Visual Fusion® Installation Guide

VFSProxy
VFS 4.0
VFX 4.0 and 3.0
VF Search 1.0
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VFS Proxy Installation

1  Visual Fusion Proxy Services

To use Visual Fusion Experience 3.0, you need to install VFS Proxy; this program provides proxy services that VFX 3.0 requires to work around security restrictions in Flash. (In contrast, VFX 4.0 is built on Microsoft Silverlight and does not require proxy services or VFS Proxy.)

VFX 3.0 uses two types of proxy services

- **HTTP proxy request service**
  A Flash movie is unable to request data from any HTTP domain other than the domain from which the movie was loaded. An HTTP proxy request service fetches data from HTTP servers while giving the appearance to the Flash viewer that data is coming from its home domain.

- **Data file proxy service**
  A Flash movie loaded from the web cannot directly access files on a user’s hard drive. A data file proxy service is used for features, such as the GeoRSS feed editor, that require loading and saving to a hard drive.

2  Setting up the proxy services

Steps for IIS6 and IIS7:

1  Create a new site under IIS. If there is no domain available to use for this site, use a different port number than the site that hosts the Visual Fusion Experience (VFX) files.

2  Run **VFSProxy.msi** to install the application.

3  Follow the instructions in the installation wizard. Select the site created in step 1 for installation address.

4  In IIS, configure this application to use Anonymous Access and remove ‘Integrated Windows Authentication’ and ‘Basic Authentication’ access.

5  Configure this application to use .NET 2.0.

6  Grant read, write and modify privileges to the user account being used for Anonymous Access.

7  Give the local ‘Users’ group read, write and modify permissions for the application.

**Additional steps for IIS7:**

8  Edit the Application Pool used by the proxy, and set the Managed Pipeline mode to **Classic**.

9  Navigate the Handler Mappings configuration window for the site and select **Add Script Map**...

10  Enter *.*prxy in the Request path input box.

11  Enter %windir%\Microsoft.NET\Framework\v2.0.50727\aspnet_isapi.dll in the Executable input box.
12 Enter a name for the script mapping in the Name input box.

13 Click the **Request Restrictions** button.

14 Select the **Mapping** tab and select the checkbox labeled “**Invoke handler only if request is mapped to:**”

15 Select the **File** radio button.

16 Click on the **Verbs** tab and select the **All verbs** radio button.

17 Click the **Access** tab and select the **Script** radio button.

### 3 Post installation steps

Test that the proxy installation has been successful; open a browser window and attempt to access, through the proxy, a URL that you know is valid. For example, enter a URL similar to the following:

http://[proxy path]/HttpRequestProxy.prxy?query=http://www.yahoo.com

If the site displays, the proxy is working correctly. After you install Visual Fusion Experience, you can also test the proxy by saving and loading a layer profile, as described in the *Visual Fusion User Guide*. 

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Installing Visual Fusion Server (VFS) 4.0

This guide provides instructions for deploying IDV Solutions Visual Fusion Server (VFS) 4.0 on a server or a server farm and for installing the optional connectors to ArcSDE databases and the MOSS Business Data Catalog.

1 Upgrading to VFS 4.0

If you are upgrading to VFS 4.0 from VFS 3.5, follow the steps in section 1.1 below. To upgrade to VFS 4.0 from an earlier version of VFS (3.0.1 or earlier), see “Upgrading from VFS 3.0 (or 3.0.1) to VFS 4.0” on page 12. If you are installing VFS for the first time, please skip to "VFS Hardware and Software Requirements" on page 14.

Note: Regardless of your current version of VFS, after upgrading you will need to rebuild any layer hierarchies that you have created in existing VFS sites using the Visual Fusion Composer.

1.1 Upgrading from VFS 3.5 to VFS 4.0

If you have VFS 3.5 installed on your SharePoint server, and you want to upgrade to VFS 4.0, you must perform the following steps before performing the upgrade.

1.1.1 Remove VFS 3.5

1. Log on as an administrator to the server on which VFS 3.5 is installed.

2. Navigate to the root site of the site collection that hosts VFS 3.5.

3. Select Site Actions > Site Settings.

4. From the Site Settings page, select Site Collection features under the Site Collection Administration heading.

5. Deactivate the following features (if available):
   a. Visual Fusion Composer
   b. Visual Fusion Excel Geographic Worksheets
   c. Visual Fusion List and Library Templates
   d. Visual Fusion Search Web Parts

6. From the Windows taskbar, select Start > Administrative Tools > SharePoint 3.0 Central Administration.

7. From the Central Administration site, select the Operations link on the top navigation bar.

8. From the Operations page, select Solution Management under the Global Configuration heading.
9. From the Solution Management page, click on the name of the VFS solution package. Depending on the edition of VFS that is installed, this will be one of the following:
   a. vfsmossent.wsp
   b. vfsmoss.wsp
   c. vfswss.wsp
   d. vfs.wsp

10. Select Retract Solution from the toolbar. From the Retract Solution page, choose OK to retract the solution immediately.

11. From the Solution Management page, wait until the Status of the solution being retracted changes to “Not Deployed”.

12. Click again on the name of the solution that was just retracted.

13. From Solution Properties, click Remove Solution in the toolbar. Select OK to confirm removal.
1.1.2 Remove VFS 3.5 SharePoint web.config modifications

1. From the Start menu, select Run.

2. Enter inetmgr in the Run dialog, and press Enter.

3. In the IIS Manager dialog, in the tree hierarchy on the left, expand the Internet Information Services > [Hostname] (local computer) > Web Sites nodes.

4. Right-click on the web site that VFS 3.5 is deployed to, and select Explore from the context menu.
5. Double-click on the web.config file in this directory to edit it. Note: If the file does not open automatically, you may be asked to select from a list of applications to open it. Choose any text editor (for example, Notepad) to open the file.

6. Delete the following section, which is a child of the <configSections> node:

   ```xml
   <sectionGroup name="VisualFusionSuite">
     <section name="FeatureReceiverModule"
   </sectionGroup>
   ```

7. Delete the following section, which is a child of the <configuration> node:

   ```xml
   <VisualFusionSuite>
     <FeatureReceiverModule>
       <Receivers>
         [Delete everything inside of this section.]
       </Receivers>
     </FeatureReceiverModule>
   </VisualFusionSuite>
   ```
8. Delete the following line from the `<httpHandlers>` node in the `<system.web>` section:

```xml
<add verb="*"
    path="*.vfs"
```

9. Delete the following line from the `<appSettings>` section:

```xml
<add key="IdvSolutions.FusionServer.WebPath"
    value="/_layouts/vfs3.5" />
```

10. Delete the following section from the end of the web.config file right before `</configuration>`.

```xml
<system.diagnostics>
    <sources>
        <source name="IdvSolutions.FusionServer"
            switchType="System.Diagnostics.SourceSwitch"
            switchValue="Warning">
            <listeners>
                <remove name="Default"/>
                <add name="IdvSolutions.FusionServer"
                    type="System.Diagnostics.TextWriterTraceListener"
                    initializeData="C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS3.5\logs\VFS3.log"
                    traceOutputOptions="DateTime" />
            </listeners>
        </source>
    </sources>
    <trace autoflush="true"
        indentsize="3"/>
</system.diagnostics>
```

11. Save the web.config file and close the text editor.

12. If VFS 3.5 is installed in a server farm, repeat steps 1-11 on all front-end web servers in this farm.
1.1.3 Remove VFS 3.5 Web Parts

1. In a web browser, navigate to the root site of the SharePoint site collection hosting VFS 3.5.
2. Select Site Actions > Site Settings > Web Parts from the drop-down menu at the top right of the page.

3. From the Web Part Gallery, find the web part named VFComposer.webpart and click on the Edit Document Properties button ( ) for the item.
4. Select Delete Item from the toolbar near the top of the page, and then select OK to confirm the deletion.

You are now ready to perform the upgrade. Follow the instructions for installing VFS 4.0 found in "Running the Installation Packages" on page 16.
1.2 Upgrading from VFS 3.0 (or 3.0.1) to VFS 4.0

If you have VFS 3.0 (or 3.0.1) installed on your SharePoint server, before you upgrade to VFS 4.0, you must first completely uninstall the previous version by following the steps below. In particular, do not attempt to upgrade from a previous version to VFS 4.0 by running the VFS 4.0 installer package and selecting “Upgrade.”

Doing so could cause VFS to behave unexpectedly.

If you are installing VFS for the first time, please skip to "VFS Hardware and Software Requirements" on page 14.

1. Log on as an administrator to the server on which the previous version of VFS is installed.
2. In your browser, navigate to the default page for the top-level site of a site collection in the SharePoint Web application to which the previous version of VFS was deployed.
3. Select Site Actions > Site Settings from the upper right corner of the page.
4. Select the Site collection features link under the Site Collection Administration heading.
5. Deactivate each of the following features, if available, by clicking the Deactivate button next to the feature name:
   - Visual Fusion Custom Actions
   - Visual Fusion Content Type
   - Visual Fusion Data Links
   - Visual Fusion Document Library
   - Visual Fusion Excel Geographic Worksheets
   - Visual Fusion Geographic Data Library
   - Visual Fusion List
   - Visual Fusion Picture Library
   - Visual Fusion Site Columns
6. Repeat steps 2-5 for each site collection in the SharePoint Web application to which VFS was deployed.

7. Navigate to the **Add or Remove Programs** panel by selecting **Start > Control Panel > Add or Remove Programs** from the Windows Start menu.

8. Find the entry for the previous version of VFS (for example, “VFS 3.0.1 Enterprise for MOSS Enterprise”). Click the entry to highlight it, and select **Remove**.

9. In your web browser, navigate to the top-level site on which the previous version of VFS was installed.

10. Click **Site Actions** to open the drop-down menu, and then click **Site Settings**.

11. On the **Site Settings** page, click **Web Parts** under the **Galleries** heading.

12. Find **LayerListEditor.webpart** and click the icon under the **Edit** column to edit its properties.

13. On the **Edit item** page of **Web Part Gallery: LayerListEditor**, click **Delete Item** to delete this item.

14. Click **OK** when prompted for confirmation.

15. Repeat step 12-14 to delete the **VFSSearchActionLinks.webpart** from the web part gallery.

Follow the instructions for installing VFS 4.0 in "Running the Installation Packages" on page 16.
2 VFS Hardware and Software Requirements

VFS 4.0 is available in enterprise and standard editions, each of which comes in two forms; the appropriate form for your deployment depends on the edition of SharePoint installed on your server farm: either Microsoft Office SharePoint Server (MOSS) 2007 Enterprise Edition, or Windows SharePoint Services (WSS) 3.0.

The installer package is distributed as a single ZIP file containing all editions of VFS; the installer automatically selects the appropriate edition and form of VFS to install, based on the detected version of SharePoint.

- **VFS 4.0 Standard**: Includes core Visual Fusion Server functionality and the MapPoint data connector. Also includes the Excel Services connector when installed on a server farm with MOSS 2007 Enterprise Edition.

- **VFS 4.0 Enterprise**: The same functionality included in the Standard edition, plus the SQL Server data connector plug-in. The Excel Services connector is also installed on server farms running MOSS 2007 Enterprise Edition.

For more information and comparison of different VFS 4.0 editions, see the *Visual Fusion 4.0 Guide for Administrators and Developers*. Before installing, check your server or server farm against the hardware and software requirements below.

## 2.1 Base requirements

The following software is required for server computers that will host VFS 4.0 Standard Edition or VFS 4.0 Enterprise Edition:

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Windows Server 2003 or Windows Server 2008</td>
<td>Operating system. Latest software updates should be installed and Internet Information Services (IIS) enabled.</td>
</tr>
<tr>
<td>Windows SharePoint Services (WSS) 3.0</td>
<td>See the complete set of <a href="#">WSS 3.0 system requirements</a> from Microsoft.</td>
</tr>
</tbody>
</table>
| Microsoft Office SharePoint Server (MOSS) 2007 Enterprise Edition | MOSS 2007 Enterprise is a licensed Microsoft product that you must purchase separately. Refer to the complete list of MOSS 2007 system requirements from Microsoft.  
*Required only if you plan to use Visual Fusion (VF) Search or the VF Excel Library template. Optional, otherwise.* |
| Disable Loop Check | See Microsoft Knowledgebase article [here](#) |

In addition, if you are installing the VFS Enterprise edition, which includes the Visual Fusion SQL connector, you should have installed:
Microsoft SQL Server 2008, or
SQL Server 2005 or
SQL Server 2000 with Service Pack 4 (SP4)

SQL Server and the MOSS servers are typically separate physical servers, but can reside on the same physical box, depending on the needs of the application and infrastructure available.

2.2 Additional requirements for Visual Fusion Search

In addition to the base requirements listed above, the following service packs and infrastructure updates are required for installing Visual Fusion Search:

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
</table>

2.3 Additional requirements for VFS Connectors

Optional connectors are available to allow VFS Enterprise editions to display data from ArcSDE, Oracle, and MOSS Business Data Catalog (BDC). The following software is required if you are installing one of the VFS Connectors:

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESRI ArcSDE 9.3, 9.2 or ArcSDE 9.1 Service Pack 1</td>
<td>See the complete set of <a href="http://www.esri.com/arcgis/en/geoportal">ArcSDE system requirements</a> from ESRI.</td>
</tr>
<tr>
<td>Oracle 10g or 11g</td>
<td>Oracle and MOSS or WSS are typically installed on separate servers, but can reside on the same physical box, depending on the needs of the application and infrastructure available</td>
</tr>
<tr>
<td>BDC</td>
<td>MOSS 2007 Enterprise Edition</td>
</tr>
</tbody>
</table>
3  Running the Installation Packages

The first step in VFS 4.0 installation is to unzip the VFS 4.0 installation package (.zip file) on the server or on one of the front-end web servers in the farm. Once you have extracted the files in the .zip archive, run the Setup.exe file, as described below. Steps for installing the optional VFS 4.0 plug-ins are similar, and are found at the end of this section.

Important: When a new SharePoint solution is installed, it must be added to the solution store in the configuration database. Therefore, you must run the VFS installation packages under an account with the required permissions.

This account must be a member of the Administrators group on the server and one of the following must be true:

- This account was initially used to set up SharePoint on the server or farm, or
- The account has been granted Farm Administrator permissions, and also has Connect and Execute permissions on the SharePoint farm configuration database and the Central Administration content database.

3.1  Running the VFS 4.0 Installation Package

The name of a VFS installation package indicates which VFS edition it contains. For example, VFS 4.0 Enterprise.zip is the installation package for the enterprise edition of VFS 4.0, while VFS 4.0 Standard.zip is the package for the standard edition. Each Zip file contains SharePoint solutions for both MOSS Standard and MOSS Enterprise environments; the installer will choose the correct solution to install by detecting which edition of SharePoint is installed on the server. Installation steps are the same for all editions.

Important: VFS uses the Microsoft MapPoint Web Service for geocoding. Therefore, a valid MapPoint Web Service user account is required. During installation, you will be prompted to enter your MapPoint Web Service user name and password. You may bypass these prompts and enter the MapPoint user credentials in the VFS web.config file at a later time instead. Geocoding in VFS will be disabled if the MapPoint user credentials are not provided, either during installation or in the configuration files.

1. Log on as an administrator to the server on which you will install VFS. If you are installing VFS in a server farm, log on as an administrator to one of the front-end web servers in the farm.
2. Extract the VFS installation (.zip) package.
3. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
4. On the Welcome dialog, click Next.
5. On the System Check dialog, wait for all checks to complete and then click Next to continue.
Important: If one of the system checks fails, then you must fix the problem before you will be allowed to install VFS.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Select I accept the terms in the License Agreement to accept this agreement and then click Next to continue.

7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Select I accept the terms in the License Agreement to accept this agreement and then click Next to continue.

8. On the MapPoint Web Service Credentials dialog, enter your MapPoint Web Service user account name and password. You may bypass these fields and add the required information later in the configuration files. (See “Modifying the VFS web.config file” on page 26 for details about manually setting up the MapPoint Web Service user credentials.)

9. On the Farm Deployment Target dialog, click the drop-down list to select the SharePoint web application to which VFS should be deployed. VFS is deployed as a SharePoint solution to the selected SharePoint web application. Click Next to continue.

10. On the Confirm Installation dialog, click Next to continue. The VFS installation will begin.

11. Click Close to finish the setup program. Next, complete the post-installation steps for VFS 4.0, as described beginning on page 25.

Important: If an error occurs during the installation of VFS, you can click Details to get more information on what may have caused the error. This information may be useful in determining why the installation failed.

Note: To deploy VFS in a server farm, you only need to run the VFS installation package on one of the front-end web servers.
3.2 Running App Hub Installation Package

The Visual Fusion App Hub enables authorized users to create Visual Fusion applications quickly and easily. The installation package *VFS 4.0 App Hub.zip* installs and configures this feature.

Before installing the App Hub, you need to run the VFS 4.0 installation package. (See “Running the VFS 4.0 Installation Package” on page 16.)

Follow the steps below to install the Visual Fusion App Hub:

1. Log on as an administrator to the server on which you installed VFS 4.0.
2. Double-click to extract the App Hub (.zip) package.
3. In the folder containing the extracted files, double-click the **Setup.exe** file to run the installer.
4. On the Welcome page, click **Next**.
5. On the System Check dialog, wait for all checks to complete and then click **Next** to continue.

   **Important:** If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.
7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.
8. Click **Next** in the Confirm Installation dialog. The App Hub installation will begin.
9. Click **Close** to finish the setup program. When you are completing the Post-Installation Steps for VFS 4.0, you must activate the App Hub feature as described in “Activating VFS Features” on page 29.

   **Note:** When installing the App Hub in a server farm, you only need to run the setup program once.
3.3 Running Site Definition Installation Packages

The installation packages **VFS 4.0 Site Definitions (Flash).zip** and **VFS 4.0 Site Definitions (Silverlight)** each install a set of Visual Fusion site templates. These templates can be used alone, or in conjunction with the App Hub to quickly create Visual Fusion applications without the need to add and configure web parts. Each package installs definitions for creating two types of Visual Fusion application sites:

1. **Blank Visual Fusion Site** – Contains a default home page with the VFX web part(s) configured, a separate page with the Composer web part configured, and a sample Visual Fusion list and data links list.

2. **Crisis Response Site** – Same as the **Blank Visual Fusion Site** template, but also includes additional feeds that utilize the MapPoint web services to pull in extra data.

**Note** To use the site definitions included in these packages, you must also have Visual Fusion Experience (VFX) installed. Specifically, the **VFS 4.0 Site Definitions (Flash).zip** package requires that VFX 3.0 be installed and the web parts activated on the site hosting VFS. The **VFS 4.0 Site Definitions (Silverlight)** package requires that VFX 4.0 be installed and the web part activated on the site hosting VFS.

Before installing the Visual Fusion Site Definitions, you need to run the VFS 4.0 installation package. (See “Running the VFS 4.0 Installation Package” on page 16.)

Follow the steps below to install the Visual Fusion Site Definitions:

1. Log on as an administrator to the server on which you installed VFS 4.0.

2. Double-click to extract the Site Definition (.zip) package.

3. In the folder containing the extracted files, double-click the **Setup.exe** file to run the installer.

4. On the Welcome page, click **Next**.

5. On the System Check dialog, wait for all checks to complete and then click **Next** to continue.

**Important**: If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.

7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.

8. Click **Next** in the Confirm Installation dialog. The Site Definition installation will begin.

9. Click **Close** to finish the setup program.

**Note**: When installing the Site Definitions in a server farm, run the setup program only once.
3.4 Running the ArcSDE Connector Installation Package

The ArcSDE connector is an optional plug-in which enables VFS to process data from an ESRI ArcSDE server. The ArcSDE connector installation package (VFS Connector for ArcSDE 9.2.zip) installs this plug-in and configures it to work with VFS. You must run the VFS 4.0 installation package prior to installing the ArcSDE connector.

Before you install the ArcSDE connector, your server or server farm must meet the connector’s software requirements. The ArcSDE connector plug-in requires:

- The runtime libraries of the ArcSDE 9.1/9.2 You need a valid ESRI ArcSDE 9.1/9.2 license before installing the ArcSDE connector for VFS.
- The latest Microsoft Visual C++ redistribution package.

**Important:** Check the name of your installation package to verify that you are installing the correct version of the ArcSDE connector. For example, VFS 4.0 Connector for ArcSDE 9.2.zip should be installed with ArcSDE 9.2. If the version numbers do not match, contact IDV Solutions to see if there is a connector available for your version of ArcSDE.

Follow the steps below to install the components required by the ArcSDE connector:

1. Log on to a computer where ArcSDE 9.1/9.2 is installed and find the sde.dll, pe.dll and sg.dll for ArcSDE 9.2 (or sde91.dll, pe91.dll and sg91.dll for ArcSDE 9.1) in the bin folder of the ArcSDE installation path. (By default, this path is C:\arcgis\ArcSDE\sqlexe\bin.)
2. Log on as an administrator to the server where you will install VFS 4.0 and copy the sde.dll, pe.dll and sg.dll files to the %System32% folder. (By default, this path is C:\Windows\System32.)
4. If you are installing VFS 4.0 and the ArcSDE connector in a server farm, repeat steps 1-3 on all the front-end web servers in this farm.
5. Next, log on as an administrator to the same server where VFS 4.0 is installed.
6. Double-click to extract the ArcSDE connector (.zip) package.
7. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
8. On the Welcome dialog, click **Next**.
9. On the System Check dialog, wait for all checks to complete and then click **Next** to continue.
**Note:** If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.

10. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.

11. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.

12. Click **Next** in the Confirm Installation dialog. The ArcSDE connector installation will begin.

13. Click **Close** to finish the setup program.

**Important:** If an error occurs during the installation process, you can click **Details** to get more information on what may have caused the error. This information may be useful in troubleshooting why the installation failed.

**Note:** When installing the ArcSDE connector in a server farm, the .dll files listed in step 1 must be installed on all front-end web servers, but you only need to run the installation package (step 7) once.

You can now run installers for additional connectors, or move on to the Post-Installation Steps for VFS 4.0, which include uncommenting code for this connector in the Web.config file and configuring the connector.
3.5  Running the Oracle Connector Installation Package

The Oracle connector is an optional plug-in which enables VFS to process data from an Oracle database server. The Oracle connector installation package installs this plug-in and configures it to work with VFS. You must run the VFS 4.0 installation package prior to installing the Oracle connector.

⚠️ **Important:** Check the name of your installation package to verify that you are installing the correct version of the Oracle connector. For example, *VFS 4.0 Connector for Oracle 10g.zip* should be installed with Oracle 10g. If the version numbers do not match, contact IDV Solutions to see if there is a connector available for your version of Oracle.

Follow the steps below to install the components required by the Oracle connector:

1. Log on as an administrator to the same server where VFS 4.0 is installed.
2. Double-click to extract the Oracle connector (*.zip) package.
3. In the folder containing the extracted files, double-click the **Setup.exe** file to run the installer.
4. On the Welcome dialog, click **Next**.
5. On the System Check dialog, wait for all checks to complete and then click **Next** to continue.
   ⚠️ **Important:** If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.
6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.
7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Select **I accept the terms in the License Agreement** to accept this agreement and then click **Next** to continue.
8. Click **Next** in the Confirm Installation dialog. The Oracle connector installation will begin.
9. Click **Close** to finish the setup program.
   ⚠️ **Important:** If an error occurs during the installation process, you can click **Details** to get more information on what may have caused the error. This information may be useful in troubleshooting why the installation failed.

You can now run installers for additional connectors, or move on to the Post-Installation Steps for VFS 4.0, which include uncommenting code for this connector in the Web.config file and configuring the connector.
3.6 Running Business Data Catalog (BDC) Connector Installation Package

The BDC connector is an optional plug-in which enables VFS to connect and process Business Data Catalog (BDC) data sources on a MOSS 2007 server. The installation package VFS 4.0 Connector for MOSS BDC.zip installs and configures this plug-in.

The BDC Connector requires a SharePoint 2007 Enterprise server or server farm. Before installing the BDC connector, you need to run the VFS 4.0 installation package. (See “Running the VFS 4.0 Installation Package” on page 16.)

Follow the steps below to install BDC connector for VFS:

1. Log on as an administrator to the server on which you installed VFS 4.0.
2. Double-click to extract the MOSS BDC connector (.zip) package.
3. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
4. On the Welcome page, click Next.
5. On the System Check dialog, wait for all checks to complete and then click Next to continue.

   **Important:** If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
8. Click Next in the Confirm Installation dialog. The MOSS BDC connector installation will begin.
9. Click Close to finish the setup program. After you have completed the Post-Installation Steps, you must configure the connector as described on page 32.

   **Note:** When installing the BDC connector in a server farm, you only need to run the setup program once.

You can now run installers for additional connectors, or move on to the Post-Installation Steps for VFS 4.0, which include uncommenting code for this connector in the Web.config file and configuring the connector.
3.7 Running the Visual Fusion Contribute Installation Package

The Visual Fusion Contribute connector is an optional plug-in which enables VFS to process photos and notes sent from users’ iPhones.

You must run the VFS 4.0 installation package prior to installing the Contribute connector. Follow the steps below to install the Contribute connector:

1. Log on as an administrator to the same server where VFS 4.0 is installed.
2. Double-click to extract the Contribute connector (.zip) package.
3. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
4. On the Welcome dialog, click Next.
5. On the System Check dialog, wait for all checks to complete and then click Next to continue.
   
   **Important:** If one of the system checks fails, then you must fix the problem before you will be allowed to complete the installation.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Click **I accept the terms in the License Agreement** to accept this agreement and then click Next to continue.

7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Click **I accept the terms in the License Agreement** to accept this agreement and then click Next to continue.

8. Click Next in the Confirm Installation dialog. The connector installation will begin.

10. Click Close to finish the setup program. After you have completed the Post-Installation Steps, you must configure the connector as described on page 32.

   **Important:** If an error occurs during the installation process, you can click Details to get more information on what may have caused the error. This information may be useful in troubleshooting why the installation failed.
4 Post-Installation Steps

4.1 Setting VFS Web Application Mapping in IIS

After you have run the installation packages, follow the steps below to register the VFS web application extension (.vfs) in IIS and map it to the ASP.NET ISAPI.

1. Log on as an administrator to the server where VFS 4.0 is installed.
2. Open IIS Manager; double-click the local computer; click to expand the Web Sites folder, right-click the SharePoint web site, and then click Properties.
3. Click the Home Directory tab.
4. In the Application settings area, click Configuration, and then click the Mappings tab.
5. Scroll down to find .vfs in the list box of Application Mappings. If .vfs is not in the list, follow steps 6-10 to add .vfs to the web application mappings.
6. On the Mappings tab, click Add.
7. In the Executable box, type or browse to the path to the ASP.NET 2.0 program on the local computer. (By default, the path is: C:\WINDOWS\Microsoft.NET\ Framework\v2.0.50727\ aspnet_isapi.dll)
8. In the Extension box, type .vfs.
9. In the Verbs box, select All Verbs.
10. Select the Script engine check box.
11. Unselect the Verify that file exists check box.
12. Click Ok to apply the changes.
13. If you are installing VFS 4.0 in a server farm, repeat steps 1-12 on all front-end web servers in this farm.
4.2 Modifying the VFS web.config file

When the VFS SharePoint solution is deployed, a separate web.config file for Visual Fusion Server is installed to the server. The VFS 4.0 installers will make most of the required modifications to this file during the installation process; however, **if you have installed one of the optional connectors (for ArcSDE, BDC, or Oracle), you need to make the changes described below.** Otherwise, you may skip to "Activating VFS Features" on page 29.

Also, if the VFS Solution is redeployed to the SharePoint farm for any reason, you must perform the steps described under "Editing Web.config if the VFS solution is redeployed" on page 26.

1. If you installed the ArcSDE Connector, uncomment the following entry in the `<DataConnectionProviders>` section by removing the comment tags “<!--” and “-->”.

   ```xml
   <add name="SDE"
             IdvSolutions.FusionServer.Plugins.ArcSde,
             Culture=neutral,Version=4.0.0.0,PublicKeyToken=1de9179dbcb848c8"/>
   ```

2. If you installed the BDC connector, uncomment the following entry in the `<DataConnectionProviders>` section by removing the comment tags “<!--” and “-->”.

   ```xml
   <add name="MOSS.BDC"
        type="IdvSolutions.FusionServer.Plugins.MOSS.BDC.BdcDataConnection,
             IdvSolutions.FusionServer.Plugins.MOSS.BDC,
             Culture=neutral,Version=4.0.0.0,PublicKeyToken=444166a1b1c3d700"/>
   ```

3. If you installed the Oracle connector, uncomment the following entry in the `<DataConnectionProviders>` section by removing the comment tags “<!--” and “-->”.

   ```xml
   <add name="Oracle"
        type="IdvSolutions.FusionServer.Plugins.Oracle.OracleDataConnection,
             IdvSolutions.FusionServer.Plugins.Oracle,
             Culture=neutral,Version=4.0.0.0,PublicKeyToken=d76e676bfab10be"/>
   ```

4.2.1 Editing Web.config if the VFS solution is redeployed

If your VFS SharePoint solution is ever re-deployed to the SharePoint farm for any reason, or if the VFS Web.config file ever becomes corrupted, you will need to take steps to restore your application. The steps below describe the changes that must be made to the default VFS web.config file in this case.

⚠️ **Important:** Certain actions may cause the VFS SharePoint solution to be re-deployed without your explicitly electing to do so, either using the `stsadm.exe` utility or from the SharePoint 3.0 Central Administration Solution Management interface. For example, extending an existing web application will re-deploy the VFS solution to the web application and **overwrite** any changes you have made to the VFS web.config. The best practice is to keep a backup copy of your VFS web.config in a separate location so that it will not be overwritten if your solution is re-deployed.
Important: Make a backup copy of the current VFS web.config file before making any changes. Also, keep a backup copy of the changed file in a separate location.

1. Log on as an administrator to the server where VFS is installed.

2. Use a text editor to open `%CommonProgramFiles%\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0\web.config`.

3. If you did not specify the MapPoint Web Services user credentials when you ran the VFS installation package (see ”Running the VFS 4.0 Installation Package” on page 16.), modify the following node in the `<Connections>` section of web.config, entering the correct MapPoint username and password.

   ```xml
   <add name="MapPoint" provider="MPWS">
   <Parameters>
   <Set name="username" value="MapPoint_account_ID"/>
   <Set name="password" value="MapPoint_password"/>
   </Parameters>
   </add>
   ```

   Note: If you do not already have a MapPoint Web Service account, you can request a free developer account at: https://mappoint-css.live.com/mwssignup/. Once you have registered for a developer account, you will receive an e-mail from MapPoint. Follow the directions in this e-mail; it will then take about two hours to activate your trial account. The MapPoint e-mail will include a Virtual Earth Platform developer account ID and a Virtual Earth Platform developer account password. Use these to fill in the account ID and password fields in for the MapPoint connection.

4. Check the MapPoint connection URLs. The `<Connections>` section of the web.config file contains a set of four URLs that point to the MapPoint web services that are required by VFS.

   If you are using a MapPoint Developer Account, your file must contain the following URLs for the MapPoint staging environment:

   ```xml
   <Set name="find" value="https://findv3.staging.mappoint.net/Find-30/FindService.asmx"/>
   <Set name="route" value="https://routerv3.staging.mappoint.net/Route-30/RouteService.asmx"/>
   <Set name="render" value="https://renderv3.staging.mappoint.net/Render-30/RenderService.asmx"/>
   <Set name="common" value="https://findv3.staging.mappoint.net/Find-30/Common.asmx"/>
   ```

   If you have a production level MapPoint account, your file must contain the following URLs for the MapPoint production environment:

   ```xml
   <Set name="find" value="https://findv3.mappoint.net/Find-30/FindService.asmx"/>
   <Set name="route" value="https://routerv3.mappoint.net/Route-30/RouteService.asmx"/>
   <Set name="render" value="https://renderv3.mappoint.net/Render-30/RenderService.asmx"/>
   ```
5. **[Optional]** In the `<FeedInfoFormats>` section (in the `VfcLayerControl` node), update the URLs for `httpProxy` and `fileProxy`. The VFS installer creates default entries for these proxies. *Update these fields only if you are using an external proxy for HTTP and file requests from VFS.* (Please refer to the *VFS Proxy Installation* beginning on page 4, for information about the VFS proxy servers and how to set them up.)

    <add
    name="VfcLayerControl"
    httpProxy="http://URL_for_HTTP_proxy_server/HttpRequestProxy.vfs"
    fileProxy="http://URL_for_data_file_proxy_server/FileBounceProxy.vfs"/>

6. If you installed any of the optional ArcSDE, Oracle, or BDC connectors, uncomment the appropriate connector's entry in the `<DataConnectionProviders>` section of the file. (See "Modifying the VFS web.config file" on page 26.)

7. If you are installing VFS 4.0 in a server farm, copy the edited VFS web.config file and all the layer configuration files (by default, the VFS layer configuration files are in `C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0\layers`) from the server on which you ran the VFS installation package to the same locations on all other front-end web servers and application servers in this farm. Then execute `IISRESET` on each server.

    **Important:** Copy and overwrite only the web.config file and the files in the layers folder. Do not change/overwrite other VFS files on other servers. Refer to *VFS Guide for Administrators and Developers* for details about editing configuration files.

8. Run `IISRESET` on this server. Any changes to the VFS web.config file will not take effect until after IIS has been reset.
4.3 Activating VFS Features

To activate the VFS features:

1. Log on as an administrator and navigate in your web browser to the top-level site of the site collection hosting VFS.

2. Click the **Site Actions** button to open the drop-down menu, and then click **Site Settings**.

3. On the Site Settings page, under **Site Collection Administration**, click **Site collection features**.

4. On the Site Collection Features page, activate the following VFS features by clicking the **Activate** button for each line:
   - Visual Fusion Composer
   - Visual Fusion Excel Geographic Worksheets (*requires MOSS 2007 Enterprise*)
   - Visual Fusion List and Library Templates

   Be sure that the **Status** column of each of the VFS features shows **Active**, as in the illustration below.

   ![Status Active](image)

   **Note:** If you have installed Visual Fusion Experience (VFX), the Visual Fusion Experience Web Parts feature will also display; this feature must be activated to make these Web parts available. The VFX feature will not display until VFX has been installed; see "Activate the VFX feature" on page 45.

5. If you are upgrading from a previous version of VFS to VFS 4.0, you must also activate the **Visual Fusion Upgrade Existing Site Content** feature to make your existing VFS lists and document libraries compatible with VFS 4.0.
4.4 Allowing Virtual Earth access (optional)

If a proxy service is running on your network, you may need to reconfigure the proxy to allow the URLs below, so that Visual Fusion can access Virtual Earth and MapPoint Web Service for functions including geocoding, tiles, and place name find.

**VE WebService:**
- [http://staging.common.virtualearth.net/find-30/common.asmx](http://staging.common.virtualearth.net/find-30/common.asmx)
- [http://staging.dev.virtualearth.net/webservices/v1/imageryservice/imageryservice.svc](http://staging.dev.virtualearth.net/webservices/v1/imageryservice/imageryservice.svc)
- [http://common.virtualearth.net/find-30/common.asmx](http://common.virtualearth.net/find-30/common.asmx)
- [http://dev.virtualearth.net/webservices/v1/imageryservice/imageryservice.svc](http://dev.virtualearth.net/webservices/v1/imageryservice/imageryservice.svc)

**VE Tiles:**
- [http://t0.staging.tiles.virtualearth.net/tiles/](http://t0.staging.tiles.virtualearth.net/tiles/)
- [http://t1.staging.tiles.virtualearth.net/tiles/](http://t1.staging.tiles.virtualearth.net/tiles/)
- [http://t2.staging.tiles.virtualearth.net/tiles/](http://t2.staging.tiles.virtualearth.net/tiles/)
- [http://t3.staging.tiles.virtualearth.net/tiles/](http://t3.staging.tiles.virtualearth.net/tiles/)
- [http://t0.staging.tiles.virtualearth.net/tiles/](http://t0.staging.tiles.virtualearth.net/tiles/)
- [http://t1.staging.tiles.virtualearth.net/tiles/](http://t1.staging.tiles.virtualearth.net/tiles/)
- [http://t2.staging.tiles.virtualearth.net/tiles/](http://t2.staging.tiles.virtualearth.net/tiles/)
- [http://t3.staging.tiles.virtualearth.net/tiles/](http://t3.staging.tiles.virtualearth.net/tiles/)
- [http://t0.tiles.virtualearth.net/tiles/](http://t0.tiles.virtualearth.net/tiles/)
- [http://t1.tiles.virtualearth.net/tiles/](http://t1.tiles.virtualearth.net/tiles/)
- [http://t2.tiles.virtualearth.net/tiles/](http://t2.tiles.virtualearth.net/tiles/)
- [http://t3.tiles.virtualearth.net/tiles/](http://t3.tiles.virtualearth.net/tiles/)
- [http://t0.tiles.virtualearth.net/tiles/](http://t0.tiles.virtualearth.net/tiles/)
- [http://t1.tiles.virtualearth.net/tiles/](http://t1.tiles.virtualearth.net/tiles/)
- [http://t2.tiles.virtualearth.net/tiles/](http://t2.tiles.virtualearth.net/tiles/)
- [http://t3.tiles.virtualearth.net/tiles/](http://t3.tiles.virtualearth.net/tiles/)
MapPoint WebService:
https://findv3.staging.mappoint.net/Find-30/FindService.asmx
https://routev3.staging.mappoint.net/Route-30/RouteService.asmx
https://renderv3.staging.mappoint.net/Render-30/RenderService.asmx
https://findv3.staging.mappoint.net/Find-30/Common.asmx
https://findv3.mappoint.net/Find-30/FindService.asmx
https://routev3.mappoint.net/Route-30/RouteService.asmx
https://renderv3.mappoint.net/Render-30/RenderService.asmx
https://findv3.mappoint.net/Find-30/Common.asmx

Old VE Tile URLs:
http://r0.ortho.tiles.virtualearth.net/tiles/
http://r1.ortho.tiles.virtualearth.net/tiles/
http://r2.ortho.tiles.virtualearth.net/tiles/
http://r3.ortho.tiles.virtualearth.net/tiles/

http://a0.ortho.tiles.virtualearth.net/tiles/
http://a1.ortho.tiles.virtualearth.net/tiles/
http://a2.ortho.tiles.virtualearth.net/tiles/
http://a3.ortho.tiles.virtualearth.net/tiles/

http://h0.ortho.tiles.virtualearth.net/tiles/
http://h1.ortho.tiles.virtualearth.net/tiles/
http://h2.ortho.tiles.virtualearth.net/tiles/
http://h3.ortho.tiles.virtualearth.net/tiles/
4.5 **Configuring the ArcSDE connector**

If you installed the ArcSDE connector for VFS on the server or server farm, follow these steps to configure it:

1. Log on as an administrator to the server where VFS 4.0 is installed.
2. Using a text editor, open the `services` file in the `%System32%\Drivers\etc` folder. (By default, the path is `C:\Windows\system32\Drivers\etc\services`.) At the end of this file, add this new line, replacing the variables with the information for your ArcSDE database instance:

```
[ArcSDE Database Instance Name] [ArcSDE Database Instance TCP Port Number]/tcp
# [Description of this line]
```

Example: `esri_sdeSampleDB 5156/tcp # A sample ArcSDE database at port 5156`

If you are installing VFS 4.0 in a server farm, repeat the steps 1-2 on all other front-end web servers and application servers in this farm.

*Note:* Refer to the *VFS Guide for Administrators and Developers* for details about setting up map feeds for the ArcSDE database.

4.6 **Configuring SharePoint BDC**

If you installed the BDC connector, follow these steps to configure SharePoint BDC:

1. Log on as an administrator to the server where VFS 4.0 is installed.
2. Open *SharePoint 3.0 Central Administration* from the Start Menu → Administrative Tools.
3. In the Shared Services Administration section on the left of the screen, select the Shared Service Provider for the SharePoint server or server farm, as shown at right. (By default, the Shared Service Provider is named *SharedServices1*.)
4. On the Shared Service Provider home page, in Business Data Catalog section, select *Import application definition* to specify the data source to which BDC connector will be connected. Refer to the Microsoft TechNet library article

   *[Register business applications in the Business Data Catalog]*


*Note:* Refer to the *VFS Guide for Administrators and Developers* for details about setting up map feeds for the BDC data.
4.7 Configuring Visual Fusion Contribute

Visual Fusion Contribute requires these additional features to be installed on the server: two new actions for Visual Fusion Server, and a modified version of the MapPoint geocoder.

1. Log on as an administrator to the server where VFS 4.0 is installed.

2. Use a text editor to open %CommonProgramFiles%\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0\web.config.
   (By default, the path is C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0\web.config).

3. In the <Connections> section (in the VisualFusionServer node), add the following:

   ```xml
   <add name="Contribute" provider="iMPWS">
   <Parameters>
   <Set name="username" value="[USERNAME]"/>
   <Set name="password" value="[PASSWORD]"/>
   <Set name="searchMode" value="Gazetteer,SingleLineAddress"/>
   <Set name="urls">
   <Set name="find" value="https://findv3.staging.mappoint.net/Find-30/FindService.asmx"/>
   <Set name="route" value="https://routev3.staging.mappoint.net/Route-30/RouteService.asmx"/>
   <Set name="render" value="https://renderv3.staging.mappoint.net/Render-30/RenderService.asmx"/>
   <Set name="common" value="https://findv3.staging.mappoint.net/Find-30/Common.asmx"/>
   </Set>
   </Parameters>
   </add>
   ```

   Replace [USERNAME] and [PASSWORD] with your MapPoint credentials.

   If you have a production level MapPoint account, replace the URLs with the following URLs for the MapPoint production environment:

   ```xml
   <Set name="find" value="https://findv3.mappoint.net/Find-30/FindService.asmx"/>
   <Set name="route" value="https://routev3.mappoint.net/Route-30/RouteService.asmx"/>
   <Set name="render" value="https://renderv3.mappoint.net/Render-30/RenderService.asmx"/>
   <Set name="common" value="https://findv3.mappoint.net/Find-30/Common.asmx"/>
   ```

4. In the <Actions> section (in the VisualFusionServer node), add the following:
Replace \([SHAREPOINT\_SITE]\) with the URL to the SharePoint site where users will submit their iPhone photos and notes.

The ReverseGeocode.vfs action has several parameters; for a typical deployment, use the values in the code above; they allow the Contribute geocoder to work side-by-side with your existing geocoder. (For information on using other parameter values or replacing the default geocoder with the Contribute version, see "Using the REST API" in the Visual Fusion User Guide.)

One parameter value in the code above that you may want to change is **MinimumAccuracyForAddresses**. Along with latitude and longitude coordinates, an iPhone running the Contribute application automatically sends a value in kilometers that indicates the margin of error in the location. The larger this accuracy value, the greater the potential for error when the reverse geocoder determines a street address from the coordinates.

The parameter **MinimumAccuracyForAddresses** specifies how small an accuracy value the application will require for the reverse geocoder to return a street address instead of a general area (ex. "5913 Executive Drive, Lansing, MI" instead of "Lansing, MI"). When the accuracy value is greater than this parameter value, only general areas are returned. The lower the value of this parameter, the greater accuracy is required and the fewer street addresses may be returned.

5. In the Web.config section
   <configuration><VisualFusionServer><Providers><DataConnectionProviders>, add the following:

   <add name="iMPWS"

   Visual Fusion Contribute is now set up; see the Visual Fusion User Guide for information on creating a Visual Fusion Picture Library to accept the contributions from users' iPhones. You will need to send the name of this library and the URL of your Visual Fusion application to users who will be contributing photos. The users must download Contribute from the iPhone App store and install it on their iPhones.
4.8 Configuring SharePoint Excel Services

If you’re installing VFS 4.0 on a server running MOSS 2007 Enterprise, follow the steps below to configure SharePoint Excel Services for use with VFS:

1. Log on as an administrator to the server on which you installed VFS.
2. Open SharePoint 3.0 Central Administration from the Start Menu → Administrative Tools.
3. In the Shared Services Administration section on the left, click the Shared Service Provider of the SharePoint server or server farm. (By default, the Shared Service Provider is named SSP1).
5. On the Excel Services Settings page, in the Security section, under File Access Method, select Process account as shown in the illustration below; then click Ok to go back to the Shared Service Provider home page.

<table>
<thead>
<tr>
<th>Security</th>
<th>File Access Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excel Services authentication, communication and web service settings.</td>
<td>The authentication method used by Excel Calculation Services to retrieve workbook files from all non-Windows SharePoint Services trusted file locations.</td>
</tr>
<tr>
<td></td>
<td>- Impersonation</td>
</tr>
<tr>
<td></td>
<td>- Process account</td>
</tr>
<tr>
<td></td>
<td><strong>Confi</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Access files as the Excel Calculation Services process account.</strong></td>
</tr>
<tr>
<td></td>
<td>is required between client computers and front-end components of Excel Services.</td>
</tr>
<tr>
<td></td>
<td>- Not required</td>
</tr>
<tr>
<td></td>
<td>- Required</td>
</tr>
</tbody>
</table>

7. On the Excel Services Trusted File Locations page, click Add Trusted File Location.
8. On the Add Trusted File Location page, in the Location section (shown in the illustration below) make these entries:
   - In the Address field, enter the URL of the web site on which VFS 4.0 is installed. (This is the web site chosen in the Installation Address drop-down list during the VFS 4.0 installation. Refer to “Running the VFS 4.0 Installation Package” on page 16).
   - Under Location Type, select Windows SharePoint Services.
   - Under Trust Children, select Children trusted. Click Ok to finish.
Note: Refer to the VFS Guide for Administrators and Developers for details about creating map feeds for the contents of the Excel workbooks saved in the Visual Fusion Excel Geographic Worksheets library.
4.9 Update Existing Visual Fusion Sites

After you have completed the installation of Visual Fusion 4.0, you need to update any existing Visual Fusion sites that were created to use a previous version of VFS. The first step is to activate the Visual Fusion Upgrade Existing Site Content feature from the site collection features page, as described in section 4.3. Next, you will need to perform the following steps in each site:

1. Navigate to the VFS site in a browser.
2. Navigate to the page hosting the Visual Fusion Composer web part. The page should now display the following error message:

   ![Error Message](image)

3. Select Site Actions > Edit Page and then click on the edit drop-down menu in the top right corner of the Composer web part.
4. Choose Delete from the drop-down menu and select OK to confirm the deletion.

   ![Delete Option](image)

5. Click on Add a Web Part and find the Visual Fusion Composer web part, in the Visual Fusion Web Parts group. Check the box next to the web part name, and click Add.
6. From the edit drop-down menu of the new Composer web part, select Modify Shared Web Part.
In the settings editor for the Composer web part, expand the Export Options category. Then, check the Show VFX export button option, and choose VFX3 from the Pick VFX version drop-down menu.

7. Click OK to apply the web part settings.
8. Click on the Exit Edit Mode button near the top right corner of the page.

You should now see all of your site content in the Composer web part, beneath the All Visual Fusion Feeds heading. You will need to rebuild your feed hierarchy by dragging feeds (layers) from the left side of the Composer into the Selected Feeds panel on the right, and applying styles to individual feeds. Refer to the Visual Fusion User Guide for more information.

Once you have completed recreating your Feed Hierarchy, take the following steps to reconnect the hierarchy to the VFX feed control:

1. On the right side of the Composer web part, click on the button Copy Path for the Selected Feeds to Clipboard.
2. A dialog opens containing a URL. Select this URL and copy it to the clipboard (right-click and choose **Copy**, or press **Ctrl+C**).

3. Close the URL dialog by clicking the red “X” button in the top-right corner.
4. Navigate to the page in your site that is hosting the VFX map viewer and side panel web parts.
5. Select **Site Actions > Edit Page**.
6. Choose to **edit** the **Visual Fusion Side Panel Viewer** web part, and select **Modify Shared Web Part** from the drop-down menu.
7. Expand the **Viewer Configuration** node and locate the **UI Configuration File URL** field.
8. Paste the URL from the clipboard into this field (right-click and choose **Paste**, or press **Ctrl+V**), and select **OK** to close the editor.
9. Click on the **Exit Edit Mode** button near the top-right corner of the page.

The Visual Fusion Experience side panel web part is now configured to display the feed list that is configured in the Composer. If you have feed (layer) configuration files stored on the file system, you may find it advantageous to move them to a Visual Fusion File Configuration Library; for information, see the **Visual Fusion 4.0 Guide for Administrators and Developers**.
Installing Visual Fusion Experience (VFX) 4.0

1 Running the VFX installation package

Important: To run the VFX installation package, you must be in the Administrator group on the server and be granted the db_owner database role on the SharePoint farm configuration database and the central administration site content database.

Follow these steps to run the VFX 4.0 installation package on a single server or a server farm:

1. Log on as an administrator to the server on which you will install VFX 4.0. If you are installing VFX 4.0 in a server farm, log on as an administrator to one of the front-end web servers in the farm.
2. Double-click the VFX 4.0 installation (.zip) package to extract it.
3. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
4. On the Welcome dialog, click Next.
5. On the System Check dialog, wait for all checks to complete and then click Next to continue.

Important: If one of the system checks fails, then you must fix the problem before you will be allowed to install VFX.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
8. On the Farm Deployment Target dialog, click the drop-down list to select the SharePoint web application to which VFX 4.0 should be deployed. VFX 4.0 is deployed as a SharePoint solution to the selected SharePoint web application. Click Next to continue.
9. On the MapPoint and Virtual Earth Web Service Settings dialog, enter your MapPoint Web Service credentials. Examine the Virtual Earth Service URLs and make any changes. Select an appropriate culture to use with Virtual Earth. Click Next to continue.

Important: The Virtual Earth connection that is configured in this installer contains a URL that points to the staging environment by default. If you have a production level account, then you must replace this URL with the production environment URL.

10. On the Confirm Installation dialog, click Next to continue. The VFX 4.0 installation will begin.
11. Click Close to finish the setup program.

Note: The VFX 4.0 files will be installed to the folder [Common Files Folder]\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFX4.0. By default, the installation
folder will be `C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFX4.0`.
The default virtual directory is `http://MyServer/_layouts/VFX4.0`.

1.1 IIS Configuration

If you have not served a Silverlight application from IIS before, you may need to make some changes to do so. Follow the steps outlined at [http://learn.iis.net/page.aspx/262/silverlight/](http://learn.iis.net/page.aspx/262/silverlight/) to prepare IIS for serving Silverlight applications.

1.2 Activate the VFX feature

Follow these steps to activate the VFX feature:

1. Log on as an administrator to the top-level site on which VFX is installed.
2. Click **Site Action** to open the drop-down menu, and then click **Site Settings**.
3. On the **Site Settings** page, click **Site collection features** in the **Site Collection Administration** section.
4. On the **Site Collection Features** page, activate the **Visual Fusion Experience Web Parts** feature by clicking the **Activate** button. The **Status** column will show **Active** when this feature has been activated.

The following illustration shows the **Visual Fusion Experience Web Parts** feature.
2 Uninstalling Visual Fusion Experience (VFX) 4.0

2.1 Removing the VFX program

If you have access to the original installation package that was used to install VFX 4.0, then you can choose to repair or remove an existing install. Repairing an install has the effect of first retracting the VFX 4.0 solution from the server, and then re-deploying it. If you do not have the original installation package, then you will not be able to repair an existing installation, but you can still remove it manually using the SharePoint 3.0 Central Administration application.

To remove or repair an installation of VFX 4.0 from a server or a server farm, first log on as an administrator to the server on which VFX 4.0 is installed. Then, follow one of the two sets of instructions below, depending on whether or not you have access to the original installation package for the solution you wish to remove or repair.

**If you have access to the original installation package:**

1. Open the directory containing the extracted files from the VFX 4.0 installation package that was used to install VFX 4.0 on your server.
2. Double-click to run the `Setup.exe` file.
3. On the Welcome dialog, select Next.
4. On the System Check dialog, wait for all system checks to complete successfully and then select Next.

   **Important:** You will not be able to uninstall VFX 4.0 from the server unless all of the system checks pass successfully. If one of these checks fails, contact your server’s administrator to determine the problem.

5. In the Repair or Remove dialog, select Remove to remove the VFX 4.0 solution from the SharePoint server, or select Repair to retract and then re-install the VFX 4.0 solution. Then, select Next.
6. Follow the remaining prompts to complete the remove or repair operation.

**If you do not have access to the original VFX installation package:**

1. Open the SharePoint Central Administration page by selecting Start > Administrative Tools > SharePoint 3.0 Central Administration from the Windows Start menu.
2. From the SharePoint Central Administration home page, select the Operations tab near the top of the page.
3. On the Operations page, under the Global Configuration heading, select the Solution Management link.
4. In the list of installed solutions, click on the VFX40.wsp SharePoint Solution.
5. On the Solution Properties page, click the **Retract Solution** link located above the list of properties.

6. On the Retract Solution page, click **OK** to schedule the solution retraction timer job to run immediately. You will be redirected to the Solution Management page.

7. On the Solution Management page, refresh the page periodically until the “Status” field for the selected solution displays “Not Deployed”.

8. Click once again on the name of the SharePoint solution that was just retracted.

9. On the Solution Properties page, click the **Remove Solution** link located above the list of properties.

10. Select **OK** when asked if you are sure you want to remove the solution.

### 2.2 Updating the Web.config file

If you do not have access to the original VFX installation package, follow these steps to update the web.config file of the web site on which you installed VFX:

1. Use a text editor to open the web.config file of the web site on which VFX 4.0 is installed. This web site is the one chosen in the **Installation Address** drop-down list during the step 5 of VFX 4.0 installation.

2. Remove the following entries in the `<appSettings>` section.

   ```xml
   <add key="IdvSolutions.FusionServer.MapPoint.UserName" value=""/>
   <add key="IdvSolutions.FusionServer.MapPoint.Password" value=""/>
   <add key="IdvSolutions.FusionServer.VirtualEarth.Common" value=""/>
   <add key="IdvSolutions.FusionServer.VirtualEarth.Culture" value=""/>
   <add key="IdvSolutions.FusionServer.VirtualEarth.Imagery" value=""/>
   ```

3. Save the modified web.config file and exit the text editor.

4. If VFX 4.0 is installed in a server farm, repeat the above steps (1-3) on all front-end web servers and application servers in this farm.

### 2.3 Removing VFX web part files

Follow these steps to remove VFX web part files from the web part gallery:

1. Log on as an administrator to the top-level site on which VFX is installed.

2. Click **Site Action** to open the drop-down menu, and then click **Site Settings**.

3. On the **Site Settings** page, click **Web Parts** in the **Galleries** section.

4. Find **VFMapWebPart40.webpart** and click the icon to edit its properties.

5. On the **Edit item** page of **Web Part Gallery: VFMapWebPart40**, click **Delete Item**.

6. Click **Ok** when prompted for confirmation.
Installing Visual Fusion Experience (VFX) 3.0

1 Implementing VFX 3.0 with Existing Visual Fusion Applications

You can install and use VFX 3.0 with existing Visual Fusion composite applications. The installation process will create a new directory with VFX 3.0 Web parts, separate from the VFX 2.2 Web parts. To replace the VFX 2.2 Web parts in an existing application, simply create a new Web Part Page, select the “Header, Right Column, Body” layout template, and add the VFX 3.0 Web parts. Then, configure the VFX Web parts as desired. (See the Visual Fusion User Guide for configuration information.) Verify that everything is functioning properly, and delete or archive the VFX 2.2 Web parts.

1.1 Running the VFX installation package

Important: To run the VFX installation package, you must be in the Administrator group on the server and be granted the db_owner database role on the SharePoint farm configuration database and the central administration site content database.

Follow these steps to run the VFX3.0 installation package on a single server or a server farm:

1. Log on as an administrator to the server on which you will install VFX 3.0. If you are installing VFX 3.0 in a server farm, log on as an administrator to one of the front-end web servers in the farm.
2. Double-click the VFX 3.0 installation (.zip) package to extract it.
3. In the folder containing the extracted files, double-click the Setup.exe file to run the installer.
4. On the Welcome dialog, click Next.
5. On the System Check dialog, wait for all checks to complete and then click Next to continue.

Important: If one of the system checks fails, then you must fix the problem before you will be allowed to install VFS.

6. On the IDV Solutions Software License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
7. On the SharePoint Solution Installer License Agreement dialog, scroll down to read through the license agreement. Click I accept the terms in the License Agreement to accept this agreement and then click Next to continue.
8. On the Farm Deployment Target dialog, click the drop-down list to select the SharePoint web application to which VFX 3.0 should be deployed. VFX 3.0 is deployed as a SharePoint solution to the selected SharePoint web application. Click Next to continue.
9. On the Confirm Installation dialog, click Next to continue. The VFX 3.0 installation will begin.
10. Click Close to finish the setup program.

Note: The VFX 3.0 files will be installed to the folder [Common Files Folder]\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFX3.0. By default, the installation folder will be
1.2 Modify the web.config file

Follow these steps to modify the web.config file of the web site on which you installed VFX:

1. Use a text editor to open the web.config file for the web site on which VFX 3.0 is installed. This web site is the one chosen in the Installation Address drop-down list during the step 5 of VFX 3.0 installation.

2. Add the following entries to the <appSettings> section, entering your MapPoint Web services user credentials for the value attributes.

   `<add key="IdvSolutions.FusionServer.MapPoint.UserName" value="username"/>
   <add key="IdvSolutions.FusionServer.MapPoint.Password" value="password"/>
   <add key="IdvSolutions.FusionServer.MapPoint.Common" value=""/>

3. Save the modified web.config file and exit the text editor.

4. If VFX 3.0 is installed in a server farm, repeat the above steps (1-3) on all front-end web servers and application servers in this farm.

1.3 Activate the VFX feature

Follow these steps to activate the VFX feature:

1. Log on as an administrator to the top-level site on which VFX is installed.

2. Click Site Action to open the drop-down menu, and then click Site Settings.

3. On the Site Settings page, click Site collection features in the Site Collection Administration section.

4. On the Site Collection Features page, activate the Visual Fusion Experience Web Parts feature by clicking the Activate button. The Status column will show Active when this feature has been activated.

The following illustration shows the Visual Fusion Experience Web Parts feature.

2 Uninstalling Visual Fusion Experience (VFX) 3.0

2.1 Removing the VFX program

If you have access to the original installation package that was used to install VFX 3.0, then you can choose to repair or remove an existing install. Repairing an install has the effect of first retracting the
VFX 3.0 solution from the server, and then re-deploying it. If you do not have the original installation package, then you will not be able to repair an existing installation, but you can still remove it manually using the SharePoint 3.0 Central Administration application.

To remove or repair an installation of VFX 3.0 from a server or a server farm, first log on as an administrator to the server on which VFX 3.0 is installed. Then, follow one of the two sets of instructions below, depending on whether or not you have access to the original installation package for the solution you wish to remove or repair.

If you have access to the original installation package:

1. Open the directory containing the extracted files from the VFX 3.0 installation package that was used to install VFX 3.0 on your server.
2. Double-click to run the **Setup.exe** file.
3. On the Welcome dialog, select **Next**.
4. On the System Check dialog, wait for all system checks to complete successfully and then select **Next**.
   
   **Important:** You will not be able to uninstall VFX 3.0 from the server unless all of the system checks pass successfully. If one of these checks fails, contact your server’s administrator to determine the problem.

5. In the Repair or Remove dialog, select **Remove** to remove the VFX 3.0 solution from the SharePoint server, or select **Repair** to retract and then re-install the VFX 3.0 solution. Then, select **Next**.

6. Follow the remaining prompts to complete the remove or repair operation.

If you do not have access to the original VFX installation package:

1. Open the SharePoint Central Administration page by selecting **Start > Administrative Tools > SharePoint 3.0 Central Administration** from the Windows Start menu.

2. From the SharePoint Central Administration home page, select the **Operations** tab near the top of the page.

3. On the Operations page, under the **Global Configuration** heading, select the **Solution Management** link.

4. In the list of installed solutions, click on the VFWebParts30.wsp SharePoint Solution.

5. On the Solution Properties page, click the **Retract Solution** link located above the list of properties.

6. On the Retract Solution page, click **OK** to schedule the solution retraction timer job to run immediately. You will be redirected to the Solution Management page.
7. On the Solution Management page, refresh the page periodically until the “Status” field for the selected solution displays “Not Deployed”.

8. Click once again on the name of the SharePoint solution that was just retracted.

9. On the Solution Properties page, click the Remove Solution link located above the list of properties.

10. Select OK when asked if you are sure you want to remove the solution.

2.2 Updating the Web.config file

Follow these steps to update the web.config file of the web site on which you installed VFX:

1. Use a text editor to open the web.config file of the web site on which VFX 3.0 is installed. This web site is the one chosen in the Installation Address drop-down list during the step 5 of VFX 3.0 installation.

2. Remove the following entries in the <appSettings> section.

   ```xml
   <add key="IdvSolutions.FusionServer.MapPoint.UserName" value=""/>
   <add key="IdvSolutions.FusionServer.MapPoint.Password" value=""/>
   <add key="IdvSolutions.FusionServer.MapPoint.Common" value=""/>
   ```

   Important: The MapPoint connection that is configured in this Web.config file contains a URL that points to the staging environment by default. If you have a production level MapPoint account, then you must replace this URL with the production environment URL, shown below:

   ```xml
   ```

   If you do not already have a MapPoint web service account, you can request a free developer account at: https://mappoint-css.live.com/mwssignup/. If you are using a developer account, then you must use the MapPoint web service staging URLs.

3. Save the modified web.config file and exit the text editor.

4. If VFX 3.0 is installed in a server farm, repeat the above steps (1-3) on all front-end web servers and application servers in this farm.
2.3 Removing VFX web part files

Follow these steps to remove VFX web part files from the web part gallery:

1. Log on as an administrator to the top-level site on which VFX is installed.
2. Click Site Action to open the drop-down menu, and then click Site Settings.
3. On the Site Settings page, click Web Parts in the Galleries section.
4. Find VFFlashWebPart30.webpart and click the icon to edit its properties.
   The following illustration shows the VFX web part files to be removed:

   ![VFX Web Part Files](image)

6. Click Ok when prompted for confirmation.
7. Repeat step 4-6 to delete the VFMapWebPart30.webpart and VFSidePanelWebPart30.webpart from the web part gallery.
Installing Visual Fusion Search

1. Overview

Visual Fusion® Search is included in Visual Fusion Enterprise Plus edition and available as an add-on to the Enterprise edition; it allows you to index and search for all of your Visual Fusion data in every Visual Fusion website in your SharePoint farm. It indexes all point, line and polygon data in Visual Fusion lists and libraries, and in any feeds configured through Visual Fusion® configuration files.

When you use Visual Fusion Search, your results display on an interactive map in a custom search results page. You can also configure Visual Fusion Experience so that you can use Visual Fusion Search from within your application, and view search results on your application's map.

This guide describes the prerequisites and permissions needed to install Visual Fusion Search, and will lead you through the installation steps, which include:

1. Installing and configuring the Search Plug-in.
2. Installing and configuring the Protocol Handler.
3. Configuring security and file permissions
4. Configuring Shared Service Providers and other settings.
5. Verifying the installation and configuration
6. Setting the HTTP Timeout
7. Changing the location of the temporary cache document library (an optional step)
8. Configuring Search scopes and settings

Throughout the installation portions of this guide, pay close attention to where a particular step is to be performed. During the installation process, you will need to perform procedures in the following places:

- on the application server hosting the SharePoint Search indexing service.
- on (one of) the Web front-end server(s) hosting Visual Fusion Server.
- through the SharePoint user interface for a non-administrative site collection (typically, one of the site collections being crawled) using a Web browser.
- through the SharePoint Central Administration user interface for the farm, using a Web browser.
2. Prerequisites and permissions

In addition to the base requirements for installing Visual Fusion, the following service packs and infrastructure updates are required for installing Visual Fusion Search:

<table>
<thead>
<tr>
<th>Software</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSS 3.0 Service Pack 1</td>
<td>Download it from Microsoft site <a href="#">here</a></td>
</tr>
<tr>
<td>MOSS 2007 Service Pack 1</td>
<td>Download it from Microsoft <a href="#">here</a></td>
</tr>
<tr>
<td>WSS 3.0 Infrastructure Update</td>
<td>Download it from Microsoft <a href="#">here</a></td>
</tr>
<tr>
<td>MOSS 2007 Infrastructure Update</td>
<td>Download it from Microsoft <a href="#">here</a></td>
</tr>
</tbody>
</table>

In addition, MOSS 2007 must be configured to enable Enterprise Search and you must have set up a default content access account. (If you need help identifying the default content access account, see "Identifying the Default content access account" on page 51.)

Before installing, you should identify a site collection that Visual Fusion Search will use to cache records during a crawl operation. This can be an existing site collection; however, we recommend that you create a separate site collection to serve this purpose.

You should also identify the server that will host the search indexing service. Visual Fusion Search consists of two major components: The Search Plug-in, which you install on one of the Web front-end servers in the farm, and the protocol handler installer, which you install on the server hosting the indexing service. These can be the same server, or separate application servers.

Indexing for search can be a very disk-space intensive procedure; to determine whether you have enough space to support Visual Fusion Search, see "
2.1. Required permissions

The following account permissions must be set to install the Visual Fusion Search Plug-in solution file:

1. You must be a member of the local administrators group on the Web front-end server where you will run the plug-in installer. Your account must have Connect and Execute permissions on the SharePoint farm configuration database (SharePoint_Config), and the Central Administration content database (SharePoint_AdminContent_GUID). Typically, this means you are a member of the “Farm Administrators” group for the farm.

2. The default content access account must have Read permissions on every site collection that contains Visual Fusion content to be indexed. This is usually accomplished with a Web application policy that gives the search account Full Read access to all content in the Web application.

3. The default content access account must have permission to read, write and modify content in the SharePoint site collection that will be used to temporarily cache records during a crawl operation.

2.2. Identifying the Default content access account

To perform the installation, you will need to know the name of your SharePoint Default content access account. Follow the steps below to find or set this name.

1. Using a Web browser, navigate to the SharePoint Central Administration user interface for the farm.

2. From the Windows taskbar, select Start > Administrative Tools > SharePoint 3.0 Central Administration.

3. Click on the link under Shared Services Administration (on the Quick Launch bar, at the left side of the screen) for the SSP hosting MOSS Search (SSP1 in this example).

4. Under the heading for Search, click on Search Administration.

5. On the Search Administration page, note the value of the Default content access account, as you will need to configure permissions for this account on the file system later.
**Note:** It is recommended that you set the *Default content access account* using a format like the following: `account_name@domain.local`. This may prevent crawl errors from occurring later. To change the value of the *Default content access account*, click the link containing the current value. You will be redirected to the *Default Content Access Account* page, where you can change the value.
2.3. Estimating Disk Space Requirements

Creating an index for Visual Fusion Search can be a very disk-space intensive procedure. You should plan for enough disk space to accommodate the content index, search database, and temporary disk cache, as described below. (The formulas below are taken from *Inside the Index and Search Engines: Microsoft Office SharePoint Server 2007*)

- **Content Index:** The content index is a file stored on the file system of the index application server; it stores the attributes that are indexed for each of the records being crawled. To estimate the required disk space for the content index, use the formula below:

  \[
  \text{Required disk space} = 0.3 \times \text{Size of crawled content}
  \]

  For Visual Fusion content, the size of the indexed content can be estimated at around 2-3 Kilobytes per record. So, in the case of indexing 1.5 million records, the disk space required for the content index would be:

  \[
  \text{Required disk space} = 0.3 \times (1,500,000 \text{ records} \times 2.5 \frac{\text{KB}}{\text{record}}) = 1.1 \text{GB}
  \]

- **Search Database:** The search database is created and maintained by the SSP hosting the Visual Fusion Search content source. This database stores the metadata of all crawled documents. For many SharePoint sites, this database actually requires more disk space than the content index. Use the following formula to estimate the required disk space for the search database:

  \[
  \text{Required disk space} = 0.5 \times \text{Size of crawled content}
  \]

  If the size of a Visual Fusion content record is 2-3 Kilobytes, we can estimate the disk space requirement for indexing 1.5 million records to be:

  \[
  \text{Required disk space} = 0.5 \times (1,500,000 \text{ records} \times 2.5 \frac{\text{KB}}{\text{record}}) = 1.8 \text{GB}
  \]

- **Temporary Disk Cache:** The temporary disk cache for Visual Fusion (C:\Temp\VFSearchCache) is used to temporarily store records sent from Visual Fusion Server, while they are waiting to be added to the content index. The required size of the disk cache is difficult to estimate, as it depends on a number of factors (e.g. size of the largest layer to crawl, number of threads processing records, etc...). The crawler deletes records from the cache as they are added to the index, but in the worst case scenario you should plan to have enough space available for all records that you plan to index:

  \[
  \text{Required disk space} = (1,500,000 \text{ records} \times 2.5 \frac{\text{KB}}{\text{record}}) = 3.6 \text{GB}
  \]
3. Installing the Visual Fusion Search Plug-in

To install and set up the Visual Fusion Search Plug-in, you need to complete the following steps:

1. **Run the Search Plug-in Installer.** This is one of two installers for Visual Fusion Search and should be run before the Protocol Handler Installer.
2. **Create a Search Center site,** if one does not already exist.
3. **Activate the Visual Fusion Search Features.**
4. **Edit the configuration file** to uncomment entries for Visual Fusion actions and data providers.
5. **Test the Search Plug-in installation.**

   The account used to run the Search Plug-in Installer must have the permissions listed in "Prerequisites" on page 50.

3.1. Run the Search Plug-in Installer

The first step in installing Visual Fusion Search is to install the search plug-in. To run the Search Plug-in installer, perform the following steps on (one of) the Web front-end server(s) for the SharePoint farm:

1. Extract the **VFS 4.0 Search.zip** archive.
2. Run the **Setup.exe** file from the extracted archive.

   **Note:** When installing on Windows Server 2008, right-click the **Setup.exe** installer and select **Run as Administrator**.

3. Select **Next** on the **Welcome** page.
4. On the **System Check** dialog screen, wait for all checks to complete and click **Next** to continue. If any of the checks fails, you will not be able to complete the installation (refer to the pre-requisites in "Prerequisites" on page 50).
5. Proceed through the rest of the installation dialog screens by pressing the **Next** button. When prompted to select a target Web application for deployment, do so in the dropdown list provided. **Choose the same Web application that VFS and VFX are deployed to.**
6. Wait for the solution deployment to complete. The next step in the installation is to **create a search center site.**
3.2. Create a Search Center Site

A search center is required to display results from Visual Fusion Search. If you already have a search center site, skip this section and go directly to "Activate the Search Features" on page 57. To create a search center:

1. Using a browser, navigate to the root site of the site collection hosting Visual Fusion Server.
2. Navigate to the Site Collection Feature gallery: Site Actions > Site Settings > Site collection features.

Important: If you receive an error like the one below while trying to activate this feature, then you will have to activate it manually from the command line using the stsadm.exe utility:

To activate the feature manually, open a command prompt and type the following (replace [SiteUrl] with the URL to the actual site collection):

```
C:\Program Files\Common Files\Microsoft Shared\Web Server Extensions\12\BIN\STSADM.EXE -o activatefeature -filename PublishingResources\Feature.xml -url [SiteUrl]
```

4. In your Web browser, select Site actions > Create from the drop-down menu.
5. Under the *Web Pages* heading, select **Sites and Workspaces**.

6. Enter a title, description (optional), and Web site address for the Search Center page.

   **Note:** Make a note of the Web address entered here, as you will need to use it later in the installation process.

7. In the *Template Selection* section, select the *Enterprise* tab. Then, select either *Search Center* or *Search Center with Tabs* (as shown below).

8. Select **Create** to create the search center site. The next step in the installation is to **activate the search features**.
3.3. Activate the Search Features

To view Visual Fusion Search results, you must activate the Search Results Page feature by following these steps:

1. From the search center home page navigate to Site Actions > Site Settings > Modify all site settings.

2. Under the Site Administration heading, select Site Features.
3. Activate either the “Visual Fusion Search Results Page for Search Center with Tabs” or “Visual Fusion Search Results Page for Search Center” feature. Only activate the feature that corresponds to your type of Search Center site. Do not activate both features.

4. Navigate to Site Actions > Site Settings > Modify All Site Settings.

5. Under the Site Collection Administration heading, select Go to top level site settings.

6. Under the Site Collection Administration heading, select Site collection features.

7. Activate the Visual Fusion Search feature. The next step in the installation is to edit the VFS configuration file.
3.4. Uncomment Configuration File Providers

When you first install Visual Fusion Server 4.0 Enterprise, the configuration settings for Visual Fusion Search are commented out in the VFS configuration file. To enable Search, you must uncomment these settings. **On one of the Web front-end servers for the SharePoint farm:**

1. Locate the VFS web.config file in `C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0\web.config`.

2. Open the `web.config` file in a text editor.

3. Locate the `<configuration><VisualFusionServer><Actions><add name="GetSearchConnectorVersion.vfs" ...>` element, and uncomment the entire element.

4. Repeat the previous step, uncommenting each of the following actions:
   - (1) MossSearch.vfs
   - (2) GetSearchFeed.vfs
   - (3) SearchItemDetails.vfs
   - (4) GetSearchContent.vfs

5. Locate the element
   ```xml
   <configuration><VisualFusionServer><Providers><DataConnectionProviders>
   <add name="MOSS.Search"...>, and make sure the entire element is uncommented.
   ```

6. Repeat steps 2-6 on every server in the server farm.

For information on what the completed `<Actions>` and `<DataConnectionProviders>` should contain, see the *Visual Fusion Guide for Administrators and Developers*.

3.5. Test the Search Plug-in Installation

To test that the search plug-in was successfully installed, run the following HTTP request from a browser:

```
http://[server]/GetSearchConnectorVersion.vfs
```

Verify that the results returned are similar to the following:

```
IDV Solutions Visual Fusion Search 4.0.0.2009071317
```

When you have successfully installed the search plug-in, the next step is to install the **Search Protocol Handler**.
4. Install the Visual Fusion Search Protocol Handler

You should install the Visual Fusion Search Protocol Handler after you have installed and tested the Visual Fusion Search plug-in. If you are installing Visual Fusion Search on a SharePoint farm with a separate application server to handle content crawling, then perform the steps below ONLY on the Application server for the SharePoint search indexing service.

1. Run the appropriate MSI installation package. Use Visual Fusion Search.msi on 32-bit architectures or Visual Fusion Search x64.msi on 64-bit architectures.

2. Click Next to move on to the next screen.

3. Accept the license agreement and click Next.

4. Select Next to use the default installation location, or choose a different location for the files in and then click Next.
5. Click **Next** to begin the installation.

6. Verify that the installation completed successfully and click **Close** to end the installer. The next step in the installation is to configure security settings.

### 5. Configuring Security Settings

Once you have installed the Visual Fusion Search Protocol Handler, you need to configure permissions for the default content access account. This step is essential for ensuring that Visual Fusion® Search can successfully index your content. Since the default content access account runs under the SharePoint Search Service account, it is critical that the **Search Service account must have read, write and execute permissions to all temporary storage locations**. To configure permissions correctly:

1. **Configure file system permissions** to give the Search Service account full access to the temporary disk cache.
2. **Configure SharePoint permissions for the Search Service account** in each site collection to be searched.
5.1 Configure File System Permissions

Visual Fusion Search relies on temporary disk storage for caching records on the application server during a crawl. By default, the location of this cache is C:\temp\VFSearchCache. (See "Configure the temporary cache Document Library (Optional)" on page 70 to learn how you can modify this location.)

For the disk cache folder, you need to update the file/folder security settings on the SharePoint search application server only, as follows:

1. Open Windows Explorer and navigate to the temporary search cache directory (the default location is C:\TEMP).
2. Right click on the temporary search cache directory and select Properties from the context menu.
4. If the default content access account is already in the list of users that have access to this folder, select the account name and give "Full Control" over the directory. Then click Apply.

5. If the default content access account is not listed, then:
   a. Click Edit...

![TEMP Properties](image)
b. Click Add...

c. Enter the name of the search service account under “Enter the object names to select (examples):” and click the Check Names button.

d. Give the account Full Control permissions to the folder.

6. Click OK. Once you have configured the file system permissions, you must also configure permission for the SharePoint Search Service account.

5.2 Configure SharePoint Permissions

To ensure access to the SharePoint scratch directory, the default content access account must have Read permissions on every site collection that contains Visual Fusion content to be indexed. You can accomplish this with a Web application policy that gives the search account Full Read access to all content in the Web application.

The Search Service account must have permission to read, write and modify content in the SharePoint site collection that will be used to temporarily cache records during a crawl. The simplest way to accomplish this is to make the Search Service account a member of the Site Owners group for the site collection. You can use an existing site collection, including one that contains Visual Fusion content to be crawled. However, we recommend that you create a separate site collection to serve this purpose. Once you have created the site collection for temporary caching, follow these steps to configure permissions:

1. Navigate to the top-level site of the site collection that will used by Visual Fusion Search for temporary record caching.

2. Select Site Actions > Site Settings from the drop-down menu.

3. Under the Users and Permissions heading, select People and groups.

4. Under the Groups heading at the left-hand side of the page, select the [SiteName] Owners link.

5. In the list view, select New > Add Users.

6. In the Add Users section, enter the name of the search service account. Click OK.

7. Repeat steps 1-6 for each site collection that Visual Fusion Search will index.

When you have completed configuring the permissions, the next step in the installation is to configure settings for the Shared Service Providers (SSPs) that provide the MOSS Search service.
6. Configure Search Settings

Once you have installed the protocol handler on the application server, and configured the security settings, you need to configure the Shared Service Providers (SSPs) that provide the MOSS Search service. Perform the steps below on the Shared Services (application) server hosting the MOSS Search service:

1. From the Windows taskbar, select Start > All Programs > IDV Solutions > Visual Fusion Search > Visual Fusion Search Configuration.

   Note: If you receive an error message indicating that you do not have access to a requested database, then you will need to log in under an account with the necessary permissions. This account must have db_owner permissions on the configuration database for the Shared Services Provider.

2. On the configuration application screen (below), make the following entries:
   a. Shared Service Provider Selection: Check the box next to the Shared Service provider(s) that you want to configure for use with Visual Fusion® Search. You must select at least one SSP in order for Visual Fusion Search to index any content.
   b. Log Setup (Optional): Choose the logging level and log file location settings. Typically, set the Logging Level to Information.

       Important: Setting the logging level to “Verbose” can cause huge amounts of diagnostic data to be written to your server’s file system. Only choose this level if you are trying to diagnose a specific problem with Visual Fusion® Search.

   c. Temporary Disk Cache Location (Optional): Choose the temporary disk cache location that Visual Fusion Search will use to cache search indexing results during a crawl. By default, this location is C:\Temp\VFSearchCache. Make sure that whatever location you choose has at least 1GB of disk space available at all times for writing temporary files.
3. Click OK to apply your changes.

4. You should receive a message when the *update is complete*, indicating that all Shared Service Providers have been updated. Click OK to exit the program.
If you want to modify the search settings at a later time (for example, if you add a new SSP and want to add Visual Fusion® Search, or to remove Visual Fusion® Search from an SSP), rerun the Visual Fusion Configuration program and modify the SSP selections.

7. Verify Search installation and configuration

Once you have installed the Visual Fusion Search plug-in and protocol handler, perform the steps below to verify that the Search is properly configured.

1. Using a Web browser, navigate to the SharePoint Central Administration user interface for the farm.

2. From the Windows taskbar, select Start > Administrative Tools > SharePoint 3.0 Central Administration.

3. Click on the link under Shared Services Administration (on the Quick Launch bar, at the left side of the screen) for the SSP hosting MOSS Search (SSP1 in this example

4. Under the heading for Search, click on Search Administration.

5. On the Quick Launch navigation bar (at the left side of the page) under the heading for Crawling, select Content Sources and ensure that the “Visual Fusion Content” source is installed.
6. Next, under the *Queries and Results* heading on the Quick Launch bar, select *Scopes* and verify that “Visual Fusion Content” has an Update Status of “Ready.”

7. Click on the *Visual Fusion Content* scope link and verify that the scope properties and rules look like the ones in the screenshot, below:
8. Next, under the **Crawling** heading on the Quick Launch panel, select **Crawl rules** and verify that the crawl rule “*://*/VfsRecord.aspx?” exists and is included. Also, **make sure this crawl rule is the first one in the list**. If necessary, move it to the top by setting the **Order** dropdown value to “1”.

![Manage Crawl Rules](image)

9. Finally, under the **Queries and Results** heading on the Quick Launch panel, select **Metadata Properties**. Then select **Crawled Properties** from the top of the list of properties and verify that the “Visual Fusion Content” crawled property category exists and has at least six properties.

![Metadata Property Mappings](image)

Once you have confirmed that Search is properly installed, we recommend that you **increase the http timeout settings**. You will then be ready to set up content for searching.
8. Change the HTTP Timeout Settings

Since Visual Fusion Search interacts with VFS via HTTP requests, we recommend that you increase the HTTP timeout value for requests from Visual Fusion Search.

**Note:** If you do not increase the timeout, then Visual Fusion Search may not index all items.

To increase the HTTP request timeout:

1. Access the SharePoint Central Administration user interface for the farm, using a Web browser.
2. Open **Start > Administrative Tools > SharePoint 3.0 Central Administration**.
3. From the Central Administration page, select the link for **Application Management > Manage Search Service > Farm Level Search Settings**.
4. Scroll down the page to the **Timeout Settings** section. The default value for both the Connection and Request Acknowledgement time is 60 seconds. Choose a new timeout value large enough to ensure sufficient time for VFS to request, process and return any extremely large feeds that may be included in your index (for example, 1800 seconds).
9. Configure the temporary cache Document Library (Optional)

To ensure that the default content access account can access the data cache across servers, VFS temporarily stores the data returned for each search as a collection of records in a SharePoint document library. By default, this library is named “vfs_scratch” and is located in the root site of the site collection housing the Visual Fusion application.

If desired, you can change this location. For example, you may wish to create a dedicated site collection in your SharePoint Web application and use it solely for caching search records during a crawl. This would allow you to isolate your crawl cache from the rest of your Visual Fusion content.

To change the temporary cache library, on (one of) the Web front-end server(s) hosting Visual Fusion Server, open the VFS web.config file (located in C:\Program Files\Common Files\Microsoft Shared\web server extensions\12\TEMPLATE\LAYOUTS\VFS\VFS4.0) and modify the configuration for the GetSearchFeed.vfs action, shown below.

```xml
<add name="GetSearchFeed.vfs"


   IdvSolutions.FusionServer.Plugins.MOSS.Search

Culture=neutral,Version=4.0.0.0,PublicKeyToken=72b4e8ce57dbab55">
<Parameters>
   <Set name="detailsPageUrl"
    value="/_layouts/vfs/pages/search/vfsrecord.aspx"/>
   <Set name="vfsScratchSite" value="http://[SiteUrl]"/>
   <Set name="vfsScratchLibrary" value="vfs_scratch"/>
   <Set name="contentIds"
    value="..."/>
...
</Set>
</Parameters>
</add>
```

The vfsScratchSite parameter defines the path to the site that Visual Fusion® Search will use for temporary storage in SharePoint. The vfsScratchLibrary parameter defines the name of the scratch document library. Any changes you make to this action in the Web.config file need to be manually replicated on all servers in the farm. For more information on configuration in the web.config file, see the Visual Fusion Guide for Administrators and Developers.
10. Configure Search Settings and Scopes

To be able to execute queries and see the results on the Visual Fusion Search results page, you must enter the appropriate search settings and configure the search scopes by following these steps:

1. In your browser, from the root site in your site collection, navigate to Site Actions > Site Settings.

2. Under the Site Collection Administration heading, select Search settings.

3. Select Use custom scopes. Display richer results using the following Search Center:

4. Enter the relative path to the Search Center site created earlier. For example, if the URL to your Search Center is http://MyServer/MySearchCenter, then you would enter:
   a. “/MySearchCenter/Pages” for a search center with tabs site, or
   b. “/MySearchCenter” for a regular search center site.

5. Click OK to apply changes.

⚠️ Important: Make sure the URL entered in this step begins with a forward slash (‘/’) character (as shown in the screenshot, below) or you will be directed to an invalid search results page when searching for Visual Fusion Content!

6. Under the Site Collection Administration heading, select Search scopes.

7. Click on the link for Search Dropdown (#) next to the “Display Group:” heading.
8. In the **Scopes** section, check the box next to “Visual Fusion Content”.
   a. Optionally, you can use the "Position from Top" fields to change the order of the scopes in the drop-down menu for the site collection.
   b. Optionally, you can change the default scope. This is set to “All Sites” by default.

9. Click **OK** to apply the changes.

11. **Installation Complete**

Installation of Visual Fusion Search is now complete. To learn about administering Visual Fusion Search, including setting up Visual Fusion content to be indexed, creating crawl schedules, and starting a crawl, see the *Visual Fusion Guide for Administrators and Developers*. 