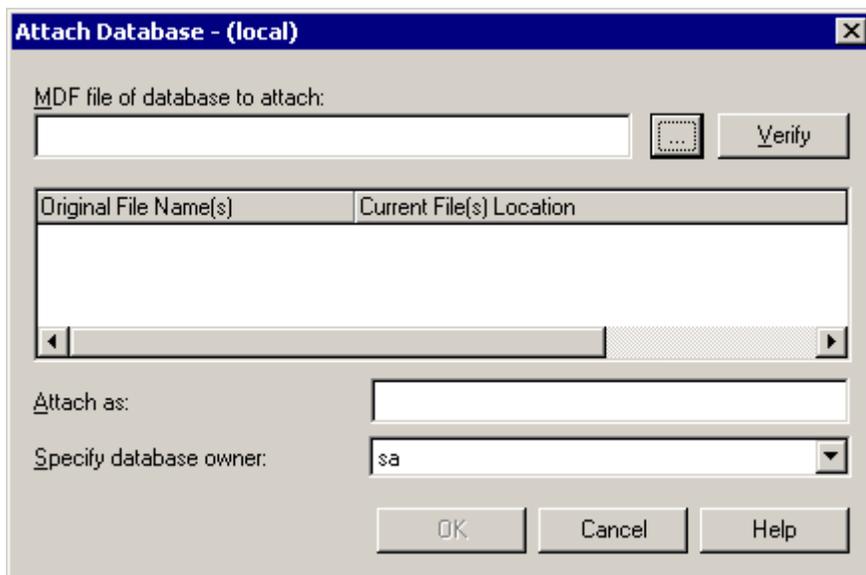


5. Click **OK**.
A message appears that the database detached successfully. Click **OK**.

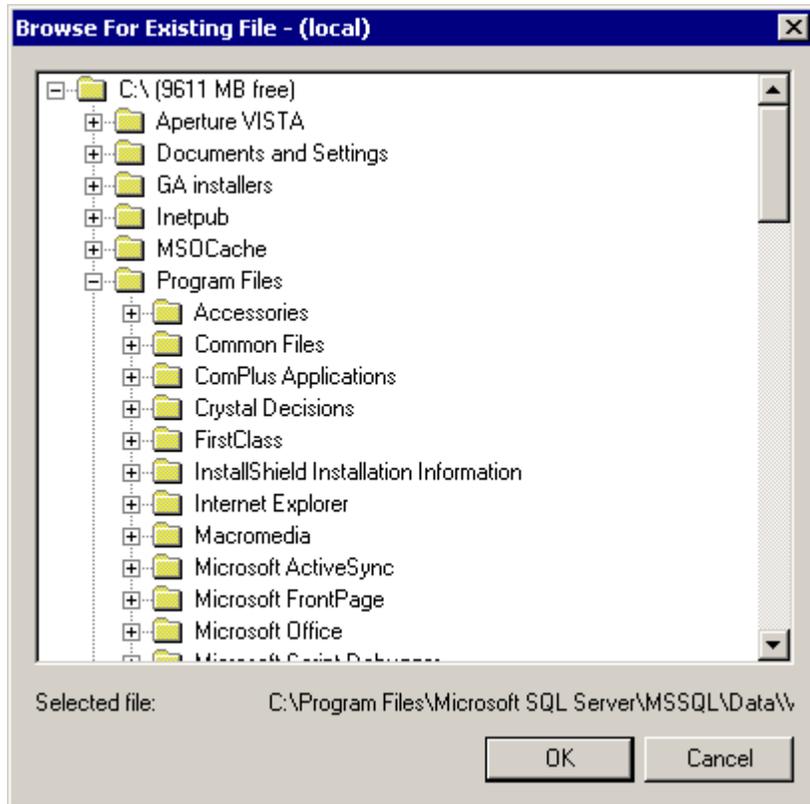
6. Repeat steps 3-4 for the VISTA Portal and VISTA Symbols databases.
7. Double-click the DB zip file located in the VISTA installer package. (For the template installation, choose "VISTADB_Tmpl600.zip." For the demo installation, choose "VISTADB_Demo600.zip.")
The zip file opens.
8. Unzip all files to the appropriate location for SQL databases on your server. (On a default installation, this is typically C:\Program Files\Microsoft SQL Server\MSSQL\Data).
9. In SQL Enterprise manager, click the plus sign to the left of Microsoft SQL Servers and select **SQL Server Group-> (local) (Windows NT)**.
The contents of the (local) Windows NT folder appear.



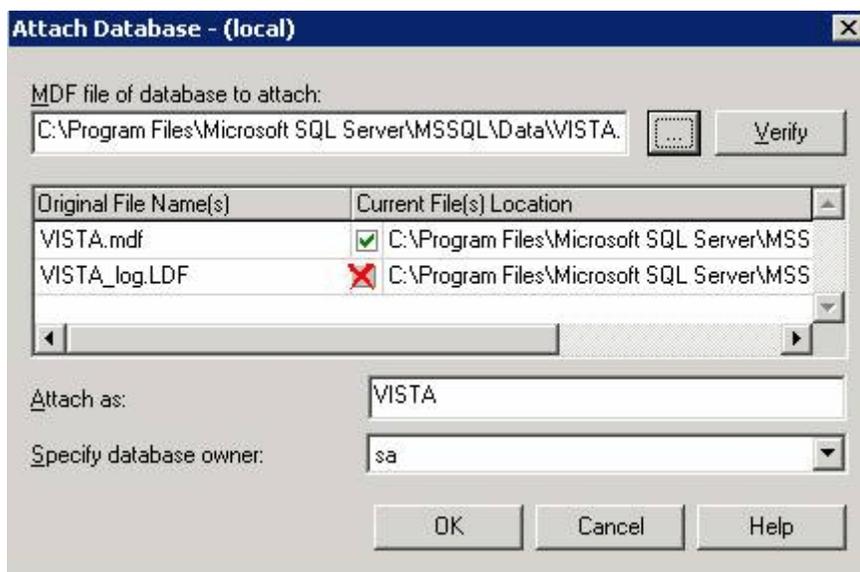
10. Right-click the **Databases** folder and select **All Tasks - Attach Database**.
The Attach Database screen appears.



11. Click  to browse to the location where you unzipped the VISTA.mdf file in Step 8.



12. Select **VISTA.mdf** then click **OK**. The Attach Database screen appears with the information filled in.



13. Click **OK** to attach the database.

The following message appears that the filename specified for the log file is incorrect.

The following message appears that the database attached successfully.



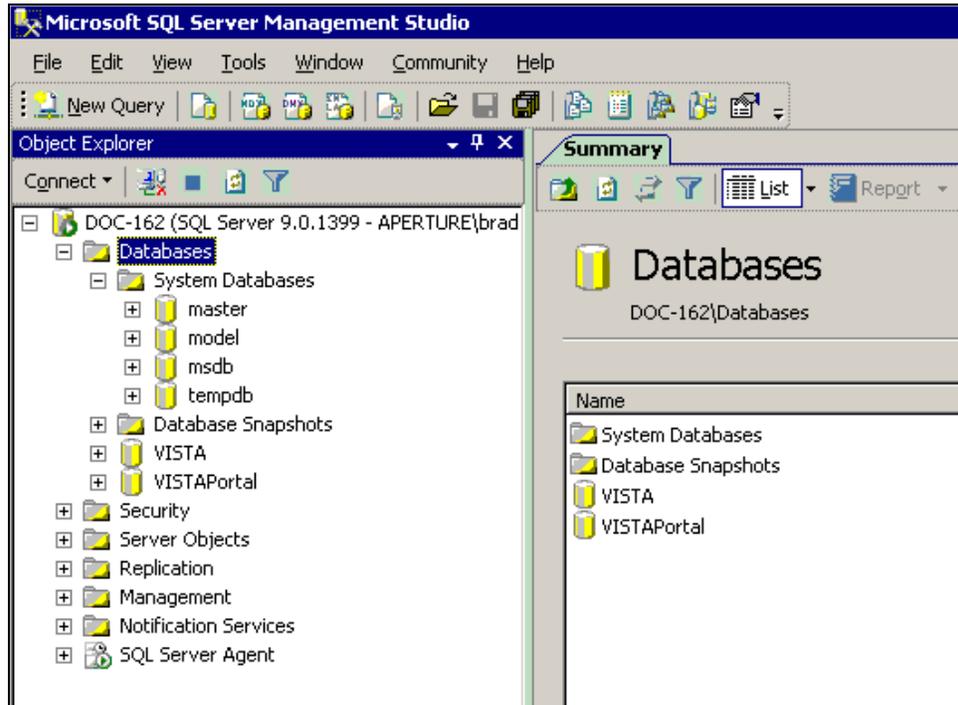
14. Click **OK**.
15. Repeat steps 8-14 for the VISTAPortal and VISTASymbol databases.
16. To continue the installation process, see "Step 2: Installing the Aperture Repository Server," on page 20.

To install the Aperture VISTA databases using SQL Server 2005 Service Pack 2:

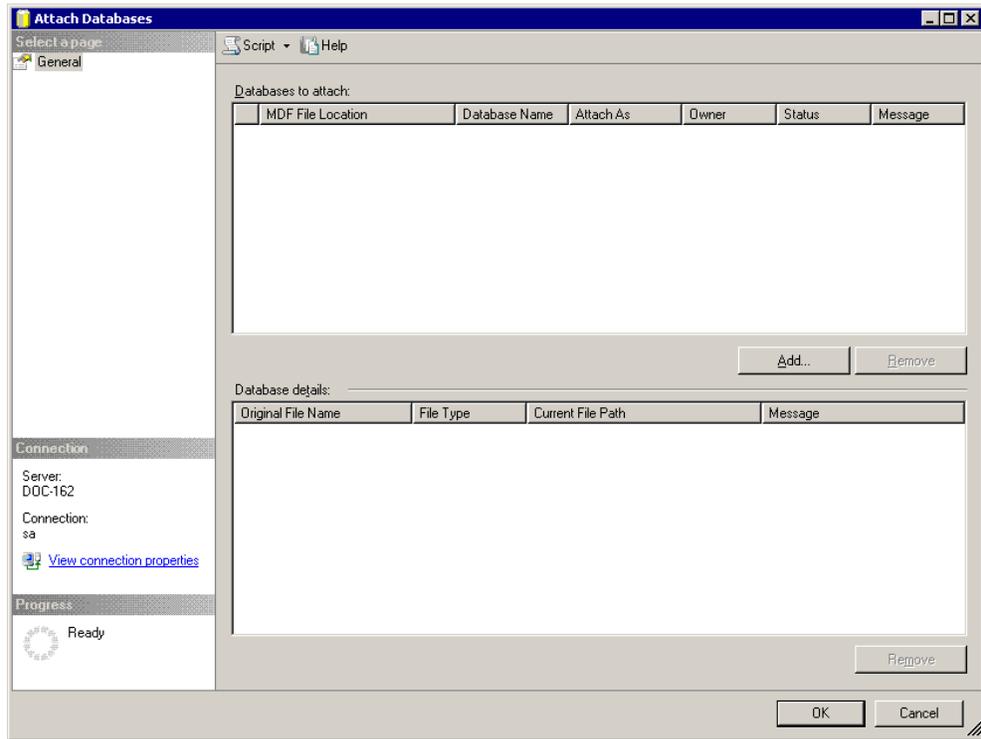
1. Open SQL Server Management Studio. On the Start menu, click **Programs->Microsoft SQL Server-> SQL Server Management Studio 2005**.The Connect to Server screen appears.



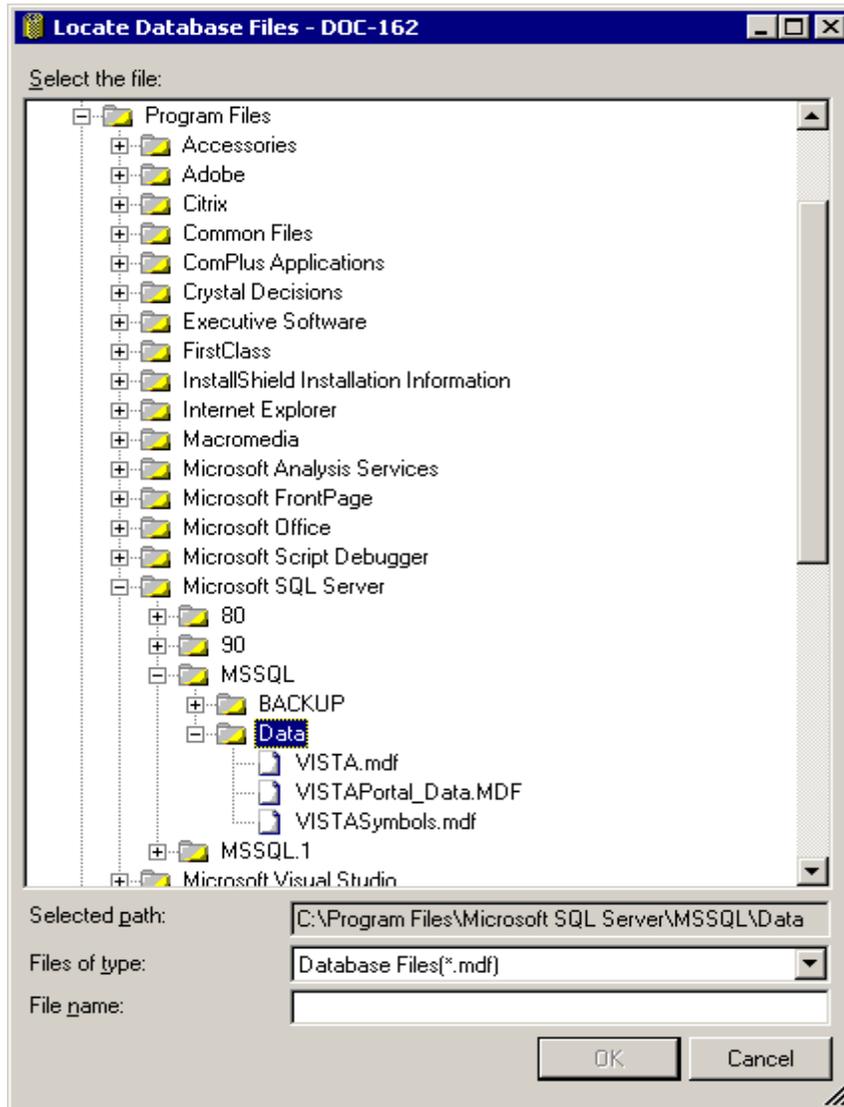
2. Enter your SQL Login and Password, and then click **Next**. SQL Server Management Studio appears.



3. Check to see if you already have databases defined on the server named VISTA, VISTAPortal, and VISTASymbols. Click the plus sign to the left of Databases. The Databases folder appears.
4. If the three databases already appear in the Databases folder, go to step 5. If they do not appear, go to step 8.
5. In the Databases folder, right-click on the **VISTA** database and select **All Tasks – Detach Database**. The Detach Database screen appears.
6. Click **OK**. A message appears that the database detached successfully. Click OK.
7. Repeat steps 5-6 for the VISTAPortal and VISTASymbols databases.
8. Double-click the DB zip file located in the VISTA installer package. (For the template installation, choose "VISTADB_Tmpl600.zip." For the demo installation, choose "VISTASDB_Demo600.zip.") The zip file opens.
9. Unzip all files to the appropriate location for SQL databases on your server. (On a default installation, this is typically, C:\Program Files\Microsoft SQL Server\MSSQL\Data).
10. Right-click **Databases**, then click **Attach** from the drop-down list that appears. The Attach Databases screen appears.



11. Click **Add**.
The Locate Database Files dialog appears.

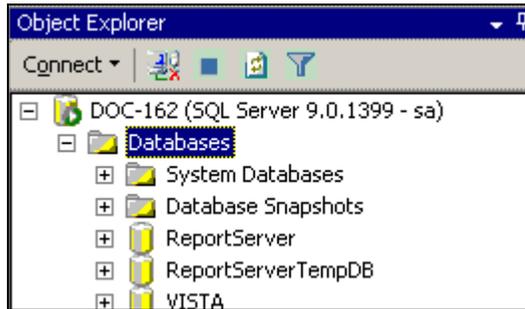


12. Go to the location where you unzipped the .mdf files to in step 9.
13. Select **VISTA.mdf** then click **OK**.
14. The Attach Database screen appears with the information filled in.

Note:

The log file is not required when attaching the database and will be created by SQL Server.

15. Select **VISTA_log.LDF** then click **Remove**.
The log file no longer appears.
16. Click **OK**.
The VISTA database appears in the list of databases.



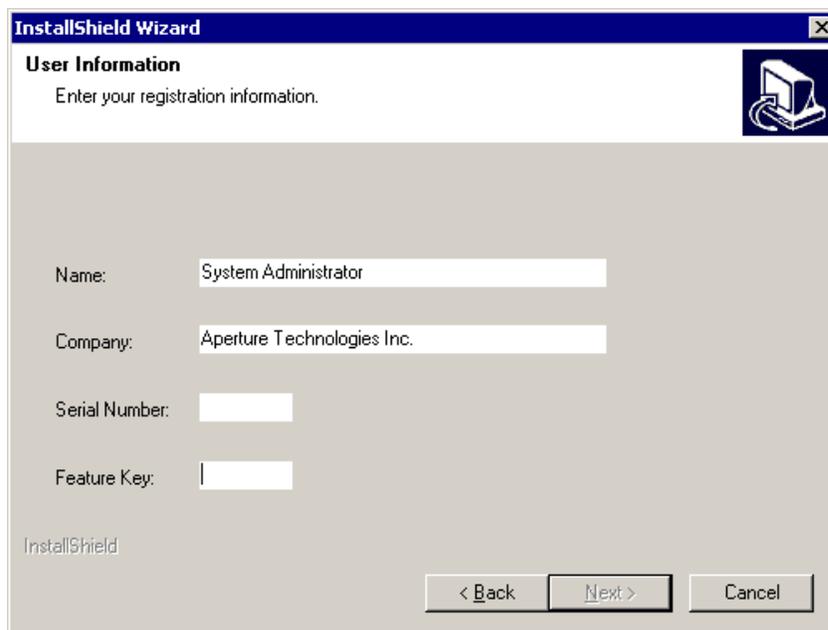
17. Repeat steps 10-16 for the VISTAPortal and VISTASymbols databases.

Step 2: Installing the Aperture Repository Server

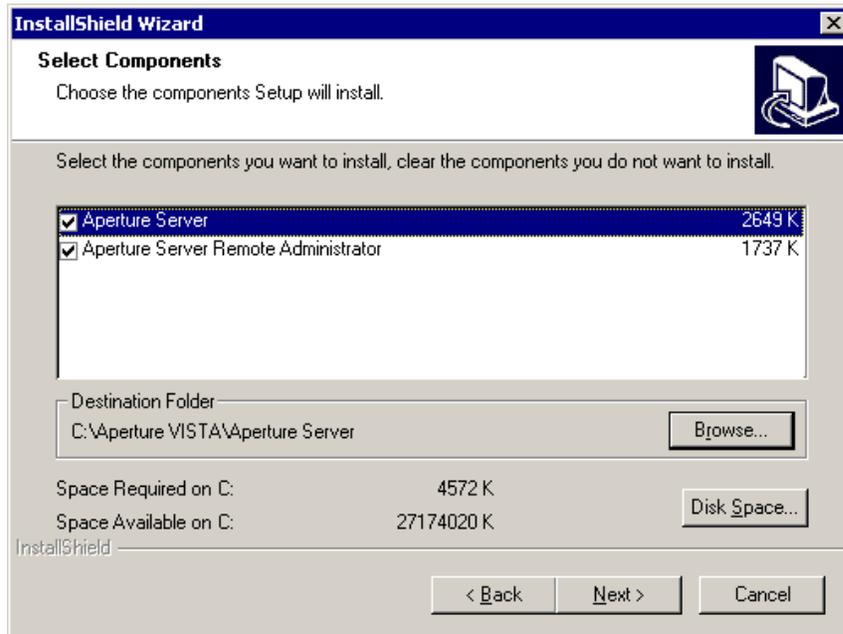
Choose the machine on which the server is to be installed and transfer the Aperture Repository Server installer package to that machine.

To install the Aperture Repository Server:

1. Double-click **Setup.exe** located in the Aperture Repository Server installer package.
The Welcome screen for the Install Wizard appears.
2. Click **Next**.
The User Information screen appears.



3. You must have a valid serial number and feature string to install and use the Aperture Repository Server software. Enter the serial number information provided in the product fulfillment e-mail. The Aperture Repository Server serial number starts with 'AS' followed by a number sequence.
4. Click **Next**.
The Select Components screen appears



5. Make sure a check appears in the checkbox next to each component you want to install. If you are installing the Aperture Repository Server (not just the Aperture Server Remote Administrator), be sure Aperture Server is selected in the list.

Note:

The Aperture Server Remote Administrator is installed on the workstation that is used to administer the Server. (Typically, a different machine remotely administers the server while it is running.)

6. While the Aperture Server Remote Administrator can be installed on multiple workstations, it can only be used by users with the proper access privileges.
7. A default destination folder for installation appears. If necessary, click **Browse** and select a different folder for the Aperture Server installation.
8. Click **Next**.
The Start Copying Files screen appears.
9. Review the information on this screen. To make changes, click the **Back** button to return to previous screens. When the information is correct, click **Next** to start copying files.
10. Click **Finish** to complete the installation.
11. The installation process adds a new service, Aperture Server, to the Services control panel.

Note:

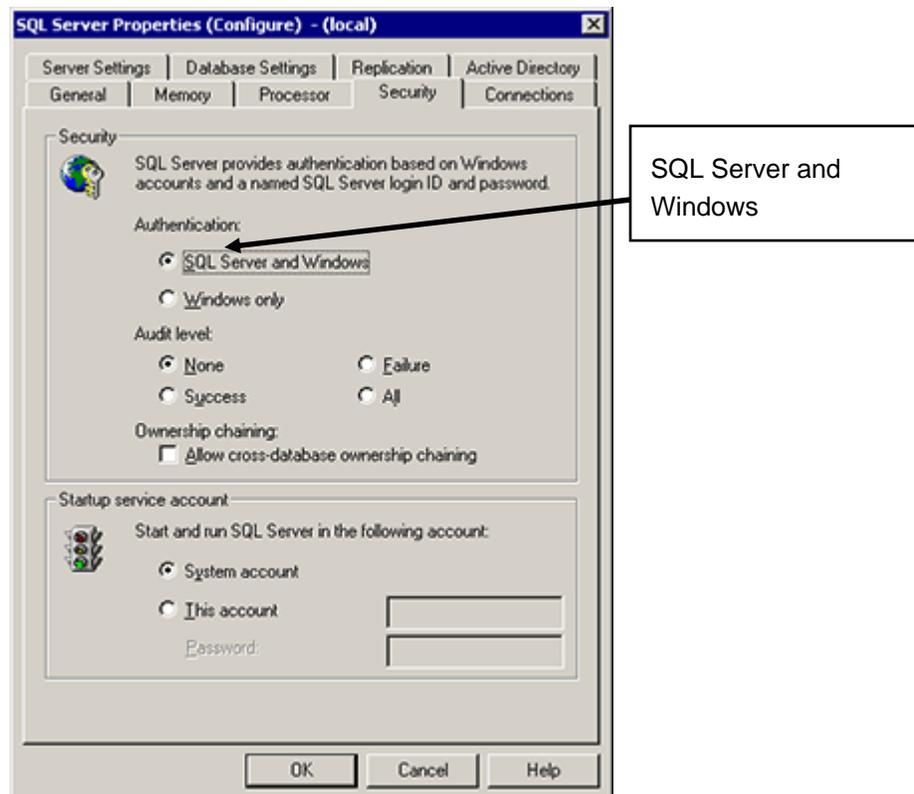
The Aperture Repository Server requires no special network setup. It is defaulted to listen on TCP/IP Port 3010.

Step 3: Installing Aperture VISTA Repository

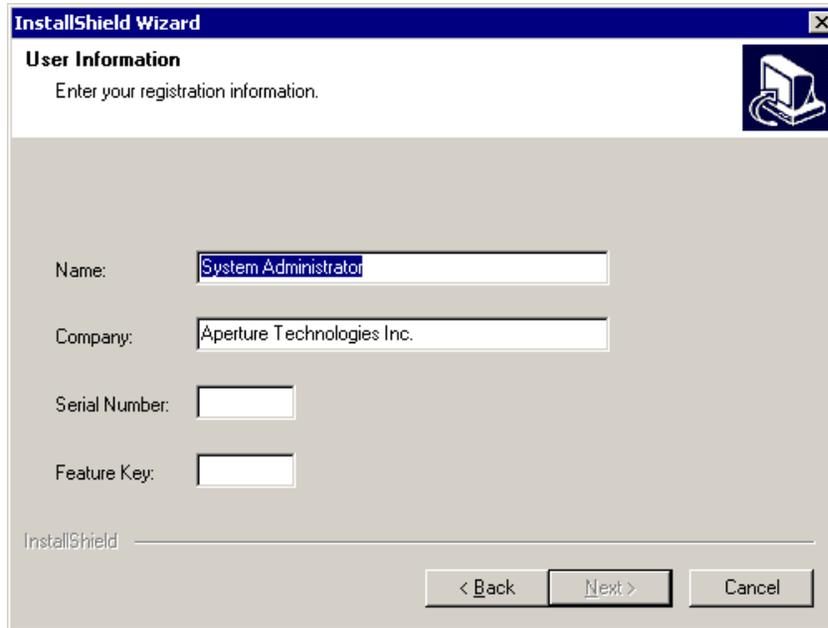
After you install the Aperture Repository Server, install the application repository definition, which also includes the SQL Repository. The Aperture VISTA Repository must be installed on the Aperture Repository Server machine, which must also have access to the SQL Server machine.

To Install the Aperture VISTA Repository:

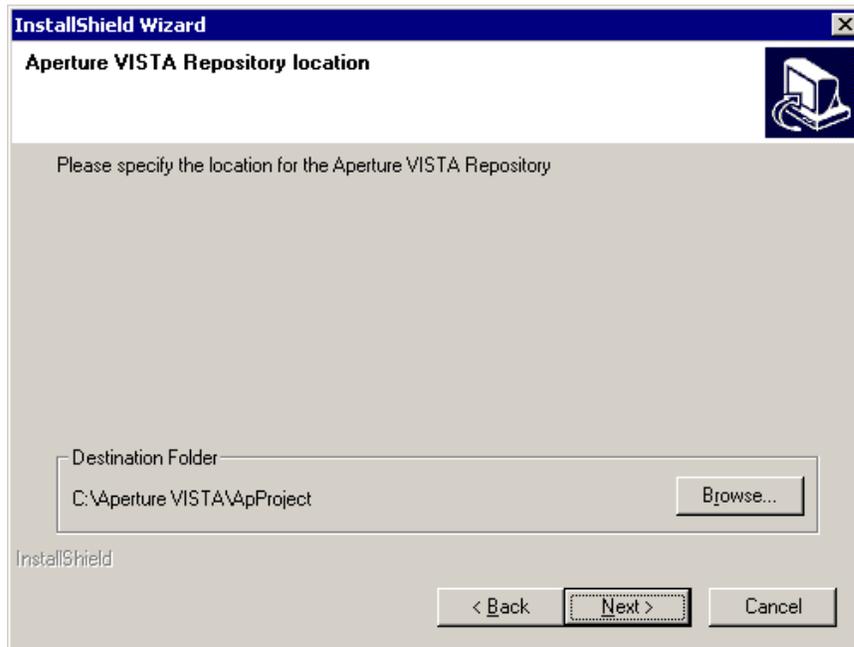
1. Prior to installation, you should define the Login on the SQL Server that will house the VISTA Repository, as you will be prompted for this information during the installation. The Logon ID should be sa. You can also use sa as your Password, however, we recommend that you change the Password to something other than sa.
2. In SQL Server, check that Authentication: SQL Server and Windows is selected in the Security tab of the Properties dialog:
 - a. On the Start menu, select **Microsoft SQL Server->Enterprise Manager**.
 - b. In SQL Server Enterprise Manager, select **Microsoft SQL Servers->SQL Server Group-> (local) (Windows NT)**.
 - c. Click the **Properties** icon on the toolbar.
The SQL Server Properties dialog appears.



- d. Click **Security** to verify the authentication.
3. To begin the installation, double-click **Setup.exe** located in the Aperture Repository installer package.
The Welcome Screen for the Aperture VISTA Repository installer appears.
4. Click **Next**.
The User Information screen appears.



5. You must have a valid serial number and feature string to install and use the Aperture VISTA Repository software. Enter the serial number information provided in the product fulfillment e-mail. The Aperture VISTA Repository Install serial number will start with 'VIS' followed by a number sequence.
6. Click **Next**.
The Aperture VISTA Repository Location screen appears.

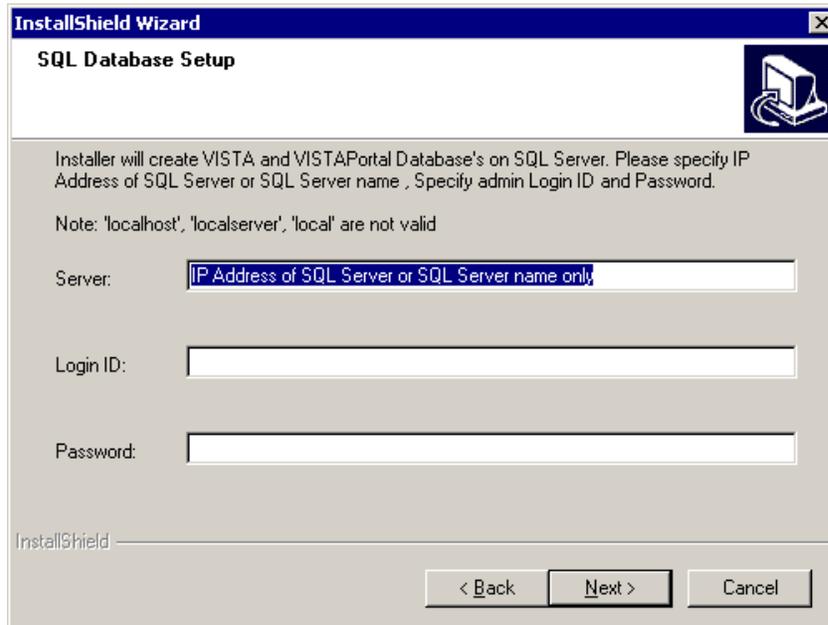


7. The location of the repository can be on any physical drive on the server. To change the default location, click **Browse** and select a different folder for installation. You should specify a location that contains at least 500 MB (megabytes) to 1 GB (gigabyte) of available disk space.

Note:

When the installation is complete, the repository will be correctly configured and available using the Aperture Server.

8. Click **Next** to display the SQL Database Setup screen.



9. Enter the IP Address of the SQL Server or the SQL Server Name.
10. Enter the Login ID and Password you entered in step 1.
11. Click **Next**.
The Start Copying Files screen appears.
12. Review the information on the screen. To make changes, click the **Back** button to return to previous screens. When the information is correct, click **Next** to start copying files.
A status bar shows the progress of the installation.
13. Click **Finish** to complete the installation.

Step 4: Installing Aperture Web Services Server

The Aperture Web Services Server installer places Microsoft .Net Framework components and programmatic files on your Microsoft IIS Server. Prior to installing, make sure that Microsoft IIS is installed and operational and that there are approximately 150 MB of disk space available on the destination drive.

Note:

If you are installing the Aperture Web Services Server on a machine running Microsoft Windows 2003 server (all versions), before installing, you must do the following:

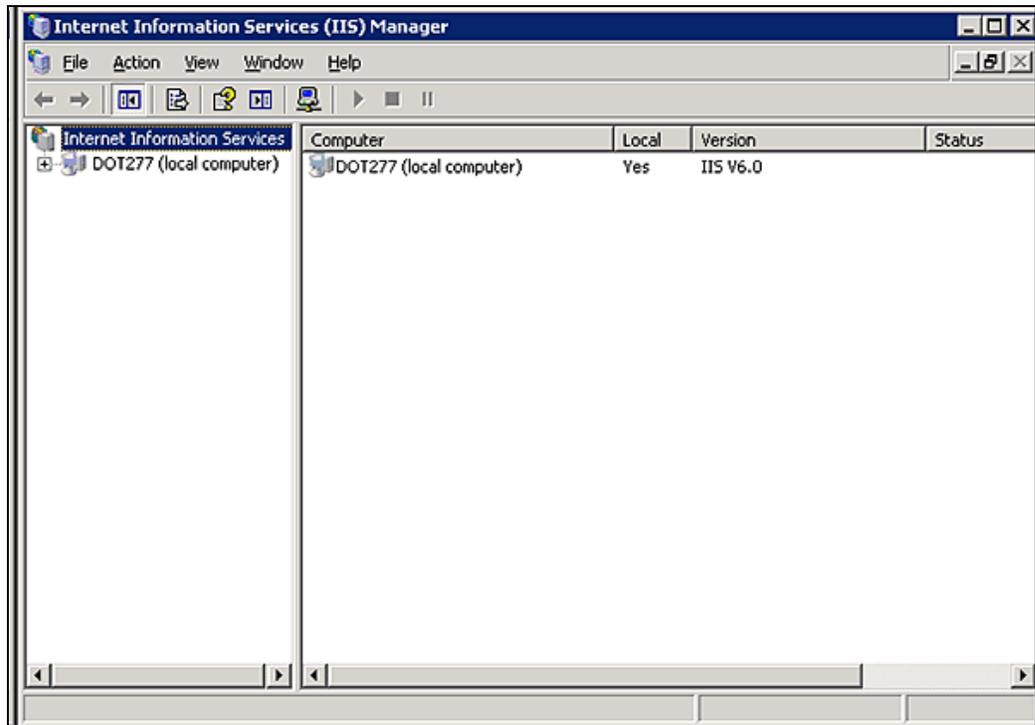
- Run the World Wide Web Service (WWW) Service in isolation mode.
- Enable ASP.Net

If you not installing Web Services Server on a machine running Microsoft Windows 2003 Server, you should skip these two procedures and begin the Web Services Server installation ("To install Aperture Web Services Server," page 31).

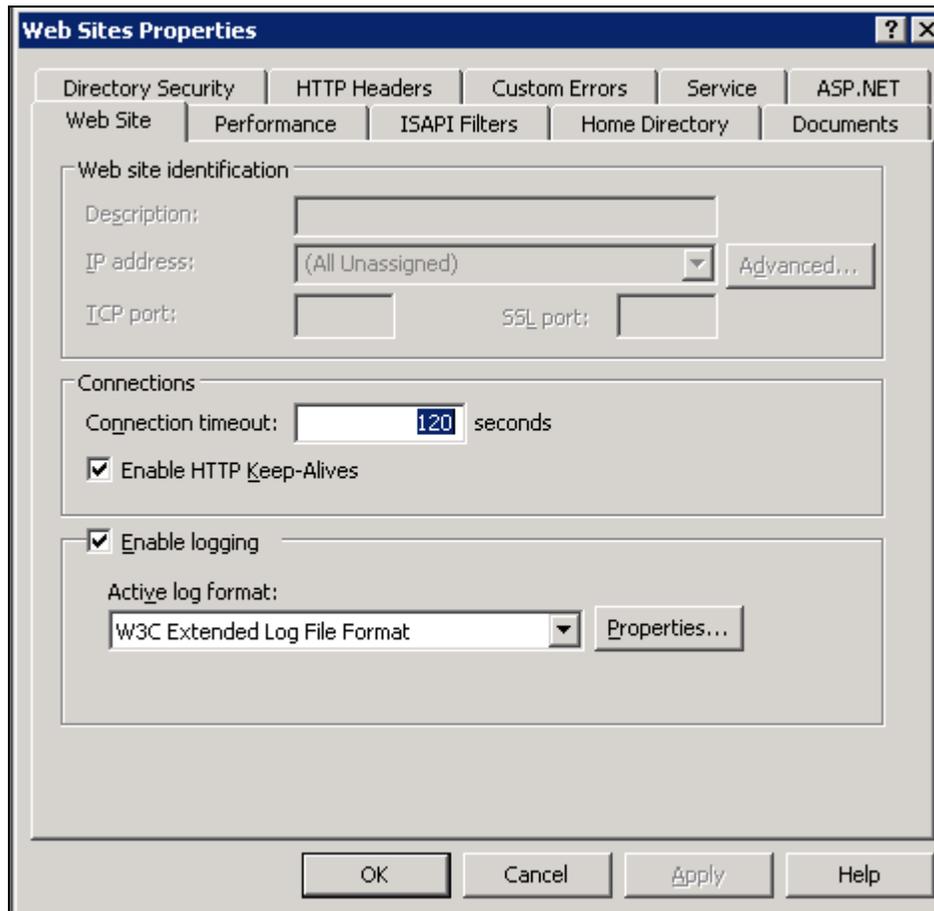
To run the WWW service in 5.0 isolation mode (on Microsoft Windows 2003 Servers):

1. Open the IIS Manager control panel. Go to **Start->All Programs->Administrative Tools->Internet Information Services (IIS Manager)**.

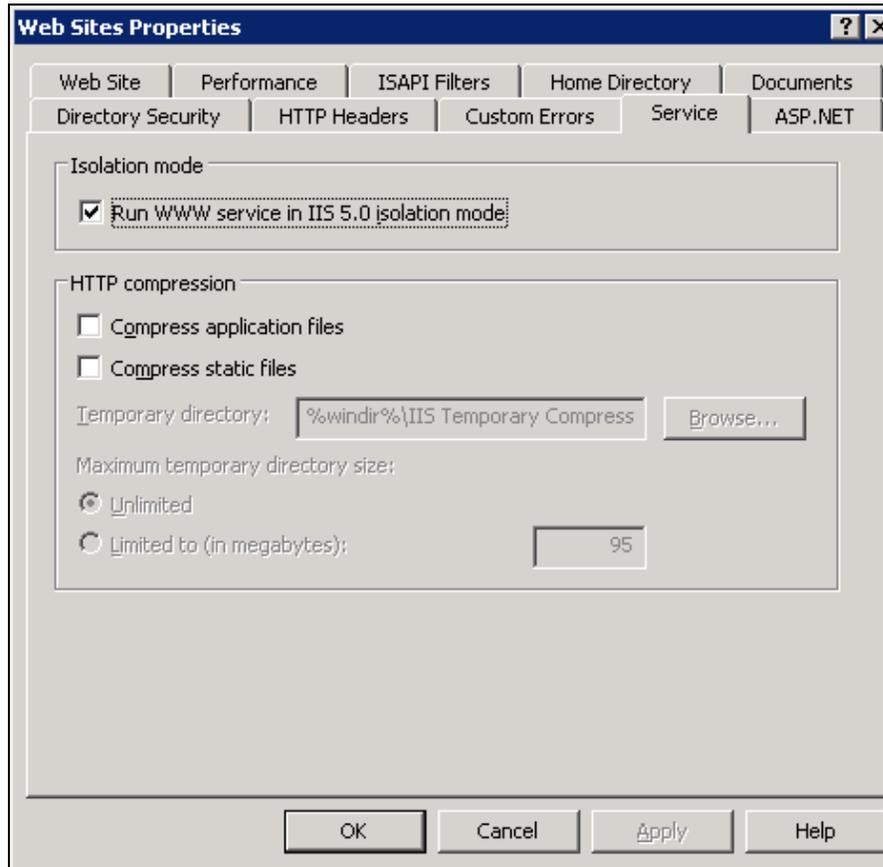
The IIS Manager control panel appears.



2. Click the **Plus sign** to the left of the computer name.
3. Right click **Web Sites** and select **Properties** from the drop-down list. The Web Sites Properties screen appears.



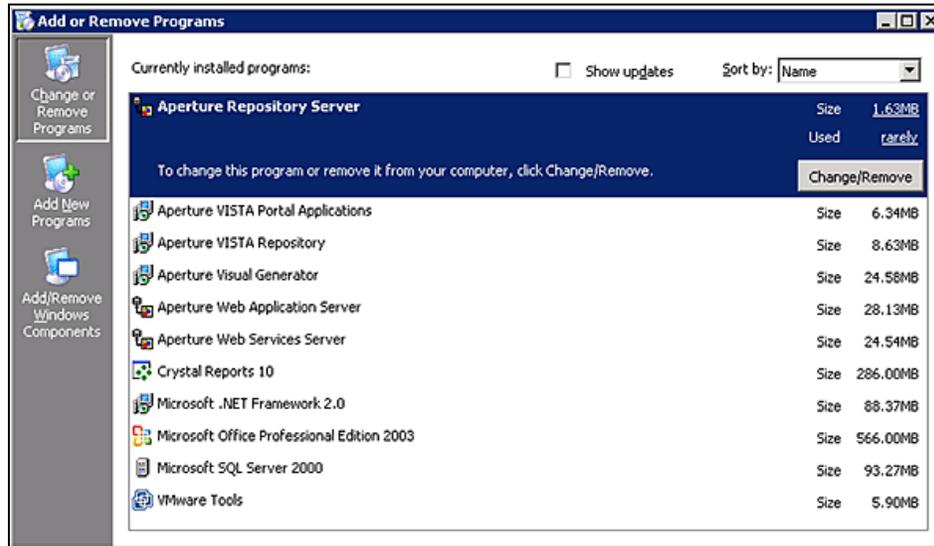
4. Click the **Service** tab.



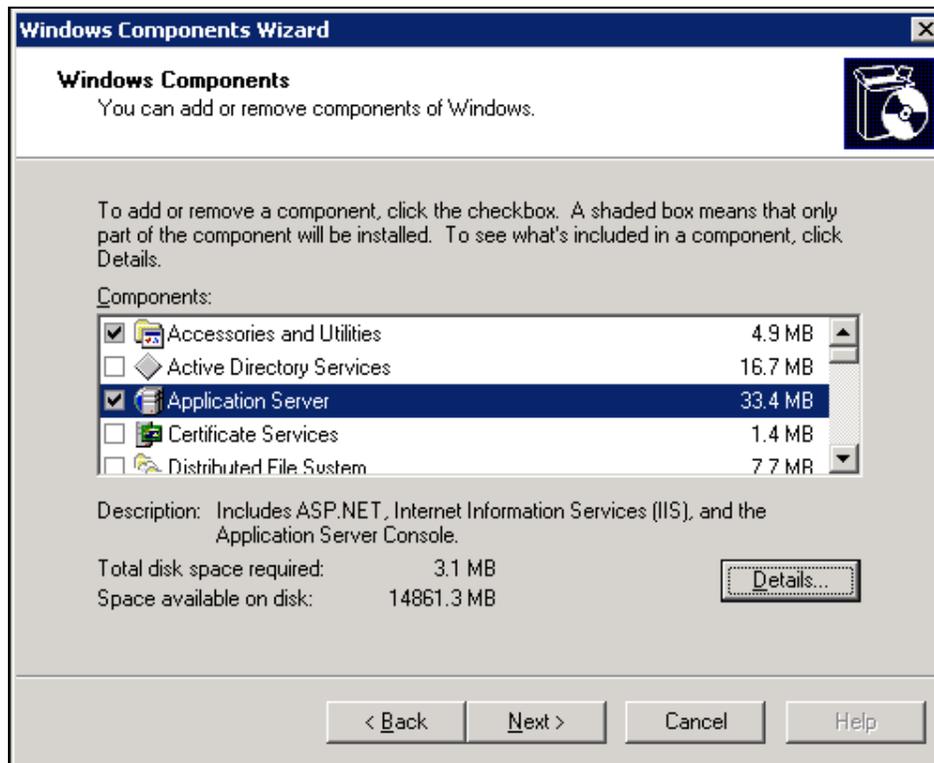
5. Select the Run WWW service in 5.0 isolation mode checkbox. If the checkbox is already checked, you should uncheck it, click **Apply** and recheck it. Then click **Apply** again.
6. Click **OK**.

To enable ASP.Net (on Microsoft Windows 2003 Servers):

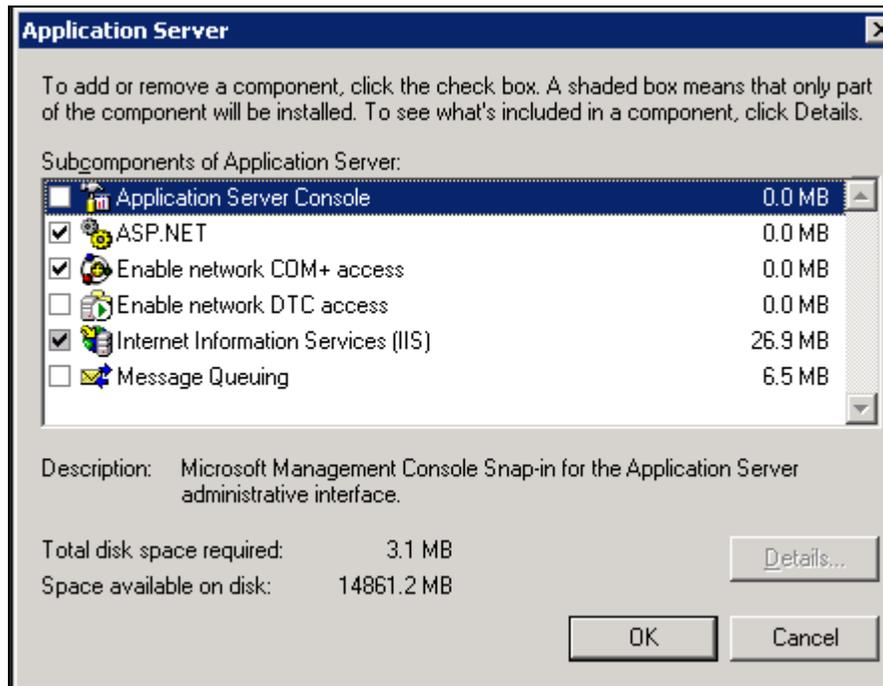
1. On the Start menu, click **Control Panel-> Add or Remove Programs**.
The following screen appears.



2. Click **Add or Remove Windows Components**.
The Windows Component Wizard appears.



3. Select **Application Server** from the list then click **Details**.
The Application Server dialog box appears.



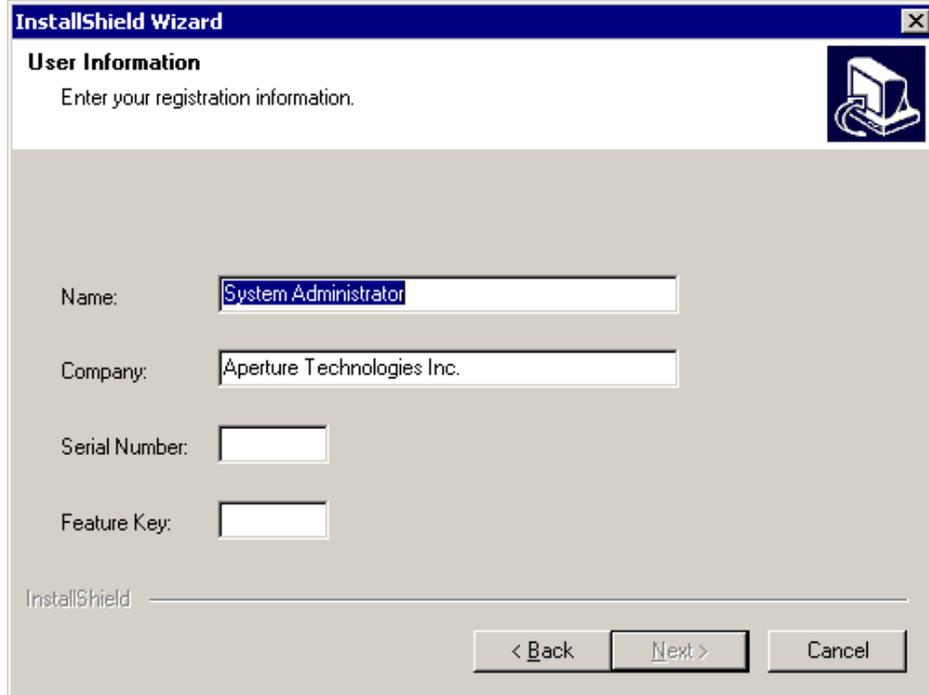
4. Select the **ASP.NET** checkbox.
5. Click **OK**.
6. After you complete the Web Services Server installation, make sure the ASPNET User ID has full access to everything in c:\Aperture VISTA. See the Pre-Installation Configuration Guide, "Setting Permissions for Folders and Virtual Directories," for more information.

To install Aperture Web Services Server:

1. Double-click **Setup.exe** located in the Aperture Web Services Server installer package.
The following message appears.

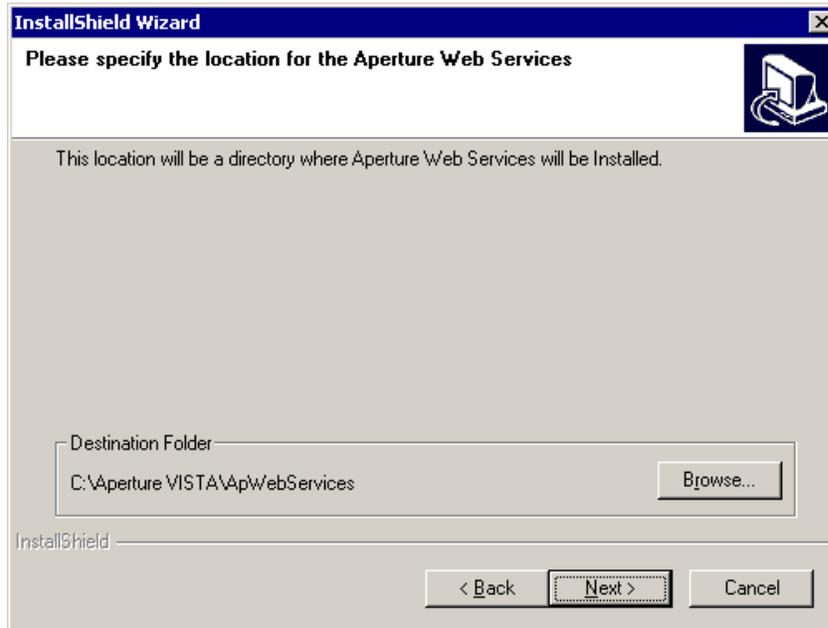


2. Click **OK** to run aspnet_regiis -i.
The Welcome Screen for the Aperture Web Services Server installer appears.
3. Click **Next**.
The User Information screen appears.

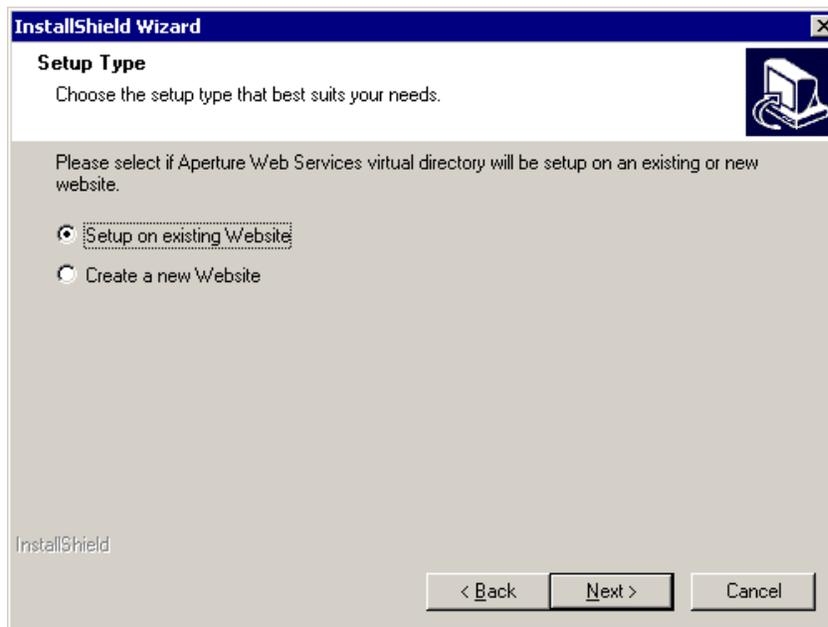


The screenshot shows the 'InstallShield Wizard' dialog box with the 'User Information' tab selected. The dialog has a blue title bar and a light gray background. The text 'Enter your registration information.' is displayed at the top. There are four input fields: 'Name' (containing 'System Administrator'), 'Company' (containing 'Aperture Technologies Inc.'), 'Serial Number' (empty), and 'Feature Key' (empty). At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

4. You must have a valid serial number and feature string to install and use the Aperture Web Services Server software. Enter the serial number information provided in the product fulfillment e-mail. The Aperture Web Services Server serial number will start with 'VIS' followed by a number sequence.
5. Click **Next**.
The Aperture Web Services Location screen appears displaying the default folder for installation.



6. Accept the default directory for installation or click **Browse** to select another location.
7. Click **Next**.
The Setup Type screen appears.



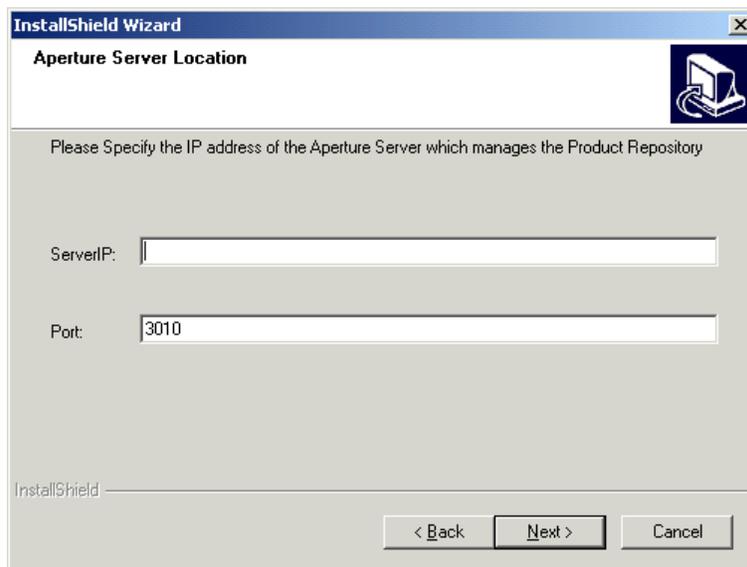
8. Select whether you want to setup Aperture Web Services on an existing Website or a new Website, then click **Next**.

9. If you choose to 'Setup on an Existing Website,' enter the name of the website on which Aperture Web Services virtual directory is being set up. If you are unsure of the Website, enter **Default Website** in the Website field.

If you choose to 'Create a New Website,' enter the name of the website on which Aperture Web Services virtual directory is being set up, and the port with which the website is associated. You should write down the port for future reference when setting up Aperture Web Application Server.

10. Click **Next**.

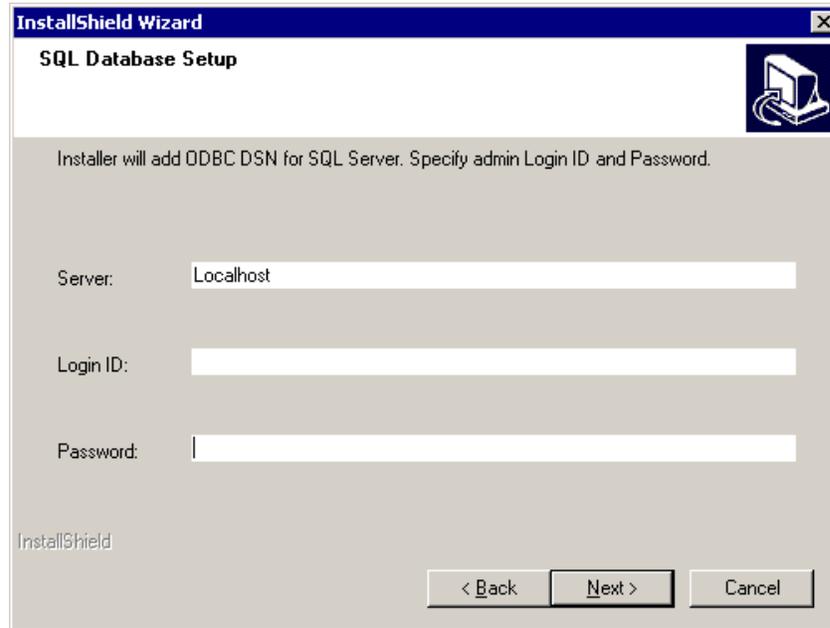
The Aperture Server Location screen appears.



11. You must specify the location of the Aperture Server machine that houses the Aperture VISTA Repository installed in Step 3: Installing the Aperture VISTA Repository. This can be either a TCP/IP address or symbolic name. The default port value of 3010 is standard throughout the system and is recommended. If you need to change the port number, you will need to specify it in Aperture Server Settings, and in all Aperture client(s) that access the project, as well as in this dialog.

12. Click **Next**.

The SQL Database Setup screen appears.



13. The installation process will create an ODBC DSN to connect the VISTA web application to the Repository. You must specify the unique server identifier. Enter the SQL Server name or IP address, Login ID, and Password.

Note:

The Login ID and Password should be the same values specified in Step 3: Installing the Aperture VISTA Repository.

14. Click **Next**.
The Start Copying Files screen appears.
15. Review the settings you have selected. To change any settings, click **Back**. To begin the installation, click **Next**.
A progress bar shows the status of the installation.
16. On the final screen, click **Finish** to complete the installation process.

Step 5: Installing the Visual Generator

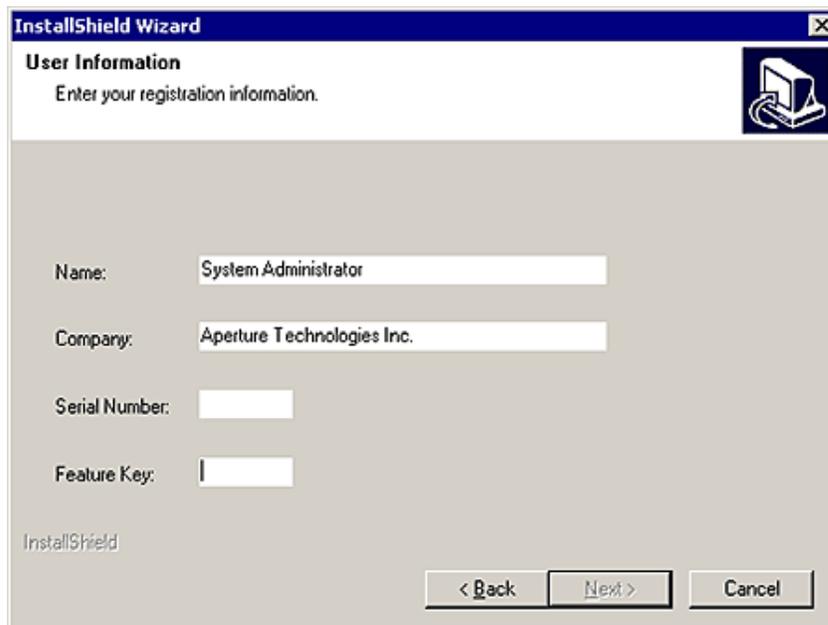
The Aperture VISTA Visual Generator (VCC) manages the creation, modification, and removal of elevation drawings.

To install the Aperture VISTA Visual Generator:

1. Double-click **Setup.exe** located in the Aperture Visual Generator installer package. The following message appears.



2. Click **OK** to run aspnet_regiis -i.
The Welcome Screen for the Aperture Visual Generator installer appears.
3. Click **Next**.
The User Information screen appears.



4. You must have a valid serial number and feature string to install and use the Aperture VISTA Visual Generator. Enter the serial number information provided in the product fulfillment e-mail. The serial number will start with 'VIS' followed by a number sequence.

5. Click **Next**.

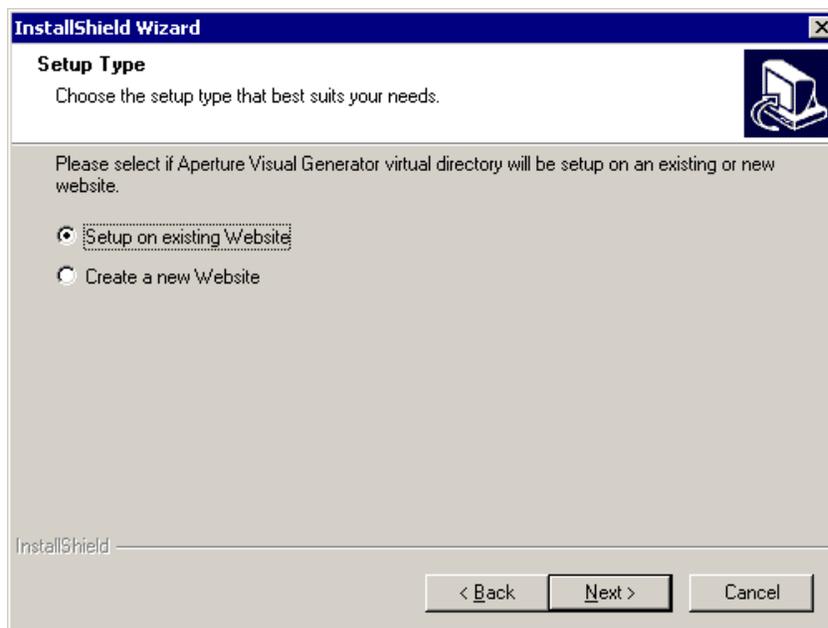
The Aperture Visual Generator Location screen appears displaying the default folder for installation.



6. Accept the default directory for installation or click **Browse** button select another location.

7. Click **Next**.

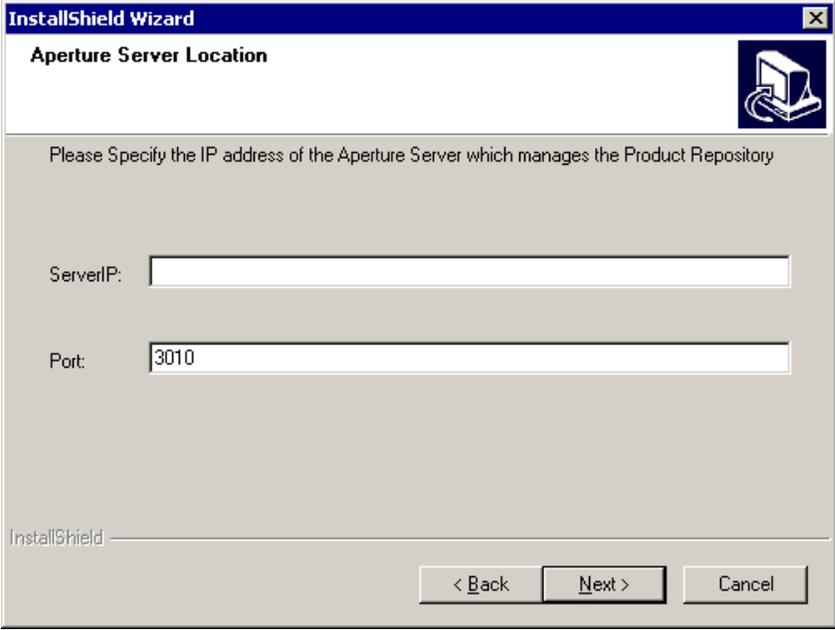
The Setup Type screen appears.



8. Select whether you want to set up Aperture Web Services on an existing Website or a new Website, then click **Next**.
9. If you choose to 'Setup on an Existing Website,' enter the name of the website on which Aperture Web Services virtual directory is being set up. If you are unsure of the Website, enter Default Website in the Website field.

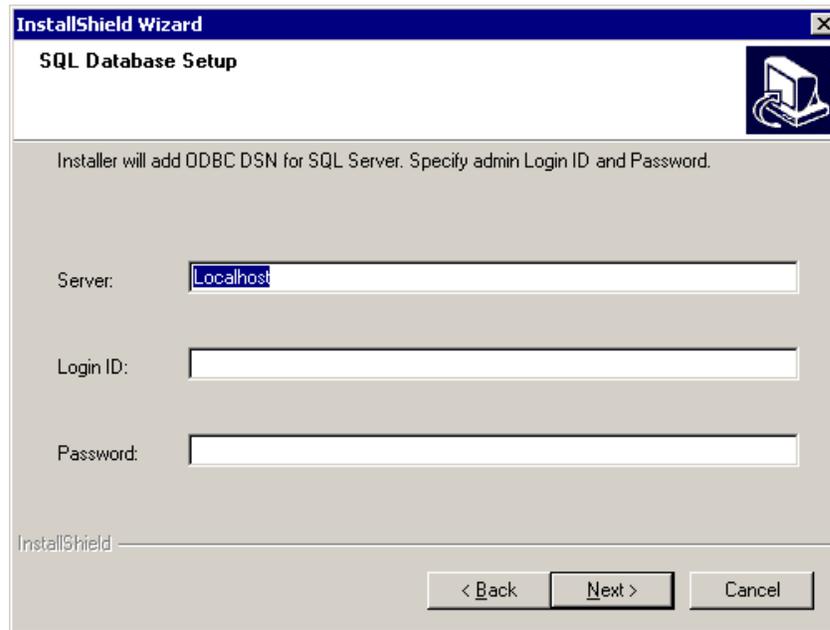
If you choose to 'Create a New Website,' enter the name of the website on which Aperture Web Services virtual directory is being set up, and the port with which the website is associated. You should write down the port for future reference when setting up Aperture Web Application Server.

10. Click **Next**.
The Aperture Server Location screen appears.



The screenshot shows a dialog box titled "InstallShield Wizard" with a sub-title "Aperture Server Location". The dialog contains the instruction "Please Specify the IP address of the Aperture Server which manages the Product Repository". There are two input fields: "ServerIP:" which is empty, and "Port:" which contains the value "3010". At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel". The "InstallShield" logo is visible in the bottom left corner.

11. Specify the location of the Aperture Server machine that houses the Aperture VISTA Repository installed in Step 2: Installing the Aperture VISTA Repository. This can be either a TCP/IP address or symbolic name. The default port value of 3010 is standard throughout the system and is recommended. If you need to change the port number, you will need to specify it in Aperture Server Settings, and in all Aperture client(s) that access the project, as well as in this dialog.
12. Click **Next**.
The SQL Database Setup screen appears.



13. The installation process will create an ODBC DSN to connect the VISTA web application to the Repository. You must specify the unique server identifier. Enter the SQL Server name (or IP address), Login ID, and Password.

Note:

The Login ID and Password should be the same values specified in Step 3: Installing the Aperture VISTA Repository.

14. Click **Next**.
The Start Copying Files screen appears.
15. Review the settings you have selected. To change any settings, click **Back**. To begin the installation, click **Next**. A progress bar shows the status of the installation.
16. On the final screen, click **Finish** to complete the installation process.

Step 6: Installing the Aperture Web Application Server

The Aperture Web Application Server (WAS) installer places Microsoft .Net Framework and standard web components, such as HTML, GIF and JPEG images and CGI executables onto your Microsoft IIS Server. Make sure that Microsoft IIS is installed and operational and that there are approximately 150 MB of disk space available on the destination drive prior to installing.

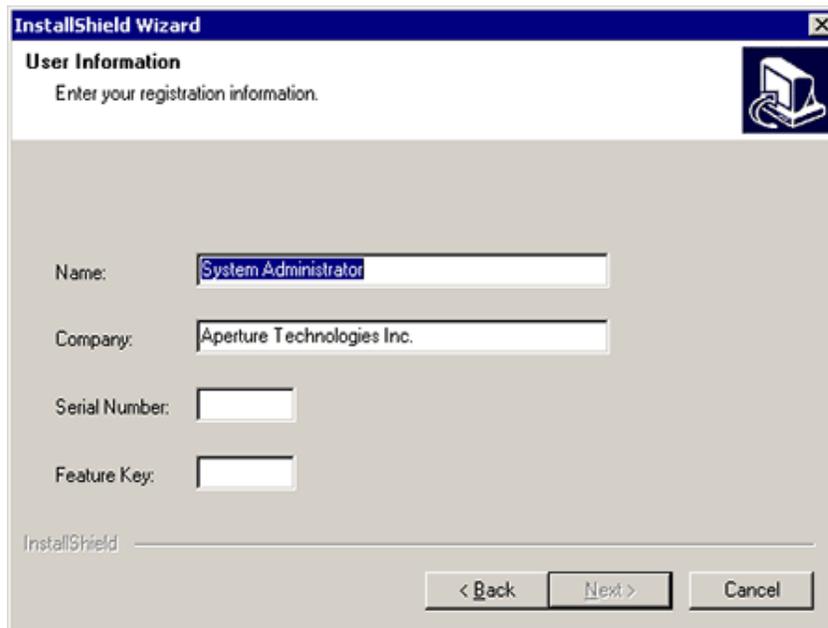
To install Aperture Web Application Server:

1. Double-click **Setup.exe** in the Aperture Web Application Server installer package.

The following message appears.



2. Click **OK**.
The Welcome screen for the InstallShield Wizard appears.
3. Click **Next**.
The User Information screen appears.

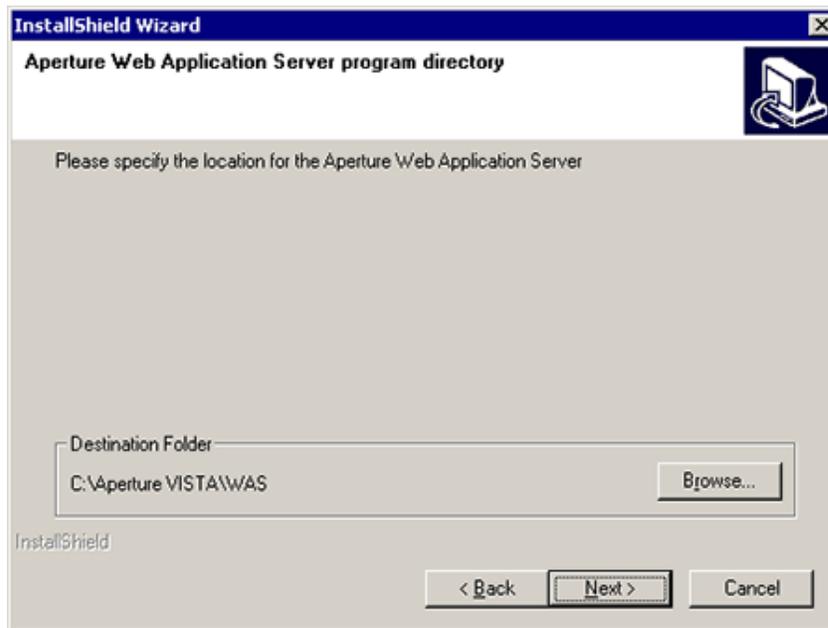


4. You must have a valid serial number and feature string to install and use the Aperture Web Application Server software. Enter the serial number information

provided in the product fulfillment e-mail. The serial number will start with 'VIS' followed by a number sequence.

5. Click **Next**.

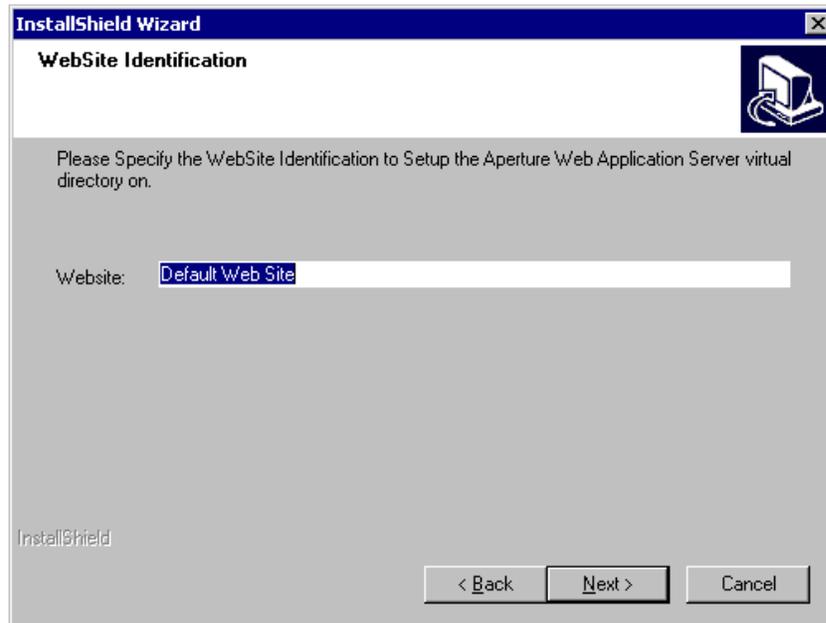
The Aperture Web Application Server program directory screen appears.



6. Accept the default directory for installation or click the Browse button to select another location.
7. Click **Next** to display the Aperture Web Application Server Website setup screen.



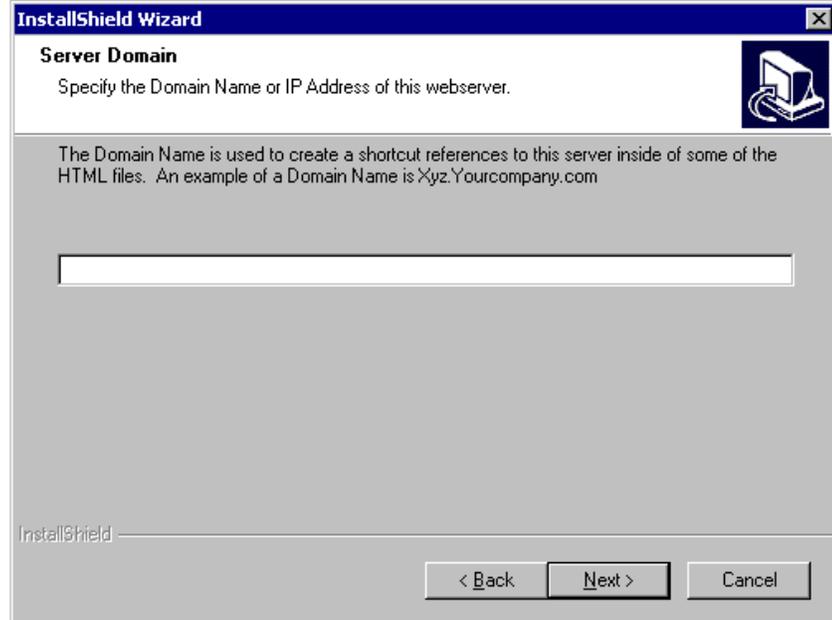
8. Select the appropriate setup type for the Aperture Web Application Server directory:
 - Setup on existing Website
 - Create a New Website
9. Click **Next**.
The Website Identification screen appears.



Note:

If you want to setup on an existing website, go to step 11. If you are creating a new website, go to step 12.

10. If you want to 'Setup on an Existing Website,' do the following:
 - a. Enter the name of the website on which Aperture Web Services virtual directory is being set up. If you are unsure of the Website, enter Default Website in the Website field.
 - b. Click **Next**.
The Server Domain screen appears.

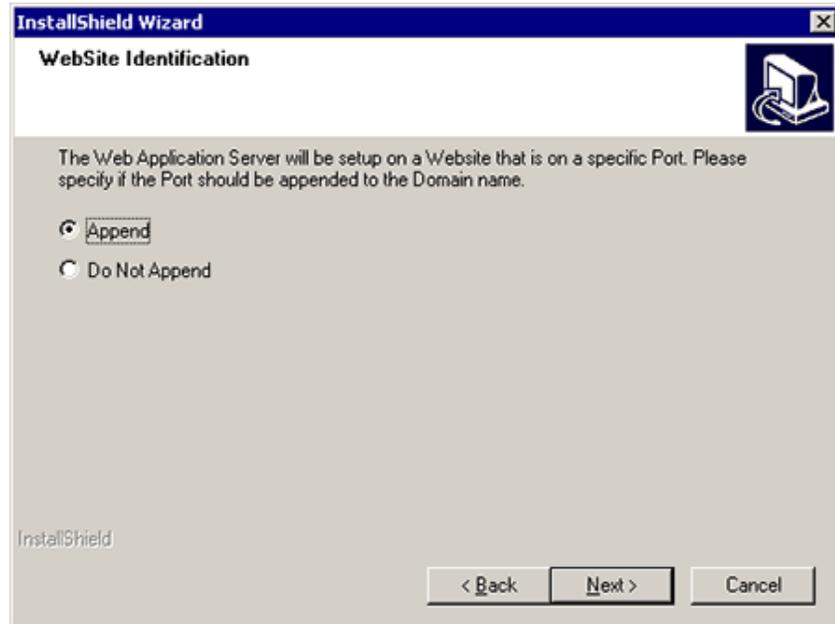


- c. Enter the Domain Name or IP Address of the web server. Click **Next** then go to step 13.

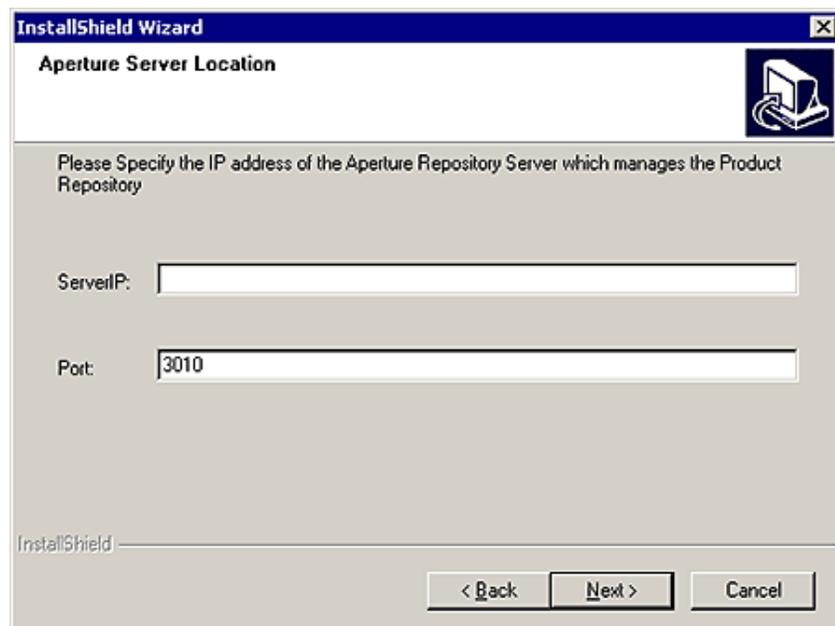
11. If you want to create a new Website:

- a. Enter the name of the website on which Aperture Web Services virtual directory is being set up, and the port with which the website is associated. You should write down the port for future reference.

If you chose to setup the Aperture Web Application Server Virtual directory on a website that is not port 80, the following screen appears.



- b. Specify if the port number should be appended to the Domain name or not.
- c. Click **Next**.
The Aperture Server Location Screen appears.

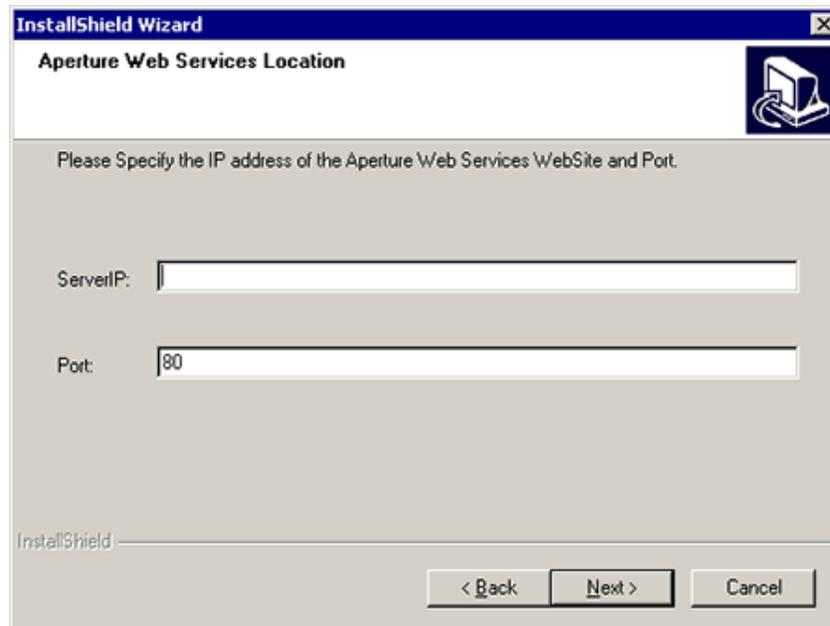


- 12. Specify the location of the Aperture Server machine that houses the VISTA Repository installed in Step 3: Installing the Aperture VISTA Repository. This can also be either a TCP/IP address or symbolic name. The default port value of

3010 is standard throughout the system and is recommended. If you need to change the port number, you will need to specify it in Aperture Server Settings, and all Aperture client(s) that access the project, as well as in this dialog. The default location for the website components is in the default directory c:\Aperture VISTA.

13. Click **Next**.

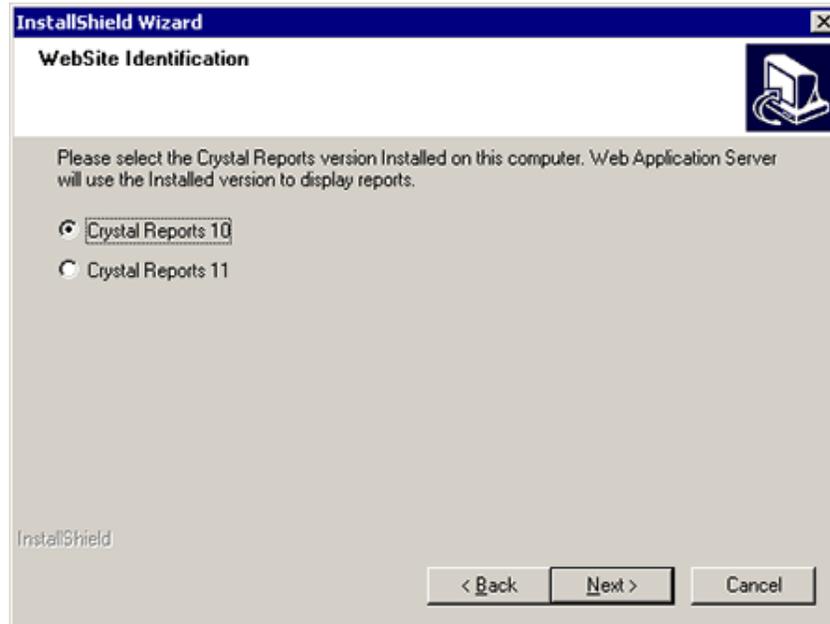
The Aperture Web Services Location screen appears.



14. You must specify the location of the Aperture Web Services Server machine that you installed in Step 4: Installing the Aperture Web Services Server. This can also be either a TCP/IP address or symbolic name. The Port number should be the Website where Aperture Web Services Server is set up.

15. Click **Next**.

The Website Identification screen appears.



16. Select the version of Crystal Reports currently installed on this server. Web Application Server will generate Crystal Reports using the installed version.

Note:

Web Application Server 5.00. supports Crystal Reports 10 Service Pack 5 (Developer, Advanced or Enterprise Edition) and Crystal Reports XI (Developer or Server Edition).

17. Click **Next**.
The Start Copying Files screen appears.
18. Review the information on this screen. To make a change, click **Back**. When all the entries are correct, click **Next**.
A progress bar shows the progress of the installation.
19. On the final screen, click **Finish** to complete the installation.

Step 7: Installing Aperture VISTA Portal Applications

The Aperture VISTA Portal Applications contain the Work Process applications, Web-Update fForms, and Portal functions that make up the VISTA solution.

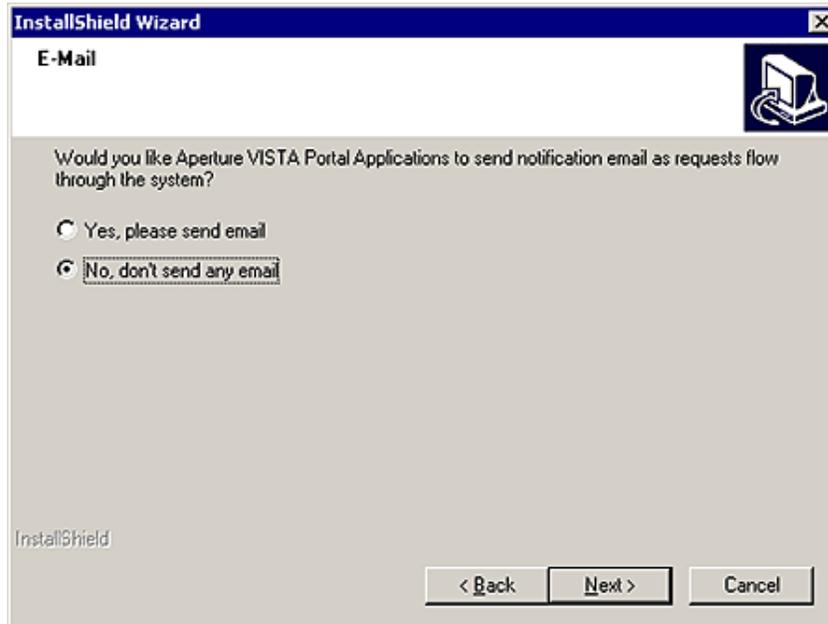
To install Aperture VISTA Portal Applications:

1. Double-click **Setup.exe** located in the VISTA Portal Application installer package.
The Welcome screen for the Install Wizard appears.
2. Click **Next**.
The User Information screen appears.

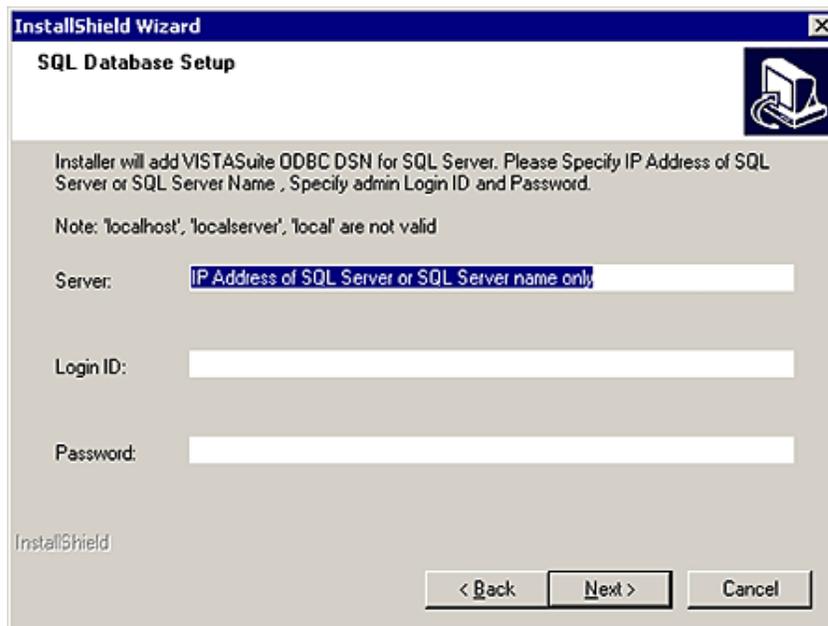


The screenshot shows the 'InstallShield Wizard' window with the 'User Information' tab selected. The window title is 'InstallShield Wizard' and the subtitle is 'User Information'. Below the subtitle, it says 'Enter your registration information.' There are four input fields: 'Name' (containing 'System Administrator'), 'Company' (containing 'Aperture Technologies Inc.'), 'Serial Number' (empty), and 'Feature Key' (empty). At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'. The 'InstallShield' logo is visible in the bottom left corner.

3. You must have a valid serial number and feature string to install and use the Aperture VISTA Portal Applications software. Enter the serial number information provided in the product fulfillment e-mail. The serial number will start with 'VIS' followed by a number sequence.
4. Click **Next**.
The E-Mail screen appears.



5. Select whether you want VISTA to send e-mail request notification. If you select **Yes**, the E-Mail Server screen appears.
6. Enter the URL of the mail server that will send e-mail notification messages.
7. Click **Next**.
The SQL Database Setup screen appears.



8. The installation process creates an ODBC DSN to connect the VISTA web application to the repository. Enter the unique server identifier (IP Address or

SQL Server name) and an admin Login ID and Password. The Login ID and Password should be set to the operational SQL Server ID established for the Aperture Solution in the target environment.

9. Click **Next**.
The Start Copying Files screen appears.
10. Review the settings you have selected. If you want to make any changes, click **Back** to return to previous screens. When the information is correct, click **Next**.
11. Click **Finish** to complete the installation.

Step 8: Installing Aperture VISTA Repository Administrator

The Aperture VISTA Repository Administrator contains the Aperture client Repository Administrator and utilities. When Repository/Portal databases are created, they rely on the default settings of Microsoft SQL Server.

Note:

This should be installed on the individual machines of those who will be performing the Repository Administration role within your organization.

To Install the Aperture VISTA Repository Administrator:

1. Double-click **Setup.exe** located in the VISTA Repository Administrator installer package.
The Welcome screen for the Install Wizard appears.
2. Click **Next**.
The User Information screen appears.

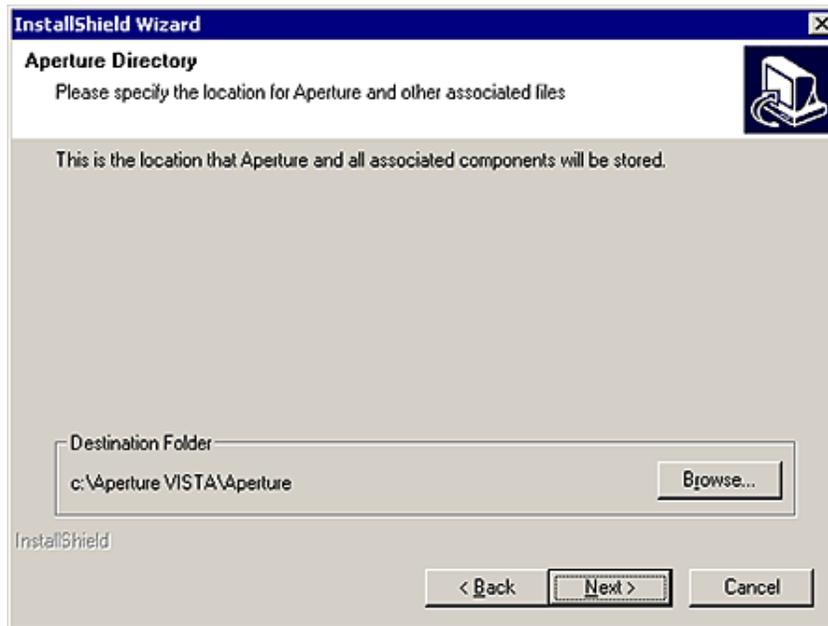


The screenshot shows a window titled "InstallShield Wizard" with a "User Information" tab. The window contains the following fields and controls:

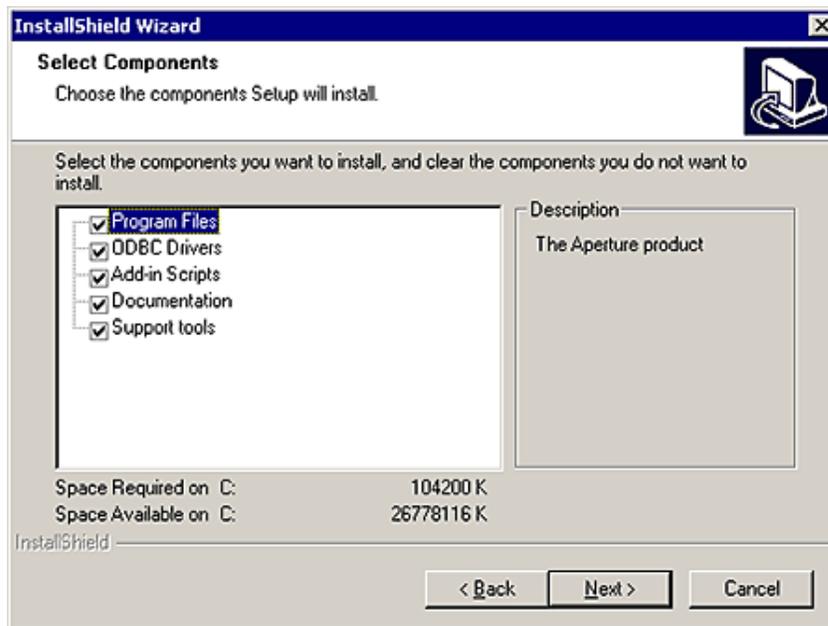
- Name:** System Administrator
- Company:** Aperture Technologies Inc.
- Serial Number:** (empty field)
- Feature Key:** (empty field)
- Buttons: < Back, Next >, Cancel

The window also includes a small icon of a computer monitor and keyboard in the top right corner and the text "Enter your registration information." below the title bar.

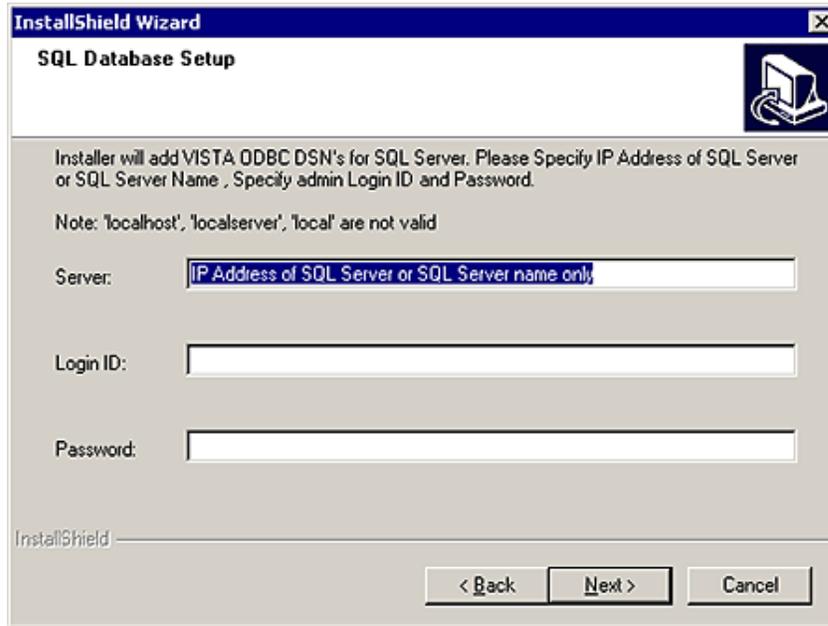
3. You must have a valid serial number and feature string to install and use the Aperture VISTA Portal Applications software. Enter the serial number information provided in the product fulfillment e-mail.
4. Click **Next**.
The Aperture Directory screen appears.



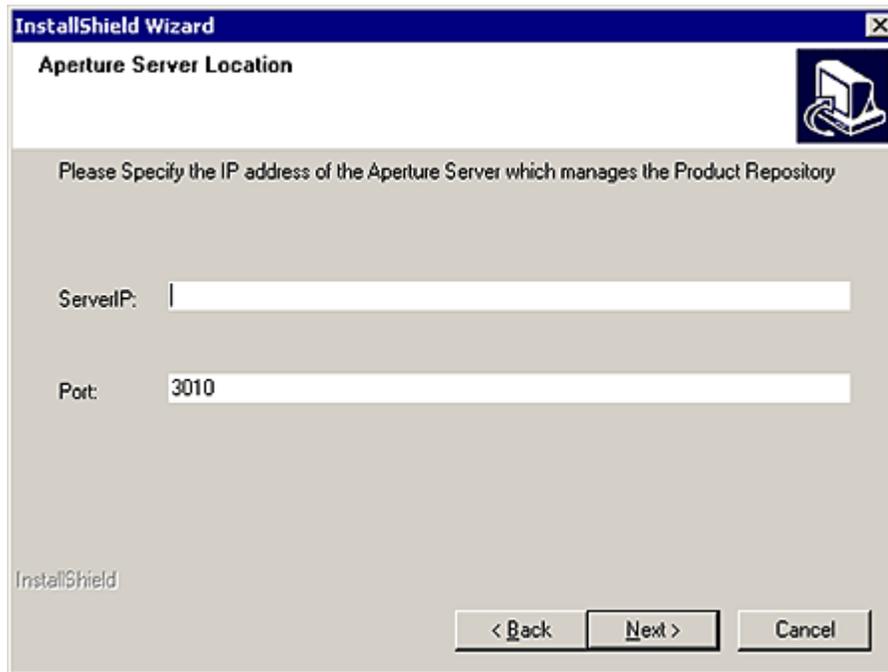
5. Select the destination folder for Aperture and its components.
6. Click **Next** to display the Select Components screen.



7. Click the checkboxes to select the components you want to install and clear the components you do not want to install.
8. Click **Next**.
The SQL Database Setup screen appears.



9. Enter the IP address of the SQL server, or SQL server name, and your Login ID and Password.
10. Click **Next**.
The Aperture Server Location screen appears.



11. Enter the Aperture Server IP address and Port.

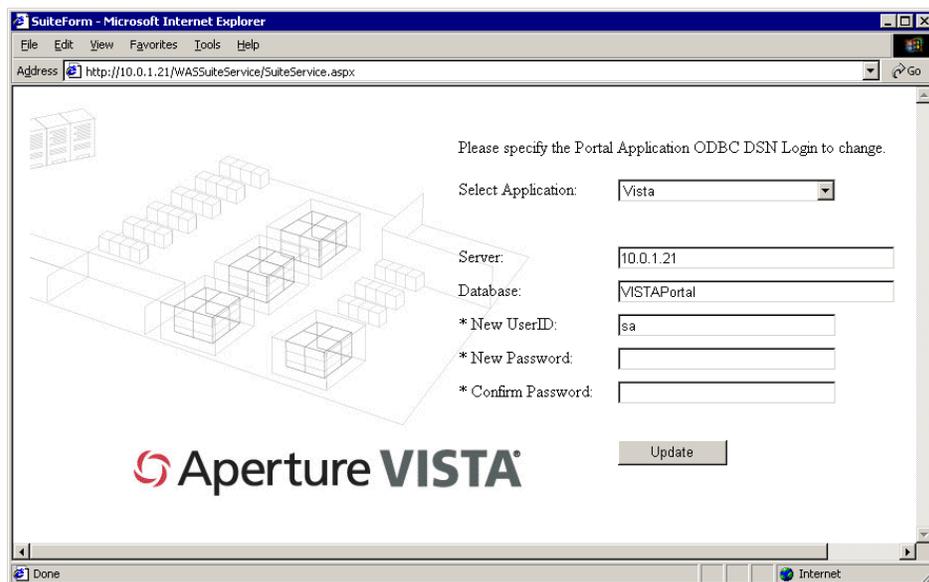
12. Click **Next**.
The Start Copying Files screen appears.
13. Review the settings you have selected. If you want to make any changes, click the Back button to return to previous screens. When the information is correct, click **Next** to start copying files.
14. Click **Finish** to complete the installation.

Step 9: Setting Up the Operational SQL Server ID for VISTA

You must set the Aperture VISTA Servers with the correct SQL Server User ID and password for normal operation.

To Set the Web Application Server Operational ID:

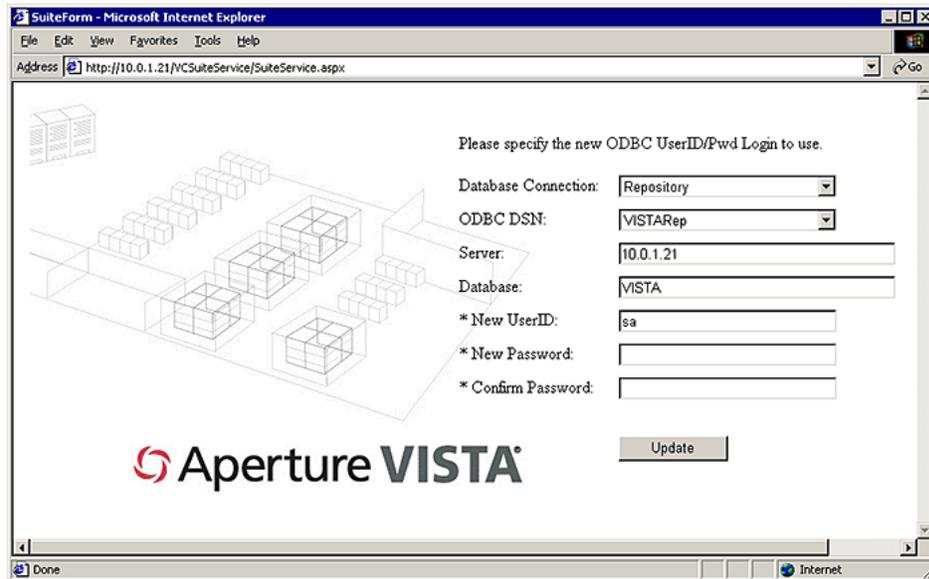
1. On the Web Application Server machine, make sure that IIS is started.
2. Open Internet Explorer.
3. On the Address bar, enter the following URL:
`http://<IP>/WASSuiteService/SuiteService.aspx` (Note: You can enter either the IP address or DNS Name.)
The following screen appears.



4. Select the appropriate application (VISTA), and enter a **User ID** and **Password**. Confirm the new Password and click **Update**.

To Set the Visual Generator Server Operational ID:

1. On the Visual Generator Server machine, make sure that IIS is started.
2. Open Internet Explorer.
3. On the Address bar, enter the following URL:
`http://<IP>/VCSuiteService/SuiteService.aspx` (**Note:** You can enter either the IP address or DNS Name.)
The following screen appears.



4. On the Database Connection drop-down list, select **Repository**.
5. VISTARep should appear in the ODBC DSN drop-down list. If it does not, select.
6. Enter the new user ID in the **New User ID** field.
7. Enter the new password in the **New Password** field. Re-enter your password in the Confirm Password field then click **Update**.

Now, set the user ID and password for the Symbols database.

Note:

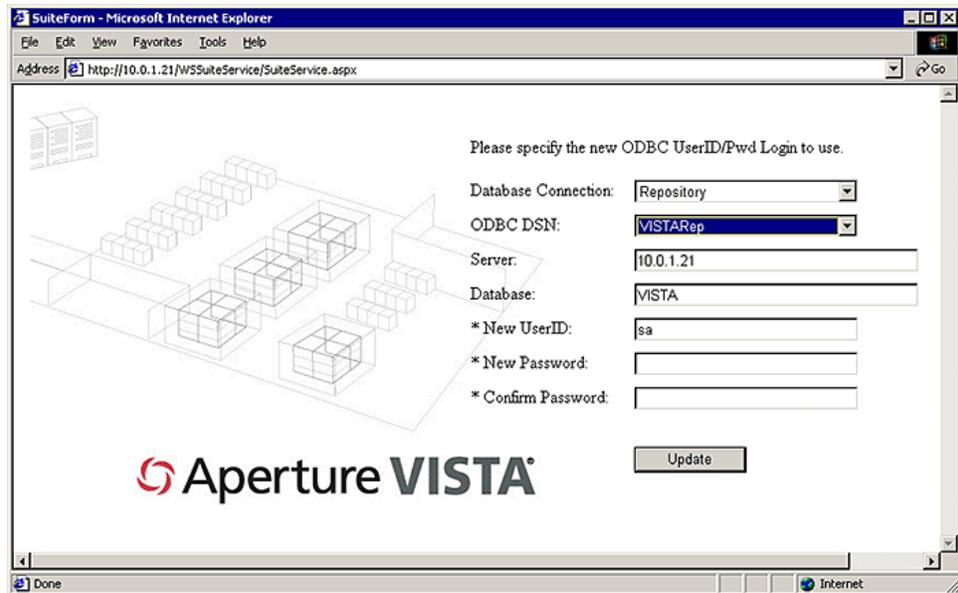
The Symbols database user ID and password are stored in the AWSettings table but are not encrypted. If you want these values to be encrypted, please see “Appendix C: Encrypting the Symbols Database User ID and Password in the AWSettings Table,” on page 70, for more information.

1. On the Database Connection drop-down list, select **Symbol**.
2. VISTASymbols should appear in the ODBC DSN drop-down list. If it does not, select it.
3. Enter the new user ID in the **New User ID** field.
4. Enter the new password in the **New Password** field. Re-enter your password in the **Confirm Password** field then click **Update**.

Setting the Web Services Server Operational ID:

1. On the Web Services Server machine, make sure that IIS is started.
2. Open Internet Explorer.
3. On the Address bar, enter the following URL:
`http://<IP >/WSSuiteService/SuiteService.aspx` (**Note:** You can enter either the IP

address or DNS Name.)
The following screen appears.

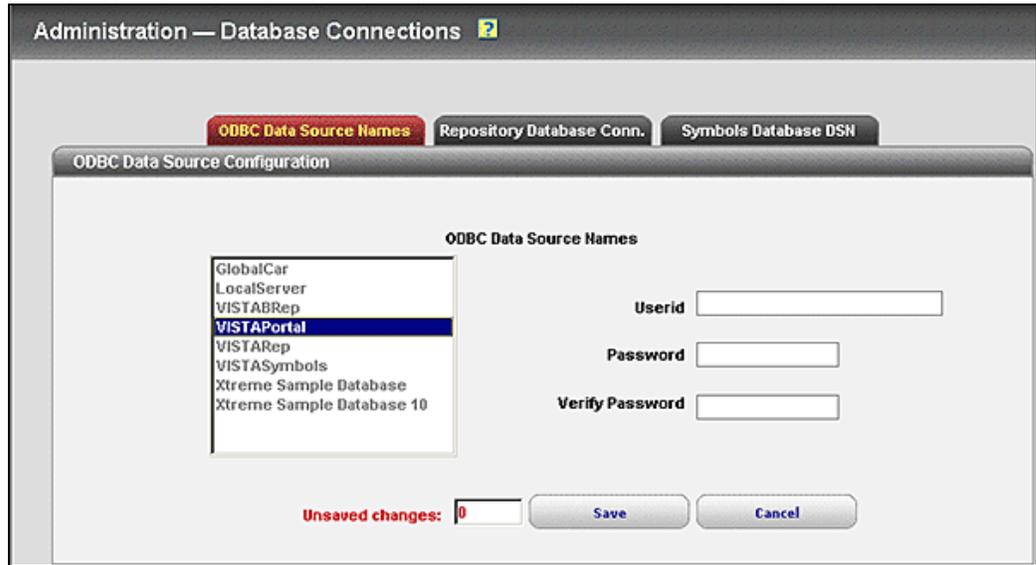


4. On the Database Connection drop-down list, select **Repository**.
5. VISTARep should appear in the ODBC DSN drop-down list. If it does not, select it.
6. Enter the new user ID in the **New User ID** field.
7. Enter the new password in the **New Password** field. Re-enter your password in the **Confirm Password** field then click **Update**.

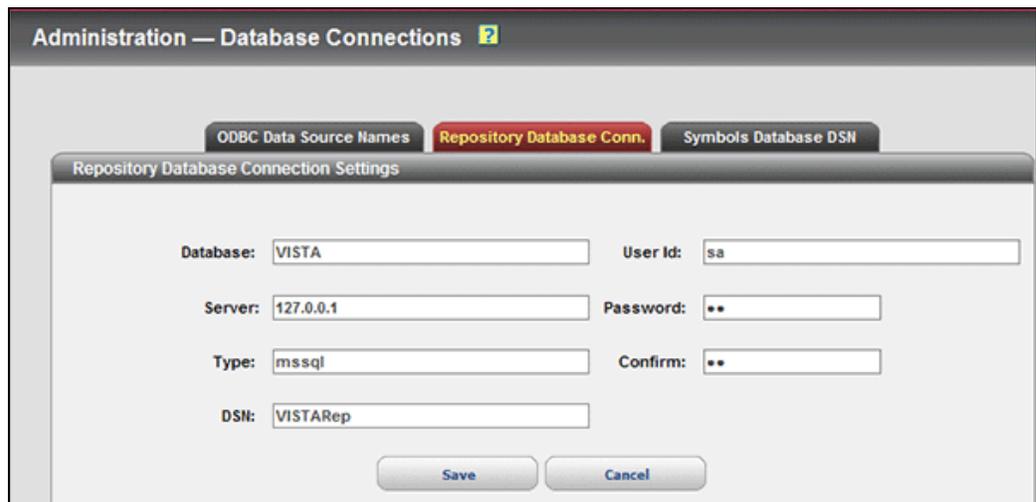
Setting the ID for VISTA Repository

Open Aperture VISTA on any end-user system by starting IIS and entering the following URL in your Internet Explorer Address bar: 'http://<IP >/VISTA.' (**Note:** You can enter the IP address or DNS Name.)

1. On the Administration -> Portal Configuration menu, click **Database Connections**.
The ODBC Data Source Names screen appears.

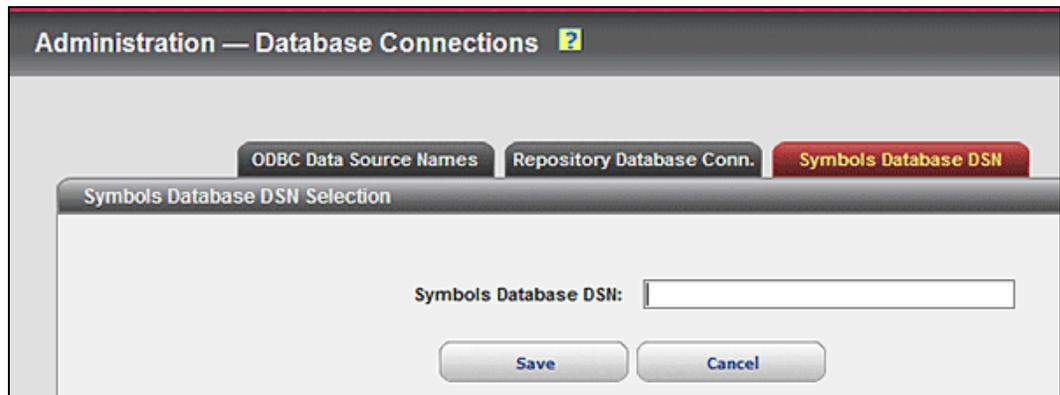


2. Select VISTAPortal DSN from the list that appears.
3. Type the new User ID and Password in the textboxes provided, and then verify your password.
4. Click **Save**.
5. Repeat steps 4 and 5 for VISTARep and VISTASymbols DSNs.
6. Click the **Repository Database Connection** tab.



7. Enter the following settings information:
 - VISTA in the Database field
 - IP Address, or the machine name, in the Server field
 - mssql in the type field

- VISTARep in the DSN field
8. Type the User ID and Password in the textboxes provided, and then verify your password.
 9. Click **Save**.
 10. Click the **Symbols Database DSN** tab.



11. Enter VistaSymbols in the Symbols Database DSN field, and then click **Save**.
Aperture VISTA is now set up to use the new database User ID and Password.

Step 10: Setting Visual Generator System Information

In VISTA, you need to enter the IP Address of the Visual Generator Server as well as protocol and virtual path information.

To enter Visual Generator system information:

1. On the Administration -> Portal Configuration menu, -> click **Visual Generator**. The Visual Generator screen appears.

Administration — Visual Generator

Visual Generator

Current Status: Waiting for work

Start Process any work right now.

Stop Terminate and don't restart until Start or Restart is pressed.

Restart Terminate and restart, then process any work.

Refresh Status

Show Current Activity...

Show Log...

Location Configuration

IP Address: 127.0.0.1

Optional Port:

Protocol: http

Virtual Path: VisualGenerator

Look for work every minute(s)

Note: Changing this information terminates the Visual Generator at the old location and starts it at the new one.

Save Cancel

2. Enter the following Location information:
 - IP Address of the Visual Generator Server
 - Another bullet point
 - Http in the Protocol field
 - VisualGenerator in the Virtual Path field.
3. If you want the Visual Generator to look for work on a specific interval, click the checkbox and enter the desired number of minutes in the text box.
4. Click **Save**.

This concludes the installation instructions for VISTA 600. If you have further questions or problems, please contact us at Aperture Support. Contact numbers are available at <http://support.aperture.com>. Telephone support is available 24 hours a day.

Uninstalling VISTA

To uninstall VISTA, you need to remove each of the components in the reverse order from which they were installed. The removal order is as follows:

1. VISTA Repository Administrator

Note:

Technically, you can remove the VISTA Repository Administrator at any point in the uninstallation process.

2. VISTA Portal applications
3. Web Application Server
4. VCC
5. Web Services Server
6. VISTA Repository (project files)
7. Repository Server
8. VISTA databases

You can uninstall VISTA by doing either of the following:

- Running each installer again and removing the program.
- Opening Add/Remove Programs on each machine and removing each program.

To uninstall VISTA by running each installer again and removing the program:

1. On the machine where the VISTA application is installed, go to the folder containing the installation package.
2. Double-click **Setup.exe**.
The Welcome screen for the InstallShield Wizard appears.
3. Click **Next**.
The Program Maintenance screen appears.
4. Click **Remove**.
5. Click **Next**.
The Remove the Program screen appears.
6. Click **Remove**.
7. Click **Finish**.
8. Following the removal order listed above, repeat steps 1-7 for each additional component.
9. Next, the DBA (with all the proper permissions, etc) deletes the VISTA Repository, VISTA Portal and VISTA Symbols databases using Enterprise

Manager (if running SQL Server 2000 SP3, or higher) or SQL Server Management Studio (if running SQL Server 2005 Service Pack 2).

To delete the databases using SQL Enterprise Manager:

- a. On the Start menu, select **Programs->Microsoft SQL Server->Enterprise Manager**.
- b. Click the plus sign to the left of Microsoft SQL Servers and select **SQL Server Group-> (local) (Windows NT)->Databases**.
- c. In the Databases folder, right-click the **VISTA** database and select **Delete**.
- d. Repeat step c for the VISTAPortal and VISTASymbols databases.

To delete the databases using SQL Server Management Studio:

- a. Open SQL Server Management Studio. On the Start menu, click **Programs->Microsoft SQL Server-> SQL Server Management Studio 2005**.
- b. On the Connect to Server screen, enter your SQL Login and Password, and then click **Next**.
- c. In SQL Server Management Studio, double-click the **plus sign** to the left of databases.
- d. Right-click **VISTA** then click **Delete**.

Note:

There may be a few files left in the directories. You may manually delete these at this point.

10. Restart each server, as necessary.
11. You may also want to remove all of the Data Sources (ODBC) as well.
To remove the data sources:
 1. Open ODBC Data Source Administrator.
 2. Click the **System DSN tab**.
 3. Select **VISTAPortal** then click **Remove**.
 4. Repeat step c for VISTARep and VISTASymbols.

To uninstall VISTA through Add/Remove Programs:

1. On the machine where the VISTA application is installed, open the Control Panel and click **Add/Remove Programs**.
2. Select the VISTA Application component and click **Remove**.
3. Click **Yes** when asked to confirm your intentions to remove the module from this computer.

4. In the removal order listed above, repeat steps 2 and 3 for each additional component.
5. Follow steps 9-11 in the process above, "To uninstall VISTA by running each installer again and removing the program."
6. In the removal order listed above, repeat steps 2 and 3 for each additional component.
7. Follow steps 9-11 in the process above, "To uninstall VISTA by running each installer again and removing the program."

Appendix A: VISTA Databases

The VISTA solution consists of the following databases:

- VISTA Repository database – The VISTA Repository database holds information about your physical infrastructure (that is, racks, devices, cards, PDUs, etc.). This database grows significantly based on the number of data center devices and the level of detail you are tracking. This database can range from 0.1 GB to 10 GB in size. A general rule of thumb is that you need approximately 20 MB initially and approximately 20 MB of additional disk space per 10,000 square feet of data center space.
- VISTA Portal database – The VISTA Portal database primarily stores information about workflow requests. This database's growth is dependent on the number of requests (for example, server installations, moves, and decommissions) submitted in the system. This database can range from 0.1 GB to 5 GB in size. A general rule of thumb is that you need approximately 100 MB initially and approximately 80 MB per 5,000 requests. The rate of growth is dependent upon the rate of data center change, and the number of data centers using the workflow system is used. Assuming that you add no additional Data Centers, the rate of change/growth should be constant (1000 requests in year 1, 1000 requests in year 2, etc.)
- VISTA Symbols database – The VISTA Symbols database holds reference information for each type of device (servers, cabinets, storage) used within your physical infrastructure. This database's growth is dependent on the number of symbols you add to your VISTA Symbols Library. The VISTA Symbols database can range from 0.1 GB to 1 GB in size. A general rule of thumb is that you need 60 Mb per 1,000 symbols in your library. After the initial load of symbols into your library, typically, you will have approximately 500 symbols in your Symbols library. You should expect a growth/change of approximately 25% per year.

Appendix B: Setting Default SQL Directories

VISTA Installers require an SQL Server default directory for data and transaction files.

To set SQL Server default directories in SQL Server 2000:

Note:

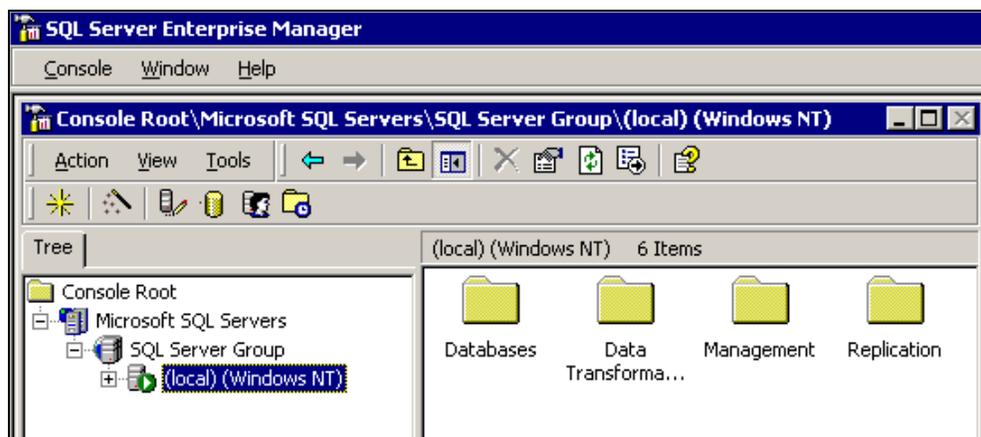
If you are using SQL Server 2005 Service Pack 2, see, "To set SQL Server default directories in SQL Server 2005 Service Pack 2," page 66, for instructions.

1. On the Start menu, select **Programs->Microsoft SQL Server->Enterprise Manager**.

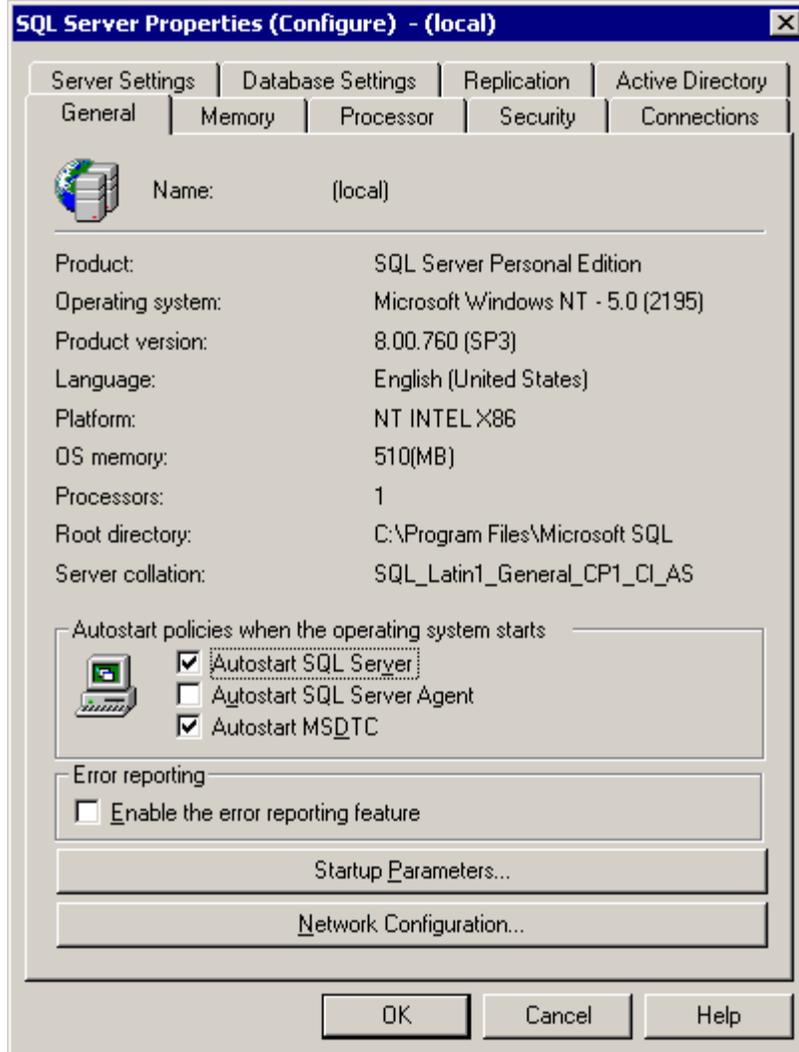
The SQL Server Enterprise Manager appears.



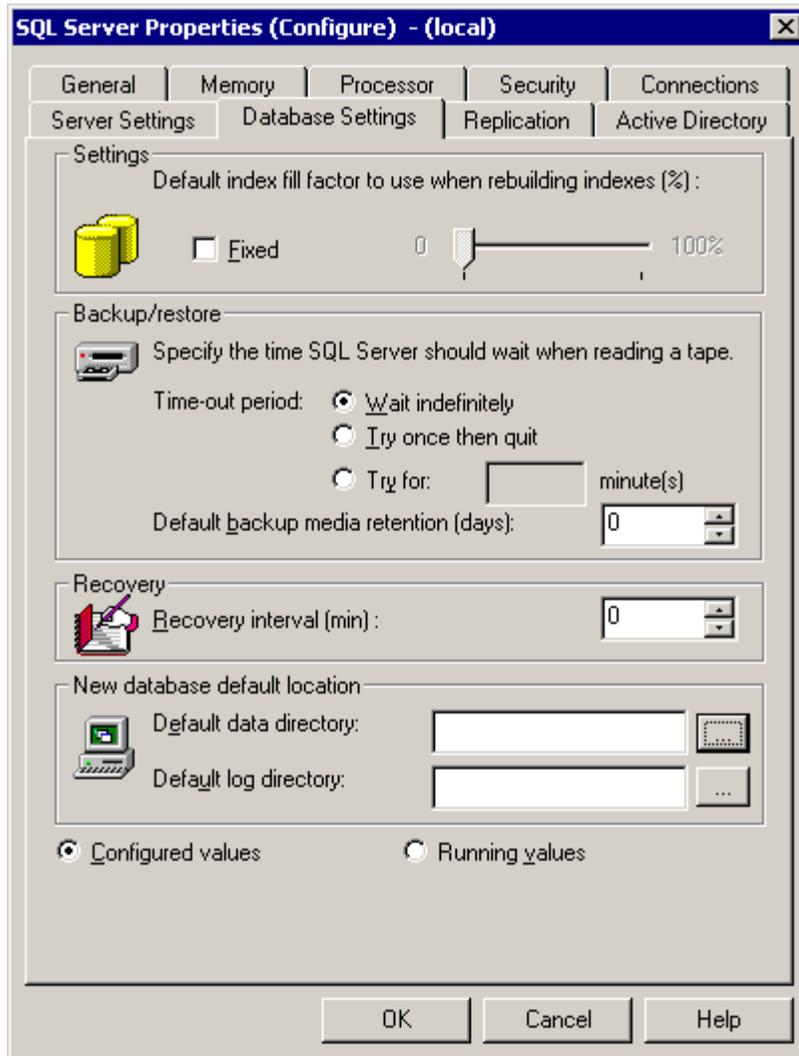
2. Click the plus sign to the left of Microsoft SQL Servers and select **SQL Server Group-> (local) (Windows NT)**, as shown below.



3. Click the **Properties** icon on the toolbar.
The SQL Server Properties dialog appears.



4. Click the **Database Settings** tab.



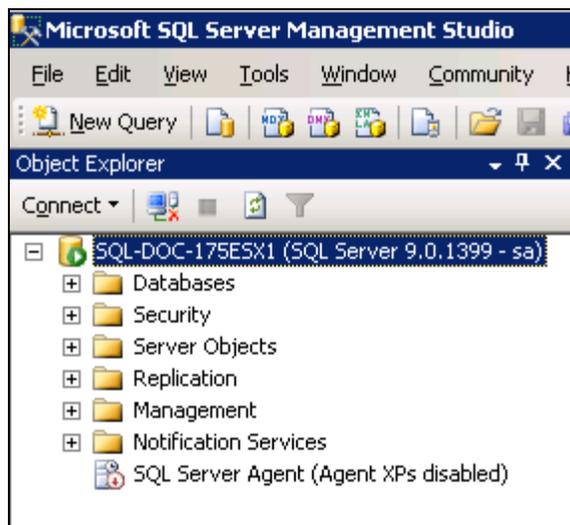
5. In the New database default location section, enter the default data directory and  the default log directory. Click  to browse for the directory. On a default installation, both default directories should be C:\Program Files\Microsoft SQL Server\MSSQL\Data.
6. Click **OK**.

To set SQL Server default directories in SQL Server 2005 Service Pack 2:

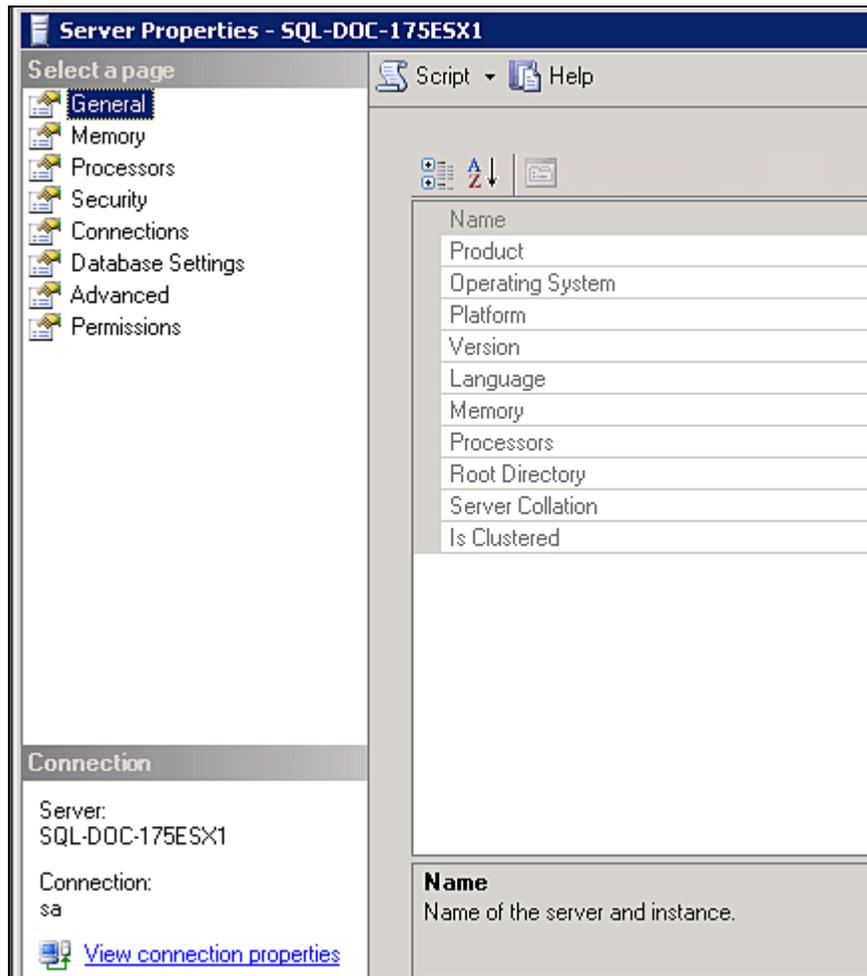
1. Open SQL Server Management Studio. On the Start menu, click **Programs->Microsoft SQL Server-> SQL Server Management Studio 2005**. The Connect to Server screen appears.



2. Enter your SQL Login and Password, and then click **Next**. SQL Server Management Studio appears.



3. Right-click the server name (in the example above, SQL-DOC 175ESX1) and click **Properties**. The Server Properties window appears.



4. Click the **Database Settings** tab.

Script ▾ Help

Default index fill factor:

0

Backup and restore

Specify how long SQL Server will wait for a new tape.

Wait indefinitely

Try once

Try for -1 minute(s)

Default backup media retention (in days):

0

Recovery

Recovery interval (minutes):

0

Database default locations

Data: ...

Log: ...

Configured values Running values

5. In the Database default locations section, enter the default data directory and the default log directory. Click  to browse for the directory. On a default installation, both default directories should be C:\Program Files\Microsoft SQL Server\MSSQL\Data.
6. Click **OK**.

Appendix C: Encrypting the Symbols Database User ID and Password in the AWSettings Table

In the AWSettings table, the Symbols Database user ID and password appear in plain text. You may want to encrypt these values for security purposes.

Note:

The instructions below mention Enterprise Manager, which is used only if you are running SQL Server 2000. If you are running SQL Server 2005 Service Pack 2, please perform the procedure using SQL Server Management Studio.

To encrypt the Symbols Database User ID and Password:

1. Open SQL Enterprise Manager, and navigate to the AWSettings table in the VistaPortal database.
2. Open the AWSettings table and return all rows.
3. Look to see if there is an entry for "SM_ServerPWE". If it doesn't exist add a new row as follows:

UserName	AttrType	Sequence	AttrValue
*	SM_ServerPWE	SM_ServerPWE	1

4. Leave Enterprise Manager open. Go to C:\Aperture VISTA\VisualGenerator\Settings and open VCC.ini.
5. Scroll down to the bottom of the file where the following values display:


```
SYMBOLDBUSERID="sa"
SYMBOLDBPSWD="E190B"
```
6. Copy the value inside the quotation marks next to SYMBOLDBPSWD. (In the example above, E190B.) In the AWSettings table in Enterprise Manager, go to the row containing the AttrType "SM_ServerPWE." Paste or enter this value in the AttrValue column
7. In VCC.ini, copy the value inside the quotation marks next to SYMBOLUSERID. (In the example above, sa.) In the AWSettings table, go to the row containing the AttrType "SM_ServerID." Paste or enter this value in the AttrValue column. The two rows should now appear as follows.

UserName	AttrType	Sequence	AttrValue
*	SM_ServerID	1	sa
*	SM_ServerPWE	1	E190B

8. Move to a new row then close Enterprise Manager. .

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