

Deltek Vision® 7.6

Technical Installation Guide

July 29, 2016

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This edition published July 2016.

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Overview

This guide contains technical installation and setup information for the staff at your company who maintain the hardware and software required to install Deltek Vision.



The Vision 7.6 release contains major technology and configuration changes that affect the typical upgrade scenario. Do not uninstall your previous version of Vision.

If you have any custom DLLs or reports, do not uninstall your previous version since the uninstall process may remove all files.

The installer has built-in intelligence to detect the previous installation – it automatically backs up the folder containing your previous installation files and migrates certain custom settings to the new version.

Before performing the upgrade, review the [Summary of Upgrade Installation Changes](#) to understand how these changes will affect your deployment.

If you are using a Sage Abra (formerly Best Software Abra) application stored in a FoxPro database, do not upgrade to Deltek Vision 7.6

Deltek Vision 7.6 is now running as a native 64-bit application and is unable to integrate with the Sage Abra database stored in a FoxPro database for the following reasons:

- Microsoft FoxPro ODBC/OLEDB drivers are only 32-bit.
- Microsoft Extended Support for Microsoft Visual FoxPro 9.0 Professional Edition ended in January 2015: <https://msdn.microsoft.com/en-us/vfoxpro/bb308952.aspx> , <http://support.microsoft.com/lifecycle/?p1=7992>



See the *Deltek Vision Advanced Technical Administration Guide* for more complex topics related to the Vision deployment, including HTTP compression, central location for WebLink entries (shared databases.enc), reverse proxies, and integrated security. This document is available on the Knowledge Center tab of the Deltek Customer Care Connect site (<http://support.deltek.com>).

Appendices

This guide contains the following appendices, which provide detailed installation information for specific application prerequisites and for changes to the Vision configuration after setup.

Appendix	Title	Description
A	Microsoft Internet Information Server (IIS) Installation on Windows Server	Provides instructions for enabling the components of IIS on the Web/Application Server.
B	Microsoft SQL Server Edition and Version Information	Provides links to the Microsoft download locations for SQL Server Service Packs, Cumulative Updates, and SQL Server Express Edition with Advanced Services, which is the only version of SQL Server Express Edition supported by Vision.

Appendix	Title	Description
C	Microsoft SQL Server Reporting Services	Provides instructions for configuring Microsoft SQL Server Reporting Services (a prerequisite before Vision can be installed on the Web or report servers).
D	Printing in Vision	<p>Discusses the various methods for printing in Vision. This includes steps for:</p> <ul style="list-style-type: none"> ▪ Saving output to PDF files ▪ Printing to local printers on end-user computers without printing to PDF ▪ Printing to network printers that are installed directly on the Web Server <p>This appendix also includes instructions for modifying the Deltek Vision WebLink entries from the default Vision local accounts to domain accounts in order to use network printers for Vision batch jobs. Steps include creating accounts, assigning local policies, and adding role memberships.</p>
E	Reload Reports into Vision	Provides instructions for manually loading standard Vision reports to the report server from within the application. This appendix also explains how to identify and resolve connection errors in loading reports.

If You Need Assistance

If you need assistance installing, implementing, or using Vision, Deltek makes a wealth of information and expertise readily available to you.

Customer Services

For over 20 years, Deltek has maintained close relationships with client firms, helping with their problems, listening to their needs, and getting to know their individual business environments. A full range of customer services has grown out of this close contact, including the following:

- Extensive self-support options through the Customer Care Connect Web portal.
- Phone and email support from Customer Care analysts
- Technical services
- Consulting services
- Custom programming
- Classroom, on-site, and Web-based training



Find out more about these and other services from the Customer Care Connect site.

Customer Care Connect Site

The Deltek Customer Care Connect site is a support Web portal for Deltek customers who purchase an Ongoing Support Plan (OSP).

The following are some of the many options you have at the Customer Care Connect site:

- Download the latest versions of your Deltek products
- Search Deltek's knowledge base
- Ask questions, exchange ideas, and share knowledge with other Deltek customers through the Deltek Connect Customer Forums
- Display or download product information, such as release notes, user guides, technical information, and white papers
- Submit a support case and check on its progress
- Transfer requested files to a Customer Care analyst
- Use Quick Chat to submit a question to a Customer Care analyst online
- Subscribe to Deltek communications about your Deltek products and services
- Receive alerts of new Deltek releases and hot fixes



If you need assistance using the Customer Care Connect site, the online help available on the site provides answers for most questions

Access Customer Care Connect

To access the Customer Care Connect site:

1. Go to <http://support.deltek.com>.
2. Enter your Customer Care Connect **Username** and **Password**.
3. Click **Log In**.



If you do not have a username and password for the Customer Care Connect site, contact your firm's Vision Administrator.

If you forget your username or password, you can click the **Account Assistance** button on the login screen for help.

Additional Documentation

Release notes and other guides are available for this release. You can download these documents using Deltek Software Manager or the Customer Care site.

Deltek Software Manager

The Documents tab in Deltek Software Manager lists all of the documents associated with a release and lets you download the ones that you want.

To download documents:

1. On the [Deltek Customer Care](#) site, click the Product Downloads tab, then select **Launch Deltek Software Manager**.
2. When the Deltek Software Manager opens, highlight a release in the left pane.



Do not enter a check next to the release name or click **Add to Download Queue**. If you do so, you will download the software as well as any documentation that you want.

3. Click the Documents tab to display a list of available documents for the release.
4. Select the documents that you want.
5. Click **View Download Queue** to see a list of documents that you selected.
6. Click **Download**.

Customer Care Site Enterprise Search

Use the search feature to find specific documents or to see a list of all documents associated with a release. Then open or download the ones that you want.

To download documents:

1. On the [Deltek Customer Care](#) site, click **Enterprise Search**.
2. Select **Release Documentation** as the **Source**.

3. Perform one of the following actions:
 - To see a list of all available documentation for a release, enter the product and release number (for example, **Vision 7.6**) in the search field.
 - To find a specific document, enter a description of the document (for example, **Vision 7.6 release notes**) in the search field.
4. Click on the document, then choose to open or save it.

Problem Displaying Online Help in Internet Explorer

If you use Internet Explorer and the help does not display correctly, you need to turn off Compatibility View for the browser. Click **Tools » Compatibility View settings**, and clear the **Display intranet sites in Compatibility View** check box. Then refresh the browser. You could also elect to use hosted help or the FQDN of your server in the URL (for example, server.domain) to bypass this issue. Make sure you remove deltek.com (if listed) from the **Websites you've added to Compatibility View** list.

Downloading Deltek Products Using Deltek Software Manager

Use Deltek Software Manager (DSM) to download complete Deltek products, hot fixes, and sub-releases. You can access DSM directly or through the Deltek Customer Care Connect site.

When you access DSM directly, you are prompted to log on before you can access the application. If you access DSM from within the Deltek Customer Care Connect site, you do not have to log on since you are already logged in to the Customer Care Connect site.

Access DSM Directly

To access Deltek Software Manager directly:

1. Launch Deltek Software Manager by taking one of the following actions:
 - Click [here](#).
 - On your desktop, navigate to the Deltek programs folder and click **Vision » Deltek Software Manager**.
2. In the Deltek Software Manager logon dialog box, enter your Deltek Customer Care **User ID** and **Password**, and click **Logon**.
3. To select the folder where you want to download Deltek products, click **Settings** above the right pane of Deltek Software Manager.



When you log on for the first time, Deltek Software Manager asks you to select a default folder where Deltek products are to be downloaded.

-
4. Use the Settings dialog box to specify the folder where you want to download Deltek products, and click **OK**.



You can change this folder anytime on the Settings dialog box.

-
5. In the left pane of Deltek Software Manager, expand the Deltek product that you want to download, if it is not already expanded.



If you clicked the link in Step 1 to access DSM, the application automatically selects Vision for you.

-
6. Select the product type that you want to download. Your options are **Complete**, **HotFix**, and **Sub-Release**.
 7. In the table, select the check box that corresponds to the Deltek product that you want to download. The right pane displays a message stating that the product has been added to the download queue.



To view the items in the download queue, click **View Download Queue** at the bottom of the left pane.

8. Click **Download** at the bottom of the left pane. Deltek Software Manager downloads the product to the folder that you selected.

Accessing DSM from within Deltek Customer Care Connect

To access Deltek Software Manager from within Deltek Customer Care Connect:

1. In your Web browser, go to <http://support.deltek.com>.
2. Enter your Customer Care Connect **Username** and **Password**, and click **Log In**.
3. When the Customer Care Connect site displays, click the Product Downloads tab.
You are automatically logged in to Deltek Software Manager.
4. To select the folder where you want to download Deltek products, click **Settings** above the right pane of Deltek Software Manager.
When you log in for the first time, Deltek Software Manager asks you to select a default folder where Deltek products are to be downloaded.
5. Use the Settings dialog box to specify the folder where you want to download Deltek products, and click **OK**. You can change this folder anytime on the Settings dialog box.
6. In the left pane of Deltek Software Manager, expand the Deltek product that you want to download, if it is not already expanded.
7. Select the product type that you want to download. Your options are **Complete**, **Cumulative Updates**, and **Sub-Release**.
8. In the table, select the check box that corresponds to the Deltek product that you want to download. The right pane displays a message stating that the product has been added to the download queue. To view the items in the download queue, click **View Download Queue** at the bottom of the left pane.
9. Click **Download** at the bottom of the left pane. Deltek Software Manager downloads the product to the folder that you selected.
10. Proceed to the topic that describes the type of installation that you are performing.

DSM Documentation and Troubleshooting

Refer to the following links for additional information:

- [Deltek Software Manager online help](#)
- [Deltek Software Manager tutorial](#)
- [Troubleshooting Deltek Software Manager](#)

Vision Installation Programs

Download Manager

The Vision installation uses a Download Manager tool embedded into the installer to manage the size of the installation download file. This tool is not the same as the Deltek Software Manager that is used to download the Vision installer. The Download Manager allows prerequisite third party applications and required additional Vision files to be downloaded and installed on the Vision tier only when necessary.

- An example of a third-party application is the Solid PDF Converter.
- Examples of additional Vision files are the Blank Database, the Sample Database, and the help files.

These files are not part of the Vision download file but are called from a remote FTP server when they are required for successful completion of the installation.

Internet Connectivity for Vision Tier?

What you do next depends on whether your Vision tier has internet connectivity:

- If your Vision tier has internet connectivity, proceed to the Preinstallation Checklists, which begin on page 16.
- If your Vision tier does not have internet connectivity, see the procedures in this section for downloading your Vision installation and prerequisite files.

Deltek Vision Install Prepare Utility

Use the Deltek Vision Install Prepare Utility (**DeltekVisionInstallPrepareUtility.exe**) for the following scenarios:

- The Vision Server does not have access to the internet.
- Setup is unable to finish because the download manager is unable to download prerequisites needed for the installation to continue.

The Deltek Vision Install Prepare Utility is a self-extracting tool that downloads the prerequisites needed for installation from a machine other than the installation server.

The process is a combination of two steps:

1. You extract the setup files from the DeltekVision76.exe file.
2. You use the Deltek Vision Install Prepare Utility to download the files and place them in the extracted folder.

When you are ready to install Vision, you launch the extracted setup.exe file and it automatically finds the downloaded files in the root of the folder where the setup.exe is located and does not try to download the prerequisites.

File Extraction for Multi-Tier Deployments

The Vision installer includes an extract option that lets you extract the setup.exe file, along with the rest of the installation package contents, to a central location that you can then use to launch the setup for multi-tier deployments. The most common reason for doing this is that the server on which you are performing the installation does not have access to the internet.

Use the Deltek Vision Install Prepare Utility to download the prerequisite components and copy them into the folder where the extracted setup files are located. When you launch the installer from the setup.exe extracted file, it looks for the missing components in the folder in which it is located.

To extract the files manually:

1. Download the DeltekVision76.exe installer.
2. Copy the file to a local folder.
3. At a DOS prompt, run the following command line:

DeltekVision76.exe/extract_all:<drive>:\<destinationfolder>

- **/extract_all** is the flag that tells the installer to extract the contents of the installation.
- **<drive>:\<destinationfolder>** is the syntax for specifying the location to extract the contents of the installer.
- The following example assumes that the DeltekVision76.exe file was downloaded and saved into a folder named C:\Media and will also be extracted into the same folder:

```
DeltekVision76.exe /extract_all:c:\media
```

- After the extraction is complete, the C:\Media folder will contain a Disk 1 subfolder.
4. Copy any downloaded prerequisite files into the folder and launch the setup.exe file.

Download Files and Place in Extracted Folder

To use the Deltek Vision Install Prepare Utility:

1. On a machine that has access to the Internet, perform the steps to extract the setup.exe and other Vision setup files.

By default, the extracted files are created in a folder named Disk1 in the folder the command line specified for extracting the files.
2. Obtain the DeltekVisioninstallPrepareUtility.exe file from a Vision Technical Services support representative.
3. Launch the DeltekVisioninstallPrepareUtility.exe file on the same machine. It automatically extracts its contents into the folder in which you saved the .exe file.
4. Change the **Path to Save/Extract** location to point to the Disk1 folder that was created when you ran the extract all switch. This extracts the files and allows download of the prerequisite components into the same folder in which the setup.exe file is located.
5. In the **Download all components for** drop-down list, select the type of installation that you plan to perform. The utility automatically selects the prerequisites required for the installation you have selected.
6. Click the **Download Components** button to download the files into the Vision Setup folder.
7. On the Vision web servers, follow the steps for your deployment model to run the extracted setup.exe file.

Before You Begin Deployment

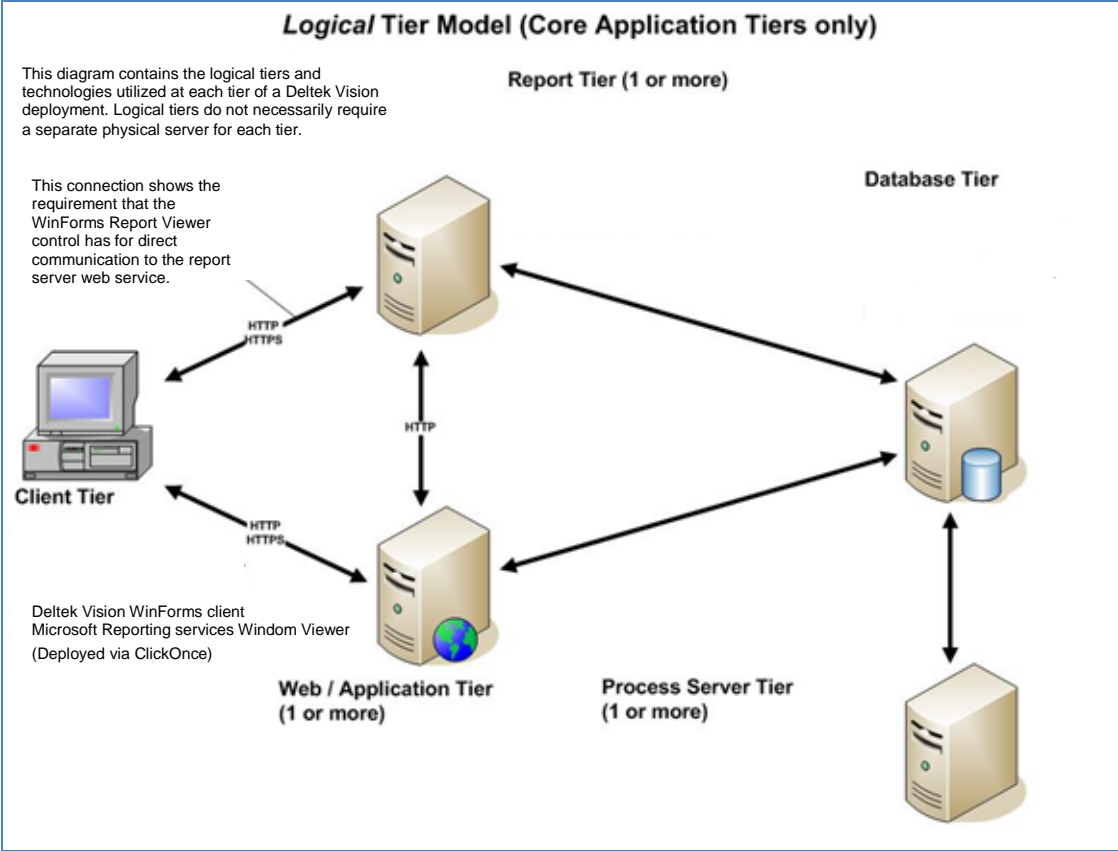
Logical Tiers Overview

Vision uses a multitier architecture. Various components of the Vision application are distributed to logical tiers for performance and scalability. The logical tiers are as follows:

- **Client Tier** — This is the user interface layer for Vision. It presents input data to the application/Web server tier and displays the returned result in a format that you can understand. The client tier is installed on a workstation. Vision uses the ClickOnce deployment technology, a technology for delivering Windows-based applications to the user. The Deltek Vision Smart Client application uses this technology to check for new updates on the Web/Application Server each time the application is launched, and automatically installs them into the local user's profile (%USERPROFILE%\Local Settings\Apps\2.0\...).
- **Web/Application Server Tier** — This tier performs Vision's functional process logic. After a request is sent by the client tier, this tier processes that request (such as retrieving stored data or performing a specific function) and then returns the result to the client tier. This tier also uses IIS to host the Vision applications.
- **Process Server Tier** — This tier allows the user to schedule processes and profiles to run automatically in the background. Examples of processes that can run on the Process Server are the following:
 - All reports
 - All scheduled alerts
 - Large batch jobs (for example, billing, revenue generation)
- **Report Server Tier** — This tier handles all Reporting requests. It uses Microsoft SQL Server Reporting Services.
- **Database Tier** — This tier consists of SQL Server Database Server(s) where the Vision data is stored and retrieved.

Logical Tier Model

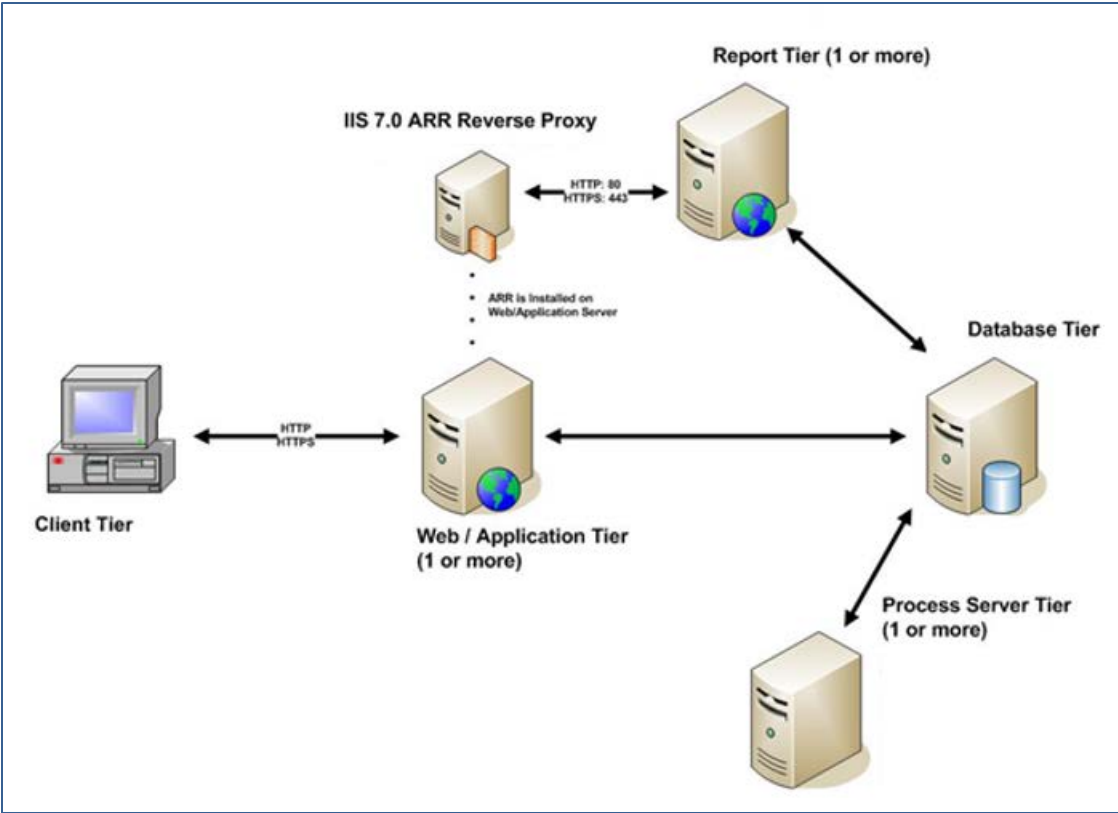
The following diagram provides information about the logical tiers and technologies utilized at each tier of a Deltek Vision deployment. Logical tiers do not necessarily require a separate physical server for each tier. In a single-server deployment model, each of the tiers below would be installed and configured on the single server.



Logical Tier Model with Reverse Proxy

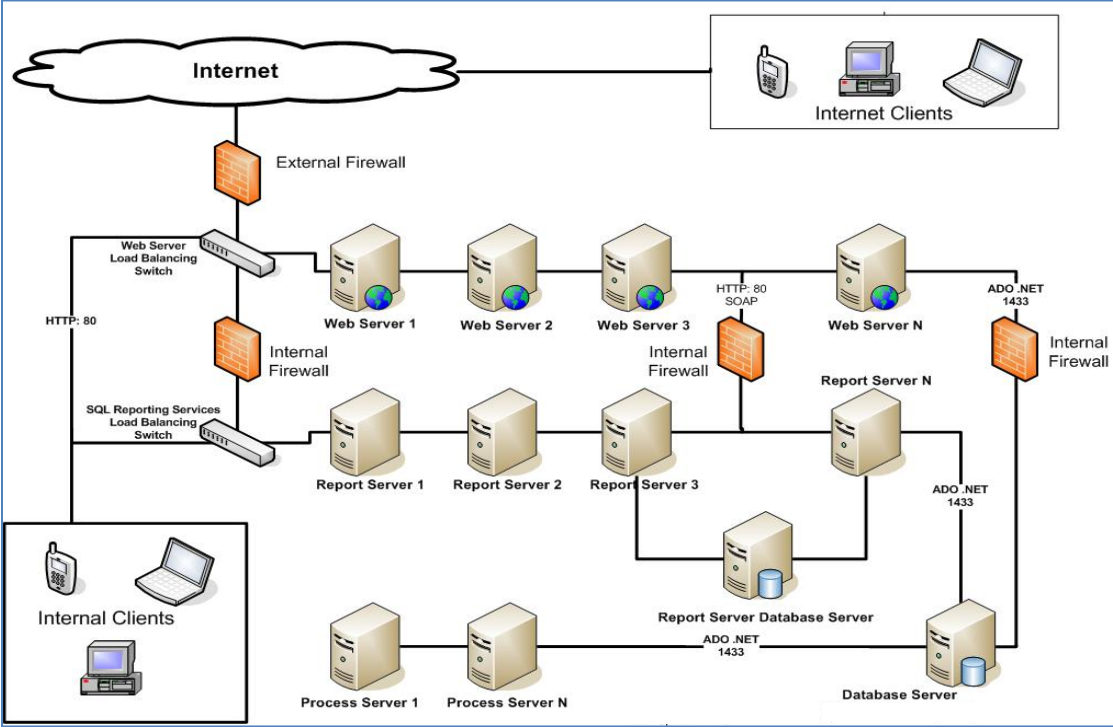
The diagram below displays how the IIS ARR Reverse Proxy has been implemented on a Web Server to serve as a proxy for handling requests to the Report Server to resolve the security issue.

It contains the logical tiers and technologies utilized at each tier of a Deltek Vision deployment. Logical tiers do not necessarily require a separate physical server for each tier.



Logical Tier Model with Three or More Servers

The following diagram is an example of a three or more servers deployment model.





For load balancing of web servers, the sticky session feature (also known as session affinity) is required.

Installation/Deployment Models

You use one of three different models to deploy Vision. The model that you choose depends on your organization's needs with regard to size, cost considerations, security requirements, and fault tolerance. The following table provides a summary of each model.

Deployment Model	Overview	When Would I Use This Model?
<p>One-Server (Single Server)</p>	<p>Install Vision tiers (web, application, process server, report components, and database) on the same machine.</p> <p>Infrastructure security is not a concern with this model because all application usage is internal to the organization.</p>	<ul style="list-style-type: none"> ▪ Deployment needs are simple. For example, you are installing Vision on a test machine. ▪ All users are at a single location and will only access Vision in the office or over a Virtual Private Network (VPN) connection to the corporate network. ▪ Small organization (fewer than 50 employees).
<p>Dual-Server (Two-Tier) Configuration 1</p>	<p>Install the database and report components on a server machine and the Web/Application and Process Server components on a separate server machine.</p> <p>In this configuration the Vision client application needs a direct connection to the Report Server to run and view reports.</p> <p>Infrastructure security is not a concern with this model because all application usage is internal to the organization.</p>	<ul style="list-style-type: none"> ▪ Your organization has one SQL Server license. ▪ All users are at a single location and will only access Vision in the office or over a Virtual Private Network (VPN) connection into the corporate network. ▪ Users are not accessing the application over the internet. ▪ Since the Database server is also on the Report server, it is not suitable for use in an environment with users accessing the application over the Internet. Consider using the IIS ARR Reverse Proxy for the Web Server to serve as a proxy for handling requests to the Report Server to resolve the security issue. See the <i>Deltek Vision Advanced Technical Administrator's Guide</i> for details. ▪ Small to medium sized organization that may not have a technical staff.

Deployment Model	Overview	When Would I Use This Model?
Dual-Server (Two-Tier) Configuration 2	<p>Install the database component on a server machine and the Web/Application, Process Server, and report components on a separate server machine.</p> <p>Reporting Services are installed on a server separate from the Database Engine.</p>	<ul style="list-style-type: none"> ▪ Your organization has additional Microsoft SQL Server licenses and you split the Report Server (web service) from the Database Server hosting the Report Server database. ▪ Users will access Vision over the internet. ▪ Small to medium organization that may not have a technical staff.
Three or More Servers	<p>Install any of the following:</p> <ul style="list-style-type: none"> ▪ A single Database Server ▪ One or more Report Servers ▪ One or more Web/Application servers ▪ One or more Process Servers, each on its own machine 	<ul style="list-style-type: none"> ▪ You have a large organization that has multiple locations, can afford multiple SQL Server licenses, and will use Vision on an internal Wide Area Network (WAN). ▪ Allows for additional report web/application, or process servers for load balancing, performance, security, or fault tolerance reasons. ▪ Organizations with complex deployment requirements and proficient firewall management.

Changes to Vision Deployment Models for Vision 5.x and Prior Versions



This section applies only to firms that are upgrading from Vision 5.x or a prior version.

If your firm previously deployed a two tier deployment with the database server on one machine and the Web\Application\Report Tier on another machine, you now have the option of using either configuration 1 or configuration 2 in the preceding table for deploying a two-tier installation.

- Your SQL Server Edition and purchased licenses determine your two-server deployment configuration.
- SQL Server Express Edition requires that the report server database used by Reporting Services and any external data sources (Vision database) reside on the same machine. If you have either of these editions of SQL Server, your options for migrating to Vision will be either a single server deployment model or the Dual Server (Two-Tier) Configuration 1 option of the two server deployment model.
- Standard, Business Intelligence, and Enterprise Editions support having the Vision database on a separate database server than the server that hosts the Reporting Services Report Server Database. This will allow deployments on two or more tiers. For these editions, review the license information and links above to determine if you have the appropriate number of SQL Server licenses.

- Vision uses the Microsoft SQL Reporting Services WinForms report viewer control to render reports. This control requires a direct connection to the server running the SQL Reporting Services web service over Port 80. Your report server (and possibly your database server, if they are installed on the same machine) will be directly exposed to the internet, which poses a security risk to your data. It also requires an external FQDN so that the report server can be resolved by the external users. If your setup requires this configuration, using a reverse proxy on your web server will prevent a direct connection to the report server and minimize data exposure. A reverse proxy that uses Microsoft's Application Request Routing (ARR) extension for IIS in Windows Server allows the direct forwarding of requests through the Vision web server to the reporting services web service, with responses back to your Internet clients.



See the *Deltek Vision Advanced Technical Administration Guide* for more information.

Installation Order: High-Level Overview

To install Vision correctly, you must complete installation of the server roles in a specific order:

1. Database Server tier

You do not need to perform this installation if your database tier is on its own server unless you plan to restore the sample, a blank database, or use the Performance Management (Analysis Cubes) module.

- Creates and configures a Vision SQL Server login account
- Option to install a blank and/or sample database

2. Report Server tier

- Configures the Report Server with security settings required for Vision reporting

3. Web/Application Server tier

- Installs Vision
- Loads the reports onto the Report Server
- Option to upgrade an existing database

4. Process Server tier

- Option to specify a domain account/password if upgrading a previous installation that had a custom domain account running the Process Server service.

What Type of Installation Am I Performing?

Your Vision installation falls into one of the following categories:

- Install Vision for the first time with a new database — Proceed with the one server, two server, or multiple server installation.
- Install Vision for the first time on a new server with a supported version (or prior version) of the database — Proceed with the one server, two server, or multiple server installation.
- Install or upgrade a server that already has Vision installed — See [Installation Steps \(Vision Upgrades\)](#).

- Install Vision for the first time and migrate from Deltek Advantage, Award, CRM and Proposals, or Sema4 — See [Migrating From Deltek Legacy Products](#).

Preinstallation Checklists

This section includes a separate checklist for each of the following installation models:

- Single Server
- Dual-Server (Two Tier) Configuration 1
- Dual-Server (Two Tier) Configuration 2
- Three or More Servers



For an overview of the logical tiers and deployment models, see:

- [Logical Tiers](#)
- [Installation/Deployment Models](#)

Single-Server



After installation, review the [Web Server Post-Installation checklist](#).

Step	Related Topics
1. Verify that the server operating system is supported.	▪ System Requirements
2. Verify that you have at least 2 GB of disk space available for this installation.	
3. Verify that the user account performing the installation is a member of the local Windows System Administrators group.	
4. Verify that your SQL Server Database Engine and Reporting Services installations meet the system requirements.	▪ Database Server
5. Verify that the user account performing the installation is a member of the SYADMIN role in SQL Server security settings, or make sure that you have valid SQL Server credentials available for use during the installation.	
6. Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled.	▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
7. Install Microsoft .NET Framework.	▪ .NET Architecture
8. Install Microsoft Internet Information Services (IIS) with ASP .NET enabled.	▪ Microsoft Internet Information Server (IIS) Installation on Windows Server

Step	Related Topics
9. Configure Reporting Services with native mode.	<ul style="list-style-type: none"> ▪ Microsoft SQL Server Reporting Services ▪ Printing in Vision <p>Includes configuring printing to network printers for Vision batch jobs after Vision is installed.</p>
If Reporting Services is already configured, you will need to know the Web Service URL and the name of the Report Server databases.	<ul style="list-style-type: none"> ▪ How to Connect to the Report Service Web Service
10. Verify that the user account has the proper rights and privileges in Reporting Services.	<ul style="list-style-type: none"> ▪ How to Give Your Account Proper Rights and Privileges in Reporting Services
11. If you experience connection errors to SQL Reporting Services and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Firewall for Report Server Access ▪ External link: Configure a Windows Firewall for Database Engine Access

Dual-Server (Two-Tier) Configuration 1

Database and Report Tier

Deltek recommends that you install the Database Server first because the Database and Report Server tiers are on the same machine. You **must** perform this step before you install Vision on your Vision Web Server.

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Verify that the user account performing the installation is a member of the local Windows System Administrators group.	
4.	Verify that your SQL Server Database Engine and Reporting Services installations meet the system requirements.	<ul style="list-style-type: none"> ▪ System Requirements
5.	Verify that the user account performing the installation is a member of the SYADMIN role in SQL Server security settings, or make sure that you have valid SQL Server credentials available for use during the installation.	
6.	Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled on your report server and database server.	<ul style="list-style-type: none"> ▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
7.	Configure Reporting Services with native mode.	<ul style="list-style-type: none"> ▪ Microsoft SQL Server Reporting Services Appendix B: Microsoft ▪ Printing in Vision <p>Includes configuring printing to network printers for Vision batch jobs after Vision is installed.</p>
	If Reporting Services is already configured, you will need to know the Web Service URL and the name of the Report Server databases.	<ul style="list-style-type: none"> ▪ How to Connect to the Report Service Web Service
8.	Verify that the user account performing the installation has the proper rights and privileges in Reporting Services.	<ul style="list-style-type: none"> ▪ How to Give Your Account Proper Rights and Privileges in Reporting Services
9.	If you experience connection errors to your database or report server and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Firewall for Report Server Access ▪ External link: Configure a Windows Firewall for Database Engine Access

Web Application and Process Server Tier



After installation, review the [Web Server Post-Installation checklist](#).

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Install Microsoft .NET Framework.	<ul style="list-style-type: none"> ▪ .NET Architecture
4.	Install Microsoft Internet Information Services (IIS) with ASP .NET enabled.	<ul style="list-style-type: none"> ▪ Microsoft Internet Information Server (IIS) Installation on Windows Server
5.	Verify that the user account performing the installation has the proper account credentials as stated in the database and report tier steps.	
6.	Ensure that you have the following information prior to starting your installation: <ul style="list-style-type: none"> ▪ Database Server\SQL instance name ▪ Report Server database names ▪ Report Server Web Service URL 	<ul style="list-style-type: none"> ▪ Database System Requirements

Dual-Server (Two-Tier) Configuration 2

Database Tier

Deltek recommends that you install the Database Server first. If you prefer to install the other tiers first, the setup for the other tiers will require that you know the Database Server host name or IP address, and have the Microsoft SQL Server user name and password.

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Verify that the user account performing the installation is a member of the local Windows System Administrators group.	
4.	Verify that your SQL Server Database Engine and Reporting Services installations meet the system requirements.	<ul style="list-style-type: none"> ▪ System Requirements
5.	Verify that the user account performing the installation is a member of the SYADMIN role in SQL Server security settings, or make sure that you have valid SQL Server credentials available for use during the installation.	
6.	Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled on your report server and database server.	<ul style="list-style-type: none"> ▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
7.	If you experience connection errors to your database and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Windows Firewall for Database Engine Access

Web Application and Report Tier



After installation, review the [Web Server Post-Installation checklist](#).

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Install Microsoft .NET Framework.	<ul style="list-style-type: none"> ▪ .NET Architecture
4.	Install Microsoft Internet Information Services (IIS) with ASP .NET enabled.	<ul style="list-style-type: none"> ▪ Microsoft Internet Information Server (IIS) Installation on Windows Server
5.	Ensure that you have the SQL Server username and password that you created for Reporting Services.	<ul style="list-style-type: none"> ▪ Prerequisite Report Server and

Step		Related Topics
		SQL Server Database Credentials
6.	Configure Reporting Services with native mode.	<ul style="list-style-type: none"> ▪ Microsoft SQL Server Reporting Services ▪ Printing in Vision <p>Includes configuring printing to network printers for Vision batch jobs after Vision is installed.</p>
	If Reporting Services is already configured, you will need to know the Web Service URL and the name of the Report Server databases.	<ul style="list-style-type: none"> ▪ How to Connect to the Report Service Web Service
7.	Verify that the user account has the proper rights and privileges in Reporting Services.	<ul style="list-style-type: none"> ▪ How to Give Your Account Proper Rights and Privileges in Reporting Services
8.	Verify that the user account performing the installation is a member of the SYADMIN role in SQL Server security settings.	
9.	Verify that your SQL Server Reporting Services installation meets the system requirements.	<ul style="list-style-type: none"> ▪ System Requirements
10.	Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled on your report server and database server.	<ul style="list-style-type: none"> ▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
11.	If you experience connection errors to your database or report server and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Firewall for Report Server Access ▪ External link: Configure a Windows Firewall for Database Engine Access

Three or More Servers

Database Tier

Deltek recommends that you install the Database Server first. You **must** perform this step before you install Vision on your Vision Web Server. If you prefer to install the other tiers first, the setup for the other tiers will require that you know the Database Server host name or IP address, and have the Microsoft SQL Server user name and password.

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Verify that the user account performing the installation is a member of the local Windows System Administrators group.	
4.	Verify that your SQL Server Database Engine and Reporting Services installations meet the system requirements.	<ul style="list-style-type: none"> ▪ System Requirements
5.	Verify that the user account performing the installation is a member of the SYADMIN role in SQL Server security settings, or make sure that you have valid SQL Server credentials available for use during the installation.	
6.	Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled on your report server and database server.	<ul style="list-style-type: none"> ▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
7.	If you experience connection errors to your database and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Windows Firewall for Database Engine Access

Report Tier

You **must** perform this step before you install Vision on your Vision Web Server.

Step		Related Topics
1.	Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2.	Verify that you have at least 2 GB of disk space available for this installation.	
3.	Verify that the user account performing the installation is a member of the local Windows System Administrators group.	
4.	Verify that the user account has the proper rights and privileges in Reporting Services.	<ul style="list-style-type: none"> ▪ How to Give Your Account Proper Rights and Privileges in Reporting Services
5.	Verify that the user account performing the installation	

Step	Related Topics
is a member of the SYADMIN role in SQL Server security settings.	
6. Verify that your SQL Server Database Engine and Reporting Services installations meet requirements.	<ul style="list-style-type: none"> ▪ System Requirements
7. Use SQL Server Configuration manager to ensure that the "TCP/IP" and "Shared Memory" protocols are enabled on your report server and database server.	<ul style="list-style-type: none"> ▪ External link: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)
8. Configure Reporting Services with native mode.	<ul style="list-style-type: none"> ▪ Microsoft SQL Server Reporting Services ▪ Printing in Vision <p>Includes configuring printing to network printers for Vision batch jobs after Vision is installed.</p>
If Reporting Services is already configured, you will need to know the Web Service URL and the name of the Report Server databases.	<ul style="list-style-type: none"> ▪ How to Connect to the Report Service Web Service
9. If you experience connection errors to your report server and have verified the previous steps, check that access is not being blocked by Windows or your firewall.	<ul style="list-style-type: none"> ▪ External link: Configure a Firewall for Report Server Access

Web / Application Tier



After installation, review the [Web Server Post-Installation checklist](#).

Step	Related Topics
1. Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2. Verify that you have at least 2 GB of disk space available for this installation.	
3. Install Microsoft .NET Framework.	<ul style="list-style-type: none"> ▪ .NET Architecture
4. Install Microsoft Internet Information Services (IIS) with ASP .NET enabled.	<ul style="list-style-type: none"> ▪ Microsoft Internet Information Server (IIS) Installation on Windows Server
5. Verify that the user account performing the installation has the proper account credentials as stated in the database and report tier steps.	
6. Ensure that you have the following information prior to starting your installation: <ul style="list-style-type: none"> ▪ Database Server\SQL instance name ▪ Report Server database names ▪ Report Server Web Service URL 	<ul style="list-style-type: none"> ▪ Database System Requirements
7. Note the Vision installation location on your web server. You will need this information for the Process	

Step	Related Topics
Server tier.	

Process Server Tier



After installation, review the [Dedicated Process Server Post-Installation checklist](#).

Step	Related Topics
1. Verify that the server operating system is supported.	<ul style="list-style-type: none"> ▪ System Requirements
2. Verify that you have at least 2 GB of disk space available for this installation.	
3. Install Microsoft .NET Framework.	<ul style="list-style-type: none"> ▪ .NET Architecture
4. Verify the location (path) of the existing databases.enc file on your web server. During the installation, you will need to provide this information. The default location of this file is: C:\Program Files\Deltek\Vision\.	

Post-Installation Checklist (New Installations)

Web Server

Steps	
1.	Set the WebLink password on the Web Server using the Vision Start menu WebLink shortcut.
2.	In WebLink, click the System Settings tab and review the Polling Interval and Max Concurrent Jobs field settings to confirm that they meet your needs.
3.	Use the same domain account to support server-side printing to domain printers. <ol style="list-style-type: none"> In WebLink, configure the Report Server tab. In IIS, configure the Application Pool Identity settings. For more information, see Server-Side Printing to Domain Printers in Appendix D.
4.	If you have a dedicated Process Server machine: <ol style="list-style-type: none"> On the Web Server, navigate to Control Panel » Administrative Tools and disable the Deltek Vision Process Server service. Launch Vision, add the name of the process server, and then assign queues to the server that you inserted. <ol style="list-style-type: none"> Click Configuration » System Settings. On the Servers tab, add the name of your Process Server. Assign the process queues to that Process Server.
5.	<ul style="list-style-type: none"> For new installations, perform the Post Installation steps. For upgrade installations, review the Installation Steps (Vision Upgrades) section.



Deltek recommends that the total of all of the process queues (per server) does not exceed the number in the **Max Concurrent Jobs** field.

You set the process queue maximum in Vision (**Configuration » General » System Settings » Servers tab » Process Queues grid » Max** field).

If the total of all of your process queues (per server) exceeds the number in the **Max Concurrent Jobs** field, only the number of jobs as specified in the **Max Concurrent Jobs** field will run concurrently. If you run too many concurrent jobs, you will add load to your Database Server and/or Report Server.

Dedicated Process Server

Refer to Step 2 of the **Web Server post-installation checklist** above to add and configure dedicated process servers in Vision.

Additional/Optional Modules

Vision is a prerequisite for certain additional or optional modules. Install these modules before deploying Vision to the end users.

Client Tier (Workstation)

Steps	
1.	Supply Vision users with the Vision URL. Replace servername in the URL with your server name (http://servername/visionclient).
2.	When you launch Vision, the credentials for new / sample databases are: Username: ADMIN Password: <no password>

Post-Installation Checklist (Upgrades)

Web Server

Steps	
1.	Verify that the databases.enc file was copied over from the previous installation.
2.	Verify that the web.config file was copied over from the previous installation.
3.	Verify that unused values are commented out in the web.config file.
4.	Verify that the DeltekVisionAppPool (or custom application pool) has the following settings: <ul style="list-style-type: none"> ▪ .NET CLR Version: v4.0. ▪ Enable 32-bit Applications: False
5.	Verify the physical paths for the Vision and VisionClient virtual directories.
6.	Verify that you can view VisionServices (http://localhost/Vision/VisionServices.aspx).
7.	Verify that you can launch and run WebLink.
8.	Verify that you can launch and run Vision.
9.	<p>If you have a dedicated Process Server machine:</p> <p>Perform these steps only if you had previously applied any custom web.config settings to customize Process Server behavior.</p> <ol style="list-style-type: none"> a. Launch Vision. b. Verify that the custom web.config settings were applied during the installation. <p>For example, perform these steps if you have custom settings for the number of emails being sent at a time (EmailChunkSize) or the maximum size of an email (MaxEmailSize):</p> <ol style="list-style-type: none"> 1. Click Configuration » System Settings » Email Tab. 2. Verify or update the Email Size Limit (Megabytes) setting. 3. Verify or update the Number of Emails to Send at Once setting.
10.	Verify that the Process Server Windows Service is running.
11.	If you performed an in-place upgrade and entered bypass when prompted for the process server service identity password, you must update the identity with the correct password or the service will not start.

Dedicated Process Server

Refer to Steps 9, 10, and 11 of the [Web Server Post-installation Checklist \(Upgrades\)](#) to add and configure dedicated process servers in Vision.

System Requirements

Platform Virtualization

Virtual environment software, such as VMware®, resides in the hardware layer underneath the operating system and is used to partition a single server into a multiple server/multiple operating system environment. Deltek's product development makes limited use of virtual environments.



See the *Virtual Environments Statement* document on the Deltek Customer Care Connect site (<http://support.deltek.com>) for more information.

Software Requirements

Some parts of the Vision application are distributed to logical tiers for performance, scalability, and security purposes. These logical tiers are distinct technologies required to run Vision, such as Report Server software or Web server software. They may or may not be hosted on the same machine. The method that you use to distribute Vision's logical tiers across physical tiers or actual machines depends on your organization's needs.

The software requirements for each logical tier are listed in the tables later in this section.

Supported Versions, Compatible Versions

Supported versions are the most current, actively tested technologies used to deploy Vision.

Compatible versions are recent technologies that have been tested for deploying Vision; however, these are not actively being tested but are believed to be compatible with Vision.



See the *Deltek Product Support Compatibility Matrix* document on the Deltek Customer Care Connect site (<http://support.deltek.com>) for more information.

Display Settings for All Servers

The Deltek Product installation is created using Flexera's InstallShield, which requires the color display depth on the server (via the console or through a remote desktop session) to be greater than 256.

If the color display depth is set to 256 or lower, the following error displays when you try to launch the installer:

Error Number: 0x80004005

Description: Unspecified error

Setup will now terminate.

The following Microsoft TechNet link provides steps for setting the values for Remote Desktop Sessions: <http://technet.microsoft.com/en-us/library/cc753755.aspx>.

Database Server



64-bit (x64) Database Server supported.

Supported Deployment Technology

The supported minimum software requirements for a complete installation of Deltek Vision Database Tier with Microsoft SQL Server include:

Operating System

- Windows Server 2012 R2
- Windows Server 2012

Database Platform

- The Microsoft SQL Server Database Engine and Reporting Services (64-bit) supported versions:
 - Standard, Business Intelligence, and Enterprise editions
 - Express Edition with Advanced Services
- Microsoft SQL Server 2014 SP1 + CU6 (build (12.0.4457)
- Microsoft SQL Server 2012 SP3 + CU3 (build 11.00.6537)



For more information, see [Links to Recommended Microsoft SQL Server Service Packs and Cumulative Updates.](#)

Other

- Microsoft SQL Server Database Login
- The SQL Server Login Account used by Vision in WebLink should use English as the Default Language
- Microsoft .NET Framework 4.6.1
- Microsoft .NET Framework 4.5.2
- Microsoft SQLXML 4.0 (SP1) — Embedded with installation

Database Compatibility Level

- SQL Server 2014 (120)
- SQL Server 2012 (110)

Compatible Deployment Technology

Operating Systems

Database Platform

- Microsoft SQL Server 2014 SP1+CU1 (build 12.0.4416.0)

Compatible Deployment Technology

- Microsoft SQL Server 2012 SP3 (build 11.0.6020.0)
- Microsoft SQL Server 2012 SP2+CU6 (build 11.0.5592.0)

Report Server (Microsoft SQL Reporting Services)



- 64-bit (x64) Report Server supported.
- Microsoft SQL Server Reporting Services are supported in Native Mode configuration only. The SharePoint Integrated Mode is not supported.
- Deltek recommends the “simple” recovery model for your Report Server database unless you are doing transaction log backups. If you leave the recovery model at **FULL** and do not back up the transaction log regularly, you risk allowing the database to grow until the log file consumes all available free space on the drive where it is stored, rendering the database and possibly the server unusable. For more information, see [https://msdn.microsoft.com/en-us/library/ms189275\(v=sql.120\).aspx](https://msdn.microsoft.com/en-us/library/ms189275(v=sql.120).aspx)

Supported Deployment Technology

The supported minimum software requirements for a complete installation of Deltek Vision Report Server Tier with Microsoft SQL Server include:

Operating System

- Windows Server 2012 R2
- Windows Server 2012

Report Server

- The Microsoft SQL Server Database Engine and Reporting Services (64-bit only) supported versions:
 - Standard, Business Intelligence, and Enterprise editions
 - Express Edition with Advanced Services
- Microsoft SQL Server 2014 SP1 + CU1 (build 12.0.4416.0)
- Microsoft SQL Server 2012 SP2 + CU6 (build 11.0.5592.0)



For more information, see [Links to Recommended Microsoft SQL Server Service Packs and Cumulative Updates](#).



- If Reporting Services is not already configured, refer to the steps in [How to Configure Microsoft SQL Server Reporting Services](#) in Appendix C.
- You must know the Report Server Virtual Directory and database names in order to answer the prompts from the installation when it tries to connect to the Report Server.
- If Reporting Services is configured but you are not sure how to obtain this information, refer to [How to Connect to the Report Server Web Service](#) in Appendix C for all the steps on how to obtain that information.

Supported Deployment Technology

Other

- Microsoft .NET Framework 4.6.1
- Microsoft .NET Framework 4.5.2

Compatible Deployment Technology

Report Server

- Microsoft SQL Server 2014 SP1+CU1 (build 12.0.4416.0)
- Microsoft SQL Server 2012 SP3 (build 11.0.6020.0)
- Microsoft SQL Server 2012 SP2+CU6 (build 11.0.5592.0)

Web/Application Server

Supported Deployment Technology

The supported minimum software requirements for a complete installation of Deltek Vision Web/Application Tier include:

Operating System

- Windows Server 2012 R2, with Microsoft Internet Information Services (IIS) 8.5 Role enabled
- Windows Server 2012, with Microsoft Internet Information Services (IIS) 8.0 Role enabled

Other

- Microsoft .NET Framework 4.6.1
- Microsoft .NET Framework 4.5.2
- Solid Documents (.NET) (Vision installs this if it is not detected during installation)



Vision does not support using any non-server operating system for production server installation.

Process Server

Supported Deployment Technology

The supported minimum software requirements for a complete installation of the Deltek Vision Process Tier include:

Operating System

- Windows Server 2012 R2
- Windows Server 2012

Supported Deployment Technology

Other

- Microsoft .NET Framework 4.6.1
- Microsoft .NET Framework 4.5.2
- Solid Documents (.NET) (Vision installs it if not detected during installation)

Client Software Requirements

Supported Deployment Technology

Client Operating System

- Windows 10 32-bit (x86) or 64-bit (x64)
- Windows 8.1 32-bit (x86) or 64-bit (x64)
- Windows 8 32-bit (x86) or 64-bit (x64)
- Windows 7 32-bit (x86) or 64-bit (x64)



Vision does not support using any non-server operating system for production server installation.

Web Browsers

- Microsoft Edge Browser
- Internet Explorer 11

Business Applications

- Microsoft Office 2013 32-bit and 64-bit version
- Microsoft Office 2010 32-bit version
- Microsoft Project 2013 32-bit version
- Microsoft Office 365 is supported but requires the full product installation
- Adobe Reader 9.0 or higher (for exporting reports in PDF format)

Other

- Microsoft .NET Framework 4.6.1
- Microsoft .NET Framework 4.5.2

Compatible Deployment Technology

Business Applications

- Adobe Reader 8.0 or higher (for exporting reports in PDF format)

Database Requirements

A Microsoft SQL Server database engine is required to run Vision. The Microsoft SQL Server edition that you choose to deploy with Vision depends on a number of factors, such as the size of your database and the number of employees actively using the application, which can impact database server performance.

- For firms with fewer than 50 employees, Vision supports Microsoft SQL Server Express Edition with Advanced Services, which has a database size limitation of 10 GB, 1 GB maximum utilized RAM, and is limited to the lesser of 1 CPU socket or four cores. See this Microsoft article to learn about other limitations of this edition:
[https://msdn.microsoft.com/en-us/library/cc645993\(v=sql.120\).aspx](https://msdn.microsoft.com/en-us/library/cc645993(v=sql.120).aspx)
- For firms with more than 50 employees, Vision supports Microsoft SQL Server Standard, Business Intelligence (BI), or Enterprise Edition.

The machine on which you install Microsoft SQL Server depends on your firm's deployment model.

SQL Server Considerations

SQL Server Standard, Business Intelligence (BI), or Enterprise Edition

- If you decide to split the Report Server (web service) from the database server hosting the report server database, you need an additional Microsoft SQL Server license.
- Report Server scale-out deployment is only available in Microsoft SQL Server Business Intelligence or Enterprise Edition. A scale-out deployment refers to an installation configuration that has multiple report server instances sharing a single report server database.
- The following Microsoft link lists the features supported by the different editions of Microsoft SQL Server. Click **Other Versions** and select the version that you are using:
[https://msdn.microsoft.com/en-us/library/cc645993\(v=sql.120\).aspx](https://msdn.microsoft.com/en-us/library/cc645993(v=sql.120).aspx)

SQL Server Express Edition with Advanced Services

Owners of SQL Server Express Edition with Advanced Services (SQL Server Express) should note the following:

- The report server database must be hosted on the local machine running the SQL Server Database Engine instance. You cannot use a remote SQL Server instance to host the report server database.
- Data sources used in a report must also be SQL Server databases that run on the local machine running the SQL Server Database Engine instance. You cannot use remote data sources or other data source types. To use additional data source types, you must use a different edition of Reporting Services. This means that your Vision database must reside on the same machine where your report server databases reside.
- You will either use the Single Server Deployment Model or Configuration 1 of the Two Server Deployment Model.



See [Appendix B: Microsoft SQL Server Edition and Version Information](#) for information about downloading the latest version.

Deltek MSDE/SQL Express Management Console

Deltek no longer ships the MSDE/SQL Express Management Console because the SQL Server Management Studio is now included with the SQL Express installations. Although the SQL Express Edition does not provide a way to schedule the automatic maintenance and backup of your database, Microsoft has provided documentation and Open Source tools for creating a scheduled backup and maintenance plan for SQL Express. The links below provide the details for performing those activities. Refer to these sites for guidance on implementing these tools in your environment.

Database Maintenance Activities

The Microsoft hosted Open Source Project site (www.codeplex.com) provides a Project/Tool for SQL Express users named **ExpressMaint** (<http://expressmaint.codeplex.com/>) that you can use to create maintenance plans. This project maintains two utilities for automating the backup and maintenance of databases for prior and current SQL Server Express Edition releases. They are based on the sqlmaint application that shipped with SQL Server 2000, but were updated to support current released versions.

Microsoft provides basic documentation for manually creating a Windows scheduled task to work with SQL Stored Procedures for automating daily backups:

- “How to Schedule and Automate Backups of SQL Server Databases in SQL Server Express” at <http://support.microsoft.com/kb/2019698>

The site below is referenced by several SQL Server resource websites and by the SQLPass community. It provides details on automating the steps for maintaining your database using SQL Express:

- “SQL Server Backup, Integrity Check, and Index and Statistics Maintenance” at <http://ola.hallengren.com/>

Recommended Daily Activities

Deltek recommends completing the following activities on your database daily:

1. Check database integrity
2. Rebuild indexes (doing this daily is not required, but it should be done at regular intervals)
3. Update statistics
4. Make a complete backup

SQL Server Express Edition Requirement

If you are implementing SQL Server Express Edition, Deltek requires that you use **SQL Server Express Edition with Advanced Services** as the database and report server for your Vision implementation because it contains the Database Engine and Reporting Services required for managing the database and running reports. The other SQL Express Edition installers do not have all the components needed to support Deltek Vision.

Storing Vision Data in a Microsoft SQL Server Database

- The installer creates a Microsoft SQL Server logon account used for the Vision database. The account requires the db_owner database role membership in the Login Properties and User Mapping dialog box for the following databases:
 - Vision database

- ReportServer and ReportServerTempDB databases



For more information and guidance on configuring rights, see [How to Give Your Account Proper Rights and Privileges in Reporting Services](#) in Appendix C.

- Enable the "TCP/IP" and "Shared Memory" Network Protocols in SQL Server Configuration Manager on the Microsoft SQL Server. All network protocols are installed by SQL Server Setup, but may or may not be enabled. Use SQL Server Configuration Manager to enable "TCP/IP" and "Shared Memory" to allow Vision to connect to the database.



For details, see the article on Microsoft's website titled *How to: Enable or Disable a Server Network Protocol (SQL Server Configuration Manager)* — <http://msdn.microsoft.com/en-us/library/ms191294.aspx>.

- Verify the name of your SQL Server Instance. The default installation uses the Server Name for the connection and installs as an instance named SSQSERVER. Sometimes, Microsoft SQL Server is installed using an instance name other than the default (MSSQLSERVER). The SQL Server Express Edition installer from Microsoft installs as the named instance **SQLEXPRESS**.



- When connecting to the Default SQL Server Database Engine instance, you use the name of your Database server. SQL Server automatically maps the Default Instance of the Database Engine to the Server Name when accepting connections.
- When connecting to a named instance of SQL Server Database Engine, you must specify the name of the SQL Server plus the instance in the connection in the format of SERVERNAME\INSTANCENAME.

For example, if your SQL Server is named SQLSERVER1 and you installed to an instance named SQLExpress, you would specify the server connection information in the format of **SQLSERVER1\SQLExpress**.

- If you do not know the name of your SQL Server Instance or you are unable to connect to your database server after installation, see the article on Microsoft's website titled *How to: Determine Whether the Database Engine Is Installed and Started*: <http://msdn.microsoft.com/en-us/library/ms366339.aspx>.
- Vision supports both SQL Server authentication modes: **Windows Authentication Only** mode or **SQL Server and Windows Authentication** mode (also known as "Mixed Mode").

Mixed Mode is **required** for new installations. If you are unable to connect to your SQL Database Server and you have already performed the steps in the first two bullets, you should verify that the SQL Server security settings are properly configured.



See the following Microsoft Article for details: [https://msdn.microsoft.com/en-us/library/ms188670\(v=sql.120\).aspx](https://msdn.microsoft.com/en-us/library/ms188670(v=sql.120).aspx).

- If you experience connection errors to your database or report server and have verified the previous steps, verify that Windows (or your) firewall is not blocking access to the SQL Server Database Engine and Reporting Services.



See the following Microsoft links for detailed steps:

How to: Configure a Firewall for Report Server Access at <http://msdn.microsoft.com/en-us/library/bb934283.aspx>

How to: Configure a Windows Firewall for Database Engine Access at <http://msdn.microsoft.com/en-us/library/ms175043.aspx>

Technical Considerations

Unsupported Environments

The following are non-supported environments for Vision:

- Vision cannot be installed side by side on the same Web/application or report servers as any previous version.
- You cannot perform a Single Server deployment on the Microsoft Small Business Server. Only the Vision database tier or report tier can be installed on this server.
- You cannot install any Vision tier on:
 - The Microsoft ISA/TMG server, or any other software-based firewall (except Windows firewall)
 - A Domain Controller
 - Any version of Microsoft Exchange Server
 - Any server with Microsoft Terminal Services (Application Mode Only) running, or if the server is configured as a Remote Desktop Session Host Server. Terminal Services in remote administration is fully supported.
 - Any version of SharePoint Server.

(You can install the Document Management module on the SharePoint Server. See the *Deltek Vision Document Management Guide* for information).

.NET Architecture

Vision's server-side architecture uses Microsoft's .NET framework. .NET is Microsoft's name for a set of software technologies developed to connect information, people, systems, and devices.



See <http://www.microsoft.com/net/> for more information.

.NET allows Deltek developers and your in-house IT staff to extend Vision's workflow capabilities by calling outside Web services from within Vision. For example, you may send real-time, updated project information from Vision to an external collaboration web site so that your clients can view current project information.

The .NET framework makes it possible for you to develop applications that integrate with Vision, call Web services from within Vision, and communicate with Vision through mobile devices.

Deltek's main client application is deployed using the ClickOnce technology, which requires Microsoft .NET Framework 4.5.2.

You can download Microsoft .NET Framework 4.5.2 from this link:

<http://www.microsoft.com/en-gb/download/details.aspx?id=42642>



Multiple Languages

Vision allows you to install a blank Vision database in a selected language on your database server.

- **New Installations** — If you are installing Vision for the first time, the installation routine includes a step in which you select the language database version that you want to use for the installation. The database that you select determines the language that subsequently displays in the Vision application user interface.
- **Language Options** — The Vision client deployment includes options for selecting the following language databases when you run the application:
 - English (United States or International)
 - France (Canada or France)
 - Spanish
 - Dutch (Netherlands)
 - Portuguese (Brazil)
 - German

Permissions Required for Installing Vision

When performing the Vision installation, there are several rights and privileges required for the person performing the installations on the server tiers.

Tier	Permissions Required
Web/Application Tier	<ul style="list-style-type: none"> ▪ The Windows account of the person performing the installation must be a member of the Local Administrator group on the server. ▪ The Windows account of the person performing the installation must be a member of the System Administrator group and Content Manager Roles in SQL Server Reporting Services on the Report Server. <hr/> <div style="display: flex; align-items: center;">  <p>For more information, see How to Give Your Account Proper Rights and Privileges in Reporting Services in Appendix C.</p> </div> <hr/> <ul style="list-style-type: none"> ▪ The person performing the installation must have/know the credentials of the user account created in the database as specified in the Database Requirements section. This is the Database user rights that the installation will require when it displays the database platform connection information.
Process Server Tier	<ul style="list-style-type: none"> ▪ The Windows account of the person performing the installation must be a member of the Local Administrator group on the server.
Report Server Tier	<ul style="list-style-type: none"> ▪ The Windows account of the person performing the installation must be a member of the Local Administrator group on the server. ▪ The person performing the installation must have/know the credentials of the User account created in the database, as specified in the Database Requirements section. These are the Database user credentials that the installation will require when it displays the database platform connection information. ▪ The Windows account of the person performing the installation must be a member of the System Administrator group and Content Manager Roles in SQL Server Reporting Services on the Report Server. <hr/> <div style="display: flex; align-items: center;">  <p>For more information, see How to Give Your Account Proper Rights and Privileges in Reporting Services in Appendix C.</p> </div>
Database Server Tier	<ul style="list-style-type: none"> ▪ The Windows account of the person performing the installation must be a member of the Local Administrator group on the server and a member of the SYSADMIN role in SQL Server. ▪ The person performing the installation must know the credentials of the user account created in the database as specified in the Database Requirements section. These are the database user rights that the installation will require when it displays the database platform connection information.

Vision Server Account Requirements

The installation creates a local account and uses that account to set up the initial Vision server components in several areas such as configuring the IIS Web Server settings, creating and launching the Deltek Vision Process Server Windows service, and running Vision reports.

If there is a domain or local account policy that has more stringent password requirements, setup will be unable to create the account and the Vision server components will need to be manually configured before users can launch it. If this happens, you will not be able to run reports.



Deltek strongly recommends that you change the default password for this local account after the installation is complete.

In addition, if Vision users require access to domain printers and/or Windows Authenticated logins, you **must** use a Domain Account. The local account created during the install is not a Domain Account and will not have access to your domain by default.

Changing From a Local Account to a Domain Account

After the installation, you can change the local account created by the installer to a domain account.



For more information about the local account, see one of the following:

- [Deltek KB Article #52458](http://support.deltek.com) on the Deltek Customer Care Connect site <http://support.deltek.com>.
 - *The Deltek Vision Advanced Technical Administrator's Guide.*
-

Configuring Server-Side Printing

If you deploy Vision with Windows Server, you must complete the following step to configure server-side printing:

- Configure the VisionApplicationPool Identity (IIS) and the Report Server Windows Username (Report Server tab of WebLink) to be the same domain account. This must also match the domain account profile where your network printers are installed on the Vision web/application server.



For more information, see [How to Connect to the Report Server Web Service](#) in Appendix C.

See the Deltek Product Support Compatibility Matrix Guide on the Deltek Customer Care Connect site for additional information: <http://support.deltek.com>.

Installation Steps (Vision New Installs)

One Server Installation

This section provides instructions for installing all Vision tiers on one server for organizations that prefer the one-server deployment model. One-server deployment is suitable for demonstration purposes or for small organizations.

When you choose the One Server deployment model, you install all Vision tiers (Web, application, process server, report, and database) on the same machine. You may want to install all Vision tiers on the same server if your deployment needs are simple.



- Before you begin your installation, review the [Preinstallation Checklist](#).
- To review the various deployment options, see the [Installation/Deployment Models](#) section.

The steps in this section explain how to install all tiers, including the database tier. The method that you use to create your Vision database file during installation depends on whether you are:

- Installing Vision for the first time with a new database, or
- Installing Vision for the first time and upgrading your database from a previous Deltek product.
- Performing an upgrade of an existing Vision 7.5 installation.
- Performing an upgrade of an existing Vision version earlier than Vision 7.5

This section includes information about creating or locating your Vision database.



If you are migrating your database from Deltek Advantage, Deltek Award, Deltek CRM and Proposals, or Deltek Sema4 to Vision, review [Migrating from Deltek Legacy Products](#) before you install Vision.



If your existing Vision Web/Application Server is on a version of Windows that is no longer supported, you must perform a new installation. Review the [Migrating/Upgrading To a New Server](#) section.

To install Vision tiers on one server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.
The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for a particular tier, setup may exit or display a warning.
2. Ensure that your environment meets all prerequisites and click **Next**.
3. On the Welcome page, click **Next**.
4. On the License Agreement page, read the agreement and select **I accept the terms of the license agreement** if you agree. Click **Next**.
5. On the Choose Destination Location page, specify the location where you want to install Vision and its components and click **Next**.

Vision is configured to run as a 64-bit application; the default installation location is C:\Program Files\Deltek\Vision.

6. On the Number of Deltek Vision Servers page, select **One Server** to install all server components (database, Web/application, process, and report) on one server, and then click **Next**.
7. On the Reports to Load page, select the language to load and click **Next**.

The Vision installation includes the language options that you are licensed to use.

8. On the Database Server (MSSQL) Setup Connection page, set the following options and then click **Next**:

- **Database Server** — Enter the name of the database server.
- **SQL Username** — Enter a Microsoft SQL database server login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode.
- **SQL Password** — Enter the password associated with this SQL Username.
- **Windows Integrated** — Select this check box. Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in Microsoft SQL Server to perform the installation. If you use integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When Microsoft SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.

When you click **Next**, setup checks your Microsoft SQL Server Reporting Services configuration. Setup uses the default report server URL when it checks the configuration of Microsoft SQL Reporting Services on the Web Server to the Reporting Services Web Service. If it is unable to make a connection to the Reporting Service Web Service page, setup displays an error message to explain that it is unable to make the connection and then displays the Specify Report Server and Report Server URL Information form.

9. After your configuration is verified, click **Next**.
10. On the Databases to Restore page, select the database that you want to restore, if any. The database that you select determines the language that displays in the Vision user interface. Vision supports databases for languages that you are licensed to use.
 - **No Selection** (no boxes checked) — If you already have a Vision database or previous sample database, you can click **Next** without making a selection. The installer will prompt you to choose the database(s) to upgrade if the setup detects them.
 - **Blank Databases** – If there are any existing Vision 6.x databases that you want to upgrade on the database server you specified, do **not** select **Blank Database**. You can upgrade an existing 6.x or 7.x database in the next step. If you don't have an existing Vision database, select this option to start a new Vision database.
 - **Blank Database** (Vision – US) — Select this option to install a blank database for English Language installations within the United States.
 - **Blank Database** (Vision – English International) — Select this option to install a blank database for English Language installations outside of the United States.
 - **Blank Database** (Vision – Dutch) — Select this option to install a blank database for Dutch Language installations.

- **Blank Database** (Vision – German) — Select this option to install a blank database for German Language installations.
- **Sample Database** (VisionDemo76) — Select this option to install the Vision sample database. This database can be useful for troubleshooting. If you already have a previous version of the sample Database, the following options are available:
 - Do not select **Sample Database**. The setup will detect supported previous versions of databases (including the sample database) and give you the opportunity to upgrade your sample database.
 - In most cases, a previous version of the sample database has the Vision version number in its name (for example, VisionDemo73). If that is the case, when you convert a previous version's demo database to the current release, the version it is upgraded to will no longer match the version number in its name. You can perform one of the following actions:
 - Delete the previous version's sample database on your SQL Server before continuing, and then choose to restore the sample database. Deltek recommends this option.
 - Rename the database on the SQL Server and in WebLink after the installation to reflect the correct version number.
 - Allow the installation to restore a new VisionDemo76 Sample database without removing the previous copy.

If the installation program cannot connect to the database using the username/password that you entered, a message asking you to try again displays when you try to continue. Resolve this connection issue before continuing with the installation.

11. Click **Next**.

12. The next page to display depends on your database version:

- If your database is already at the current release, the Database to Upgrade screen does not display and you can skip this step.
- If your database is older than version 6.x, a message displays letting you know that there are no valid databases to convert. You must manually convert those databases to a minimum of version 6.x and then upgrade to the current release.



To upgrade your database to 6.x, see [Converting a Database During Installation](#).

- If your database version is 6.x, the Database to Upgrade page displays:
 - a. If there are any existing Vision 6.x databases on your database server, setup will detect and display the databases on their version numbers on the Database to Upgrade page.



Before displaying the Database to Upgrade page, setup will display a warning message: "If a database contains custom objects do not select it for automatic upgrade. For those databases you would drop the custom objects, manually run the upgrade scripts, and then re-apply the custom objects..."

If you have added any custom indexes, triggers, and so on to your database you must remove them before performing the conversion to ensure they do not affect the conversion.

- b. Complete one of the following actions and then click **Next** to continue:

- Select a database to upgrade. If you upgrade a database, the setup process will make a backup of the database on your SQL Server in the default backup location before converting the database. If setup is unable to make the backup because of insufficient space or any other reason, the database will not be converted and an error message will display during the installation. This error will also be logged in the log file so that when you review the log file you can be reminded to convert the database manually.
- If you choose the **I will backup and upgrade the database myself after the installation** option, setup will return a message that you will need to convert the database manually.



If you choose to upgrade the database manually outside of the installation, a database conversion log will not be created. You must therefore review the query results from your query window to verify that there were no errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care. Do not proceed with your implementation if you encounter errors during the database conversion.

- If you are installing any tier that included the Web/application tier and did not restore or upgrade a database that is already at the current released version and setup does not detect any existing Vision 6.x databases on your database server, setup will display a message window stating that a database is required to continue and will exit.
- c. Manually create a backup of your database before you run the database conversion using the **Deltekvision76.sql** script file located in the <Installation folder>\databases\scripts folder. The default location is C:\program files\Deltek\Vision\Databases\Scripts folder on the Vision Web/Application server.
- Do not run the UnicodeDeltekvision76.sql or other script files unless directed to by Deltek Customer Care. If you plan to convert your Vision database to Unicode, refer to the Vision Help for the appropriate steps.

13. Click **Next**.

14. On the Databases Available for Logon page, select the databases that you want to make available to Vision users on the Vision login screen and click **Next**.

This page displays only if you have selected multiple databases to upgrade or restore. If you do not have multiple databases, skip to the next step.

15. On the Specify Web Site page, select the web site to which you will install Vision and click **Next**.

This page displays only if your Web server contains multiple web sites. If you are installing to an existing SharePoint server, SharePoint web sites are omitted from the list.

If your Web server does not contain multiple web sites, skip to the next step.

16. On the Error Reporting page, select **Automatically send fatal error reports to Deltek**, and click **Next**.

17. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.

18. On the Start Copying Files page, review and, if necessary, note the following installation settings:

- The location of the installation log that tracks all the steps performed during the installation.

- The installation directory where you installed Vision.
- The Setup Type and the option chosen – If you are performing a multi-server installation, this information is handy as it contains information required when installing on multiple server installations.
- Information about the installation such as:
 - Web/Application Server:
 - Web/Application Server Name
 - The Web Site
 - The Virtual Directory
 - The Security Mode
 - Details of any accounts created by the installation
 - WebLink password configuration.
 - Report Server:
 - The report server name
 - Report Server URL
 - Database Server
 - The database server name\Instance
 - The database login used to perform the installation on the database server.
 - Any Vision database logins and passwords created in SQL Server during the installation. This information can be used when configuring WebLink. Deltek recommends that you change the passwords from their defaults and/or change the login name.
 - Any databases that you will be restoring or upgrading.
 - Any databases that will be added to the list in WebLink.

19. When you finish reviewing settings, click **Next** to begin the installation.

20. Click **Finish** to complete the installation. If prompted, you can restart your computer after installing Vision.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.



During installation of the database tier, the Vision backup device is created on the database server to allow users to perform ad hoc database backups before major data changes or processes take place.

To back up the database, select **Utilities » Backup Database** from the Vision Navigation menu.

Two Server Installation

This model is designed for small to medium-sized firms who may not have a technical staff.



See [Installation/Deployment Models](#) for a complete description of each deployment model.

There are two different methods for installing Vision across two servers:

Configuration	Description
Configuration 1	<p>Install the database and report components on one server machine and the Web/application and process server components on a separate server machine. Organizations with one SQL Server license will use this configuration. Organizations typically use this method if all users are at a single location and will only access Vision in the office or over a VPN connection into the corporate network. Infrastructure security is not necessarily a concern in this model, because all application usage is internal to the organization. This method is designed for small to medium-sized organizations that may not have a technical staff.</p> <p>The topics that cover this method are:</p> <ul style="list-style-type: none"> ▪ Configuration 1 (Part 1) — Database and Report Installation for Two-Server Deployment ▪ Configuration 1 (Part 2) — Web/Application and Process Server Installation for Two-Server Deployment <p>In a two-server deployment with Configuration 1, the Database and Report Server are on the same machine. In this configuration, the Vision client application needs a direct connection to the Report Server to run and view reports. Since the Database server is also on the Report server, it is not suitable for use in an environment with users accessing the application over the Internet.</p>
Configuration 2	<p>Install the database component on one server machine and the Web/application, process server, and report components on a separate server machine.</p> <p>Configuration 2 has the Reporting Services installed on a server separate from the Database Engine. If you decide to split the Report Server (web service) from the Database Server hosting the Report Server database, you will need an additional Microsoft SQL Server license.</p> <p>The topics that cover this method are:</p> <ul style="list-style-type: none"> ▪ Configuration 2 (Part 1) — Database Server Installation for Two-Server Deployment ▪ Configuration 2 (Part 2) — Web/Application, Report, and Process Server Installation for Two-Server Deployment

Configuration 1 (Part 1) — Database and Report Installation for Two-Server Deployment



If you are migrating your database from Deltek Advantage, Deltek Award, Deltek CRM and Proposals, or Deltek Sema4 database to Vision, review the information in [KB Article # 11424](#) titled *Where is Conversion Utility for Advantage to Vision?* prior to beginning your Vision installation.



Review the [Preinstallation Checklist](#) before you begin your installation.

For important information about upgrading from a previous version of Vision, see [Installation Steps \(Vision Upgrades\)](#).

To install the database and report server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.

When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.

The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.

2. Ensure that your environment meets all prerequisites and click **Next**.
3. On the Welcome page, click **Next**.
4. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
5. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse...**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.



If you are upgrading from a previous installation, do not install into the same folder as the previous installation.

6. On the Number of Vision Servers page, select **Two Servers** and click **Next**.
7. On the Two tier – role of server page, select the **Database/Report** option and click **Next**. The Database Server (MSSQL) Setup Connection page displays.

Setup checks for the Microsoft .NET Framework prerequisite before displaying the Database Server Setup Connection Information page. If it does not detect it, the setup exits.



Setup no longer upgrades databases on database tier or report/database tier installations. All database upgrades need to be completed from the web/application upgrade. During in-place Web/Application server upgrades, setup reads the configuration settings in the Vision \Web web.config file. If there are any custom settings and those settings have been migrated to the database, the installer will include them in the database conversion script. For this reason, the database script can only be created during the web/application server installation.

For more details, refer to the [Summary of Upgrade Installation Changes](#) section.

8. On the Database Server (MSSQL) Setup Connection page, enter the following information:
 - **Database Server** — Enter the name of the database server.
 - **SQL Username** — Enter a Microsoft SQL database server login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server username and password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL username.
 - **Windows Integrated** — Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When Microsoft SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.

You must make sure your connection is configured correctly before you can continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again. Click **OK**, correct the problem, and continue.
9. Click **Next**.
10. On the Databases to Restore page, select the database that you want to restore, if any. The database that you select determines the language that displays in the Vision user interface.
 - **No Selection** (no boxes checked) — If you already have a Vision database or previous sample database, you can click **Next** without making a selection. During the Web/Application server tier installation, the installer will prompt you to choose the database(s) to upgrade when it detects them.
 - **Blank Database** (Vision - US) — Select this option to start a new Vision database.
 - **Blank Database** (Vision – English International) — Select this option to start a new Vision database if you are using an English Language installation and are outside the United States.
 - **Blank Database** (Vision – Dutch) — Select this option to install a blank database for Dutch Language installations.
 - **Blank Database** (Vision – German) — Select this option to install a blank database for German Language installations.

- **Sample Database** (VisionDemo76) — Select this option to install the Vision sample database. This database can be useful for troubleshooting. If you already have a previous version of the sample database, the following options are available:
 - Do not select **Sample Database**. The setup will detect supported previous versions of databases (including the sample database) during the Web/Application server installation and give you the opportunity to upgrade your sample database.
 - In most cases, a previous version of the sample database has the Vision version number in its name (for example, VisionDemo73). If that is the case, when you upgrade a previous version's demo database, the version it is upgraded to will no longer match the version number in its name. You can perform one of the following actions:
 - Delete the previous version's sample database on your SQL Server before continuing and then choose to restore the sample database. Deltek recommends this option.
 - Rename the database on the SQL Server and in WebLink after the installation to reflect the correct version number.
 - Allow the installation to restore a new VisionDemo76 Sample database without removing the previous copy.

11. Click **Next** to continue.

The Checking configuration of Microsoft SQL Reporting Services message displays.

The setup, when performed with any deployment model that has the Web tier option, will try to connect to the Microsoft SQL Reporting Services Web Service to verify connectivity to the Report Server. It uses a standard Report Server URL definition (containing the server name) to make the connection.

If it is unable to make a connection to the Reporting Service Web Service page, the setup displays an error message to explain that it is unable to make the connection and displays the Specify Report Server and Report Server URL Information form.



For additional information, see [How to Connect to Report Server Web Service](#) in Appendix C.

12. When the connection is complete, click **Next**.
13. On the Error Reporting page, select **Automatically send fatal error reports to Deltek** and click **Next**.
14. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.
15. On the Start Copying Files page, review the installation settings. The information on this page is also recorded in the Installation Log for future reference. It contains information such as:
 - The location of the installation log that tracks all the steps performed during the installation.
 - The installation directory where you installed Vision.
 - The Setup Type and the option chosen – If you are performing a multi-server installation, it is good to know what options were chosen when performing the installation on your other servers.

- Information about the Database/Report server configurations such as:
 - Any local accounts that were created for the setup, including their passwords.
 - Report server name and report server URL.
 - Database Server name / Instance name
 - List of databases that will be created (if option was selected).

16. Click **Next**.

17. On the Deltek Vision Installation Wizard Complete page, click **Finish**. If prompted, restart your computer after installing Vision.

You have successfully installed the Database and Report Server tiers on a server. Proceed to “Configuration 1 (Part 2) — Web/Application and Process Server Installation of Two Server Deployment.”



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.



During installation of the database tier, the Vision backup device is created on the database server to allow users to perform ad hoc database backups before major data changes or processes take place. To back up the database, select **Utilities » Backup Database** from the Vision Navigation menu.

Configuration 1 (Part 2) — Web/Application and Process Server Installation of Two Server Deployment

Follow these steps to install the Vision Web/application and process server tier on one server. During installation, you will be prompted for database information, such as the database host name or IP address and Report Server information such as the Report Server Name, and Report Server URL. You must have this information to perform the installation. This is the second of two steps for the Two-Server Deployment Model where the Database/Report Server tiers are on one server and the Web/Application and Process Server tiers are on another server. .



Review the [Preinstallation Checklist](#) before you begin your installation.

Deltek recommends installing the Database Server first. In this configuration, you have already installed the Database and Report Server Tiers. That step must be performed before the installation of Deltek Vision on your Vision Web/Application Server.

Additionally, the installation also created a default account named **DeltekVision** with the necessary rights to the Report Server Web Services. You can specify the username and its password when prompted for the Report Server Web Service credentials.



The password information is listed on the Summary screen of the Database/Report Server installation.

To install the Web/Application and Process Servers:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
2. When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.

The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.

3. Ensure that your environment meets all prerequisites and click **Next**.
4. On the Welcome page, click **Next**.
5. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
6. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.

7. On the Number of Vision Servers page, select **Two Servers** and click **Next**.
8. On the Two tier – role of server page, select the **Web/Application/Process** option.

9. On the Reports to Load page, select the language for the reports to load. **English – US** is the default. The Vision installation routine includes options for selecting the languages that you are licensed to use.



If you have other report languages loaded, setup will also select those languages to reload.

Setup checks for the Microsoft .NET Framework prerequisite before displaying the Database Server Setup Connection Information form. If it does not detect it, the setup exits.

10. On the Database Server (MSSQL) Setup Connection page, enter the following:
 - **Database Server** — Enter the name of the database server.
 - **SQL Username** — Enter a Microsoft SQL database server login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server username and password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL Username.
 - **Windows Integrated** — Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When Microsoft SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.
11. Make sure your connection is configured correctly before you continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again.
12. Click **OK**, correct the problem, and continue. The Checking configuration of Microsoft SQL Reporting Services page displays.

The setup, when performed with any deployment model that has the Web tier option, will try to connect to the Microsoft SQL Reporting Services Web Service to verify connectivity to the Report Server. It uses a standard Report Server URL definition (containing the server name) to make the connection. If it is unable to make a connection to the Reporting Service Web Service page, setup will return an error message with the reason it is unable to make the connection and will display the Specify Report Server and Report Server URL Information form. Continue to the next step when the connection is complete.



For additional information, see [How to Connect to Report Server Web Service](#) in Appendix C.

13. The next screen to display depends on your database version:
 - If your database is already at the current release, the Database to Upgrade page does not display and you can skip this step.
 - If your database is older than version 6.x, a message displays letting you know that there are no valid databases to convert. You must manually convert those databases to a minimum of version 6.x then upgrade to the current release.



To upgrade your database to 6.x, see [Converting a Database During Installation](#).

- If your database version is 6.x, the Database to Upgrade page displays:
 - a. If there are any existing Vision 6.x databases on your database server, setup will detect and display the databases on their version numbers on the Database to Upgrade page.



Before displaying the Database to Upgrade page, setup will display a warning message: "If a database contains custom objects do not select it for automatic upgrade. For those databases you would drop the custom objects, manually run the upgrade scripts, and then re-apply the custom objects..."

If you have added any custom indexes, triggers, and so on to your database you must remove them before performing the conversion to ensure they do not affect the conversion



If you do not remove any custom indexes, triggers, and so on that you added, the conversion may fail. If it fails, you must restore the database, remove the objects, convert the database and reapply your changes.

- b. Complete one of the following actions:
 - Select a database to upgrade. If you upgrade a database, the setup process will make a backup of the database on your SQL Server in the default backup location before converting the database. If setup is unable to make the backup because of insufficient space or any other reason, the database will not be converted and an error message will display during the installation. This error will also be logged in the log file so that when you review the log file you can be reminded to convert the database manually.
 - Click **Next** to bypass this form.
 - If you choose the **I will backup and upgrade the database myself after the installation** option, setup will return a message that you will need to convert the database manually.



If you choose to upgrade the database manually outside of the installation, a database conversion log will not be created. You must therefore review the query results from your query window to verify that there were no errors. Do not close the query window until you review for errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care.

- If you are installing any tier that included the Web/application tier and did not restore or upgrade a database that is already at the current released version and setup does not detect any existing Vision 6.x databases on your database server, setup will display a message window stating that a database is required to continue and will exit.
- c. Manually create a backup of your database before you run the database conversion using the **Deltekvision76.sql** script file located in the <Installation folder>\databases\scripts folder. The default location is C:\program files\Deltek\Vision\Databases\Scripts folder.

Do not run the **UnicodeDeltekvision76.sql** or other script files unless directed to by Deltek Customer Care. If you plan to convert your Vision database to Unicode, refer to the Vision Help for the appropriate steps.

14. Click **Next**.
15. If you have more than one database, on the Databases Available for Logon page, select the databases that you want to make available to Vision users on the Vision login screen. The list displayed here includes:
 - The databases you selected to upgrade, along with their current version numbers (if any were selected).
 - The sample database (if restored or upgraded).
 - The blank database (if restored).
 - Any current version databases already previously restored or converted on your database server.

You must select at least one database. You can use WebLink after installation to add or remove new databases.

This page does not display if you do not have more than one database or did not choose to upgrade any databases and there is only one existing Vision 7.6 database.

16. Click **Next** to continue.
17. On the Specify Web Site page, select the web site to which you will install Vision and click **Next**.

This page displays only if your Web server contains multiple web sites. If you are installing to an existing SharePoint server, SharePoint web sites are omitted from the list.

If your Web server does not contain multiple web sites, skip to the next step.
18. On the Error Reporting page, select **Automatically send fatal error reports to Deltek**, and click **Next**.
19. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.
20. On the Start Copying Files page, review the installation settings. The information on this page is also recorded in the Installation Log for future reference. It contains information such as:
 - The location of the installation log that tracks the steps performed during the installation.
 - The installation directory where you installed Vision.
 - The Setup Type and the option chosen. If you are performing a multi-server installation, this information is handy as it contains information required when installing on multiple server installations.
 - Information about the Web/application/report server configurations such as:
 - Web Site, Virtual Directory, Virtual Directory Security Mode
 - Any local Windows accounts that were created for the setup including their Password.
 - Database/Report server name and report server URL.
 - List of databases that will be converted.

- List of databases that will appear in WebLink after the installation.

21. Click **Next**.

22. On the Deltek Vision Installation Wizard Complete screen, click **Finish**. If prompted, you can restart your computer after installing Vision.

You successfully installed the Web/Application and Process Server tiers on the current server.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.



During installation of the database tier, the Vision backup device is created on the database server to allow users to perform ad hoc database backups before major data changes or processes take place. To back up the database, select **Utilities » Backup Database** from the Vision Navigation menu.

Configuration 2 (Part 1) — Database Server Installation for Two-Server Deployment

You do not need to perform this installation if your database tier is on its own server unless you plan to restore the sample, a blank database, or use the Performance Management (Analysis Cubes) module.



If you are migrating your database from Deltek Advantage, Deltek Award, Deltek CRM and Proposals, or Deltek Sema4 database to Vision, review the information in the [KB Article # 11424](#) titled *Where is Conversion Utility for Advantage to Vision?* prior to beginning your Vision installation.



Review the [Preinstallation Checklist](#) before you begin your installation.

For steps to upgrade from a previous version of Vision, see [Installation Steps \(Vision Upgrades\)](#).

To install the database server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
2. When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.

The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.

3. Ensure that your environment meets all prerequisites and click **Next**.
4. On the Welcome page, click **Next**.
5. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
6. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.

7. On the Number of Vision Servers page, select **Two Servers** and click **Next**.
8. On the Two tier – role of server page, select the **Database only** option and click **Next**.



Setup no longer upgrades databases on database tier or report/database tier installations. All database upgrades need to be completed from the web/application upgrade. During in-place Web/Application server upgrades, setup reads the configuration settings in the Vision Web web.config file. If there are any custom settings and those settings have been migrated to the database, the installer will include them in the database conversion script. For this reason, the database script can only be created during the web/application server installation.

For more details, refer to the [Summary of Upgrade Installation Changes](#) section.

9. On the Database Server (MSSQL) Setup Connection page, enter the following:
 - **Database Server** — Enter the name of the database server.
 - **SQL Username** — Enter a Microsoft SQL database server login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL username.
 - **Windows Integrated** — Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.
10. You must make sure your connection is configured correctly before you can continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again. Click **OK**, correct the issue, and continue.
11. Click **Next**.
12. On the Databases to Restore page, select the database that you want to restore, if any. The database that you select determines the language that displays in the Vision user interface.
 - **No Selection (No Boxes checked)** — If you already have a Vision database or previous sample database, you can click **Next** without making a selection. During the Web/Application server tier installation, the installer will prompt you to choose the database(s) to upgrade when it detects them.
 - **Blank Database (Vision – US)** — Select this option to start a new Vision database.
 - **Blank Database (Vision – English International)** — Select this option to start a new Vision database if you are using an English Language installation and are outside the United States.
 - **Blank Database (Vision – Dutch)** — Select this option to install a blank database for Dutch Language installations.
 - **Blank Database (Vision – German)** — Select this option to install a blank database for German Language installations.
 - **Sample Database (VisionDemo76)** — Select this option to install the Vision sample database. It is sometimes helpful to have this database installed for troubleshooting purposes. If you already have a previous version of the sample database, the following options are available:
 - Do not select **Sample Database**. The setup will detect supported previous versions of databases (including the sample database) during the Web/Application server installation and give you the opportunity to upgrade your sample database.
 - In most cases any previous versions of the sample database may have the Vision database version number in its name (for example, VisionDemo73). If that is the case, when you upgrade a previous version's demo database, the version

it is upgraded to will no longer match the version number in its name. You can perform one of the following actions:

- Delete the previous version's sample database on your SQL Server before continuing, and then choose to restore the sample database. Deltek recommends this option.
- Rename the database on the SQL Server and in WebLink after the installation to reflect the correct version number.
- Allow the installation to restore a new VisionDemo76 Sample database without removing the previous copy.

13. Click **Next**.

14. On the Error Reporting page, select **Automatically send fatal error reports to Deltek** and click **Next**.

15. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.

16. On the Start Copying Files page, review and save the installation settings. This page contains the following information:

- The location of the installation log that tracks all the steps performed during the installation.
- The installation directory where you installed Vision.
- The Setup Type and the option chosen – If you are performing a multi-server installation, this information is handy as it contains information required when installing on multiple server installations.
- Information about the database server such as:
 - Database server name
 - Database login used to perform the installation on the database server
 - Any Vision logins and passwords created in SQL Server during the installation. This information can be used when configuring WebLink. It is recommended that you change at least the passwords from their defaults.
 - Any databases that you will be restoring.

17. Click **Next** to begin installation of the database server as part of a two server installation.

18. On the Deltek Vision Installation Wizard Complete screen, click **Finish**.

You have successfully installed the Database Server tier on a server. Proceed to *Configuration 2 (Part 2): Web/Application, Report, and Process Server Installation for Two-Server Deployment* to install the Web/Application, Report, and Process Servers on a second server.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.



During installation of the database tier, the Vision backup device is created on the database server to allow users to perform ad hoc database backups before major data changes or processes take place. To back up the database, select **Utilities » Backup Database** from the Vision Navigation menu.

Configuration 2 (Part 2) — Web/Application, Report, and Process Server Installation for Two-Server Deployment

Follow these steps to install the Vision Web/application, report, and process server tiers on one server. During installation, you will be prompted for database information, such as the database host name or IP address. You must have this information to perform the following installation.



Review the [Preinstallation Checklist](#) before you begin you installation.

To install the Web/Application/Report/Process Servers:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
 When you download the Vision installation, an email containing the installation password and your license information is sent to your email address. .
 The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.
2. Ensure that your environment meets all prerequisites and click **Next**.
3. On the Welcome page, click **Next**.
4. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
5. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.
 If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.
6. On the Number of Vision Servers page, select **Two Servers** and click **Next**.
7. On the Two tier – role of server page, select **Web/Application Report Process**.
8. On the Reports to Load page, select the language for the reports to load and click **Next**.
 English – US is the default. The Vision installation routine includes options for selecting the languages that you are licensed to use. If you have other report languages loaded, setup will also select those languages to reload.
9. On the Database Server (MSSQL) Setup Connection page, enter the following:
 - **Database Server** — Enter the name of the database server.
 - **SQL Username** — Enter a Microsoft SQL database server Login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL Username.
 - **Windows Integrated** — Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be

a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.

10. You must make sure your connection is configured correctly before you can continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again. Click **OK**, correct the issue, and continue.
11. Click **Next** to continue.

The Checking configuration of Microsoft SQL Reporting Services page displays.

Setup uses the default report server URL when it first checks the configuration of Microsoft SQL Reporting Services on the Web Server to the Reporting Services Web Service. If it is unable to make a connection to the Reporting Service Web Service page, setup will return an error message with the reason it is unable to make the connection and will display the Specify Report Server and Report Server URL Information form. Continue to the next step when the connection is complete.



For additional information, see these sections in Appendix C: [How to Connect to the Report Server Web Service](#) and SQL Report Server Database Setup Connection Screen.

12. The next screen to display depends on your database version:

- If your database is already at the current release, the Database to Upgrade page does not display and you can skip this step.
- If your database is older than version 6.x, a message displays letting you know that there are no valid databases to convert. You must manually convert those databases to a minimum of version 6.x then upgrade to the current release.



To upgrade your database to 6.x, see [Converting a Database During Installation](#).

- If your database version is 6.x, the Database to Upgrade screen displays:
 - a. If there are any existing Vision 6.x databases on your database server, setup will detect and display the databases and their version numbers on the Database to Upgrade page.



Before displaying the Database to Upgrade dialog box, setup will display a warning message: "If a database contains custom objects do not select it for automatic upgrade. For those databases you would drop the custom objects, manually run the upgrade scripts, and then re-apply the custom objects..."

If you have added any custom indexes, triggers, and so on to your database you must remove them before performing the conversion to ensure they do not affect the conversion



If you do not remove any custom indexes, triggers, and so on that you added, the conversion may fail. If it fails, you must restore the database, remove the objects, convert the database and reapply your changes.

- b. Complete one of the following actions:
- Select a database to upgrade. If you upgrade a database, the setup process will make a backup of the database on your SQL Server in the default backup location before converting the database. If setup is unable to make the backup because of insufficient space or any other reason, the database will not be converted and an error message will display during the installation. This error will also be logged in the log file so that when you review the log file you can be reminded to convert the database manually.
 - Click **Next** to bypass this form.
 - If you choose the **I will backup and upgrade the database myself after the installation** option, setup will return a message that you will need to convert the database manually.



If you choose to upgrade the database manually outside of the installation, a database conversion log will not be created. You must therefore review the query results from your query window to verify that there were no errors. Do not close the query window until you review for errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care.



If you choose to upgrade the database manually outside of the installation, a database conversion log will not be created. You must therefore review the query results from your query window to verify that there were no errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care.

- If you are installing any tier that included the Web/application tier and did not restore a database that is already at the current released version and setup does not detect any existing Vision 6.x databases on your database server, setup will display a message window stating that a database is required to continue and will exit.
- c. Manually create a backup of your database before you run the database conversion using the **Deltekvision76.sql** script file located in the <Installation folder>\databases\scripts folder. The default location is C:\program files\Deltek\Vision\Databases\Scripts folder.

Do not run the **UnicodeDeltekvision76.sql** or other script files unless directed to by Deltek Customer Care. If you plan to convert your Vision database to Unicode, refer to the Vision Help for the appropriate steps.

13. Click **Next**.
14. If you have more than one database, on the Databases Available for Logon page, select the databases that you want to make available to Vision users on the Vision login screen. The list displayed here includes:
- The databases you have selected to upgrade, along with their current version number (if any were selected).
 - The sample database (if restored or upgraded).
 - The blank database (if you restored).
 - Any current version databases already previously restored or converted on your database server.

You must select at least one database. You can use WebLink after installation to add or remove new databases. This page does not display if you did not choose to upgrade any databases and there is only one existing Vision 7.6 database.

15. Click **Next** to continue.
16. On the Specify Web Site page, select the web site to which you will install Vision and click **Next**.

This page displays only if your Web server contains multiple web sites. If you are installing to an existing SharePoint server, SharePoint web sites are omitted from the list.

If your Web server does not contain multiple web sites, skip to the next step.
17. On the Error Reporting page, select **Automatically send fatal error reports to Deltek**, then click **Next**.
18. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.
19. On the Start Copying Files page, review the installation settings. The information on this page is also recorded in the Installation Log for future reference. It contains information such as:
 - The location of the installation log of all the steps performed during the installation.
 - The installation directory – where you installed Vision.
 - The Setup Type and the option chosen – if you are performing a multi-server installation, this information is handy to use to know what options were chosen when performing the installation on your other servers. In this Scenario, Dual Server with the (Web/application/Report Tier) Options were selected.
 - Information about the Web/application/report server configurations such as:
 - Web Site, Virtual Directory, Virtual Directory Security Mode
 - Any Local accounts that were created for the setup including their Password.
 - Report server name and report server URL.
 - List of databases that will be converted (if any were chosen).
 - List of databases that will appear in the WebLink after the installation.
20. Click **Next**.
21. On the Deltek Vision Installation Wizard Complete screen, click **Finish**. You can restart your computer after installing Vision.

You successfully installed the Web/Application, Report and Process Server tiers on the current server.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.

Install on Three or More Servers

The three or more servers installation model is designed for large firms who have multiple locations and will use Vision on an internal Wide Area Network (WAN). There might be additional report, application, or Web servers required for load balancing, performance, security, or fault tolerance reasons.

This model best suits firms with complex deployment requirements. Firms deploying this model must have proficient firewall management. For more information about the various deployment options available, see the "Installation/Deployment Models" section on page 13 for more information.

For an installation that uses three or more servers, you can install any combination of the following:

- A single database server
- One or more report servers
- One or more Web/application servers
- One or more process servers, each on its own machine.

Most organizations that setup a separate dedicated process server disable the Process Server service that was installed automatically on the Web/Application Server to free up the processing time and dedicate all the Process Server tasks to the Process Server.

You must also select the appropriate tier or tiers on each individual server. To install these items, complete the following steps in the order listed:

1. Set up your database server.
2. Set up your report server.
3. Set up your Web/application server.
4. Set up a separate process server (if desired). When you install a Web/application server, a process server is also installed by default. You can, optionally, install as many stand-alone process servers as you would like, on separate machines.

This topic is divided into three sections based on the sequence that must be followed to ensure a successful installation of Vision.

- Install the Database Tier
- Install the Report Tier on a Second Server
- Install the Web and Primary Application Tiers on a Third Server – You must install the Web/Application tier as the last step. The installation program needs to validate report server credentials and configuration as part of the Web/application tier installation. When you install the Web/application tier, a process server is also installed. If your firm wants to run multiple report, application, or Web servers on additional machines, contact your Deltek Technical Services representative for instructions.



Because the three or more servers deployment model involves installing the Web and Application tier on one server, the Report tier on a second server, and the Database tier on a third server, you need to perform a different installation procedure for each server.

Benefits of Using Three or More Servers

- **Enhanced performance and scalability** — Three or more servers tier distributes its tiers among three or more separate computers. In this setup, the client tier is installed on user workstations, the application tier resides on a more centralized computer, and the database tier is on a computer that manages data storage. Having each tier on a separate machine enhances performance and scalability because each tier runs on a dedicated machine.
- **Load balancing** — Load balancing distributes the processing workload between two or more Web/Application servers. This optimizes the use of your resources and minimizes the response time for requested tasks.
- **Automatic client updating** — When an update to Vision is available, you update only the Process and the Web/Application server. When a client connects to an updated Web/Application server, the updates are automatically transferred to the client.

Step 1: Install the Database Tier (Optional)

You do not need to perform this installation if your database tier is on its own server unless you plan to restore the sample, a blank database, or use the Performance Management (Analysis Cubes) module.



If you are migrating your database from Deltek Advantage, Deltek Award, Deltek CRM and Proposals, or Deltek Sema4 database to Vision, review the information in the [KB Article # 11424](#) titled *Where is Conversion Utility for Advantage to Vision?* prior to beginning your Vision installation.



Review the [Preinstallation Checklist](#) before you begin your installation.

For steps to upgrade from a previous version of Vision, see [Installation Steps \(Vision Upgrades\)](#).

To install the Database Server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
2. When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.

The Prerequisites page of the InstallShield Wizard displays. This page shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.
3. Ensure your environment meets all prerequisites and click **Next**.
4. On the Welcome page, click **Next**.
5. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
6. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.
7. On the Number of Vision Servers page, select **Three or more Servers** and click **Next**.

8. On the Select Server Role page, select **Database Server** and click **Next**. The Database Server (MSSQL) Setup Connection page displays.



Setup no longer upgrades databases on database tier or report/database tier installations. All database upgrades need to be completed from the web/application upgrade. During in-place Web/Application server upgrades, setup reads the configuration settings in the Vision Web web.config file. If there are any custom settings and those settings have been migrated to the database, the installer will include them in the database conversion script. For this reason, the database script can only be created during the web/application server installation.

For more details, refer to the [Summary of Upgrade Installation Changes](#) section.

9. On the Database Server (MSSQL) Setup Connection page, enter the following:
 - **Database Server** — Enter the name of the database server.
 - **SQL Username** — Enter a Microsoft SQL database server Login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL Username.
 - **Windows Integrated** — Selecting this option means that if you are logged onto the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.



If you encounter errors connecting to the database, see [Vision Installation Programs](#) for additional connection information.

10. Make sure your connection is configured correctly before you continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again. Click **OK**, correct the problem, and continue.
11. Click **Next** to continue.
12. On the Databases to Restore page, select the database that you want to restore, if any. The database that you select determines the language that displays in the Vision user interface.
 - **No Selection** (No Boxes checked) — If you already have a Vision database or previous Sample database, you can click on **Next** without making a selection. During the Web/Application server tier installation, the installer will prompt you to choose the database(s) to upgrade when it detects them.
 - **Blank Database** (Vision – US) — Select this option to start a new Vision database.
 - **Blank Database** (Vision – English International) — Select this option to start a new Vision database if you are using an English Language installation and are outside the United States.
 - **Blank Database** (Vision – Dutch) — Select this option to install a blank database for Dutch Language installations.

- **Blank Database** (Vision – German) — Select this option to install a blank database for German Language installations.
 - **Sample Database** (VisionDemo76) — Select this option to install the Vision sample database. It is sometimes helpful to have this database installed for troubleshooting purposes. If you already have a previous version of the Sample Database, the following options are available:
 - Do not select **Sample Database**. The setup will detect supported previous versions of databases (including the Sample database) and give you the opportunity to upgrade your Sample database.
 - In most cases any previous versions of the Sample database may have the Vision database version number in its name (for example, VisionDemo73). If that is the case, when you convert a previous version demo database to the current release, the version it is upgraded to will no longer match the version number in its name. You can perform one of the following actions:
 - Delete the previous version’s Sample database on your SQL Server before continuing, then choose to restore the Sample database. Deltek recommends this option.
 - Rename the database on the SQL Server and in WebLink after the installation to reflect the correct version number.
 - Allow the installation to restore a new VisionDemo76 Sample database without removing the previous copy.
13. Click **Next** to continue.
 14. On the Error Reporting page, select **Automatically send fatal error reports to Deltek** and click **Next**.
 15. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.
 16. On the Start Copying Files page, review the installation settings. The information on the page should be saved. It contains information such as:
 - The location of the installation Log that tracks all the steps performed during the installation.
 - The installation directory – where you installed Vision.
 - The Setup Type and the option chosen – if you are performing a multi-server installation, this information is handy to use to know what your next option to choose when performing the installation on your other servers.
 - Information about the database server such as:
 - Database server name
 - Database login used to perform the installation on the database server
 - Any Vision logins and passwords created in SQL Server during the installation. This information can be used when configuring WebLink. It is recommended that you change at least the passwords from their defaults and/or the login name as well.
 - Any databases that you will be restoring or upgrading will be listed
 17. Click **Next** to begin installation of the database server as part of a three or more server installation.

18. On the Deltek Vision Installation Wizard Complete screen, click **Finish**. You can restart your computer after installing Vision.

You have successfully installed the Database Server tier on a server. Proceed to *Step 2: Install the Report Server*.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.



During installation of the database tier, the Vision backup device is created on the database server to allow users to perform ad hoc database backups before major data changes or processes take place. To back up the database, select **Utilities » Backup Database** from the Vision Navigation menu.

Step 2: Install the Report Server



Review the [Preinstallation Checklist](#) before you begin your installation.

To install the Report Server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
2. When you download the Vision installation, an email containing the installation password and your license information is sent to your email address. .

The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.

3. Ensure that your environment meets all prerequisites and click **Next**.
4. On the Welcome page, click **Next**.
5. On the License Agreement page, read the agreement and select **I accept the terms of the license agreement** if you agree. Click **Next**.
6. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.

7. On the Number of Vision Servers page, select **Three or more Servers** and click **Next**.
8. On the Select Server role page, select **Report Server** and click **Next**.

The Checking configuration of Microsoft SQL Reporting Services page displays.

The setup, when performed with any deployment model that has the Web tier option, will try to connect to the Microsoft SQL Reporting Services Web Service to verify connectivity to the Report Server. It uses a standard Report Server URL definition (containing the server name) to make the connection. If it is unable to make a connection to the Reporting Service Web Service page, setup will return an error message with the reason it is unable to make the connection and will display the Specify Report Server and Report

Server URL Information form. Setup will continue to the next step when the connection is complete.



For additional information, see [How to Connect to Report Server Web Service](#) in Appendix C.

If setup detects a version that is supported but lower than the recommended supported version of Microsoft SQL Server Reporting Services, it will display a warning message along with the recommended version and will continue.

9. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.
10. On the Start Copying Files page, review the installation settings.



Important Information about Configuring Report Services

If you will be using the server-side printing functionality of Vision, see [Appendix D: Printing in Vision](#) for instructions on where and how to configure the account.

If you configured the Report Server Service Account to be a domain account, Reporting Services will use Kerberos Authentication by default. You must ensure that you have created an SPN for the account. To configure an SPN, complete the steps in this Microsoft link: <http://msdn.microsoft.com/en-us/library/cc281382.aspx>

Alternatively, you can configure the RSReportServer.config file with the following XML structure that specifies NTLM only. This is for deployments that do not support Kerberos or to work around Kerberos authentication errors (HTTP 401 errors) :

```
<AuthenticationTypes>  
<RSWindowsNTLM/>  
</AuthenticationTypes>
```

For details about Kerberos related authentication issues, see the following Microsoft documentation: <http://msdn.microsoft.com/en-us/library/cc281253.aspx>

11. After you review the installation settings, click **Next** to begin installation of a report server, as part of a three or more server installation.



During installation, setup creates a local DeltekVision account and assigns rights within SQL Server Reporting Services (SSRS).

12. If you want to install additional report servers, repeat these steps on any machine where you want to install additional report servers. Ensure that your SQL Server Edition and number of licenses support multiple report servers.

You have successfully installed the Report Server tier on the current server. Proceed to *Step 3: Install the Web/Application Server* to install the Web/Application Server on a different server machine.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.

Step 3: Install the Web/Application Server



Review the [Preinstallation Checklist](#) before you begin you installation.

To install the Web\application Server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
When you download the Vision installation, an email containing the installation password and your license information is sent to your email address. .
The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.
2. Ensure that your environment meets all prerequisites and click **Next**.
3. On the Welcome page, click **Next**.
4. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
5. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse...**, select an alternate destination, and click **Next**.

If you do not have at least 1GB of free space in the Destination location, Vision displays an error message. Change the path to select a folder with over 1GB of free space and click **Retry**.

6. On the Number of Vision Servers page, select **Three or more Servers** and click **Next**.
7. On the Select Server Role page, select **Web/Application Server** and click **Next**.
8. On the Reports to Load page, select the language to load and click **Next**.

The Vision installation includes the language options that you are licensed to use. If you have other report languages loaded, setup will also select those languages to reload.

9. On the Database Server (MSSQL) Setup Connection Information page enter the following:
 - **Database Server** – Enter the name of the database server.
 - **SQL Username** – Enter a Microsoft SQL database server login/username that is a member of the SQL Server SYSADMIN Role. The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode.
 - **SQL Password** — Enter the password associated with this SQL Username.
 - **Windows Integrated** — Selecting this option means that if you are logged on to the server with the appropriate administrative rights, you can be authenticated to your SQL server via your Windows account. Your current Windows account must also be a member of the SYSADMIN role in the Microsoft SQL Server to perform the installation. If you are using integrated authentication, ensure that your current logged in account is a member of the SYSADMIN role in SQL Server. When SQL Server is installed, it does not add members of the local administrator's group to the SQL Server SYSADMIN role by default.

10. You must make sure your connection is configured correctly before you can continue. If the installation program cannot connect to the database using the username/password you entered, when you click **Next**, a message displays asking you to try again.
11. Click **OK**, correct the problem, and continue.
The Specify Report Server and Port Information page displays if setup is unable to detect the report server.
12. Enter the following report server information:
 - **Report Server** — Enter the host name of the server where you installed your Vision report server.
 - **Report Server URL** — Setup auto-completes the report server URL based on the server name you enter in the **Report Server** field and the instance (if you specified an instance name).

The setup, when performed with any deployment model that has the Web tier option, will try to connect to the Microsoft SQL Reporting Services Web Service to verify connectivity to the Report Server. It uses a standard Report Server URL definition (containing the server name) to make the connection. If it is unable to make a connection to the Reporting Service Web Service page, setup will return an error message with the reason it is unable to make the connection and will display the Specify Report Server and Report Server URL Information form. Continue to the next step when the connection is complete.



For additional information, see [How to Connect to Report Server Web Service](#) in Appendix C.

13. On the SQL Report Database Server Setup page, enter the following report database server information:
 - **Report Database Server** — Enter the name of the Database Server that has the Report Server databases.
 - Select **Windows Integrated** or enter the SQL Login/Password:
 - **SQL Login** — The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode Security.
 - **SQL Password** — Enter the password associated with this SQL Login.
 - **ReportServer Database** — Enter the name of your ReportServer Database. Typically, the default name for this database is **ReportServer**. If you have an instance, then it is **ReportServer\$InstanceName**.
 - **ReportServerTempDB Database** — Enter the name of your ReportServerTempDB Database. Typically, the default name for this database is **ReportServerTempDB**. If you have an instance, then it is **ReportServer\$InstanceNameTempDB**. If you did not choose the default names or you are unable to recall the name of your ReportServer databases, follow the steps in the [SQL Report Server Database Setup Connection Information section](#) to identify them.



If the SQL Login does not have db_owner membership of the Report Server and ReportServerTempDB databases, setup displays the message below and includes additional details in the installation log. Setup is then unable to continue until the SQL user name account specified is given the appropriate rights.

14. The next screen to display depends on your database version:

- If your database is already at the current release, the Database to Upgrade screen does not display and you can skip this step.
- If your database is older than version 6.x, a message displays letting you know that there are no valid databases to convert. You must manually convert those databases to a minimum of version 6.x then upgrade to the current release.



To upgrade your database to 6.x, see [Converting a Database During Installation](#).

- If your database version is 6.x, the Database to Upgrade page displays:
 - a. If there are any existing Vision 6.x databases on your database server, setup will detect and display the databases and their version numbers on the Database to Upgrade page.



Before displaying the Database to Upgrade dialog box, setup will display a warning message: "If a database contains custom objects do not select it for automatic upgrade. For those databases you would drop the custom objects, manually run the upgrade scripts, and then re-apply the custom objects..."

If you have added any custom indexes, triggers, and so on to your database you must remove them before performing the conversion to ensure they do not affect the conversion



If you do not remove any custom indexes, triggers, and so on that you added, the conversion may fail. If it fails, you must restore the database, remove the objects, convert the database and reapply your changes.

b. Complete one of the following actions:

- Select a database to upgrade. If you upgrade a database, the setup process will make a backup of the database on your SQL Server in the default backup location before converting the database. If setup is unable to make the backup because of insufficient space or any other reason, the database will not be converted and an error message will display during the installation. This error will also be logged in the log file so that when you review the log file you can be reminded to convert the database manually.
- Click **Next** to bypass this form.
- If you choose the **I will backup and upgrade the database myself after the installation** option, setup will return a message that you will need to convert the database manually.



If you choose to upgrade the database manually outside of the installation, a database conversion log will not be created. You must therefore review the query results from your query window to verify that there were no errors. Do not close the query window until you review for errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care.

- If you are installing any tier that included the Web/application tier and did not restore or upgrade a database that is already at the current released version and setup does not detect any existing Vision 6.x databases on your database server, setup will display a message window stating that a database is required to continue and will exit.

- c. Manually create a backup of your database before you run the database conversion using the **Deltekvision76.sql** script file located in the <Installation folder>\databases\scripts folder. The default location is C:\program files\Deltek\Vision\Databases\Scripts folder.

Do not run the **UnicodeDeltekvision76.sql** or other script files unless directed to by Deltek Customer Care. If you plan to convert your Vision database to Unicode, refer to the Vision Help for the appropriate steps.

15. Click **Next**.

16. If you have more than one database, on the Databases Available for Logon screen select the databases that you want to make available to Vision users on the Vision login screen. The list displayed here includes:

- The databases you selected to upgrade, along with their current version numbers (if any were selected).
- The sample database (if restored or upgraded).
- The blank database (if restored).
- Any current version databases already previously restored or converted on your database server.

You must select at least one database. You can use WebLink after installation to add or remove new databases.

This page does not display if you do not have more than one database or did not choose to upgrade any databases and there is only one existing Vision 7.6 database.

17. Click **Next** to continue.

18. On the Specify Web Site page, select the web site to which you will install Vision and click **Next**.

This page displays only if your Web server contains multiple web sites. If you are installing to an existing SharePoint server, SharePoint web sites are omitted from the list.

If your Web server does not contain multiple web sites, skip to the next step.

19. On the Error Reporting page, select **Automatically send fatal error reports to Deltek**, and click **Next**.

20. On the Customer Experience Improvement Program page, select **Send installation data to Deltek** and click **Next**.

21. On the Start Copying Files page, review the installation settings. The information on this page is also recorded in the Installation Log for future reference. It contains information such as:

- The location of the installation log that tracks the steps performed during the installation.
- The installation directory where you installed Vision.

- The Setup Type and the option chosen. If you are performing a multi-server installation, this information is handy as it contains information required when installing on multiple server installations.
- Information about the Web/application/report server configurations such as:
 - Web Site, Virtual Directory, Virtual Directory Security Mode
 - Any local Windows accounts that were created for the setup including their Password.
 - Database/Report server name and report server URL.
 - List of databases that will be converted.
 - List of databases that will appear in WebLink after the installation.

22. Click **Next**.

23. On the Deltek Vision Installation Wizard Complete page, click **Finish**. If prompted, you can restart your computer after installing Vision.

Repeat the steps in this section on any machine where you would like to install additional Web/application Servers.

You have successfully installed the Web/Application Server tiers on the current server. Proceed to *Step 4: Install the Process Server* to install the Process Server on a different server machine.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.

Step 4: Install the Process Server



Review the [Preinstallation Checklist](#) before you begin you installation.

To install the Process Server:

1. Double-click the **DeltekVision76.exe** file that you downloaded to run the installation.
2. When you download the Vision installation, an email containing the installation password and your license information is sent to your email address.

The Prerequisites page of the InstallShield Wizard displays. This screen shows the items that the installation checks for. If the criteria are not met for the particular tier, setup may exit or display a warning.
3. Ensure that your environment meets all prerequisites and click **Next**.
4. On the Welcome page, click **Next**.
5. On the License Agreement page, review the agreement and click the **I accept the terms of the license agreement** option if you agree. Click **Next**.
6. On the Choose Destination Location page, complete one of the following actions:
 - Click **Next** to accept the destination displayed on the form.
 - Click **Browse**, select an alternate destination, and click **Next**.
7. On the Number of Vision Servers page, select **Three or more Servers** and click **Next**.
8. On the Select Server role, click **Next** to continue.

9. If IIS is enabled on the server, a message displays. Click **OK** to continue.
10. Browse to the databases.enc file (located on the Web server) and click **Next**.
Setup displays the warning message that the process server should be updated if you change your entries in WebLink on the Web server.
11. Click **OK** to continue.
12. On the Error Reporting page, select **Automatically send fatal error reports to Deltek**, then click **Next**. The Start Copying Files page displays.



If you are performing a Process Server tier upgrade and had previously made any edits to the Deltek.Vision.ProcessServer.Server.exe.config file to customize Process Server behavior such as the number of emails being sent at a time (EmailChunkSize) or the maximum size of an email (MaxEmailSize), after the installation is completed, login to the application and follow the steps in the [Custom web.config Settings Migration section](#) to ensure they are applied. If they are not, apply them as needed.

You have successfully installed the Process Server tiers on the current server.



Repeat the steps in this section for any machine on which you would like to install additional Process Servers.

Refer to Step 2 of the [Web Server post-installation checklist](#) to add and configure dedicated process servers in Vision.



If you encountered any errors during the installation, contact [Deltek Customer Care](#) and send them the installation log file. See [Log Files](#) for more information.

Installation Steps (Vision Upgrades)

Deltek encourages clients to upgrade to the latest version of Vision because:

- New features are added only to the latest version.
- Except in critical situations, Deltek fixes software issues only in the latest version.
- Deltek support is typically available only for the latest and the next previous versions.
- The latest version incorporates the newest technologies and tools.

Before upgrading, you should first review the *Deltek Vision Release Notes* and perform a test conversion and test installation of the new version to ensure that your firm's business processes are working properly in the new version.



Deltek's Global Services team is available to support you as you plan for this upgrade. We offer both technical and custom services to ensure the best possible Deltek experience. Contact VisionConsulting@deltek.com.

Upgrade from Vision 7.5

If you are upgrading from Vision 7.5, the upgrade detects the Vision 7.5 installation and installs directly into the existing folder structure using the current Vision settings.

Upgrade from Vision 7.4 or Earlier Versions

If you are upgrading from Vision 7.4 or an earlier version:

- The upgrade process does not install directly into the existing folder structure.
- Vision 7.6 installs into a new folder structure while preserving and “remembering” settings from your previous Vision installation.
- The Vision 7.6 installation:
 - Detects the existing deployment model and makes recommendations and prepopulates settings based on that deployment model.
 - Takes settings from your existing web.config and databases.enc files and uses them to create a script that you can apply after the installation to upgrade your database. This script is created only during the installation on the Web/Application tiers because that is where the web.config and databases.enc files are located.
 - Supports upgrades from Vision 6.x and 7.x. on all tiers: Web, Application, Process Server, Report, and Database.

Do Not Uninstall the Prior Version before Installing Vision 7.6

Because the Vision 7.6 installer preserves and applies settings from your existing implementation, you should **not** uninstall Vision before installing Vision 7.6.

You should also save any custom DLLs or reports for use by Vision 7.6.

After you perform the installation and confirm that your settings migrated correctly, you can delete the old installation directories.

Migrating/Upgrading to a New Server

If your existing Vision Web/Application Server is on a version of Windows that is no longer supported, you must perform a new installation. Any custom reports, DLLs, web.config settings, or other configuration changes that are on the server will not be migrated.

Review the summary of changes below. If you customized your previous version, you will have to apply the customization again to the new deployment, keeping in mind the changes listed in the tables below.

If your existing Vision Database/Report server is on a version that is no longer supported, you must restore or move your database to the new server prior to performing the installation.

Installation Location/Configurations

Configuration	Previous	New
Installation Location	<drive>:\Program Files (x86)\Deltek\Vision	<ul style="list-style-type: none"> ▪ New default folder location is <drive>:\Program Files\Deltek\Vision ▪ The previous folder (typically found in the 32-bit program files folder) is renamed <ul style="list-style-type: none"> ▪ “OLD” is appended to the end of the folder name. For example VisionOLD. ▪ A readme.txt file is inserted into the renamed folder. It contains the text: <i>“This is a previously used Deltek Vision directory that is no longer used and can be safely removed after ensuring that all of your custom DLLs and custom reports have been copied to the new directory (<drive>:\Program Files\Deltek\Vision)”</i>
Programs and Features	Deltek Vision 7.4 or earlier version	Previous version (Deltek Vision 7.4 or earlier version) is removed from Add/Remove Programs and replaced with new Deltek Vision 7.6 product name and release GUID.
Registry Key Location	HKLM\Software\Wow6432\Deltek\Vision	<ul style="list-style-type: none"> ▪ HKLM\Software\Deltek\Vision ▪ The entries in the previous registry location below the Vision folder are removed.
Application Pool	Application Pool is not removed	<ul style="list-style-type: none"> ▪ Existing Application Pool is updated with the following: <ul style="list-style-type: none"> ▪ Updates the Enable32bitOnWow64 from True to False
Virtual Directories/Applications	Virtual Directories/Applications remains.	Virtual Directories/Applications physical directory are changed to the new “<drive>:\Program Files\Deltek\Vision” TARGETDIR

Configuration	Previous	New
Process Server Configuration and executable	Process Server service	<ul style="list-style-type: none"> ▪ Process Server executable uses the new "<drive>\Program Files\Deltek\Vision" TARGETDIR location. ▪ If you changed the Process Server service identity account after installing a previous version of Vision, Vision prompts you to enter the credentials password for the account during the upgrade installation on any tier that contains the Process Server service. <ul style="list-style-type: none"> ▪ If you do not know the password, type the text bypass and the installation continues without setting the password on the identity for the service. After installation, you must update the Deltek Vision Process Server service account with the correct password or the service will not start.

Custom Web.Config Settings Migration

Some custom settings added to the web.config file on the web/application server have been migrated to the database and can be configured from within the application. Because of this change, database upgrades are only supported from any deployment option that includes the Web/Application tier installations.

During any installation using a deployment option with the web/application tier installations, setup copies the prior version's web.config file and uses it. It reads the web.config from the prior deployment and dynamically creates a v_WebConfigMigration.sql script file containing the custom settings noted below and builds the master upgrade script with those new settings so that the database is updated accordingly. You can still choose to upgrade databases post installation.

On upgrades, unused web.config values are commented out and others that were migrated to the database are removed.

Original Setting	New Location in Database (Table.Field)	How to Edit: <i>Launch Application » Navigate to Configuration » General » System Settings »</i>
MaxEmailSize	CFGEmail.MaxEmailSize	Email Tab » Email Size Limit (Megabytes)
EmailChunkSize	CFGEmail.EmailChunkSize	Email Tab » Number of Emails to Send at Once
WebAPI.EnableWorkflow	FW_CFGSystem.WebAPIEnableWorkflow	Miscellaneous Tab » Workflow section » Allow APIs to Trigger Workflows
SessionTimeout	FW_CFGSystem.SessionTimeout	Miscellaneous Tab » Application Session Timeout (minutes)
AllowFileSave	FW_CFGSystem.AllowFileSave	Miscellaneous Tab » Export Reports

Original Setting	New Location in Database (Table.Field)	How to Edit: <i>Launch Application » Navigate to Configuration » General » System Settings »</i>
		as Files Section

Custom Changes Applied at Customer Sites

If you have customized Vision previously:

- **Custom DLLs** – You need to test all custom workflow DLLs (and any third party DLLs) to verify that they work in 64-bit mode. If they are compiled with AnyCPU, they should work. After testing, you can copy them into the new installation folder
- **Custom Reports (not in the database)** – You need to copy all custom reports not stored in the report server database to the new installation folder and **Load Report Files** into the database.

Option to Use HTTPS for Reporting Services Server-Side Calls

A new check box, **Use HTTPS for Reporting Services server-side calls**, has been added to the Report Server tab in WebLink. It allows you to use HTTPS for server-side calls.

Running reports involves both server-side calls (from the web/application server to the SSRS server) and client-side calls (from the Vision Smart Client to the SSRS server). By default, all server-side calls to SSRS will use HTTP and client-side calls to SSRS will use whatever protocol (HTTP or HTTPS) was used to access the Vision application.

- Select **Use HTTPS for Reporting Services server-side calls** to use HTTPS for server-side calls to the SSRS server. This will not affect client-side calls.
- If you are using HTTP to access Vision, do not select this check box. It is designed to be used only with an SSL configuration.
- If you are using HTTPS for Vision and you select this check box, HTTPS will be used for both server-side and client-side calls to SSRS.

Shared databases.enc File Path

You can now use a shared databases.enc file path. If your Vision deployment includes multiple web/application servers, or even just a dedicated process server, the shared path will eliminate the need to synchronize changes made to databases.enc across your servers.



See the [Deltek Vision Advanced Technical Administration Guide](#) for more information.

Changes to the Upgrade Installation Process

This section includes a list of changes affecting the tiers in all the deployment/installation models.

For example, if you are performing a Web/Application/Process Server installation for the Dual Server (Two-Tier) Configuration 1 deployment, the details listed in the Web/Application and Process Server tiers below will apply.



For an overview of the logical tiers and deployment models, see:

- [Logical Tiers](#)
- [Installation/Deployment Models](#)

Database Tier



The installer will **not** create a Deltekvision76.sql database conversion script file. The database conversion script file is created only on the web/application server because the web.config file exists only on the web/application tier.

- The Installer attempts to detect previous tier installations (deployment model) and makes a recommendation about what you should select on the dialog boxes.
- A readme.txt file is inserted into the renamed folder, containing the following text:
“This is a previously used Deltek Vision directory that is no longer used and can be safely removed after ensuring that all of your custom DLLs and custom reports have been copied to the new directory (<drive>:\Program Files\Deltek\Vision\).”
- The Installer renames the previous product installation directory by appending “OLD” to the end of the folder name. For example, “C:\Program Files (x86)\Deltek\VisionOLD.”
- The Installer removes Deltek Vision 7.5 (or previous version) from Add/Remove Programs.

Report Tier

- The Installer attempts to detect previous tier installations (deployment model) and makes a recommendation about what you should select in the dialog boxes.
- A readme.txt file is inserted into the renamed folder, explaining that the original installation folder was renamed. On the report only tier, the folder may contain custom report images that must be moved to the new folder location.
- The Installer renames the previous product installation directory by appending “OLD” to the end of the folder name. For example, “C:\Program Files (x86)\Deltek\VisionOLD.”
- The installer removes Deltek Vision 7.5 (or previous version) from Add/Remove Programs.

Web / Application Tier

- The Installer attempts to detect previous tier installations (deployment model) and makes a recommendation about what you should select in the dialog boxes.
- The Installer attempts to detect a previous installation directory.
 - The Installer copies the databases.enc and web.config files from the previous installation and uses them for the new installation.

- The Installer applies applicable web.config changes detected from your old web.config file to the new installation (depending on the previous version from which it is upgrading).
- The Installer creates the Deltekvision76.sql script file for upgrading the database only on the web/application server tier because the web.config file exists only on the web/application tier.
- The Installer attempts to detect the existing DeltekVisionAppPool and detects Vision and VisionClient IIS application/virtual directories. It keeps the existing application pool and virtual directory custom configuration changes.

This step is performed because some environment configurations may use different Application Pool identities, non-standard AppPool or virtual directory settings, non-standard ports, SPNs, SharePoint, and so on.

- A readme.txt file is inserted into the renamed folder, containing the text: "This is a previously used Deltek Vision directory that is no longer used and can be safely removed after ensuring that all of your custom DLLs and custom reports have been copied to the new directory (<drive>:\Program Files\Deltek\Vision\)."
- The Installer uninstalls SQLXML 4.0 (SP2).
- The Installer uninstalls Solid Documents (COM) and replaces it with Solid Documents (.NET).
- The Installer renames the previous product installation directory by appending "OLD" to the end of the folder name. For example, "C:\Program Files (x86)\Deltek\VisionOLD."
- The Installer removes Deltek Vision 7.5 (or previous version) from Add/Remove Programs.

Process Server Tier

- Process Server is uninstalled from the previous installation directory and then installed using the new installation directory.
- Service Identity
 - New Installations
 - Set to local DeltekVision. Uses the default password for the account created by the installer and sets start up mode to **Automatic**.
 - Upgrades
 - Identity is configured with the Deltek Vision default account. If setup cannot validate the local account, it will prompt you to enter a password for the identity. You can enter the text **bypass** as a password if validation fails or if you do not want to set the password during installation. You must set the password on the Process Server service after the installation or the service will fail to start.
 - Identity is configured with a domain account. Setup prompts you to enter a password. You can enter the text **bypass** as a password if validation fails or if you do not want to set the password during installation. You must set the password on the Process Server service after the installation or the service will fail to start.



- If the Process Server identity is configured with a domain account and, when performing the upgrade, you are logged into the server using a domain account, when you are asked for the domain password for the Process Server service identity, the account validation will be performed successfully.
- If the Process Server is configured with a domain account and, when performing the upgrade, you are logged into the server using a local (non-domain) account, when you are asked for the domain password for the Process Server service identity, the account validation will fail, even when the credentials are entered correctly. To continue with the installation you must enter the text **bypass**. Then reset the password to the domain account password in the Services application after the installation is completed.

- Identity is configured with the Windows LocalSystem account. Setup sets the identity to use the LocalSystem account after the upgrade.
- The Installer sets the service start up mode to be the same as it was before the upgrade.



If you entered the text **bypass** so that the installer could continue without validating the Process Server service identity, after the installation is complete, you must set the password on the Process Server service identity or the service will fail to start.

- A readme.txt file is inserted into the renamed folder, containing the text: “This is a previously used Deltek Vision directory that is no longer used and can be safely removed after ensuring that all of your custom DLLs and custom reports have been copied to the new directory (<drive>:\Program Files\Deltek\Vision\)
- The Installer renames the previous product installation directory by appending “OLD” to the end of the folder name. For example, “C:\Program Files (x86)\Deltek\VisionOLD.”
- The Installer removes Deltek Vision 7.5 (or previous version) from Add/Remove Programs.



If you are performing a Process Server tier upgrade and had made any edits to the Deltek.Vision.ProcessServer.Server.exe.config file to customize Process Server behavior, such as the number of emails being sent at a time (EmailChunkSize) or the maximum size of an email (MaxEmailSize), log in to the application after the installation is completed and follow the steps in the Custom [web.config Settings Migration section](#) to ensure that they are applied. If they are not applied, apply them as needed.

Considerations Prior to Upgrading

Known Issue with the Vision Installation

If you are upgrading from a 6.x version of Vision and you use a Microsoft SQL Server Session State that is located in a database other than your Vision database, see KB article # 72573 for additional instructions.

During the Vision upgrade process from version 6.x or earlier, the SessionState table is renamed. However, if the table is not located in the Vision transaction database, it will not be renamed. You must manually rename the table using the instructions in the KB article.

Upgrading from Version 5.1 or Earlier

- If you plan to upgrade your database during the installation, refer to the table in the *Converting a Database During Installation* section below.
- Vision 5.1 installations did not support the currently supported Windows Operating Systems so all your deployments tiers will be run as a new installation.



Before uninstalling your previous version of Vision, ensure that your hardware and software meet the minimum requirements for running this current Vision release.



If you are using Vision 5.1 and have users connecting from the Internet outside of a Virtual Private Network (VPN), see the *Deltek Vision Advanced Technical Administration Guide* for advanced topics for configuring and securing connections to Vision.

Database Upgrades

- Vision database upgrades from Vision 6.x or 7.x are supported.
- You cannot upgrade any Vision database from version 5.1 or older.
- If your database is older than version 6.x, a message will display during the installation, letting you know that there are no valid databases to convert. You must manually convert those databases to a minimum of version 6.0 then upgrade to the current release.



See *Converting a Database During Installation* below for more information.

- Web Server installations create a **Deltekvision76.sql** file in the \program files\Deltek\Vision\Databases\Scripts folder that you can use to manually upgrade the database to the current version.

To convert your database manually, create a backup of your database before you run the database conversion using the **Deltekvision76.sql script file**. Do **not** run **UnicodeDeltekvision76.sql** or other script files unless your database is Unicode. If you plan to convert your Vision database to Unicode, see the Vision online help for the appropriate steps.

Converting Vision 5.x or Earlier Databases

When completing the database portion of the installation process, Vision checks to see if there are any existing 6.x databases. If so, the Database to Upgrade screen displays. If you are migrating from a version prior to Vision 6.x, follow the steps listed in the table below on how to upgrade.

Database Migration Path Table

Database Migration Path	Steps
5.x to 6.x	<p>Log on to the Deltek Customer Care website.</p> <p>Select KB article # 43088, titled <i>How to upgrade the Vision database</i>. Download and run either DeltekVision61SP4_upgradescripts.zip or DeltekVision61SP2_upgradescripts.zip conversion script to convert your database to version 6.x.</p>

Database Migration Path	Steps
4.x to 6.x	<p>Log on to the Deltek Customer Care website.</p> <ol style="list-style-type: none"> 1. Select KB article # 37233, titled <i>How to Upgrade Vision from 3.0 to 5.0</i>. Download and run the DeltekVision50.sql conversion script to convert your database to version 5.x. 2. Select KB article # 43088, titled <i>How to upgrade the Vision database</i>. Download and run either DeltekVision61SP4_upgradescripts.zip or DeltekVision61SP2_upgradescripts.zip conversion script to convert your database to version 6.x.
3.x to 6.x	<p>Log on to the Deltek Customer Care website.</p> <ol style="list-style-type: none"> 1. Select KB article # 37233, titled <i>How to Upgrade Vision from 3.0 to 5.0</i>. <ol style="list-style-type: none"> a. Download and run the DeltekVision41RTM.sql conversion script to convert your database to 4.x. b. Download and run the DeltekVision50.sql conversion script to convert your database to version 5.x. 2. Select KB article # 43088, titled <i>How to upgrade the Vision database</i>. Download and run either DeltekVision61SP4_upgradescripts.zip or DeltekVision61SP2_upgradescripts.zip conversion script to convert your database to version 6.x.

Migrating from Deltek Legacy Products

If you are migrating from an existing Deltek Advantage, Award, CRM and Proposals, or Sema4 database to Vision, review the information below prior to installing Vision.

Migrating from Deltek Advantage, Award, or CRM and Proposals

To migrate:

1. Install the Deltek Advantage to Deltek Vision, Deltek Award to Deltek Vision, or Deltek CRM and Proposals to Deltek Vision migration utility.

You can obtain the installation utility from Vision 7.1 or earlier products from the Deltek Software Manager or KB Article # [11424](#) titled *Where is Conversion Utility for Advantage to Vision?*
2. Run the Deltek Advantage to Deltek Vision migration utility, Deltek Award to Deltek Vision migration utility, or the Deltek CRM and Proposals to Deltek Vision migration utility.
3. Install the Vision software. Do **not** select the **Blank Database** option during database tier installation.

During Vision database tier installation, you will need your Microsoft SQL Server, or Microsoft SQL Server Express Edition, username and password.



See [Preinstallation Checklist](#) prior to installation.

Migrating from Sema4

Deltek's Data Migration group converts your Sema4 data to create your database backup file (.BAK). For instructions on migrating from Deltek Sema4 to Deltek Vision, contact your Deltek consultant.

In all of the preceding scenarios, you can install a **Sample Database** along with your new or converted database.

Troubleshoot Vision

This topic provides information about contacting Deltek if problems occur during installation. This topic also includes a list of errors that may occur during installation and possible solutions.

Sending Files to Deltek

If you encounter problems during the Vision installation on the server and are unable to continue, contact Deltek Customer Care for assistance and include the following information:

- The **DeltekVisionSetupLog.txt** file stored in the **C:\Users\%username%\AppData\Local** folder of the administrator performing the installation on the Vision server.
- Screenshots and details about the errors received.



If you cannot access the **DeltekVisionSetupLog.txt** file directly from Windows Explorer, complete one of the following:

- Copy and paste **C:\Users\%username%\AppData\Local** into your menu path to locate the folder.
- Enter the **%LocalAppData%** variable at a Run prompt or in the Windows search box on the server.

This information will help Deltek resolve your issue as quickly as possible.

Troubleshoot Vision Tier Installation Messages

This section documents messages that may display during installation of Vision tiers, with brief explanations and tips on how to proceed if you receive these messages. The following sections correspond to Vision tiers.

All Tiers

Free Space Error

A warning can display during installation of any Vision tier, if you have less than 2 GB free on the drive. Deltek recommends having at least 2 GB of free disk space on the drive for any Vision tier. However, if you choose to continue with setup, you can.

A message displays when any Vision tier has less than 1 GB free on the drive. The installation will halt and you will need to remove unneeded files so that there is a minimum of 1 GB free.

Unsupported Environments Error

A message displays when Terminal Services is installed. Note that you cannot install Vision on a Windows server with Terminal Services enabled.

Database Tier

The following messages may display when installing the database tier, whether you install the database alone, or in conjunction with all other tiers.

Cannot Connect to Database

An “unable to validate connection to the database server” message may display after you click **Next** on the database page that contains the **Database Server**, **Database Username**, and **Database Password** fields. This message occurs if setup cannot successfully connect to the database server using the username and password that you entered. Setup will exit.

No Database Selected

A message box displays if you have no valid Vision databases to upgrade and you do not choose to restore a blank or demo database. Click **OK** to return to the restore window. You must either choose to restore a blank or demo database or click the **Back** button and select a database to upgrade.

Report Tier



If you experience errors connecting to the report server during installation, review the steps in [How to Connect to Report Server Web Service](#) in Appendix C.

If you have configured the report server service account to be a domain account, Reporting Services will use Kerberos Authentication by default. To prevent HTTP 401 errors when you install the Vision Web tier, to test the Vision WebLink connections to Reporting Services, or to load reports in Vision, you must perform one of the following actions:

- Create an SPN for the account.
- Turn off Kerberos authentication in the rsreportserver.config file on the report server.

Complete one of the following steps:

- To configure an SPN, log on to a domain controller as a domain administrator and complete the steps in the following Microsoft link: <http://msdn.microsoft.com/en-us/library/cc281382.aspx>. Do **not** specify a port in the command syntax as suggested from the Microsoft link.

The screen shot below is an example of the syntax used to add an SPN (setspn -a) for the report server’s NETBIOS and FQDN names with a domain account as well as the syntax to show a list (setspn -l) of the registered SPNs for the domain account. In the screenshot example below, the domain=applebartlett.com, report server name=CAMOPSK33TRPT and the account name=RSAccount.

```

C:\Program Files\Support Tools>Setspn -a http/CAMOPSK33TRPT.APPLEBARTLETT.COM AP
PLEBARTLETT\RSAccount
Registering ServicePrincipalNames for CN=RS Account,CN=Users,DC=applebartlett,DC
=com
    http/CAMOPSK33TRPT.APPLEBARTLETT.COM
Updated object

C:\Program Files\Support Tools>Setspn -a http/CAMOPSK33TRPT APPLEBARTLETT\RSacco
unt
Registering ServicePrincipalNames for CN=RS Account,CN=Users,DC=applebartlett,DC
=com
    http/CAMOPSK33TRPT
Updated object

C:\Program Files\Support Tools>SETSPN -l applebartlett\rsaccount
Registered ServicePrincipalNames for CN=RS Account,CN=Users,DC=applebartlett,DC=
com:
    http/CAMOPSK33TRPT.APPLEBARTLETT.COM
    http/canopsk33trpt

C:\Program Files\Support Tools>

```

- Alternatively, instead of setting an SPN, you can configure the RSReportServer.config file with the following XML structure that specifies NTLM only. This is for deployments that do not support Kerberos or to work around Kerberos authentication errors (HTTP 401 errors).

By default this file is located in the Reporting Services Installation folder in a “Reporting Services\ReportServer” subdirectory:

```

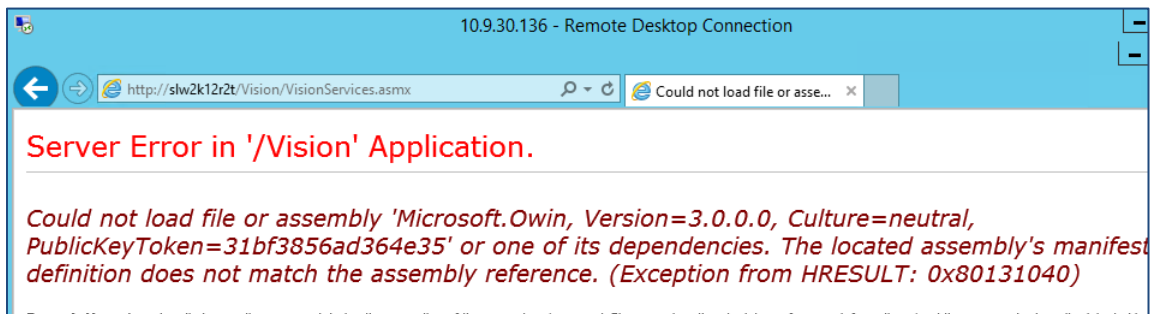
<AuthenticationTypes>
  <RSWindowsNTLM />
</AuthenticationTypes>

```

You can find details related to Kerberos-related authentication issues and additional steps on how to edit the RSReportServer.config file in the following Microsoft Reporting Services documentation: <http://msdn.microsoft.com/en-us/library/cc281253.aspx>.

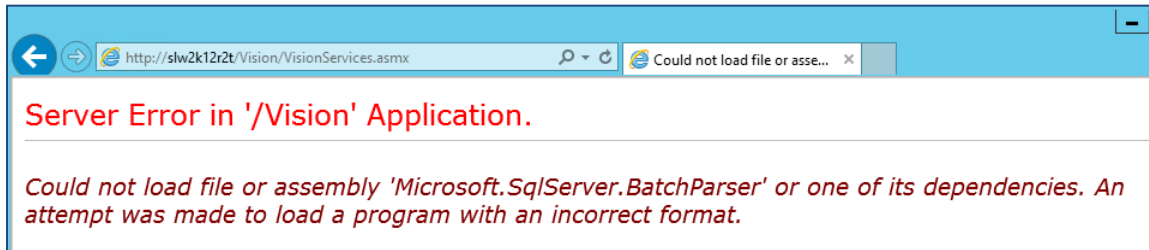
Web/Application Tier

Error: Running http://localhost/Vision/VisionServices.asmx



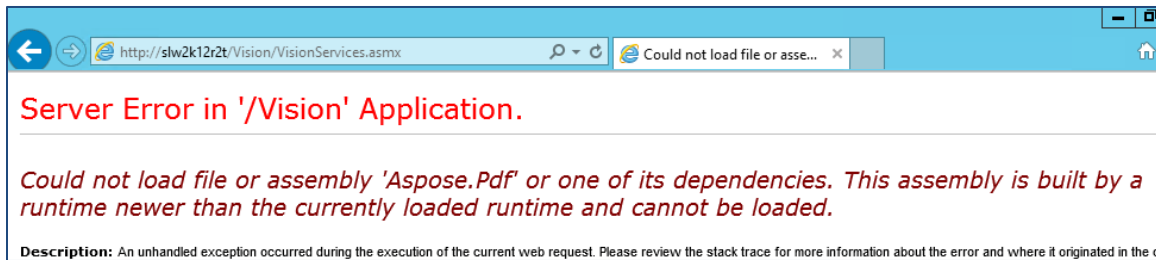
- Problem:** Missing runtime section in Vision web.config
- Solution:** Compare Web.config.template with web.config (specifically <runtime> section)

Error: Running Vision (500 error) and running http://localhost/Vision/VisionServices.asmx



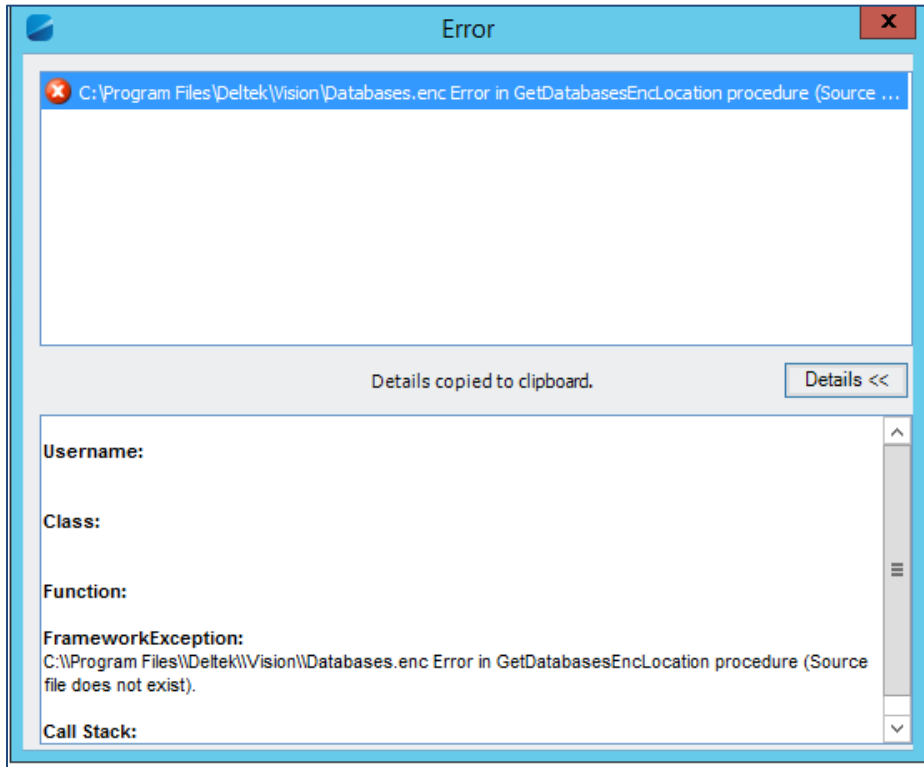
- **Problem:** Most likely a 32 bit DLL in the bin folder (see error for specific DLL) or Application Pool has **Enable 32 bit applications** set to **True**.
- **Solution:** Could be a Custom DLL issue. Find 64-bit or AnyCPU compatibility DLL. Make sure Enable 32 bit applications is set to **False**.

Error: Running Vision (500 error) and running http://localhost/Vision/VisionServices.asmx



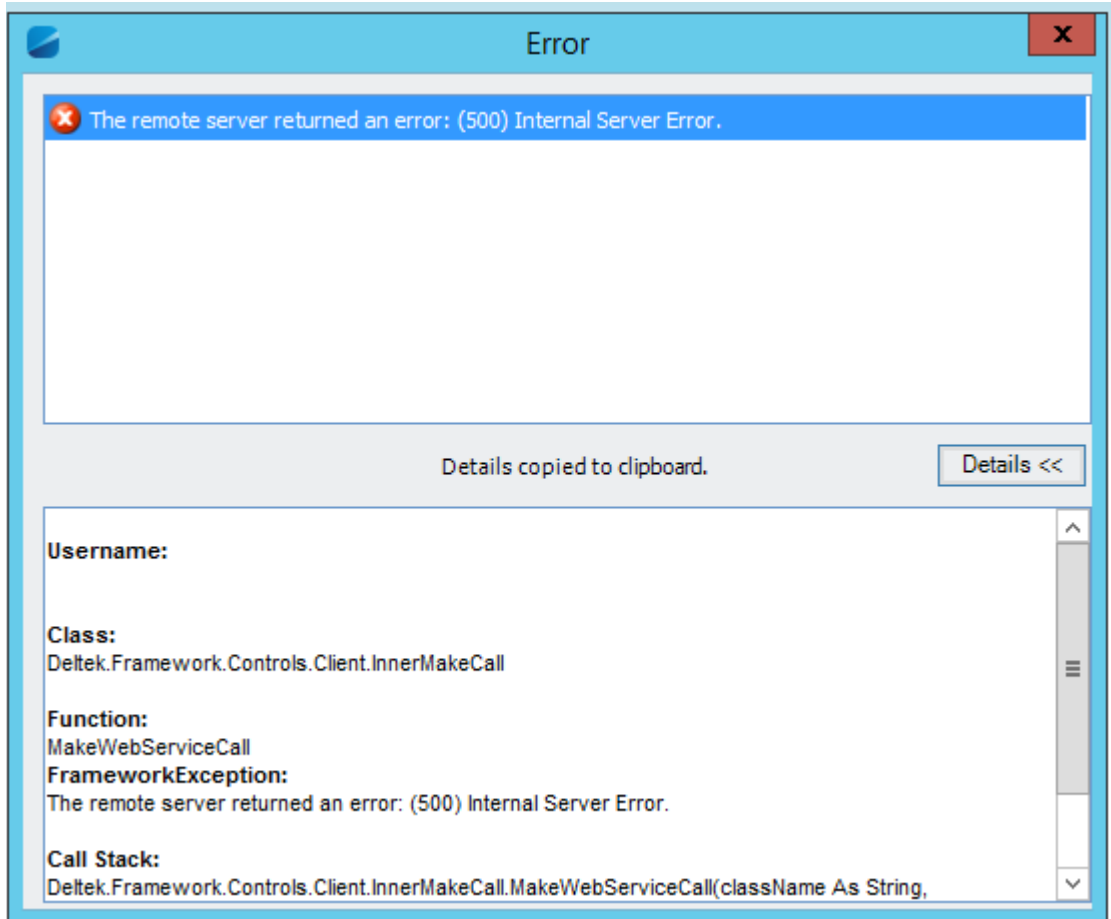
- **Problem:** Most likely Application Pool is set to v2.0 Framework.
- **Solution:** Change Application Pool to v4.0 Framework.

Error: Running Vision (or WebLink)



- **Problem:** databases.enc is missing or invalid or corrupt.
- **Solution:** On new installations, make sure databases.enc exists. On upgrades, make sure databases.enc was copied from the previous installation directory.

Error: Running Vision (500 error) and running http://localhost/Vision/VisionServices.asmx



- Check <http://localhost/Vision/VisionServices.asmx> and refer to previous errors.
- **Problem:** Wrong physical path for virtual folder, could have a 32-bit DLL in the bin folder, AppPool set to wrong FW, or Enable32bit is enabled.
- **Solution:** Check Physical folder path for Vision virtual directory, check bin directory, check IIS AppPool settings.

Post Installation (Vision New Installs)

After you complete the installation process, verify the installation to confirm that all prerequisite software is installed and all installation steps were completed.

To verify that your installation was successful:

1. Open Internet Explorer and enter the URL to the Vision application.
For example, `http://<Web Server>\Vision`.
2. Click **Deltek Vision** or wait while the application loads.
Vision displays the Vision logon form.
3. Enter your **User ID**. If you are unsure of your user ID, enter `admin`.
4. Enter your **Password**. If you are unsure of your password, leave this field blank.
If you do not have a user ID and password, and a user ID of `admin` and a blank password do not work, contact Deltek Customer Care.
5. Use the drop-down list to select the **Database**.
6. Click **Login**. If the Vision application opens, displaying the Welcome page, your installation is successful.



If there are any errors during the installation process when reloading reports, they will be listed in the installation log. Resolve any errors and reload your reports manually through the application.

Backing Up Your Vision Database

During installation of the database tier, the Vision backup device is created on the Database Server to allow you to perform ad hoc database backups before major data changes or processes take place.

To back up the database, click **Utilities » Backup Database** on the Vision Navigation menu.

Vision Configuration

Review the *Deltek Vision Implementation Guide* for configuration and implementation information.

SDK Utility Installation

The SDK is a self-extracting file named vbreporting.exe, containing the custom reporting business objects. It is installed on the web server into the <drive>:\Program Files\Deltek\Vision\Support\SDK folder.



For instructions on building Vision reports, see the Vision online help system or contact Deltek Customer Care.

For instructions on using the conversion utilities to convert an Advantage, Award, or Deltek CRM and Proposals database to Vision, please contact Deltek Customer Care.

Log Files

Following an installation, Deltek recommends that you review the log files if you encounter any errors during the installation. If you find any errors, contact [Deltek Customer Care](#) with the contents of the log file.

Temporary Log Files and the Log Files Folder

All temporary log files are stored in the `%localappdata%` location (C:\Users\%username%\AppData\Local) and a shortcut to the log file is added to the desktop. The log file name is similar to the name of the executable file but with a `.txt` file extension.

When the installation is complete, the desktop shortcut is deleted and the log file is moved into a log subfolder located in the Vision installation folder location which contains the installation log as well as the logs created when the installation loads the reports into the Report Server and any subsequent database conversions from the database upgrade utility.

Check Log Files After Installation

The installation creates a logs subfolder, located in the \Program Files\Deltek\Vision folder, that contains the installation log as well as conversion log files created for each database that may have been upgraded during the installation.

Installation Log

To find errors in the log file, select one of the following actions:

- **Server installations** — Search for the word **error** in the log file.
- **Database Upgrades** — Search for “**msg**” in the log file.

Log Files Generated During the Report-Loading Process

If there are any errors during the installation process when reloading reports, they will be logged in the installation log. Resolve any errors and reload your reports manually through the application.

If there are errors, you can reload your reports by accessing **Utilities » Report Administration** and clicking **Load Report Files**.

Conversion Log

If you upgraded any databases during the installation process, the installation creates database conversion log files, which are saved in the `<drive>:\Program Files\Deltek\Vision\Logs\ScriptLogs` folder. Database upgrade errors are listed in the `errors.txt` file.

Upgrade the Database Manually

A database conversion log will not be created if you choose to upgrade the database manually outside of the installation. You must therefore review the query results from your query window to verify that there were no errors. If you encounter errors, save the output to a text file and submit it to Deltek Customer Care.

Appendix A: Microsoft Internet Information Server (IIS) Installation on Windows Server

Microsoft (IIS) Is Already Installed

If you have already enabled the Web Server role on your web server, then you need to check Features and Role Services.

Windows Server 2012/2012 R2

To check features and role services on Windows Server 2012/2012 R2:

1. Launch Server Manager.
2. In the left menu, click **IIS**. If the IIS option is not listed, perform the steps below for installing Microsoft IIS for the first time.
3. In the Roles and Features group, verify that all of the required role services (as listed in the *Installing Microsoft IIS for the First Time* steps below) are installed.

Installing Microsoft IIS for the First Time

If you are installing Microsoft IIS for the first time, follow the steps below for the appropriate server. These steps are necessary for proper detection of ASP.NET.

Windows Server 2012/2012 R2

To install Microsoft IIS on Windows Server 2012/2012 R2:

1. Logon to Microsoft Windows Server as a domain or local administrator.
2. Launch Server Manager.
3. Click **Manage » Add Roles and features**.
4. In the Add Roles and Features Wizard, on the Before you begin screen click **Next**.
5. On the Select installation type screen, select **Role-based or feature-based installation** and click **Next**.
6. On the Select destination server screen, select your machine and click **Next**.
7. On the Select server roles screen, select Web Server (IIS).
8. On the Add Roles and Features Wizard dialog box, click **Add Features**.
9. On the Select server roles screen, click **Next**.
10. On the Select features screen, expand **.NET Framework 4.5 Features** and select **.NET Framework 4.5 and ASP.NET 4.5**. Click **Next**.



These steps enable the .NET Framework features. However, you must also install the current supported version of the .NET Framework on the server, if you haven't already.

11. On the Web Server Role (IIS) screen, click **Next**.

12. On the Select role services screen, enable the following sub-options:
 - Web Server
 - **Common HTTP Features**
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Static Content
 - HTTP Redirection
 - **Health and Diagnostics**
 - HTTP Logging
 - Request Monitor
 - Tracing
 - **Performance**
 - Static Content Compression
 - **Security**
 - Windows Authentication (only necessary if you will be using it)
 - Request Filtering
 - **Application Development**
 - .NET Extensibility 4.5
 - ASP.NET 4.5 (*Add Roles and Features Wizard dialog box displays when you select this option. Click **Add Features** button.*)
 - CGI (Required if you will be using Deltek Touch products)
 - ISAPI Extensions
 - ISAPI Filters
 - **Management Tools**
 - IIS Management Console
 - IIS Management Scripts and Tools
13. Click **Next**.
14. Click **Install** on the Confirm Installation Instructions dialog box to begin the process.
15. On the Installation Results dialog box, click **Close**.



For detailed instructions on installing IIS on Windows Server 2012 / Windows Server 2012 R2, see <http://www.iis.net/learn/install/installing-iis-85/installing-iis-85-on-windows-server-2012-r2>

Appendix B: Microsoft SQL Server Edition and Version Information

Links to Recommended Microsoft SQL Server Service Packs and Cumulative Updates

Microsoft® SQL Server® 2014 Service Pack 1 (SP1)

- Microsoft SQL Server 2014 SP1 Update. This package contains the Microsoft SQL Server 2014 Service Pack 1 update to be applied to existing SQL Server 2014 installations: <http://www.microsoft.com/en-us/download/details.aspx?id=46694>

Microsoft® SQL Server® 2014 SP1 Express Edition

- If you are using the free edition of SQL Server for the database and reporting services engine, download Microsoft SQL Server 2014 SP1 with Advanced Services: <https://www.microsoft.com/en-us/download/details.aspx?id=46697>
Select ENU\x64\SQLEXPADV_x64_ENU.exe (1.4 GB).
- The following Microsoft link provides information on prerequisite requirements, release notes, an installation guide, and other helpful links for performing the SQL Server Express installation of SQL Server: <https://www.microsoft.com/en-us/server-cloud/products/sql-server-editions/sql-server-express.aspx>

Microsoft® SQL Server® 2014 SP1 Cumulative Update

- Cumulative update package 6 for SQL Server 2014 SP1: [http://catalog.update.microsoft.com/v7/site/Search.aspx?q=Microsoft%20SQL%20Server%202014%20SP1%20Cumulative%20Update%20\(CU\)%206%20KB3167392%20](http://catalog.update.microsoft.com/v7/site/Search.aspx?q=Microsoft%20SQL%20Server%202014%20SP1%20Cumulative%20Update%20(CU)%206%20KB3167392%20)

Microsoft® SQL Server® 2012 SP3

- Microsoft SQL Server 2012 SP3 for the database and reporting services engine: <https://www.microsoft.com/en-us/download/details.aspx?id=49996>
- Cumulative update package 3 for SQL Server 2012 SP3: <http://catalog.update.microsoft.com/v7/site/Search.aspx?q=Cumulative%20Update%203%20for%20SQL%20Server%202012%20SP3>

Microsoft® SQL Server® Reporting Tools

- Microsoft SQL Server Report Builder for Microsoft SQL Server 2014. You can use the Report Builder standalone version or the ClickOnce version of Report Builder installed with Reporting Services: <https://www.microsoft.com/en-us/download/details.aspx?id=42301>
- Microsoft SQL Server Data Tools - Business Intelligence for Visual Studio 2013. Installs Microsoft SQL Server Data Tools Business Intelligence project templates for Analysis Services, Integration Services, and Reporting Services that support Visual Studio 2013 and SQL Server 2014: <https://www.microsoft.com/en-us/download/details.aspx?id=42313>

Appendix C: Microsoft SQL Server Reporting Services

Vision uses Microsoft SQL Server Reporting Services as its report management and delivery platform.

There are several things to consider when you migrate to Vision:

- SQL Server Reporting Services is not installed as part of the Vision installation. Vision setup requires that SQL Server Reporting Services be already installed and configured in order to connect to the report server. The next section provides links to Microsoft documentation that you can use in addition to the Microsoft documentation installed with your SQL Server installation.



For related information, see [Appendix C: Microsoft SQL Server Reporting Services](#).

- The Vision reporting RDL schema (report definition language) supports the latest versions of SQL RS 2012 and 2014. SQL Server RS 2008 and 2005 Business Intelligence Development Studio (BIDS) are not supported with Vision 7.6.

Overview of SQL Server Reporting Services

Microsoft SQL Server Reporting Services is a server-based reporting platform that you can use to create and manage tabular, matrix, graphical, and free-form reports that contain data from relational and multidimensional data sources. The reports that you create can be viewed and managed over a World Wide Web-based connection. Reporting Services includes the following core components:

- A complete set of tools that you can use to create, manage, and view reports.
- A Report Server component that hosts and processes reports in a variety of formats. Output formats include HTML, PDF, TIFF, Excel, CSV, and more.
- An API that allows developers to integrate or extend data and report processing in custom applications, or create custom tools to build and manage reports.

The reports that you build can be based on relational or multidimensional data from SQL Server, Analysis Services, Oracle, or any Microsoft .NET data provider such as ODBC or OLE DB. You can create tabular, matrix, and free-form reports. You can also create ad hoc reports that use predefined models and data sources.

Reporting Services use URLs to access the Report Server Web service and Report Manager. Before you can use either application, you must configure at least one URL each for the Web service and Report Manager. Reporting Services provides default values for both application URLs that work well in most deployment scenarios, including side-by-side deployments with other Web services and applications.

Reporting Services use an SQL Server database for internal storage. The database is a required component. It is used to store reports, session data, resources, and server metadata.

The migration to this tool includes the following benefits:

- **Ease of Deployment and Management** — SSRS is embedded in the SQL Server the database clients already use. This streamlines deployment and updates and provides a platform for delivery of new functionality for years to come.

- **Industry Leading Platform** — SSRS is fast becoming one of the leading Business Intelligence (BI) platforms in the market.
- **Better Technology Alignment with Vision** — SSRS aligns well with the rest of the Microsoft centric technology strategy for Vision.



Scale-out configuration of SSRS is supported and provides a load balanced configuration for scalability. This requires the Enterprise Edition of SQL Server.

How to Obtain Information about Reporting Services

The best way to learn about Reporting Services and how to configure it is through the documentation included with your SQL Server (Books Online, Microsoft Labs, and so on). The following links provide steps for configuring the latest versions of Reporting Services:

- For SQL Server Setup, Install and Upgrade (How-to Topics):
<http://msdn.microsoft.com/en-us/sqlserver/ff625277>
- For Configuring SQL Server Reporting Services (How-to Topics):
<http://msdn.microsoft.com/en-us/library/bb934490>

The following links provide additional information about Reporting Services:

- Reporting Services Overview and Tutorials:
<http://msdn.microsoft.com/en-us/library/ms159106.aspx>
- Demos, Videos, Virtual Labs, Webcasts:
<http://msdn.microsoft.com/en-us/sqlserver>

Report Server Licensing Requirements

The method you use to deploy your Report Server depends on the edition and licenses you own for your Microsoft SQL Server Database. If you plan to host your Reporting Services Web Service on a machine separate from the Reporting Services Report Server Database, you must determine whether your SQL Server edition and licenses can support this deployment.

The following Microsoft link describes the licensing options available with SQL Server and Reporting Services: <http://www.microsoft.com/en-us/server-cloud/products/sql-server/buy.aspx>

Features Supported by Different SQL Server Editions

The table in this section outlines the licensing implications and impacts on functionality associated with the commonly used editions of Microsoft SQL Server available on the market today and supported by Vision.

	Express w/Adv. Services	Standard	Business Intelligence	Enterprise
Custom Reporting				
Report Builder	✓	✓	✓	✓
Report Models for Report Builder	-	✓	✓	✓
Report Designer (SSDT-BI)	✓	✓	✓	✓
Standard Reporting				
Access to All Standard Reports		✓	✓	✓
Report History (Previously Run)	-	✓	✓	✓
Email Reports	-	✓	✓	✓
Email Report Links	-	✓	✓	✓
Schedule Reports	-	✓	✓	✓
Schedule and Report History	-	✓	✓	✓
Search and Download in Preview	-	✓	✓	✓

The following Microsoft link lists the features supported by the different editions of Microsoft SQL Server. Click **Other Versions** and select the version that you are using:

[https://msdn.microsoft.com/en-us/library/cc645993\(v=sql.120\).aspx](https://msdn.microsoft.com/en-us/library/cc645993(v=sql.120).aspx)

Custom Reports and Custom Invoices

Supported Report Writing Tools

Vision 7.6 supports the following Microsoft SQL Server Reporting Services report writing tools for creating custom reports and custom invoices:

- Report Builder 3.0
- SQL Server Data Tools - Business Intelligence Report Writer for Visual Studio 2013 (referred to as SSDT-BI 2013 Report Designer)

These report writing tools produce a report file with the RDL 2010 schema that Vision 7.6 requires.



See the *Deltek Vision 7.6 Custom Reports and Microsoft SQL Server Reporting Services Guide* for information on:

- Installing the supported report writing tools and the Microsoft links from which to download the software.
- Creating custom reports.

Upgrading Custom Reports and Custom Invoices

If you are upgrading to Vision 7.6 from an earlier Vision version, see the *Deltek Vision 7.6 Custom Reports and Microsoft SQL Server Reporting Services Guide* for upgrade instructions.

Summary of Upgrading Custom Reports and Invoices

Vision Version Upgrading From...	Upgrade Action Required	Deltek Vision 7.6 Custom Reports and Microsoft SQL Server Reporting Services Guide
<p>An earlier 7.x version (your custom reports and/or custom invoices have an RDL 2005 or RDL 2008 schema)</p>	<p>Upgrade your reports to the RDL 2010 schema.</p>	<p>See the “Custom Reports Created with Microsoft SQL Server Reporting Services 2005 and 2008” section.</p>
<p>A 6.x version (your custom reports and/or custom invoices have an RDL 2005 schema)</p>	<p>Complete both of the following:</p> <ul style="list-style-type: none"> ▪ Upgrade your reports to the RDL 2010 schema. ▪ Perform additional steps for changes to some Vision database table names. 	<p>See the following sections:</p> <ul style="list-style-type: none"> ▪ “Custom Reports Created with Microsoft SQL Server Reporting Services 2005 and 2008” ▪ “Vision Database Table Name Changes that Affect Custom Reports” section.
<p>A version earlier than 6.0 (your custom reports and/or custom invoices were created with Actuate)</p>	<p>Create new custom reports with a SQL Server Reporting Services report writing tool.</p>	<p>See the “Custom Reports Created with Actuate” section.</p>

How to Configure Microsoft SQL Server Reporting Services

Use these steps to configure your SQL Server Reporting Services initial setup. This only needs to be done for Vision to verify SQL Server Reporting Services. However, Vision will use the accounts specified in the Report Server tab of WebLink to make connections to Reporting Services.



For additional information about configuring Report Services, see [Important Information about Configuring Report Services](#).

To configure your initial setup:

1. Click **Start » All Programs » Microsoft SQL Server <Select Your Version> » Configuration Tools » Reporting Services Configuration Manager** to launch the Reporting Services Configuration Wizard.
2. On the Reporting Services Configuration Connection dialog box, select your SQL Reporting Services Instance Name then click **Connect**.



If you have multiple installations of Reporting Services, you may see more than one instance. MSSQLServer is the default instance.

3. On the Report Server Status pane of the Reporting Services Configuration Manager dialog box, click **Start** to start the Reporting Services instance. If it is already running, click **Service Account** in the left pane.
4. On the Service Account pane of the Reporting Services Configuration Manager dialog box, choose the appropriate account and click **Apply**. Microsoft recommends using the Network Service account.



For additional information on choosing a service account, see the [Service Account Reporting Services Configuration](http://msdn.microsoft.com/en-us/library/ms189964.aspx) topic for your version in SQL Server Books Online (<http://msdn.microsoft.com/en-us/library/ms189964.aspx>).

If you have configured the Report Server Service Account to be a domain account, Reporting Services will use Kerberos Authentication by default.

5. The Service Account pane of Reporting Services Configuration Manager dialog box displays again showing the results in the bottom pane. Click **Web Service URL** in the left pane.

The Web Service URL screen displays.

6. On the Web Service URL pane of the Reporting Services Configuration Manager dialog box, accept the default values. The default value for **Virtual Directory** is **ReportServer**. If you installed Report Server as an instance, the virtual directory usually starts with ReportServer separated by a character, such as an underscore or dollar sign, and the instance name to differentiate itself from the others.

Take note of the Report Server Web Service URL shown on the Web Service URL dialog box in case Vision is unable to connect to the Report Server during the installation and prompts you for the correct path. Click **Apply** to accept your settings. If the settings are correct, the Results pane displays the status.

7. Click **Database** in the left pane.



Vision uses the Report Server Web Service URL at the bottom of the dialog box as part of its test connection URL when it tries to connect to the Report Server.

SQL Server Reporting Services does not require IIS to be enabled.

8. In the Report Server Database pane of the Reporting Services Configuration Manager dialog box, click **Change Database**. The Change Database screen of the Report Server Database Configuration wizard displays.
9. On the Change Database screen of the Report Server Database Configuration wizard, choose whether to create a new Report Server database or use an existing one. For a new installation, select **Create a new report server database**. Click **Next**.
10. Enter the database **Server Name** and a user account that has the appropriate privilege to create or select the database and assign the required rights.
 - a. Click **Test Connection** to test your credentials. Make the corrections as necessary if the server name or the user credentials are incorrect.
 - b. Click **OK** when you have connected successfully to the database to go back to the Change Database of the screen of the Report Server Database Configuration wizard.
 - c. Click **Next**.
11. Accept the default values. Click **Next**.



Only **Native Mode** is supported. Select **Native Mode** if it is not selected by default.

12. In the Credentials pane of the Change Database screen, specify the type of credential and accounts for the Reporting Services connections to the database then click **Next**.
13. The summary of the changes you made displays. Click **Next**.

The Report Server Database Configuration Wizard displays the status of the steps taken to create the Report Server databases.

14. Click **Finish** when all steps have been marked as successfully completed.
15. In the left pane of the Report Services Configuration Manager dialog box, click **Report Manager URL**.
16. In the Report Manager URL pane, accept the default values. Then click **Apply**. The results pane displays the results.
17. Click **Encryption Keys** in the left pane and back up the encryption keys to a safe location. Then click **Apply**.
18. Click **Exit**. You are now ready to begin the Vision installation.



Do not configure an Execution Account during the Report Server Configuration. Configuring this account causes the account specified in the Execution Account to be used instead of the credentials listed in WebLink. This may result in reporting errors in Vision.

Important Information about Configuring Reporting Services

- If you are not familiar with Microsoft Reporting Services or how to configure it, additional details and steps can be obtained from this Microsoft link: <http://msdn.microsoft.com/en-us/library/ms156305.aspx>
- If you will use the server-side printing functionality of Deltek Vision, see [Appendix D: Printing in Vision](#) for instructions on where and how to configure the account.
- If you have configured the Report Server Service Account to be a domain account, Reporting Services will use Kerberos Authentication by default. You must ensure that you have created an SPN for the account. To configure an SPN, complete the steps in this Microsoft link: <http://msdn.microsoft.com/en-us/library/cc281382.aspx>.
- Alternatively, you can configure the **RSReportServer.config** file with the following XML structure that specifies NTLM only. This is for deployments that do not support Kerberos or to work around Kerberos authentication errors (HTTP 401 errors) :

```
<AuthenticationTypes>
  <RSWindowsNTLM/>
</AuthenticationTypes>
```



Details about Kerberos authentication issues can be found in the following Microsoft Reporting Services documentation: <http://msdn.microsoft.com/en-us/library/cc281253.aspx>.

How to Connect to the Report Server Web Service

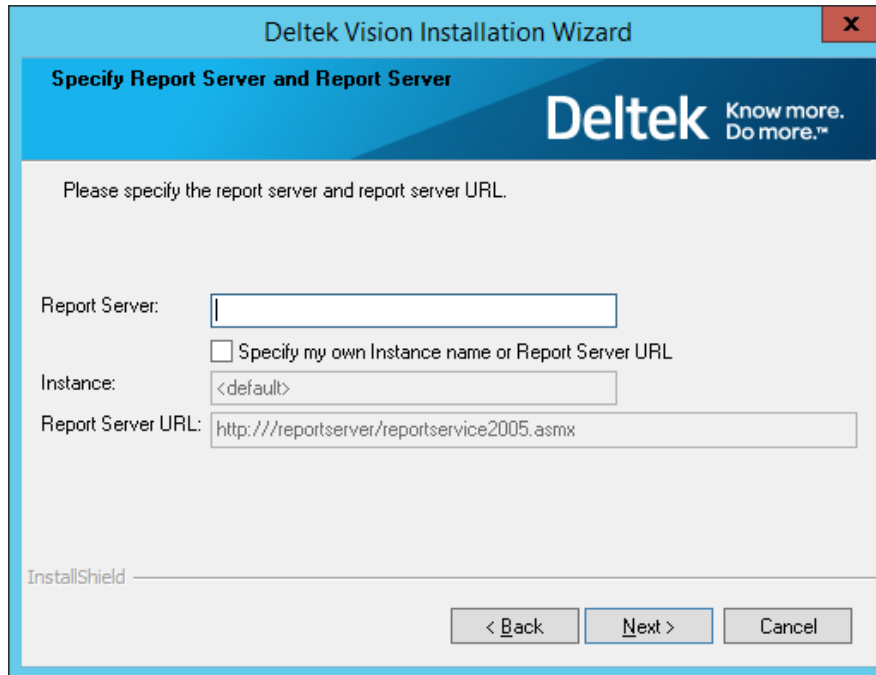
SQL Server Reporting Services provides access to the full functionality of the Report Server through the Report Server Web Service. The Report Server Web Service is an XML Web service with a SOAP API. It uses SOAP over HTTP and acts as a communications interface between client programs and the Report Server. The Web service provides two endpoints: one for report execution and one for report management. Setup connects to the report execution endpoint.

If it is unable to connect to the Reporting Service Web Service screen, setup returns an error message and displays the Specify Report Server and Report Server URL Information form.

Specify Report Server and Report Server URL Information Screen

Complete one of the following actions:

- Verify that the information on the screen is correct and click **Next**.
- Update the fields with the correct values.



- **Report Server** — The Report Server name is the name of your Report Server machine. Make sure that the Virtual Directory value matches the Virtual Directory of the Report Server displayed on the Reporting Services Configuration Manager dialog box.
- **Report Server URL** — The following example shows the format of the URL used to connect to the Reporting Services Web Service on the Report Server:
 http://<Report Server Name>/Virtual Directory/reportservice2005.asmx



The SQL Server Reporting Web Services (**ReportingService2005.asmx**) provides the interface for enumerating the reports and report folders. It provides a host of other capabilities for report execution, rendering and management.

The “2005” in the web service name does not reflect any version of SQL Server.

The following table describes each element in the URL.

URL Element	Description
Server	The name of the server on which the Report Server is deployed.
Virtual Directory	<p>The name of the folder that contains the XML Web Service for report execution. This is configured during setup or when you run the Microsoft SQL Server Reporting Services Configuration tool. The default name//virtual directory is named reportserver.</p> <p>If you are unsure of the name of your Report Server virtual directory, launch the Reporting Services Configuration tool on the Report Server.</p> <p>Select the Web Service URL on the left, and then view the entry</p>

URL Element	Description
	from the Virtual Directory field on the right. If you install Reporting Services as an instance, the name of the virtual directory may also include the instance name. For example, reportserver_INSTANCENAME.
<endpointname>.asmx	<p>The name of the web service endpoint is reportservice2005.asmx</p> <p>This is required in the URL for Vision to confirm the Report Server configuration.</p> <p>Reporting Services Web Service: The SQL Server Reporting Web Services (ReportingService2005.asmx –it has not been changed to match the SQL Server version) provides the interface for enumerating the reports and report folders. It provides a host of other capabilities for report execution, rendering and management.</p>

SQL Server Report Server Configuration Tool

To identify the virtual directory required to detect Reporting Services for SQL Server:

1. Click **Start » All Programs » Microsoft SQL Server <Select Your Version> » Configuration Tools » Reporting Services Configuration Manager.**
2. Connect to the Report Server Web Service URL in the left pane.
3. Check the **Virtual Directory** field in the right pane.



Make sure that the entry in the **Virtual Directory** field matches the virtual directory entry listed on the Specify Report Server and Report Server URL form.

If you have not configured SQL Reporting Services, click the Help icon in the lower left corner of the Reporting Services Configuration Manager dialog box to access Microsoft documentation for configuring Reporting Services.

SQL Report Server Database Setup Connection Screen

If setup is unable to connect to the ReportServer Database Server or to identify the Reporting Services databases, then it may display the following screen:

Enter the following:

- **Report Database Server** — Enter the name of the Database Server that has the Report Server databases.
- Select **Windows Integrated** or enter the SQL Login/Password:
 - **SQL Login** — The default SYSADMIN account for SQL Server is **sa**. If you use the SQL Server Username and Password, ensure that the server security is configured to support Mixed Mode Security.
 - **SQL Password** — Enter the password associated with this SQL Login.
- **ReportServer Database** — Enter the name of your ReportServer Database. Typically, the default name for this database is **ReportServer**. If you have an instance, then it is **ReportServer\$InstanceName**.
- **ReportServerTempDB Database** — Enter the name of your ReportServerTempDB Database. Typically, the default name for this database is **ReportServerTempDB**. If you have an instance, then it is **ReportServer\$InstanceNameTempDB**. If you did not choose the default names or you are unable to recall the name of your ReportServer databases, follow the steps below to identify them.



If the SQL Login does not have db_owner membership of the Report Server and ReportServerTempDB databases, setup displays the message below and includes additional details in the installation log. Setup is then unable to continue until the SQL user name account specified is given the appropriate rights.

To identify the names of the ReportServer and ReportServer TempDB databases that are required for setup to detect Reporting Services for SQL Server, complete the following steps on your Report Server:

1. Click **Start » All Programs » Microsoft SQL Server <Select your Version> » Configuration Tools » Reporting Services Configuration Manager**.
2. On the Reporting Services Configuration Manager dialog box, click **Database** in the left pane then click **Change Database** in the right pane.
3. On the Change Database screen, select the **Choose an existing report server database** option. Click **Next**. The Change Database/Database Server screen displays.
4. If you are:
 - Logged in as an Administrator, accept the default values to make a connection using Integrated Authentication.
 - Not logged in as an Administrator, select **SQL Server Account** from the **Authentication Type** drop-down list. Enter the System Administrator (SA) credentials in the **Username** and **Password** fields.
5. Click **Next**.
6. Use the **Report Server Database** drop-down list to view the names of the **ReportServer** and **ReportServerTempDB** databases. Take note of the names of the ReportServer and ReportServerTempDB databases. Click **Cancel**.
7. Use the name of the ReportServer and ReportServerTempDB databases to populate the **SQL Report Database Server Setup Connection** screen that displays during the installation if the Report Server databases cannot be identified.



See [How to Configure Microsoft SQL Server Reporting Services](#) in Appendix C for additional information.

Extra Space in Invoice Header

If you are using Vision with Microsoft SQL Server Reporting Services (SSRS), your invoices will print with extra space in the header when the top margins are expanded. This is a known issue with Microsoft SSRS.

Deltek suggest that you carefully review your invoice templates, and wherever possible, reduce the top margins in the Vision Invoice Template Editor to prevent the extra space issue from occurring.

How to Give Your Account Proper Rights and Privileges in Reporting Services Web Services

Required Rights for Report Server Web Service

During the installation of the Report Server, two types of credentials are required in order for the installation to complete successfully:

- A Windows Account with proper rights and privileges to the Report Server Web Services component. This account requires Content Manager and System Administrator privileges within the Reporting Services Report Manager Tool. (Prevents error: 401 unauthorized access when the installation is testing the connection to the Reporting Services Web Service and also when running reports).
- A Report Server SQL Server database Login that is a member of the db_owner role for the ReportServer and ReportSeverTempDB databases and (if using a SQL Server database, your Vision database)

To configure/verify proper rights and privileges to the Report Server Web Services Component:

1. Log on locally to the report server desktop console with a Windows account that is a member of the local administrator group and launch Report Manager URL (<http://localhost/reports>):

If you do not see the options below, launch Internet Explorer using the **Run as administrator** option in order to run Internet Explorer with elevated privileges.



Although the Local Windows Administrator Group on the Report Server will appear as already being members of the Content Manager and System Administrator roles in Reporting Services, the account must still be explicitly granted those rights in order for the installation to be able to connect to Reporting Services and assign the proper privileges to the local Deltek Vision Windows account that the installer creates.

You must be on the server and browse to the Report Manager URL using localhost as the server name (<http://localhost/reports>) in order to see the Report Manager configuration options.

2. Click **Folder Settings** in the top of the SQL Server Reporting Services screen.
3. Click **New Role Assignment**.
4. Add the account you will be logged in as to perform the Vision installation to the content manager role. (During the installation, the account is used to connect to the report server and install the Vision reports into Reporting Services. These rights are also required by the account listed in WebLink in order to run the Vision reports).
5. After the installation is complete, you can remove your Windows Domain Account if you prefer to not allow it to have rights to the reports. The installation creates an account named **DeltekVision** that is assigned the same rights listed in these steps in order to load and run Vision reports on behalf of Vision users.
6. The account appears in the listing with the Content Manager rights.
7. Click **Site Settings** in the top right section of the screen.
8. Click **Security**.
9. Click **New Role Assignment**.
10. Enter your Windows Account in the box and check the box for System Administrator role.

The account now has the necessary privileges to prevent a **401 Unauthorized** error during installation or when testing and running reports.

Prerequisite Report Server and SQL Server Database Credentials

During the Installation of Vision, when the installer is testing for proper rights to the Report Server, a SQL Server account is required for connecting to the Microsoft SQL Server Database hosting the Report Server databases used for managing the Report Server and the Vision

reports. This account must be configured on the Microsoft SQL Server hosting the Report Server (most installations have the SQL Server Report Server database on the same machine as the Report Server Web Server component).

In order to avoid errors during the Report Server installation, testing WebLink entries or running reports, a Report Server SQL Server database Login must be configured and given membership to the db_owner role on the SQL Server hosting the ReportServer and ReportSeverTempDB databases and your Vision database.



The steps below should also be performed on your database.

To configure/verify proper rights and privileges to the Report Server Database Server Component:

1. Launch Microsoft SQL Server Management Studio.
2. Expand the Server by clicking the Plus (+) in front of the Server Name, then expand the Security folder.
3. Right-click the **Logins** folder and select **New Login**.
4. Select the Windows account, existing SQL Server Login or Create a new SQL Server login and assign it a Password. The example below creates an account named **Vision**.
5. Click **User Mapping** to display the User Mapping screen.
6. Select the **ReportServer** database check box in the **Users mapped to this login** section.

The Database role membership for the Server becomes enabled in the bottom section.

7. Select the check box for **db_owner** to add the login to the db_owner role for the database.
8. Repeat the same steps for the ReportServerTempDB database.



Repeat the steps to map the login to the Vision database and to give it **db_owner** role membership to the database.

Appendix D: Printing in Vision

In Vision 5.x and earlier, you could print using only the printers installed on the report server. Users who wanted to print to their local printers had to first print preview a report, save the report as a PDF file, and then, while viewing the PDF version of the report in their PDF viewer, they could print to their local printer.

Vision 7.x provides the ability to:

- Print directly to users' local printers.
- Send a printout or batch to printers that are installed directly on the Web server. This is primarily used for batch job printing using the process server for transactions such as Batch Billing.

Server-Side Printing to Domain Printers

You must complete the following to configure server-side printing (that is, network printers):

Configure the DelttekVisionAppPool Identity (IIS) and the Report Server Windows Username (Report Server tab of WebLink) to be the same domain account. This must also match the domain account profile where your network printers are installed on the Vision Web/application server.

Printing to Local Printers on End-User Workstations

Vision 7.x uses the Microsoft SQL Reporting Services WinForms report viewer control to render reports and allow users to preview a report. From the preview window, a print job is sent directly to a user's local printer without the requirement of saving to a PDF file first. In the preview window, viewers still have the option to download to PDF and other file types.

Reverse Proxy

The Microsoft SQL Reporting Services WinForms report viewer control requires a direct connection to the server running the SQL Reporting Services Web Service. The connection is <http://<server>/reportserver> over Port 80 if no port is specified. If you have configured SSRS with a different port, then you will have to specify that port in the URL: [\(http://<server>/reportserver:<port>\)](http://<server>/reportserver:<port>).

This means that your report server (and possibly your database server if they are installed on the same machine) are directly exposed to the Internet. It also requires an external FQDN so that the report server can be resolved by the external users.

A reverse proxy utilizing Microsoft's Application Request Routing (ARR) extension for IIS allows the direct forwarding of requests through the Vision web server to the reporting services web service, with responses back to your Internet clients. This configuration resolves all of the issues identified in the previous paragraph.



See the *Delttek Vision Advanced Technical Administration Guide* for information.

To print to a local printer:

1. In Vision, preview a report.
2. Click the **Printer** icon in the preview window to display a list of printers that are installed on the local workstation.
3. Select the local printer, and click the **Print** button to send the printout to the local printer.

Printing to Network Printers Installed on the Web Server

In Vision 7.x, you print to network printers installed on the network server, the same as you did in previous versions of Vision. The only change is that the printers are now installed on the Web server instead of on the report server. Steps for installing printers on the Web server are in the next section titled *Installing Network Printers on the Deltek Vision Web Server*.

To print to a network printer installed on the Vision Web server:

1. In Vision, select a report, and click the **Print** icon on the toolbar.
2. From the drop-down list, select the network printer. If only <Local Printer> is listed, the system administrator has not yet installed printers on the server.
3. Click **Print** to send the job to the printer.

Faster Printing

If upgrading from Vision 6.x versions, server-side printing is now faster for Vision print jobs. This applies to printing reports, invoices, posting logs, checks, and so on. You will see a difference, especially when you print long reports. Reports print ten times faster.

With the ability to print faster in Vision, there are some small formatting differences compared with prior versions of Vision:

- Lines and boxes appear a little thicker.
- Fonts appear a little smaller. One more line may print on a page.
- Margins may be slightly different (0.1–0.3 cm difference).



Faster printing applies only when you print directly to network printers that have been set up in Vision for which you have Vision role security. (The Vision print dialog box displays when you print.) It does not apply when you print from a Vision report preview window. (The standard Windows print dialog box displays when you print.)

In Vision 7.x, you still have the option to print with the printing technology from Vision 6.1. You may prefer this for formatting purposes for some print jobs, such as for checks, forms, or invoices.


To print using Vision's previous printing technology:

1. Any place in Vision where you can select an option to open a Vision print dialog box, press the CTRL key on your keyboard and click the print option at the same time.

Examples of print options that open a print dialog box in Vision are:

- A print  icon on a Vision toolbar:  **Print**,  **Print Checks**, and so on.
- A print command that displays in a drop-down list when you click a print command on a Vision toolbar. For example, on the toolbar of the Posting Logs form in **Transaction**

Center » Posting Logs, click  **Posting Log**, then press the CTRL key and click  **Print** on the drop-down list.

- The **Print Setup** button on the Options dialog box. This dialog box displays when you select a report in Reporting, then click  **Schedule** on the toolbar. On the Schedule dialog box, click the **Options** button to open the Options dialog box.
- The **Run** button on a report print options dialog box.

A **Print Using Previous Version's Method (May be Slower)** check box displays at the bottom of the print dialog box. (This displays on the print dialog box only when you use the CTRL key.)

2. Click the **Print Using Previous Version's Method (May be Slower)** check box.

You must enter a network printer in the **Printer Name** field on the print dialog box to be able to select the **Print Using Previous Version's Method (May be Slower)** check box.

3. Click **Print**.

In the following scenarios, you have no control over the **Print Using Previous Version's Method (May be Slower)** check box. It will be selected automatically, regardless of whether or not you see the check box on the print dialog box:

- On the print dialog box, you select more than one copy to print in the **Number of Copies** field, and you clear the **Collate** check box.
- On the print dialog box, you select the **Set Scale** check box, and you change the percentage to something other than 100%.

Known Issues with the Printing Enhancement

- Some reports that are set to print automatically in landscape mode in order to fit all their columns now print in portrait mode. As a result, some columns are cut off entirely. Even if you change the layout from portrait to landscape on the Layout tab, the report still prints in portrait mode. The Project Planning List and Profit Planning Monitor reports are two reports that have this issue. Until this is fixed, you can print these reports in landscape mode using the previous version's printing method.
- The UK "check on bottom" check format and purchase orders are printing incorrectly. Some text near the left margin is cut off. Until this is fixed, you can print the checks using the previous version's printing method.

Installing Network Printers on the Vision Web Server

The Vision WebLink application allows you to configure the account that connects Vision to SQL Server Reporting Services. Vision uses this account to run reports, view report activity, and perform server-side printing, such as when batch printing is required. It is possible to have two accounts that work with SQL Server Reporting Services, depending on your report server database access selection.

- If you select Windows Authentication, you can only have one account.
- If you select SQL Authentication, you can have two accounts (one for access to the printers and the URL, and the other to access the database).

The following procedures address the requirements for establishing the necessary rights and privileges on the Web, database, and report servers for batch printing. This is required if you

change the Windows Username account specified in Weblink from the default local account “DeltekVision” created by the installation.

In the WebLink application, the Report Server tab is used to configure Vision for connecting to Microsoft SQL Server Reporting Services. The tab contains the following two sections:

- **Report Server Web Service Access** — The account entered in this section connects the SQL Server Reporting Services URLs for loading Vision reports into Reporting Services, checking Vision report versions, and running Vision reports. See Report Server Web Service Access for more information.
- **Report Server Database Access** — The account entered in this section connects the database server hosting the Reporting Services Report Server Databases and the Vision database. It is also used for running reports and checking Vision reporting activity in Reporting Services. You can use the following two options:
 - **Windows Authentication** — Select this option for the account in the Report Server Web Service Access section to be used to connect to the database server.
 - **Specify a SQL Server Username and Password** – Disable the **Windows Authentication** option and specify the SQL Server Login you created in SQL Server Management Studio in the **Database Username** field.

Use the database server procedure below to configure the required rights for either option. See Report Server Database Access for more information.

To configure network printers for Vision batch jobs, launch Weblink and complete the steps in the following sections to assign the appropriate rights to the account being used in each section.

Report Server Web Service Access

To change the account listed from Vision to a domain account:

1. Create a domain user account (not a domain administrator). If local or domain password policies may cause the password to expire, ensure that the password is updated in Weblink in a timely manner to avoid connection errors.
2. Complete these steps on the Web server:
 - a. Log on to the Web server and add the account to the Local Administrator Group. (This gives the account the privilege to install the print drivers.)
 - b. On the Web server, click **Control Panel » Administrative Tools**, and launch the Local Security Policy applet.
 - c. Expand Local Policies and click **User Rights Assignment**.
 - d. Double-click the **Logon as a Service** option and add the account to the list. (This allows Vision to enumerate the list of printers.)
 - e. Log on to the Web server as the account and install all the printers that are required.
3. Complete this step on the Report server:



The account referenced in Weblink may not have the necessary privileges (even as a member of the local administrator’s group on the report server).

Log on to the report server and add the account to the local administrator’s group using the steps in the [Required Rights for Report Server Web Services section of Appendix C](#).

Report Server Database Access

Follow these steps to create a SQL Server login that corresponds to the account you entered on the Deltek Vision WebLink Report Server tab. In these steps, you also give the account the appropriate rights to the databases on the SQL Servers hosting your Vision and report server databases.



These steps are also listed with screenshots in the [Prerequisite Report Server and SQL Server Database Credentials](#) above section of Appendix C.

To create an account and add the appropriate rights:

1. Launch the SQL Server Management Studio and connect to the database server(s) hosting the Vision and report server databases.
2. Expand the security folder.
3. Right-click **logins** and select **New Login**. The New Login screen displays.
4. Click the General tab.
5. Complete the following fields:
 - **Login name** — Enter the name of the SQL Server Login. The login name you enter here and the authentication option you select must match the values you enter in WebLink on the Report Server tab.
 - **Windows Authentication** — If you selected **Windows Authentication** on your WebLink entry (Database Access section), select this option and enter the same name that you entered in the **Windows Username** field of the Report Server Web Service Access section of WebLink. The **Integrated Authentication** check box must be enabled in the Database Server Connection section of the Report Server tab in WebLink.
 - **SQL Server Authentication** — If you selected SQL Authentication on your WebLink Entry (Database Access section), select this option and enter the same name that you entered in the **Database Username** field of the Report Server Database Server Connection section of WebLink. The name specified for this section cannot be in the Domain\Username format.
6. Click **OK**.
7. Click the User Mapping tab.

Use these fields to determine the databases to which the login name will be mapped and the role membership to which it will be assigned in the databases.
8. Make sure the following databases are selected in the **Users mapped to this login** grid:
 - ReportServer
 - ReportServerTempDB
 - Your Vision databases

This maps the login/user to the respective databases.

9. As you select each database (including your Vision database), select the db_owner role in the **Database role membership for:** section. You must select this option for each database.

You must map the login that is created on the database server to all Vision databases that are configured in WebLink. This is in addition to the ReportServer and ReportServerTempDB databases. If the login is not a member of the db_owner role in those databases, the WebLink Reporting Services connections will fail.

Launch Deltek Vision WebLink

To launch WebLink:

1. Launch the Deltek Vision WebLink application and select your database entry. The database entry you select here should have also been mapped previously.
2. Select the Report Server tab.
3. Enter the Domain account you created and configured on the Web server in the Report Server Web Service Access section.
4. In the Report Server Database Access of WebLink, enter the SQL Server Login you created and configured on the database server, or select the **Windows Authentication** option. This allows you to use the domain account you used in the Report Server Web Services section to connect to the Report Server Database Servers.

Do **not** enter a Windows Domain account.

Launch Deltek Vision Application and Refresh Report Printers

To launch Vision and refresh report printers:

1. Launch the Deltek Vision application and log in to the database entry you configured in WebLink.
2. Click **Utilities » Report Administration**.
3. Select the Report Printers tab.
4. Click **Refresh Report Printers** to update Vision with the printers that were installed.

Appendix E: Reload Reports into Vision

During the Web server/tier installation process, Vision installs a standard set of reports. Vision uses the following internal steps to complete this process:

1. Vision installs the Vision report folders and files into the Vision\Reports folder (default location: \Program Files\Deltek\Vision\Reports).
2. Vision imports the Vision Report files into Microsoft SQL Server Reporting Services (SSRS), which makes the reports available in Reporting Services.

Connection Errors

If there are problems with the connection between Vision and the report server, the reports will not install correctly onto the report server.

Installation Type	Problem	Possible Cause	Solution
Upgrade existing Vision 6.x installation	The connection between the report server database and Reporting Services URL fails.	The account specified in WebLink may not have the appropriate rights to the report server, web server, report server databases, and Vision database.	Upgrade your installation. See Upgrade an Existing Vision 6.x Installation in the “Identify the Error” section below for steps to resolve the issue.
New Vision 7.x installation	An error displays during installation.	An internal error occurred during the installation.	Check the Vision installation log files and correct the condition that is listed in the error message. See New Installation of Vision 7.x in the “Identify the Error” section below for steps to resolve the issue.
All installations	The connection between the report server database and Reporting Services URL fails.	The report server did not respond in a timely manner and the connection timed out.	Launch Vision and reload the reports. See Reload Reports into Vision in the “Identify the Error” section below for steps to resolve the issue.

Identify the Error

If Vision displays a message stating that Vision reports were not successfully imported during the installation process, you must complete the appropriate procedure for your installation type.

Test the Report Server Settings in WebLink

To upgrade an existing Vision 6.x installation:

1. Launch the Deltek Vision WebLink application.
2. For each database in the drop-down list, click the Report Server tab.

3. Click the **Test Report Server** button to verify that no errors occur during the connection.



For information on assigning rights to the account listed in WebLink, see [Appendix D: Printing in Vision](#).

4. Save your changes and exit WebLink.
5. Reload your reports into Vision. See the “Reload Reports into Vision” procedure below for additional information.

Reload Reports into Vision

To reload reports on the Vision reports server:

1. Double-click the Vision icon to launch the Vision application.
2. From the Vision Navigation menu, click **Utilities » Report Administration** to display the Reporting Administration form.
3. Select the Load Reports tab to load reports on the report server.
4. In the **Location of reports on application server** field, enter the file path location of the reports (RDL files) on the report server.
5. From the **Type** option drop-down list, select **Standard**.
6. If you want to load a single report, enter the name of the report in the **Report Name** field. (You do not need to supply the .RDL extension.)

You can also use this field as a wild card search. For example, if you enter **Project**, Vision finds and loads all files that contain the word Project, such as Project List, Project Summary, and Project Audit.

Sub reports do not load for main reports; you must load them manually by name.

If you leave the **Report Name** field blank, all reports load.

7. Click **Load Report Files**. A loading reports warning message displays.
8. Click **OK** to continue the reload report process.
9. To install custom reports, return to step 5. This time, select **Custom** from the **Type** option drop-down list. Then complete the remaining steps of the procedure.



For additional information on reloading reports, click the **Help** button on the Load Reports Tab.

Appendix F: Providing Single Sign-On with Microsoft Azure Active Directory

This section applies only if you decide to use Microsoft Azure Active Directory (Azure AD) to enable single sign-on for Vision.

Microsoft Azure AD's single sign-on allows Vision users to log onto Vision using their Windows user name and password instead of a separate Vision user name and password. Azure AD allows you to securely synchronize your users' network credential information to the cloud.

Before users can log onto Vision with their Windows credentials, a Vision administrator must complete the following configuration steps, which are described in the sections below:

1. Sign up for a Microsoft Azure AD account.
2. In Azure AD, complete the single sign-on configuration.
3. In Vision, complete the fields on the Azure Active Directory tab in **Configuration » General » System Settings**.
4. In Vision, complete the settings on the General tab in **Configuration » Security » Users** that are related to single-sign on.

Sign Up for a Microsoft Azure AD Account

If your firm does not already have a Microsoft Azure AD account, you can sign up for a free account at <https://azure.microsoft.com/en-us/free>.

Microsoft also offers an Azure AD Premium account for a cost at <https://azure.microsoft.com/en-us/trial/get-started-active-directory>.

The Premium edition is **not** required for using the single sign-on solution for Vision.

Complete Single Sign-On Configuration in Azure AD

Overview of Steps

The following are the steps that you must complete to configure single sign-on in Azure AD:

1. Configure Azure AD Connect.
2. Add and configure Vision applications in your Windows Azure Active Directory.

Use the directions in the sections that follow to complete these steps.

Configure Azure AD Connect

Overview

For more background information about Azure AD Connect, see Microsoft's [Integrating your on-premises identities with Azure Active Directory](#). This describes what Azure AD Connect is and how it works.

Prerequisites

Review and complete the prerequisites for Azure AD Connect as outlined by Microsoft's [Prerequisites for Azure Active Directory Connect \(Azure AD Connect\)](#).

Hardware requirements are also listed in this article.



Deltek recommends that you do **not** install Azure AD Connect on your domain controllers.

Configuration Steps for Azure AD Connect

Complete these steps after you have completed the prerequisites for Azure AD Connect in the section above.

To configure Azure AD Connect:

1. Download and install the Microsoft Online Services Sign-In Assistant for IT Professionals RTW (msoidcli_64.msi) from the following Microsoft web page:

[Microsoft Online Services Sign-In Assistant for IT Professionals RTW](#)

Refer to the installation instructions on the web page.

2. Click the following Microsoft link to download and install Azure Active Directory Module for Windows PowerShell for the 64-bit version (AdministrationConfig-en.msi):

[Azure Active Directory Module for Windows PowerShell \(64-bit version\)](#)

3. Download and install Microsoft Azure Active Directory Connect (AdministrationConfig-en.msi) using the following Microsoft link: [Azure Active Directory Connect](#).
 - Review the account and permissions information at the following Microsoft web page: [Azure AD Connect: Accounts and Permissions](#).
 - You must set up the following required accounts with a username and password:
 - Windows Azure Active Directory (Global Administrator)
 - On-Premise Active Directory (Enterprise Administrator)



- For more information, see [Managing Azure AD Connect](#).
- Depending on the size of your on-premise Active Directory, the installation of Azure AD Connect can take some time, especially if you select the option to synchronize users at the end of the installation.

4. Verify that users are synchronized with Windows Azure AD by logging into your Windows Azure portal.
5. Test a user on the Microsoft Apps portal at: <https://myapps.microsoft.com>.
 - No applications will show but you can test authentication.
 - Use an existing user name and password for the test.



For troubleshooting information, see: <https://msdn.microsoft.com/library/azure/jj151834.aspx>.

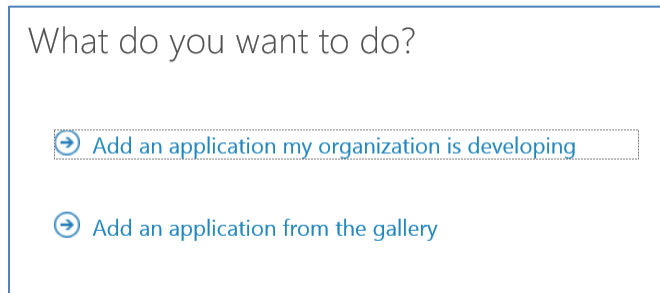
Add and Configure Vision Applications in Your Windows Azure Active Directory

You must add and configure two applications for Vision in Azure AD: Deltek Vision (Client) and Deltek Vision.

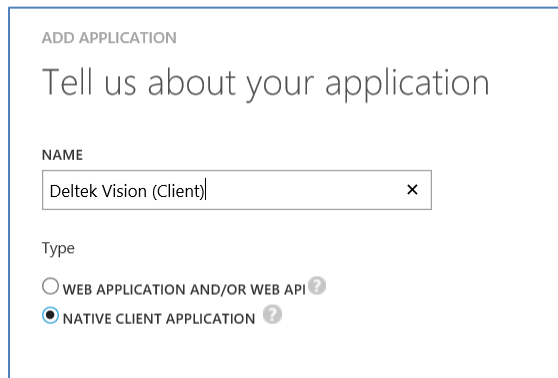
Add and Configure the Deltek Vision (Client) Application

To add and configure Deltek Vision (Client) in Azure AD:

1. From your Microsoft Azure AD portal, navigate to **Windows Azure » Active Directory » <DirectoryName>**.
2. On the Applications tab, click **Add**.
3. On the What do you want to do dialog box, select **Add an application my organization is developing**.

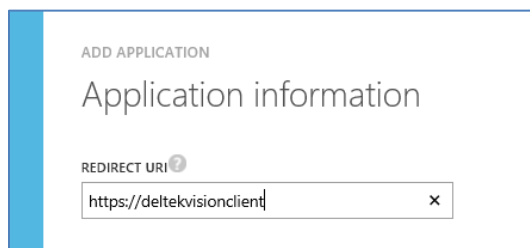


4. On the Tell us about your application dialog box:
 - In the **Name** field, enter **Deltek Vision (Client)**.
 - For **Type**, select **Native Client Application**.



5. On the Application information dialog box, enter **https://deltekvisionclient** in the **Redirect URI** field.

This must be a valid URI, but not a reachable URL.



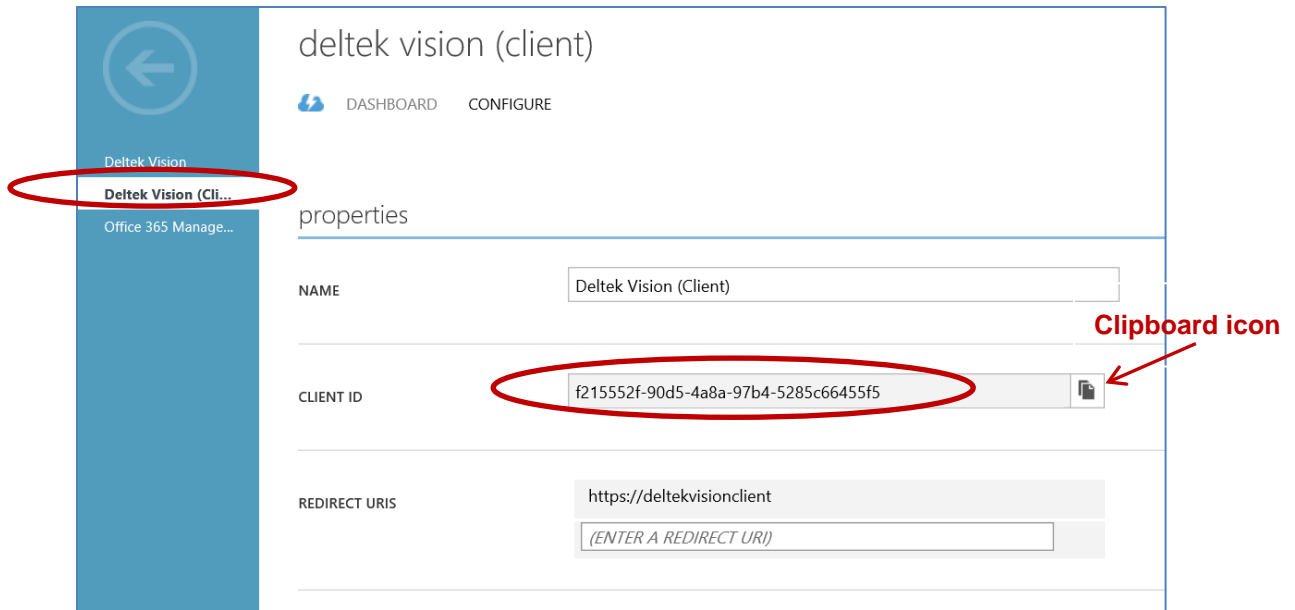
6. Click the circled check mark icon to create and save the application.



- Open the Deltek Vision (Client) application in the Azure AD portal, and go to the Configure tab to take note of what is entered in the **Client ID** field in the Properties section.

You can click the clipboard icon next to the **Client ID** field to copy the field value to the clipboard and save it.

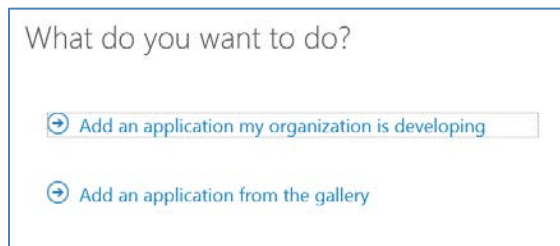
You will need to enter this client ID when you enter settings on the Azure Active Directory tab in Vision **Configuration » General » System Settings**. This is one of the last steps for configuring single sign-on for Vision. You will enter this client ID in the **Client ID** field on the Azure Active Directory tab.



Add and Configure the Deltek Vision Application

To add and configure Deltek Vision in Azure AD:

- From your Microsoft Azure AD portal, navigate to **Windows Azure » Active Directory » <DirectoryName>**.
- On the Applications tab, click **Add**.
- On the What do you want to do dialog box, select **Add an application my organization is developing**.



- On the Tell us about your application dialog box:
 - In the **Name** field, enter **Deltek Vision**.
 - For **Type**, select **Web Application and/or Web API**.

ADD APPLICATION

Tell us about your application

NAME

Deltek Vision

Type

WEB APPLICATION AND/OR WEB API ?

NATIVE CLIENT APPLICATION ?

- On the App properties dialog box, enter the fully qualified, internet-accessible URL/URI that your organization uses to access Vision in the **Sign-On URL** field and the **App ID URI** fields.

Example: For ABC Engineers, enter <https://www.abcengineers.com/deltekvision>

The URLs will be verified and should have a green check mark beside them.

ADD APPLICATION

App properties

SIGN-ON URL

<https://abcengineers.deltekfirst.com/abcengineers> ✓

APP ID URI

<https://abcengineers.deltekfirst.com/abcengineers> ✓

← ✓

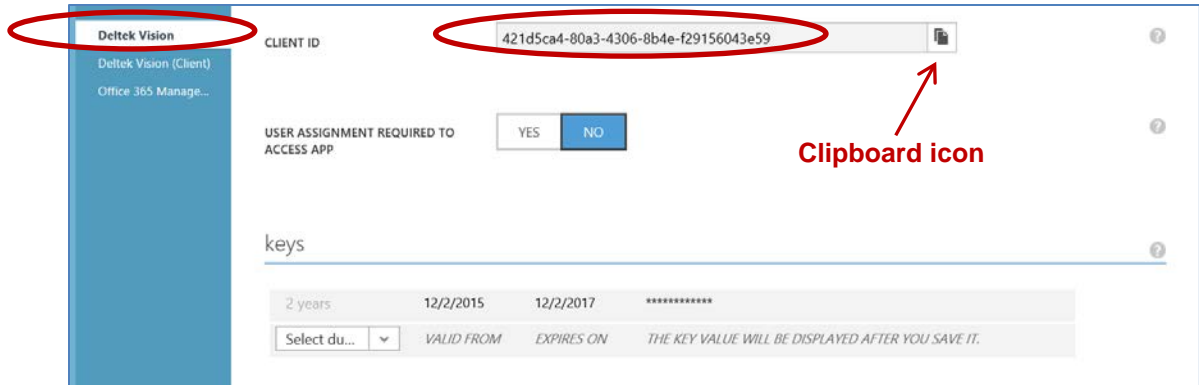
- Click the circled check mark icon at the bottom of the screen to create and save the application.



- Open the Deltek Vision application in the Azure AD portal, and go to the Configure tab to take note of what is entered in the **Client ID** field in the Properties section.

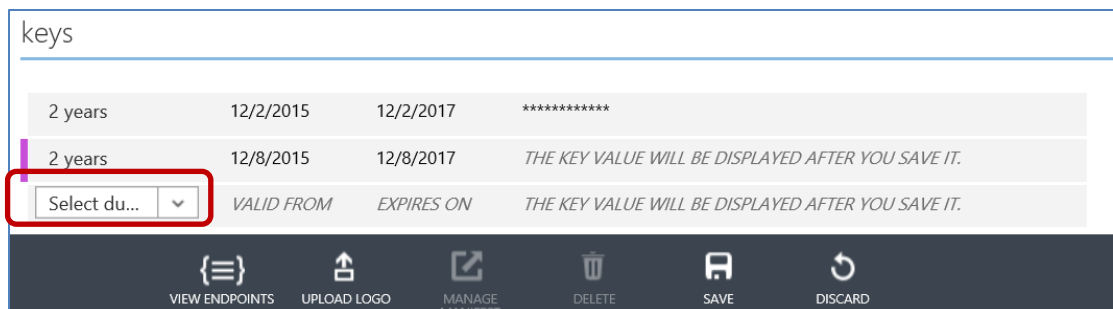
You can click the clipboard icon next to the **Client ID** field to copy the field value to the clipboard and save it.

You will need to enter this client ID when you enter settings on the Azure Active Directory tab in Vision **Configuration » General » System Settings**. This is the last step of configuring single sign-on for Vision. You will enter this client ID in the **Server Client ID** field on the Azure Active Directory tab.



- In the Keys section of the Configure tab, click the drop-down icon to select the duration for the key that you are about to generate.

Deltek recommends that you create a 2-years key.



- Click **Save** at the bottom of the screen to create and save the key and generate the key value for it.



Before you leave this screen, you **must** complete the next step.


- Before you leave the screen that displays the key value:**

Take note of what the key value is for the key. You must do this now because after you leave this screen, you cannot return to the screen to see the value.

You can click the clipboard icon next to the field that displays the key value to copy the value to the clipboard and save it.

You will need to enter this value when you enter settings on the Azure Active Directory tab in Vision **Configuration » General » System Settings**. This is the last step of configuring single sign-on for Vision. You will enter the key value in the **Server Key (Secret)** field on the Azure Active Directory tab.

keys

2 years	12/2/2015	12/2/2017	*****
2 years	12/8/2015	12/8/2017	x83WIMIPPWr537cuMds8ffOgV08QAVusp2gLUD0Mz54= 

Select du... VALID FROM EXPIRES ON THE KEY VALUE WILL BE DISPLAYED AFTER YOU SAVE IT.

Copy and store the key value. You won't be able to retrieve it after you leave this page.



If you do not have the key value when you need to enter it in Vision **Configuration » General » System Settings**, you must delete the key in Azure AD and recreate it.

11. In the Reply URL section, add the following reply URLs:

- **<The beginning of your Customer URL>**
(https://<Customer>.deltekfirst.com)
Example: For ABC Engineers, enter https://abcengineers.deltekfirst.com.
- **https://deltekvisionclient**
- **https://localhost**

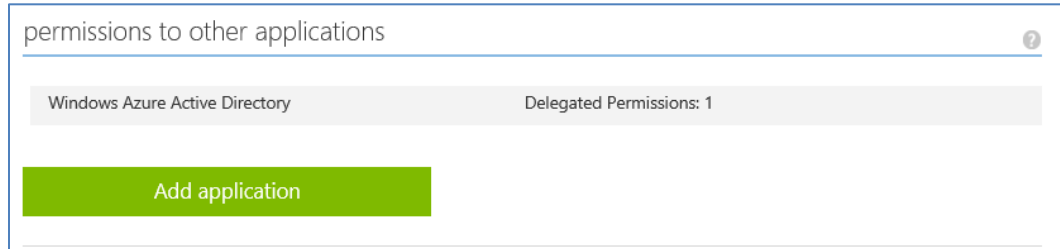
REPLY URL	https://abcengineers.deltekfirst.com
	https://deltekvisionclient
	http://localhost
	<input type="text" value="(ENTER A REPLY URL)"/>

12. Click **Save** at the bottom of the screen.

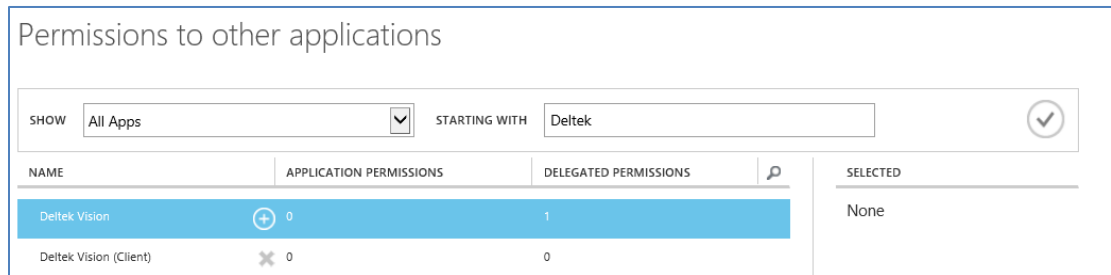
Set Up Trust Between the Deltek Vision (Client) Application and Deltek Vision Application

To set up trust between the applications:

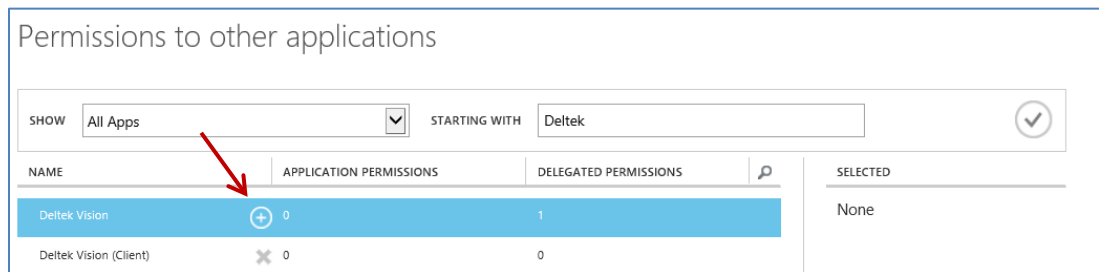
1. From the Microsoft Azure AD portal, navigate to the Deltek Vision (Client) application.
2. On the Configure tab, in the **permissions to other applications** section, click **Add application**.



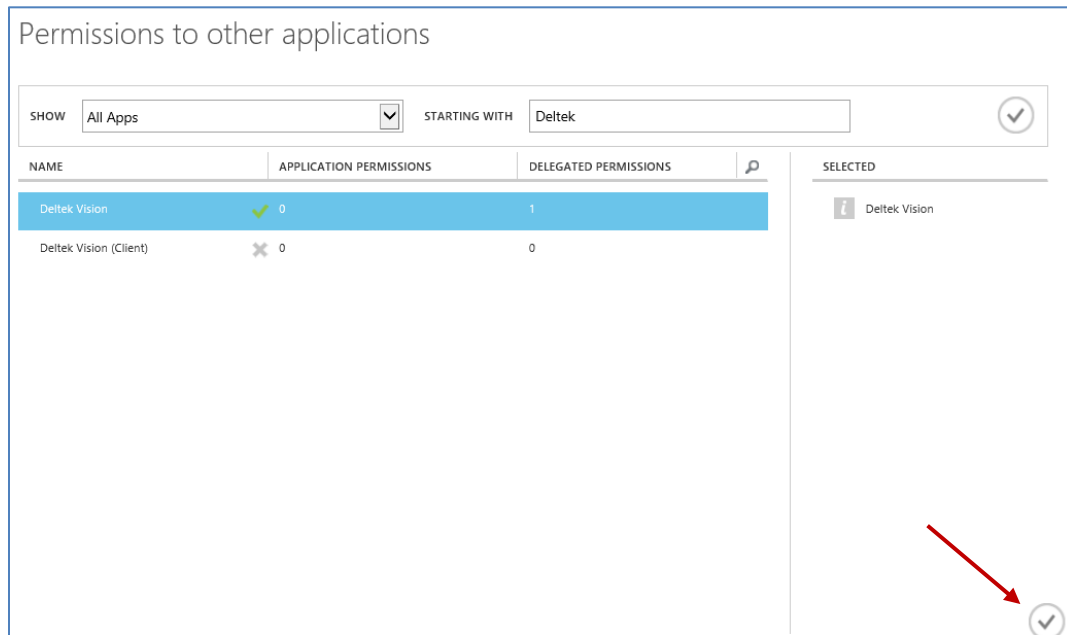
3. In the **Permissions to other applications** screen:
 - a. In the **Show** field, select **All Apps**.
 - b. In the **Starting With** field, enter **Deltek**.
 - c. Click the circled check mark beside the **Starting With** field.



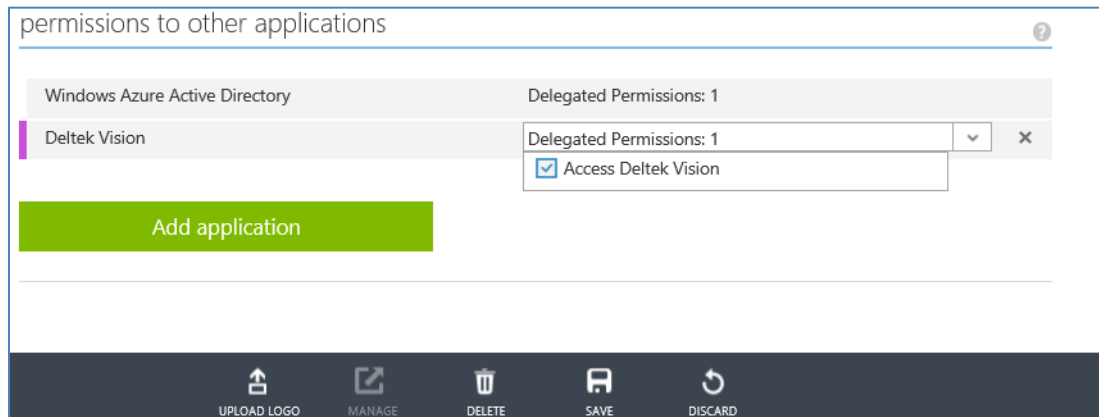
4. Click the circled plus sign to the right of Deltek Vision application name.



- Click the circled check mark in the lower right corner of the screen to return to the Configure tab.



- On the Configure tab, hover over **Delegated Permissions** to open the drop-down list, and select the **Access Deltek Vision** check box.



- Click **Save** at the bottom of the screen.

Complete the Azure AD Configuration in Vision

After you have completed single sign-on configuration in Azure AD in Vision:

1. From the Vision Navigation menu, click **Configuration » General » System Settings**.
2. On the General System Settings form, click the Azure Active Directory tab, and complete the fields on the tab:

The screenshot shows the 'General System Settings' form in Deltek Vision. The left navigation pane is expanded to 'Configuration » General » System Settings'. The main content area has several tabs: 'Lookups', 'Email', 'Labels', 'Numbering', 'Document Management', 'Multicurrency', 'Audit Trail', 'Azure Active Directory', and 'Miscellaneous'. The 'Azure Active Directory' tab is selected, showing a section titled 'Windows Azure Active Directory Integration'. This section contains five input fields: 'Domain Name (Tenant)', 'Client ID', 'Server Client ID', 'Server Key (Secret)', and 'Authentication Type' (a dropdown menu).

- **Domain Name (Tenant)** — Enter your on-premise active directory domain name (for example abcengineering.com). If you do not have a .com in your domain name, contact your system administrator or a Deltek consultant.
 - **Client ID** — Enter the client ID that was generated when you added and configured the Deltek Vision (Client) application in Azure AD. This is described in the “Add and Configure the Deltek Vision (Client) Application “ section in step 7 on page 120 of this guide.
 - **Server Client ID** — Enter the client ID that was generated when you added and configured the Deltek Vision application in Azure AD. This is described in the “Add and Configure the Deltek Vision ApplicationAdd and Configure the Deltek Vision” section in step 7 on page 121 of this guide.
 - **Server Key (Secret)** — Enter the key value that was generated for the key added for the Deltek Vision application in Azure AD. This is described in the “Add and Configure the Deltek Vision Application” section in step 10 on page 122 of this guide.
 - **Authentication type** — From the drop-down list, select the **Windows Azure prompts user for login credentials (default)**.
3. Click **Save** on the toolbar.

Complete Users Configuration in Vision

When you set up users and passwords in Vision in **Configuration » Security » Users**, you must enter the following for each user on the General tab:

- Select the **Windows Authentication** check box.
- In the **Domain** field, enter your domain name (example: abcengineers.com).



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