Perspective by PPM™

Version 4.6.1

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System Requirements Version 4.6.1

The following requirements are for Perspective™ operating in a traditional LAN/WAN environment with the Web server component running on a separate Microsoft® IIS box. These configurations are for planning purposes only—please work with your PPM 2000 account manager for a specific assessment of your needs. These requirements apply to Perspective™ V.4.6.1 and Perspective Focal Point™ V.1.2.

	Minimum	Recommended
Client Machine		
Processor Speed	1.5 GHz	3 GHz+
Memory	1 GB	2 GB+
Operating System	Windows® Vista SP 3, Windows 7 SP 1, Windows 8, Windows 8.1	
.NET Framework	Version 4.5	
Web Browser – Launch Perspective	Internet Explorer® versions 8.0, 9.0, 10.0, 11.0	
Web Browser – Web Portal	Internet Explorer 10.0+, Chrome™ v29+, Safari® iOS6, Android™ Browser 4.2+	
Third Party Application	Adobe® Reader® 9.4.0+ Sun Java™ Runtime Environment 7 U71, 8 U25[2] -- QlikView™ Analyzer Plug-in for Internet Explorer[3]	
Mobile iOS App	iOS 6, iOS 7, iOS 8	
Web Services Server[4]		
Available Disk Space[5]	1 GB	1 GB
Processor Speed	2 GHz	2 GHz multicore or better
Memory	4 GB	8 GB+
Operating System	Windows Server® 2012, Windows Server 2012 R2 Microsoft Distributed Transaction Coordinator (MSDTC), IIS with net.tcp binding on port 808[6]	
.NET Framework	Version 4.5 with http and non-http activation	
C++ Runtime Libraries	C++ 2010 SP1 Runtime Libraries (x64) 10.40219	
QlikView™ Server[6]	64 bit Version 11.20 SR1	
SQL Server® Machine[4]		
Available Disk Space	2 GB	20 GB+, SCSI Hard Drive
Processor Speed	3 GHz	64 bit Server Dual Core or Multiple Processors
Memory	2 GB	4 GB+
Database Server[10]	SQL Server® versions 2008 SP3, 2008 R2 SP2, 2012 SP1, SQL 2014	
Reporting Services	SQL Server 2008 or 2012 Reporting Services	

Deployment Note: Perspective client is deployed as a ClickOnce application, launched from Internet Explorer; it has a zero client footprint and does not require administrative rights to launch.
Network Note: If single sign-on authentication or add from Active Directory® is used, the Active Directory Services must be enabled on the Perspective Web Server.
DTC Note: Perspective Integration Services requires the Microsoft Distributed Transaction Coordinator (DTC) service to be installed and enabled on the Internet Information Services (IIS) for Windows Web Server and the Microsoft SQL Server for Perspective.

1. This requirement only applies if using the Visual Analysis component.
2. This requirement only applies to Perspective Focal Point.
3. These requirements are for systems with 5 to 25 users. For Perspective systems with more than 25 users, please contact your PPM account manager for a specific assessment of your needs.
4. Depending on the size of your Perspective database, more disk space may be required for Perspective Focal Point and the Workflow component.
5. The net.tcp binding only required if using Dispatching (included with Perspective SOC and Perspective EIM).
6. This requirement only applies to Perspective Focal Point. A limited QlikView™ Server license is included with Focal Point.

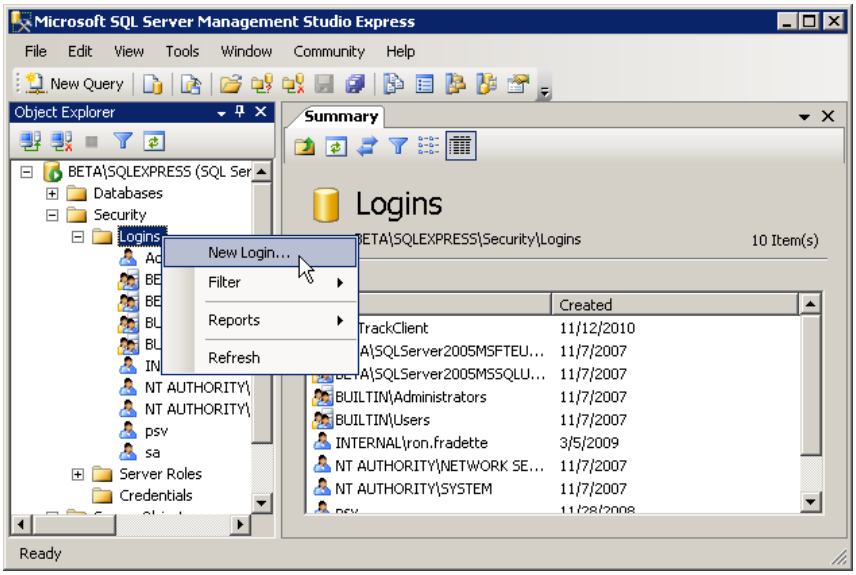
Standard Install

SQL Database Server

1. Ensure Microsoft SQL Server 2008 Standard SP 1 or better has been installed.
2. Install the Perspective database:
   a. Launch Microsoft SQL Server Management Studio.
   b. Right-click databases and select **Restore Database**.
   c. Under **From Device**, click the **Browse** (**...**) button and browse to the appropriate database: default, sample, or system.

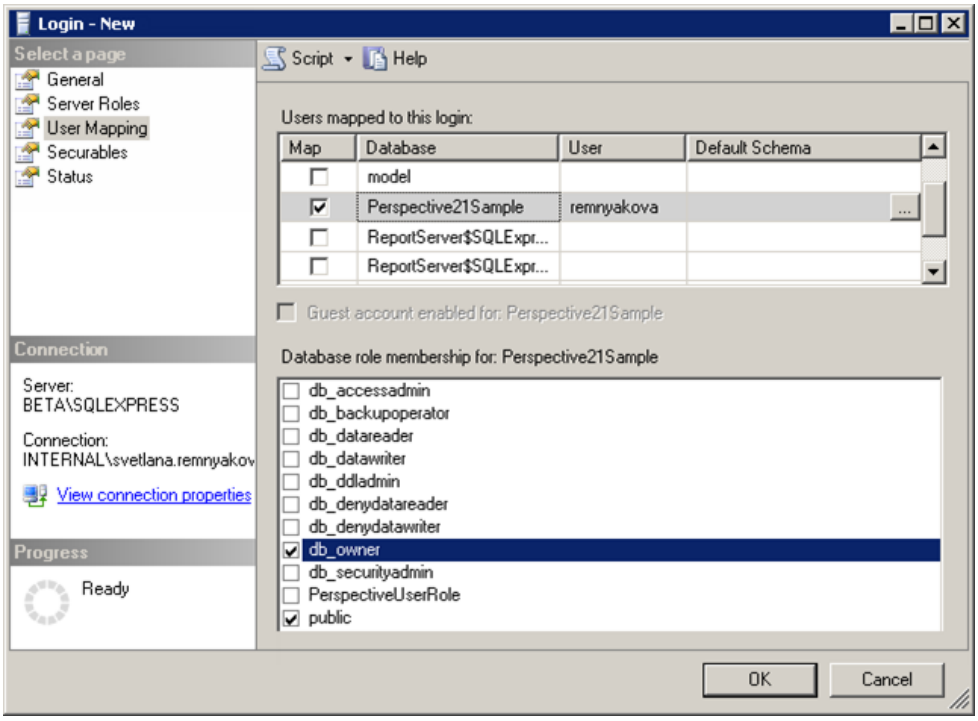
      *Note: Standard backups are found in **Perspective Install > Database Setup > New**. If you're unsure which database to use, contact your Perspective Administrator.*

   d. Click **OK**.
   e. Check the **Restore** option.
   f. Enter a database name in **To Database**, and then click **OK**. The database should now appear in the database list.
3. Create a new SQL user that will be used by Perspective to connect to the SQL Server:
   a. Launch Microsoft SQL Server Management Studio. In the menu on your left, expand the **Security** node, right-click **Logins**, and select **New Login**.



b. In the **Login – New** form, under the **General** page, type in the **Login Name** and modify the rest of the options according to your preference.

c. Open **User Mapping**. Ensure the account has **db_owner** role membership rights, then click **OK**.



SQL Reporting Services

1. Ensure that SQL Server Reporting Services is installed.

2. From the Perspective install directory, copy the **Reports Setup** folder and all subfolders to a temporary directory on the Reporting Services computer.

3. Edit the **PublishServerReports.bat** file in the temporary directory. Before making any changes, save a backup copy of the original **PublishServerReports.bat** file.

   - Edit **databaseServerName** to <Name_of_Database_Server>.
   - Edit **databaseName** to <Name_of_Database>.
   - Edit **databaseUserId** to <sql_User_Account>.
   - Edit **databasePassword** to <sqlUser_Password>.

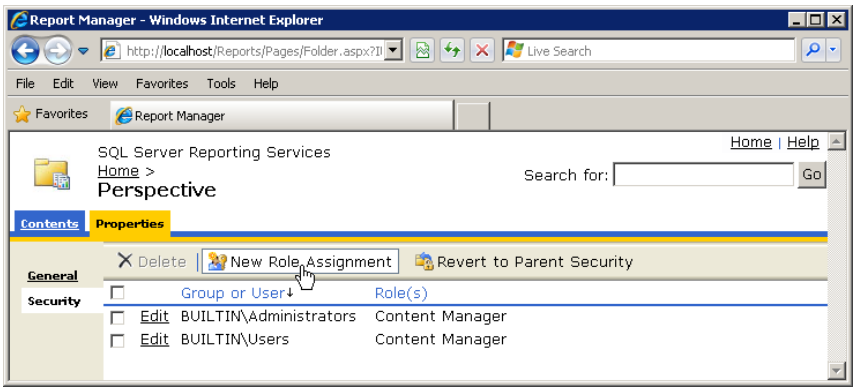
4. Save changes and run the **PublishServerReports.bat** file to publish reports to the Report Manager. If the file fails to run, see **Troubleshooting Tips**..

> **Windows Server 2008 Warning**
> If installing on Windows Server 2008, the command contained in the batch file must be run from the Command Prompt as Administrator. **The command must be launched from the directory where the batch file is stored.**

5. Browse to your Reporting Services Web site (e.g., **http://localhost/Reports/**).

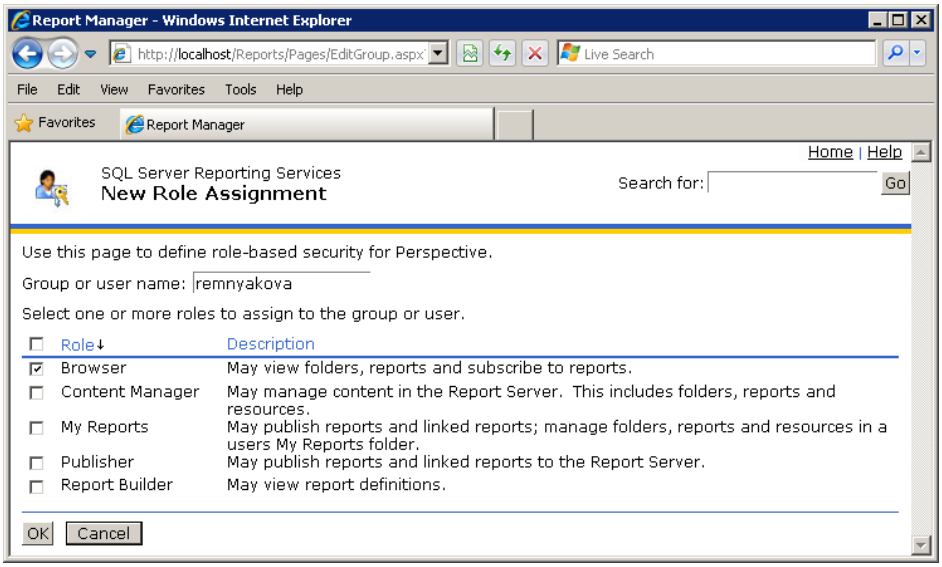
   a. On the Contents tab, click the **Perspective** folder.

   b. Click **Properties**, **Security** and **New Role Assignment**, then **Edit Item Security**.



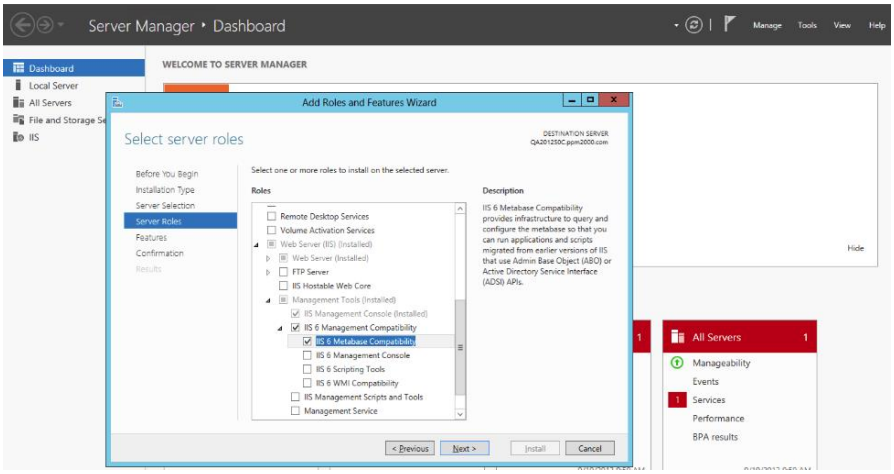
   c. Enter a Windows Service Account for the Perspective application to use when connecting to Reporting Services. Create a new local user, if you do not have one already. Ensure that the password is not set to expire.

   d. Select the **Browser** role and click **OK**.



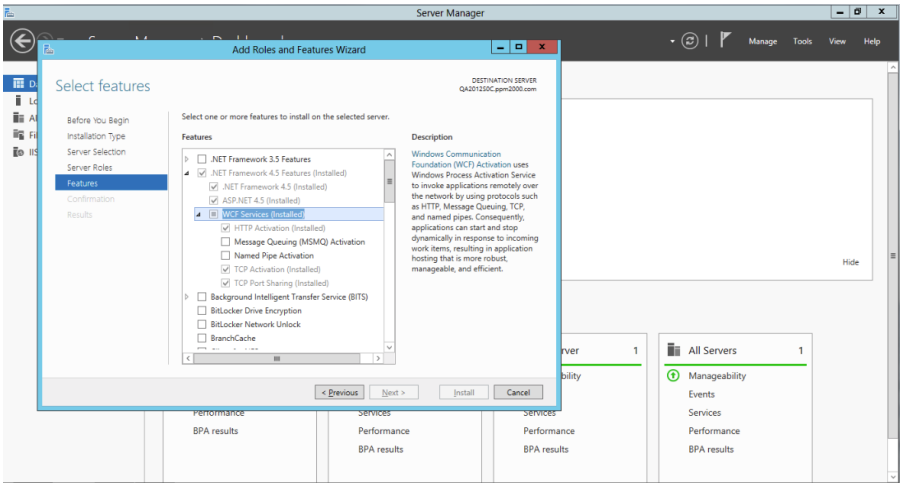
Perspective Services (Application Web Server)

Completing the following steps will install Perspective Services, Integration Services, Real Time Services, and Web Portal.



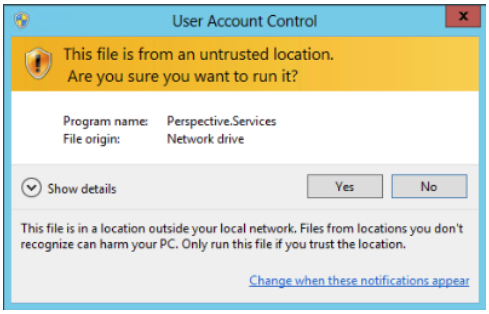
> ⚠ Enable IIS 6 Metabase Compatibility (image is taken from SQL server 2012).

> ⚠ Ensure Internet Information Services (IIS) is installed, and that IIS has WCF Activation turned on (image is taken from SQL Server 2012).

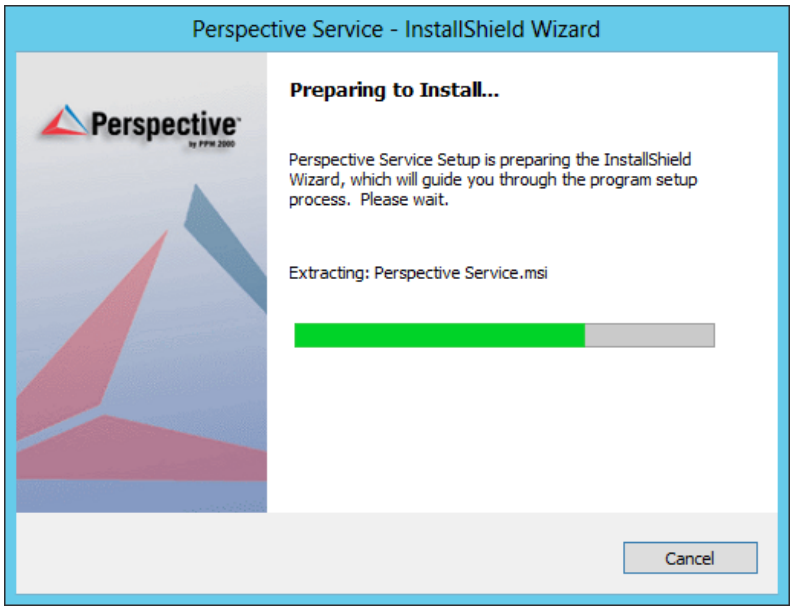


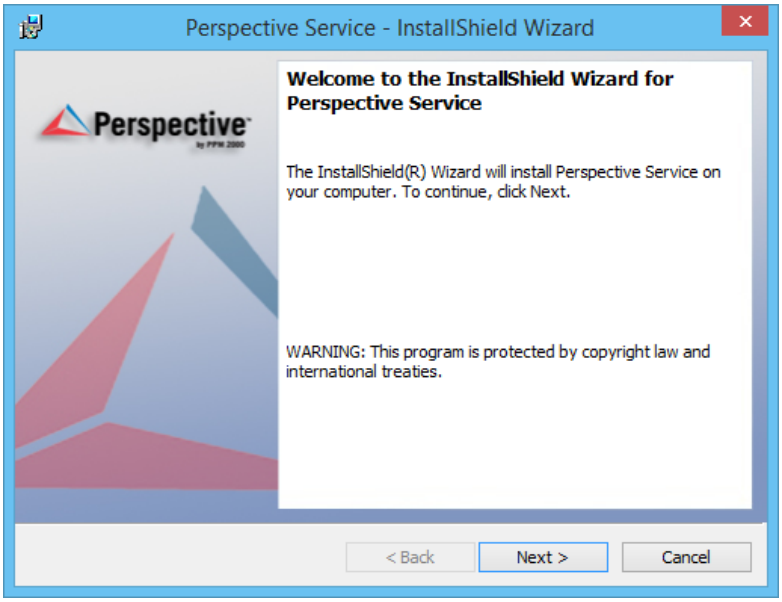
1. From the *Perspective Install* > *Web Service Setup* directory, run as an administrator **Perspective.Services.exe**. To complete the setup, follow the wizard's guidelines.

   a. If the User Account Control screen pop-up window appears, click **Yes**.

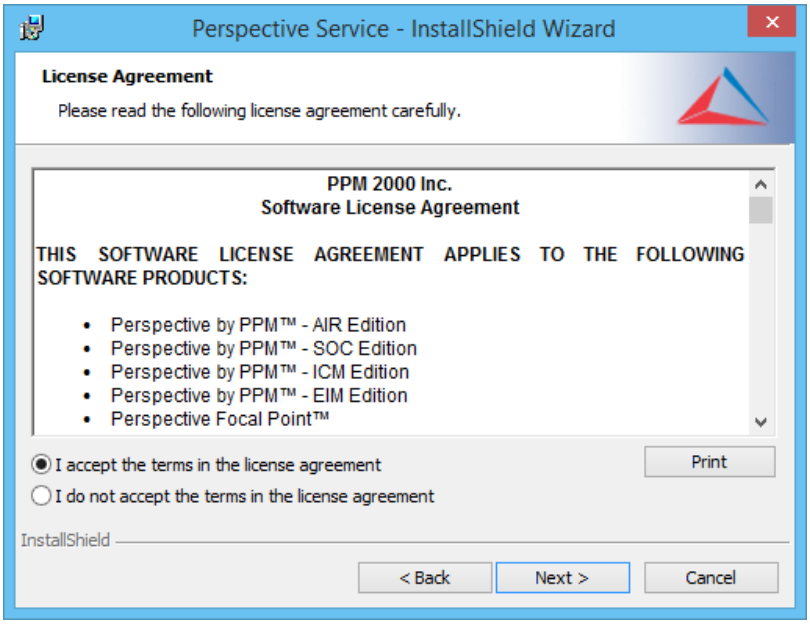


b. Wait for the Perspective Service Setup Wizard to start. Click **Next**.

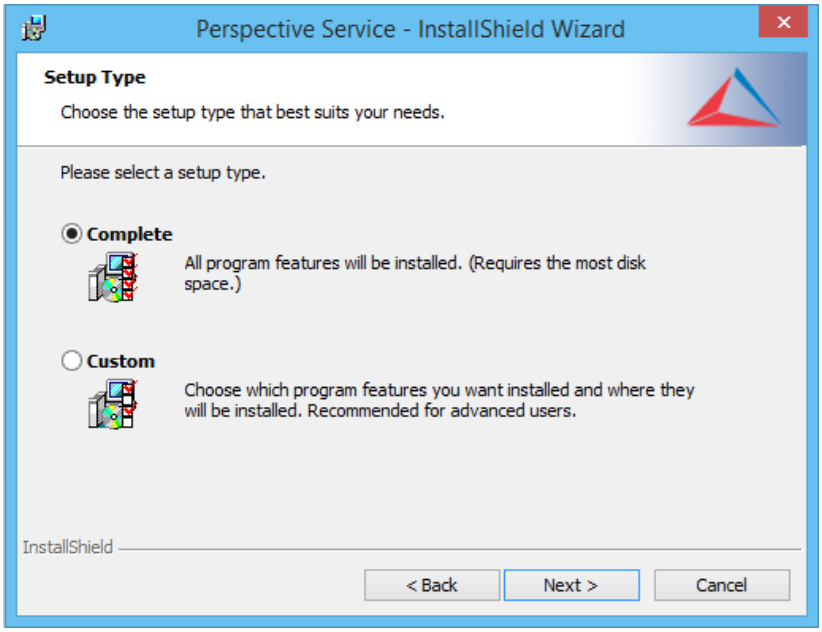




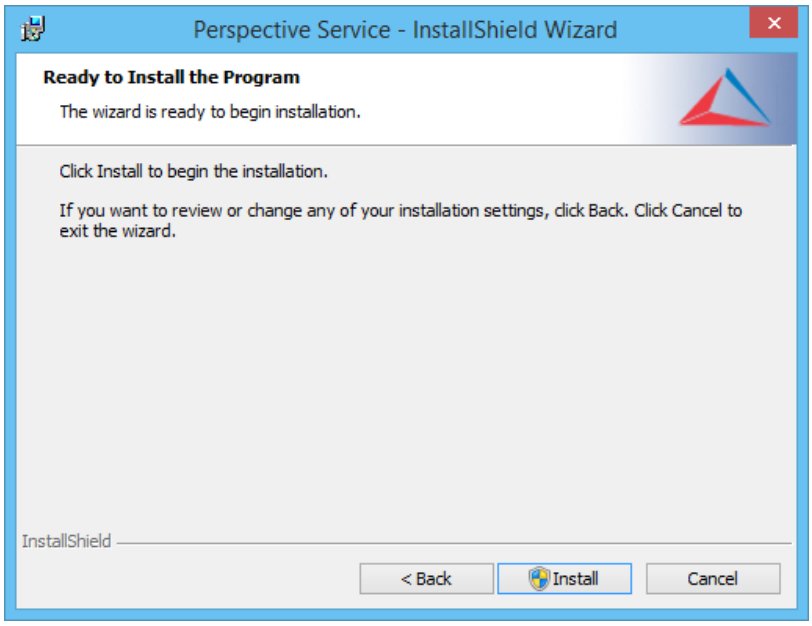
c. Read the License Agreement. If you accept the terms and conditions, select the appropriate radio button, and click **Next**.



d. The default install path for the Complete install is C:/inetpub/wwwroot/Perspective4.6. Ensure Complete is selected, and click **Next**.

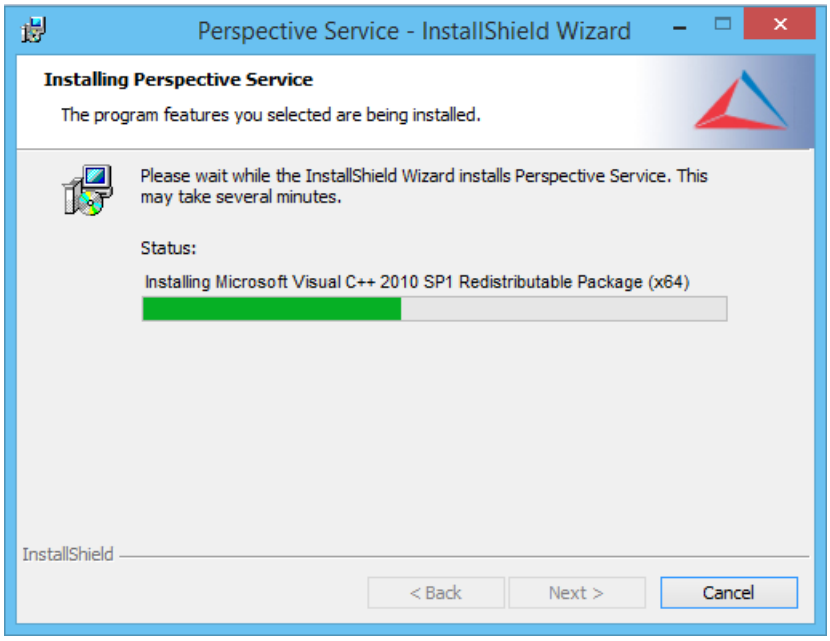


e. In the following screen, click **Install** to confirm the installation. Wait while Perspective Services is being installed.

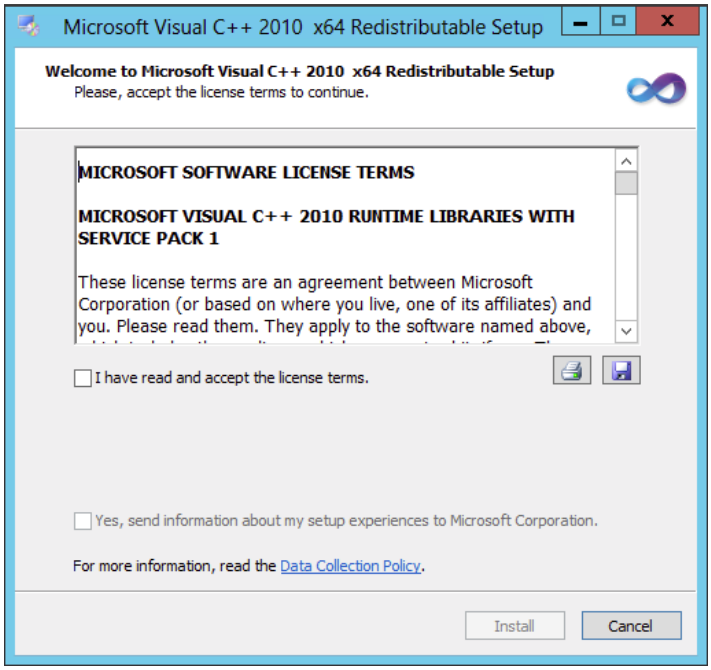


f. If **Visual C++ 2010 SP1 Runtime Libraries (x64)**, **.NET Framework 4.0**, and **.Net Framework 4.5** are not installed, you will be prompted to install the Runtime Libraries and/or .NET Framework. If they are already installed, skip to step 2i.

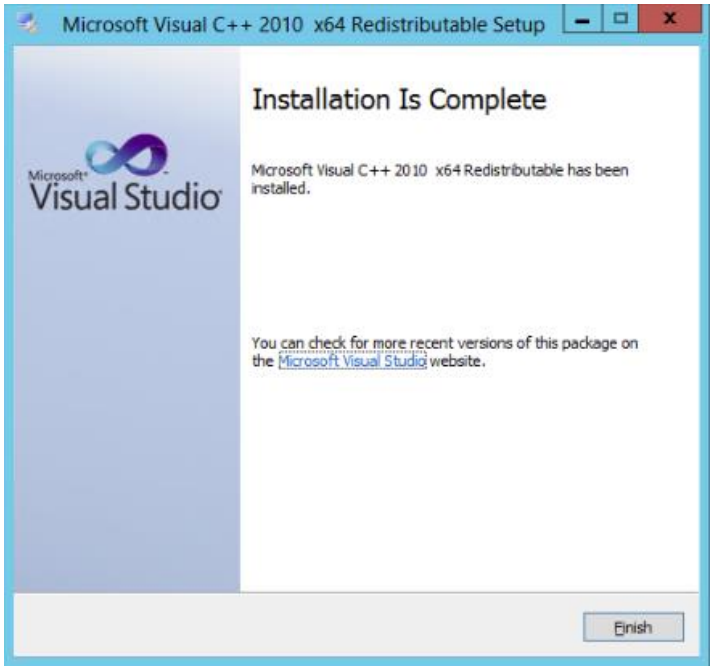
Note: The full Microsoft .NET Framework 4.5 pre-requisite installer is bundled into the Perspective installer. If it is not yet installed, it will be done automatically.



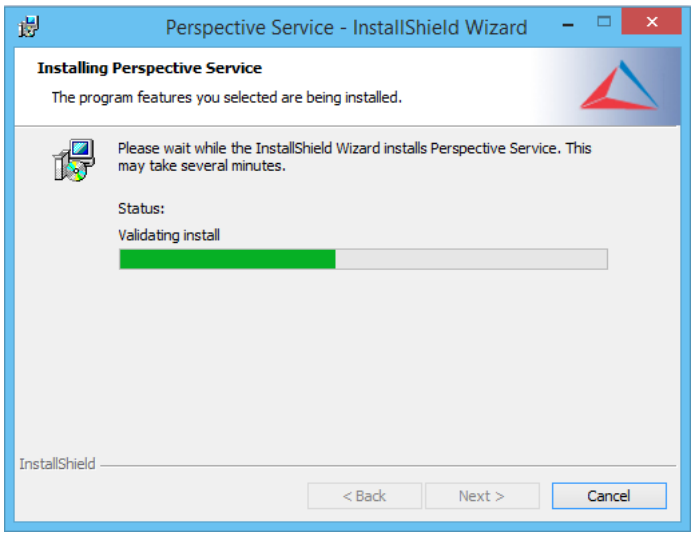
g. Accept the Terms and Agreements, and click **Install**.



h. When the installation is complete, click **Finish**.

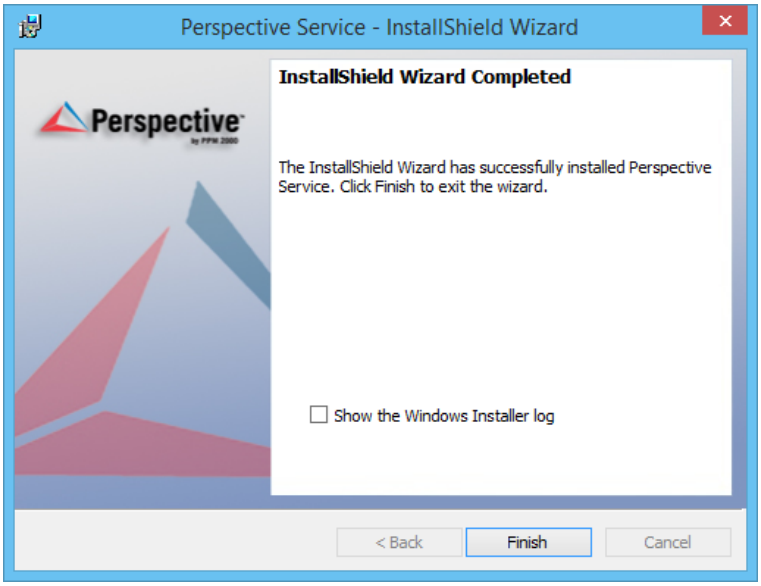


i. Perspective Services installation will continue.



j. Click **Finish** once the installation is complete.

Only check the **Show the Windows Installer log** box if you want to see where the files have been installed.



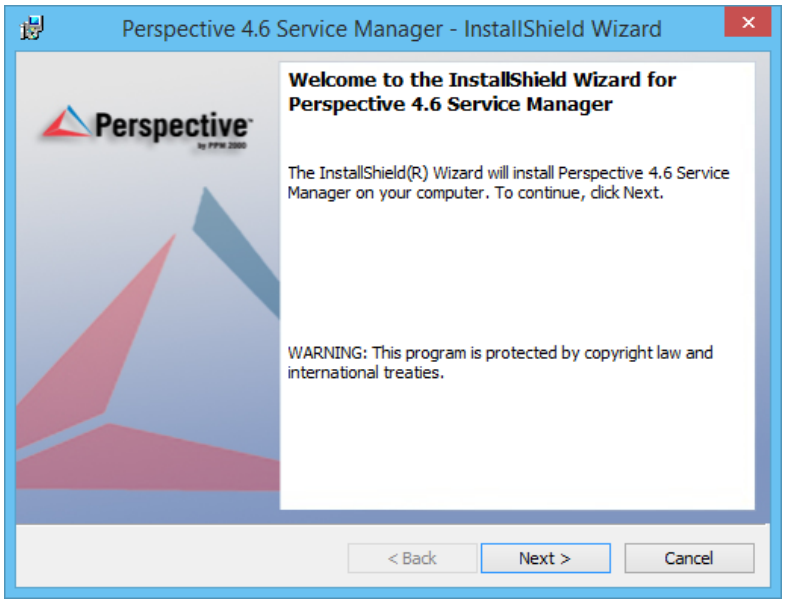
Configure Connections Using Service Manager

1. From the *Perspective Install* > *Web Service Setup* directory, run **Perspective.ServiceManager.exe** as an administrator.

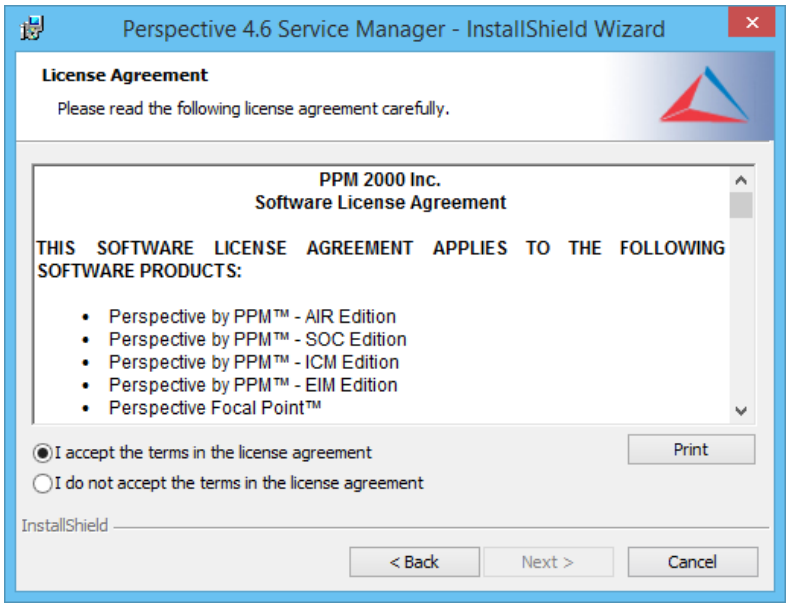
   a. The Install Wizard screen appears.

   b. If the User Account Control screen pop-up window appears, click **Yes**.

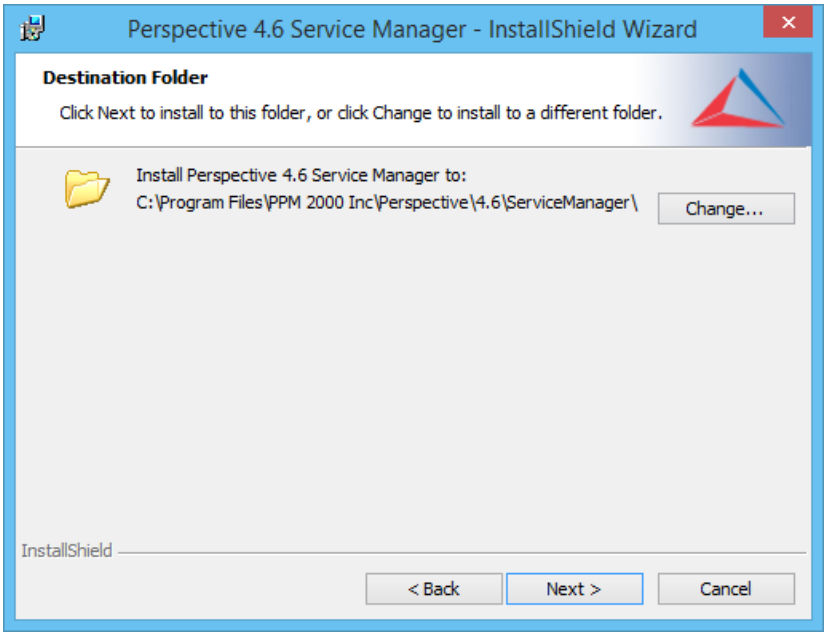
2. The installation wizard appears.Click **Next** to continue.



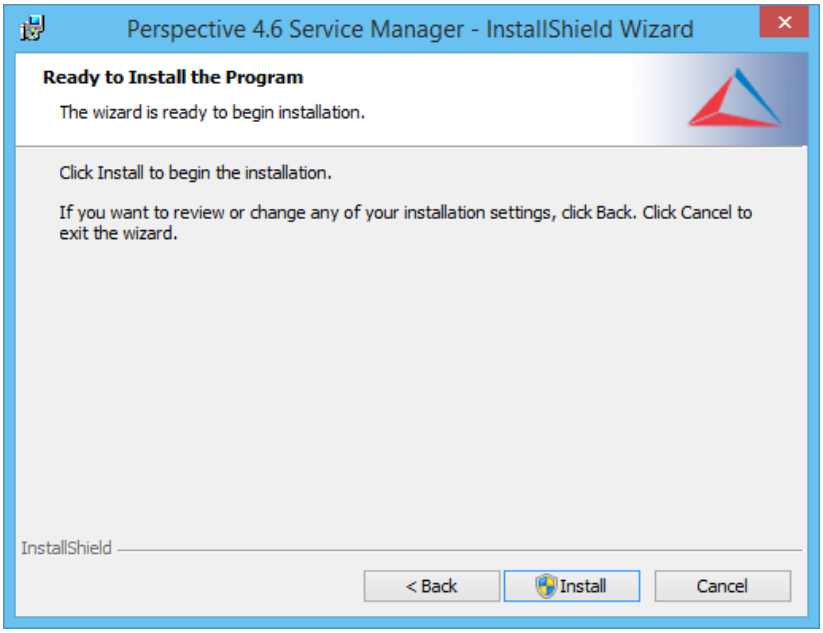
c. Read the License Agreement. If you accept the terms and conditions, select the appropriate radio button and click **Next**.



d. You can change the installation directory, or click **Next** for default file path

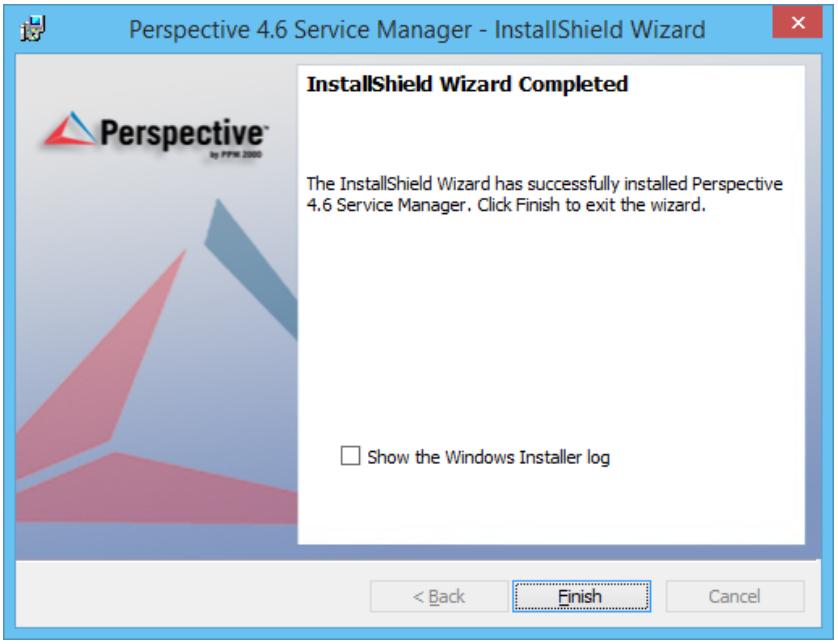


e. In the following screen, click **Install** to confirm the installation. Wait while Perspective Service Manager is being installed.



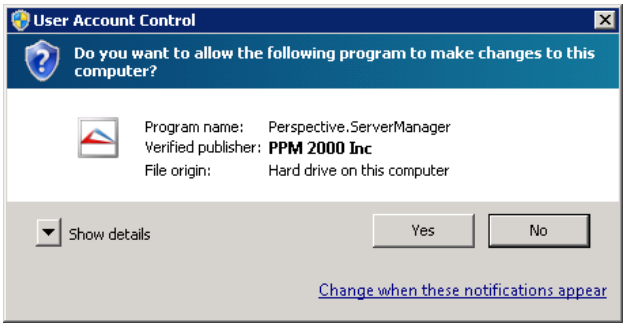
f. Click **Finish** once the installation is complete.

- Only check the **Show the Windows Installer log** box if you want to see where the files have been installed.



3. From the Start menu, or desktop, launch **Perspective 4.6 Service Manager** as an Administrator.

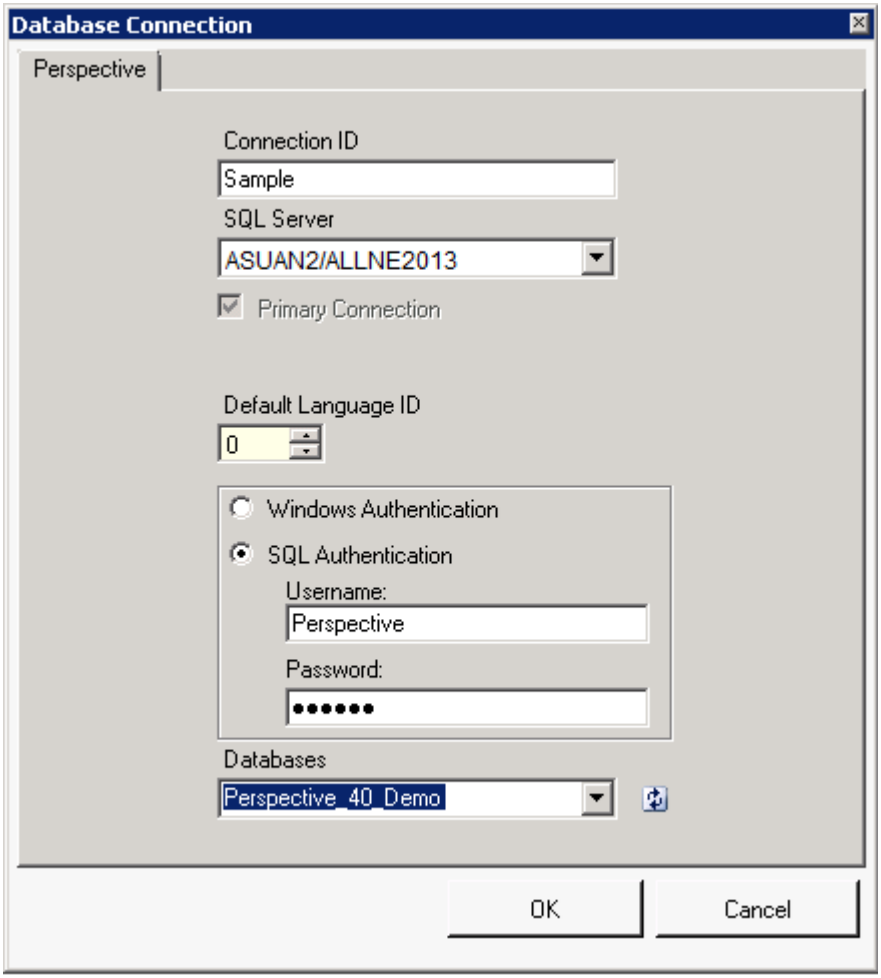
   *Note: This process may trigger Windows' UAC (User Access Control) security feature. If prompted, click **Yes**.*



   If you changed the installation path, you may be prompted to select a Perspective configuration file. Navigate to the installed location of Perspective Services, select **Perspective_[Your_Business_ID].config** (default location: **C:\inetpub\wwwroot\Perspective4.6\PerspectiveServices**) and open the configuration file.

   *Note: If you're using **Perspective On Premise** and your organization's business ID is Default, the configuration file will be saved as **Perspective_Default.config**.*

You'll be prompted for database information.



4. Enter a new name for **Connection ID.**

   Note: The Connection ID cannot contain the word "Default".

5. In the **SQL Server** lookup list, select your SQL Server or type the name of your server in the text box.

6. Leave **Default Language ID** set to **0**, unless instructed otherwise by PPM 2000.

7. Ensure **SQL Authentication** is selected, and enter the SQL **Username** and **Password** created when installing the database.

8. Select your Perspective database from the **Databases** lookup list.

   Note: If you receive an "Unable to connect to the named server" message, you have entered either the wrong SQL server name or credentials.

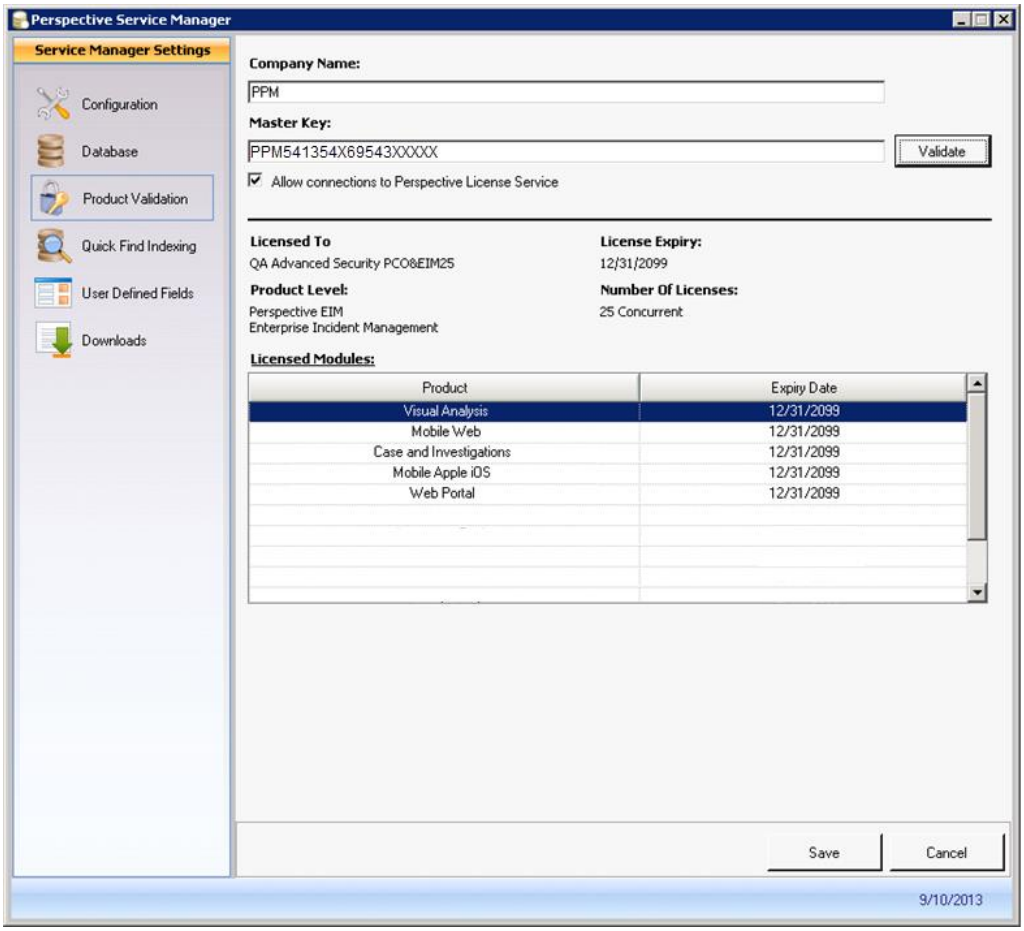
9. Click **OK** to save and add the primary connection.

10. In the top field, enter your **Company Name**, as listed on the email provided to you with your license keys.

11. Enter the **Master Key** that applies to the Company Name entered. Note, the Master Key is case-sensitive.

12. Click the **Validate** button. The fields below will indicate the number of active licenses, **License Expiry Date**, **Product Level** and specifications of individual **Licensed Modules** (i.e., **Product**, **Number of Users** and **Expiry Date**).

    *Note: The **Allow connections to Perspective License Service** box is checked by default. Unchecking this box means a license file must be imported when you click the **Validate** button. If you don't have a license file, contact Technical Support at 1-877-776-2995.*



13. Open the Database component from the menu on the left and double-click your database name, or click the **Edit** button.

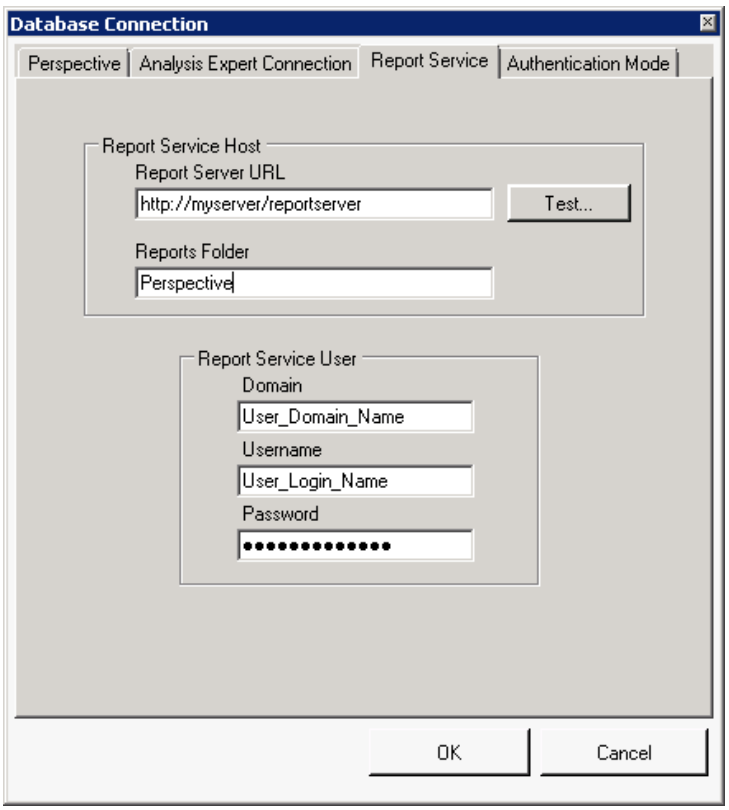
14. Open the **Report Service** tab and type the report server URL in the **Report Server URL** box.

15. Enter the name of your **Reports Folder**.

16. Proceed to the Report Service User section below. Enter the **Domain**, **Username** and **Password** that were granted browser rights when setting up the server-side reports.

17. Click the **Test** button. You should receive a prompt telling you the URL is valid. If not, confirm your configuration is correct and try again. Please refer to troubleshooting section for SQL reports if you receive an error and message.

18. Click **OK**.

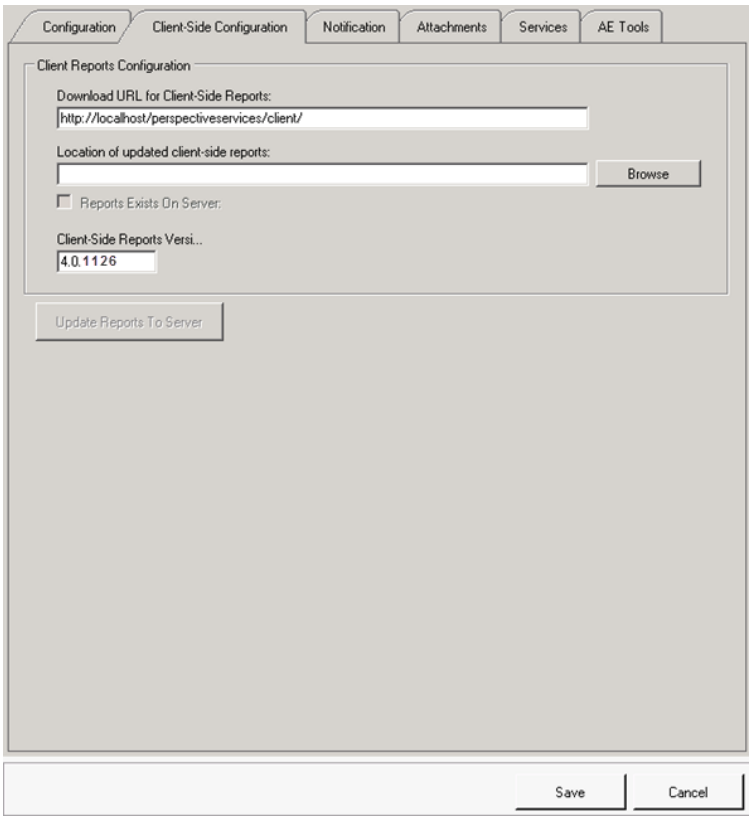


19. Select the **Configuration** component from the Perspective Service Manager menu.

20. To encrypt the Perspective_Default.config file, check the **Encrypt Configuration?** box.

21. Open the **Client-Side Configuration** tab.

22. Enter the **Download URL for Client-Side Reports**, if needed, for the client reports configuration files to update automatically (i.e., http://<server name>/perspectiveservices/client).



23. Click **Save.**

    Note: If you do not click Save, you will be prompted to Save all changes that have been made.

24. Cose the Service Manager by clicking the **Cancel** button, or clicking the **X** button on the caption bar.

25. Restart IIS.

> **Advanced Configurations Warning**
> Additional options in the Service Manager are not covered in this step-by-step Standard Install walkthrough. For the list of supported advanced setup configuration options, please, refer to the **Advanced Configurations** section. It's recommended that all setups follow the standard setup procedures outlined in this section as an initial starting point. Advanced features can be configured as needed after the standard configuration has been verified to run correctly.

Integration Services

DTC Note
Perspective Integration Services requires the Microsoft® Distributed Transaction Coordinator (DTC) service to be installed and enabled on the IIS Web Server and the Microsoft® SQL Server® for Perspective.

Integration Services requires MS DTC (Microsoft® Distributed Transaction Coordinator). Ensure the following options are enabled on both the Web Server and the Database server if applicable.

Enable Network DTC Access for MS DTC Transactions

1. Open the Component Services snap-in.

   To open Component Services, click **Start**. In the search box, type **dcomcnfg**, and then press **Enter**.

2. Expand the console tree to locate the DTC (for example, Local DTC) for which you want to enable Network MS DTC Access.

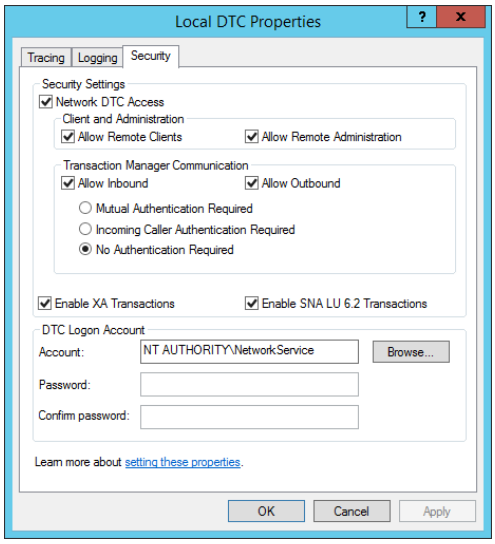
3. On the **Action** menu, click **Properties**.

4. Click the **Security** tab and make the following changes:

   a. In **Security Settings**, select the **Network DTC Access** check box.

   b. In **Transaction Manager Communication**, select the **Allow Inbound** and **Allow Outbound** check boxes.

   c. Select the **Enable XA Transactions** check box.



5. Click **OK**.

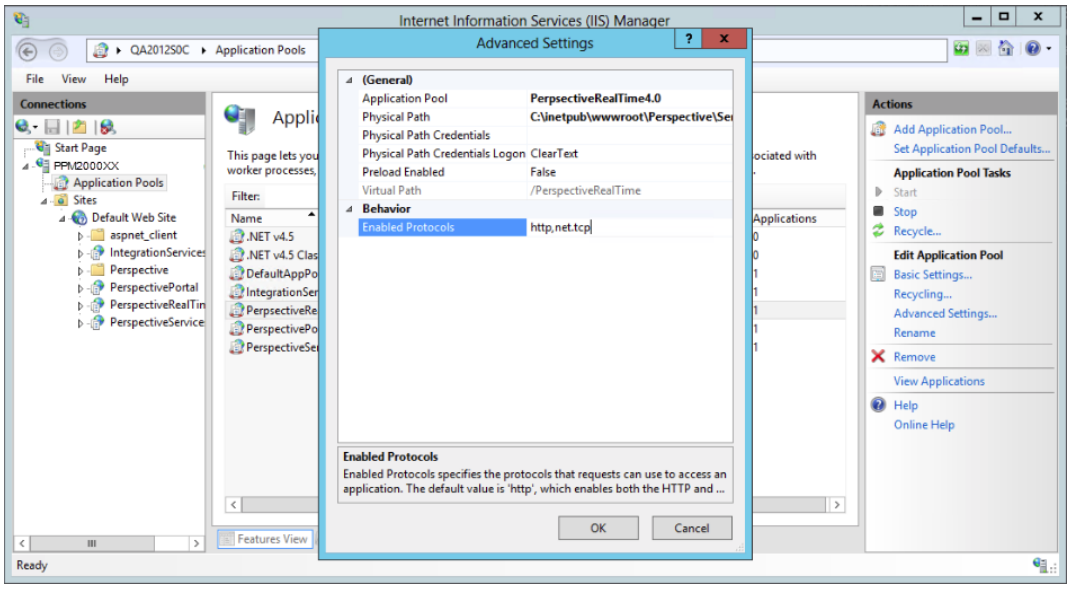
Enable Firewall Exceptions for MS DTC

1. Click **Start Menu > Control Panel.**
2. Click **System and Security > Windows Firewall** or **Windows Firewall** (in Classic View).
3. On the **Exceptions** tab, select the **Distributed Transaction Coordinator** check box.
4. Click **OK**.

Real Time Service Configuration

The **SOC** and **EIM** editions of Perspective contain the Dispatching component and will need additional configuration to Real Time Services.

1. Navigate to your **IIS Settings**.
2. Expand **Site** and expand **Default Web Site**.
3. Right-click **PerspectiveRealTime** then **Manage Application >Advanced Settings**.
4. In **Advanced Settings**, add **http,net.tcp** in **Enabled Protocols**. Click **OK**.
    - Port 808 is used by default.



5. Go to the **inetpub/wwwroot/Perspective4.6/PerspectiveServices** directory and edit the **Perspective Default Config** file. To do this, find the Perspective Real Time URL, and replace the localhost with a fully qualified server name.

Note: Additional exceptions for Windows and network firewall may be required.

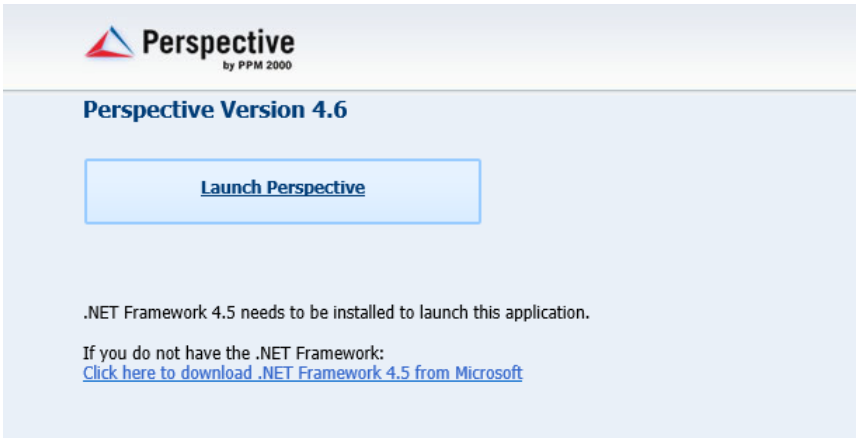
Client Machines

Accessing Perspective Desktop Client

1. Ensure Microsoft .NET 4.5 Framework is installed on the client machine.

2. Browse to the Perspective Services URL: **http://<IISServer>/PerspectiveServices**. "IISServer" refers to the Perspective Web server installed in the previous section.

   a. Click the **Launch Perspective** button.



   b. Click **Run**.

   *Note: If you're using the **MSI Package installer**, follow the procedures below.*

      i. Browse to the Perspective Services URL: http://<IISServer>/PerspectiveServices/default.aspx**?opt=2**

         If you're using **?opt=1**, only the ClickOnce installer will be displayed.

         If you're using **?opt=0** or if Java Script is disabled or the Web Service is not a trusted site, both the ClickOnce and MSI Package installer will be displayed.

      ii. Click **Click here to Download MSI Package** and follow the on-screen instructions. If you experience any problems during the download of the MSI Package or the installation of the MSI client, call Technical Support at 1-877-776-2995 for assistance.

3. After Perspective downloads and installs, you might be prompted to enter a URL. The URL should be automatically populated.If so, move to the next step. If not, enter your Perspective Services URL as before: **http://<IISServer>/PerspectiveServices**. <IISServer> refers to the Perspective Web server installed during the installation of Perspective.

   Now you should be able to test the default Perspective logon. From this point onward, users must navigate to the Perspective Services URL to launch the Perspective application.

Perspective Default Logon	
User Name:	Admin
Password:	Security

To create a shortcut to the application on the client machine's desktop, proceed as follows:

1. Navigate to the **Perspective Services URL**.
2. Right-click the **Launch Perspective** button and select **Copy Shortcut**.
3. Right-click the client desktop and select **Paste Shortcut**.

> **Default Admin Master vs. Users with Administrator Rights**
>
> As of Perspective Version 3.3, there are differences between the default Admin Master account and a Perspective User with Administrator rights. Specifically, the Admin Master has select features available that other Users, even with Administrator rights, do not.
>
> However, the default Admin Master **can only access the Administration and Dashboard panels of Perspective**. Other components are unavailable to the Admin Master; this account cannot be used for data entry.

Accessing Perspective Web Portal

This service requires Integration Services to run. Please ensure MS DTC is setup and configured. Please refer to the Section titled, Integration Services for more information. Users can't access Portal until an administrator has set up workgroups within Perspective that allow imports. Once the workgroups are set up, the Web Portal can be configured.

To configure your Web Portal:

1. Open an Internet browser (either Google Chrome v29 or greater, or Internet Explorer 10 or greater.
2. Navigate to your Portal Services URL: **http://<IISServer>/PerspectivePortal**. <IISServer> refers to the web server installed during the installation of Portal.
3. Administrators will be required to log in to set up the Web Portal. Refer to the *Perspective Web Portal User Guide* for additional information.

Testing Perspective Implementation

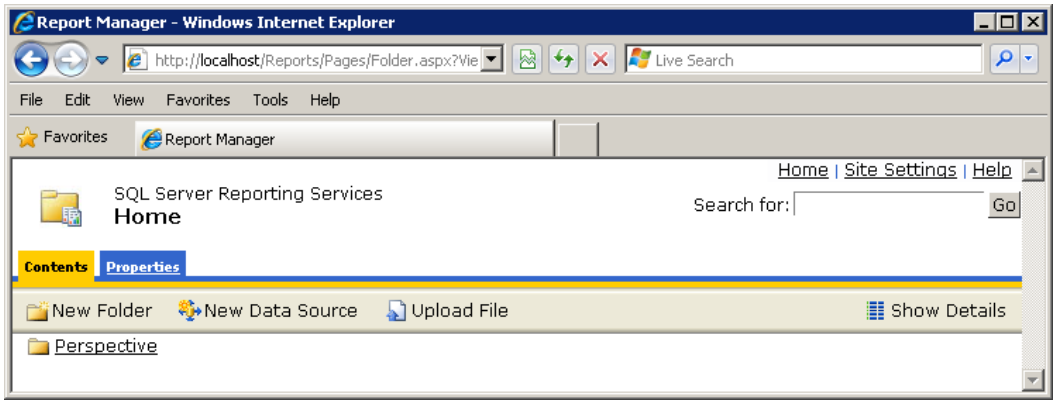
Once you have completed the steps outlined on the previous sections, please go through the following steps to ensure that all Perspective's components have been set up properly.

1. Go to the Perspective Services URL and confirm that the page loads properly: **http://<localhost>/perspectiveservices**.

2. If the above fails, go to the Perspective Services page and confirm that the page loads properly: **http://<localhost>/perspectiveservices/service.asmx**.

3. Go to the Reports page and confirm that the page loads properly: **http://<reportservername>/reports**.

   *Note: If your Reports page does not display correctly, run the **PublishServerReports.bat** file included in the Perspective Install > Reports Setup folder.*



4. Log on to the Perspective client—preferably not on the server itself—using your Perspective Administrator user name and password.

5. Once you have logged on successfully, click on the **Reports** button in the Navigation pane (on the left-hand side of the screen) and confirm that all reports are listed. The easiest way to confirm that the client-side reports are working is to verify that there are reports listed under the <Detail Reports> heading, such as the Incident, Person and Vehicle Reports. Try to run any of the reports by clicking **Preview**.

6. To confirm that the server-side reports are working, try running the **Test Report** under the <Administrative Only> node listed. If you receive an error message, please call the Technical Support team at 1-877-776-2995 for assistance.

Advanced Configurations

Perspective offers your organization a number of advanced configuration options. Before attempting to implement any of the following options, we recommend that you complete the standard installation first, then, contact Technical Support at 1-877-776-2995 or support@ppm2000.com for further instructions.

SSL on Your Web Service	To secure and encrypt data sent to and from the Web service to client machines.
Windows Authentication	To allow users to log on to Perspective and to connect to SQL service using their Windows authenticated account
IIS Compression	To compress information sent from Web services to the client. (Recommended for installs with remote users who are not connected directly to the network. If all users are internal, compressing data may take longer than sending uncompressed data over a high-speed network.)
Transparent Data Encryption (SQL 2008)	For encrypting data at rest (for use with Microsoft SQL Server 2008 Enterprise Edition only).
Setting up Sample/Training Database	Default setup supports one database only. If additional databases are required, these can be set up with assistance from Technical Support.
AE Mirroring	For sites with high volumes of data that require SQL intensive searches to be executed against a separate SQL server.
Custom Pagination	By default, the pagination feature is set to 100 records per page. This number can be modified (to any value from 20 to 1000 records per page) by manually editing the <PaginationPageSize>100</PaginationPageSize> tag in the Perspective_Default.config file.
Custom Legal Notice and Privacy Statement	To customize Perspective's legal notice and/or privacy statement for your organization, navigate to the Legal folder in the Perspective Services Virtual Directory, open the LegalNotice.mht or PrivacyStatement.mht file in an HTML editor (such as Microsoft Word), apply your edits, and save the file as an MHTML document with the original file name.

Change Default Install Location	To change the default installation location, select Custom from the Setup Type screen (when installing Perspective Services). Click Next. Select a feature and click the Change button. Then, pick the new install location. Click Ok.
Change Caching Options of Portal	The caching duration is set by default to 20 minutes. However, this can be changed by accessing the web config file of Perspective Portal. The duration is in minutes, and can be between 1-1400 minutes. *Note: Caching should always be enabled, unless you are troubleshooting. Disable it by setting caching=false.*
Directing to Fully Qualified Servers for Portal	Go to C:/inetpub/wwwroot/Perspective4.6/PerspectivePortal and edit the web config file. Find the external web address and update it to a fully qualified server.

Set Up Additional Features Using Service Manager

Perspective Service Manager is an external application available only on the Web server hosting Perspective services. It is used to manage configuration files, databases, licenses and keys, as well as to set up a number of important features in Perspective (i.e., email and mass notifications, attachments, Quick Find indexing, user-defined fields, Custom Search integration and Integration Services URL).

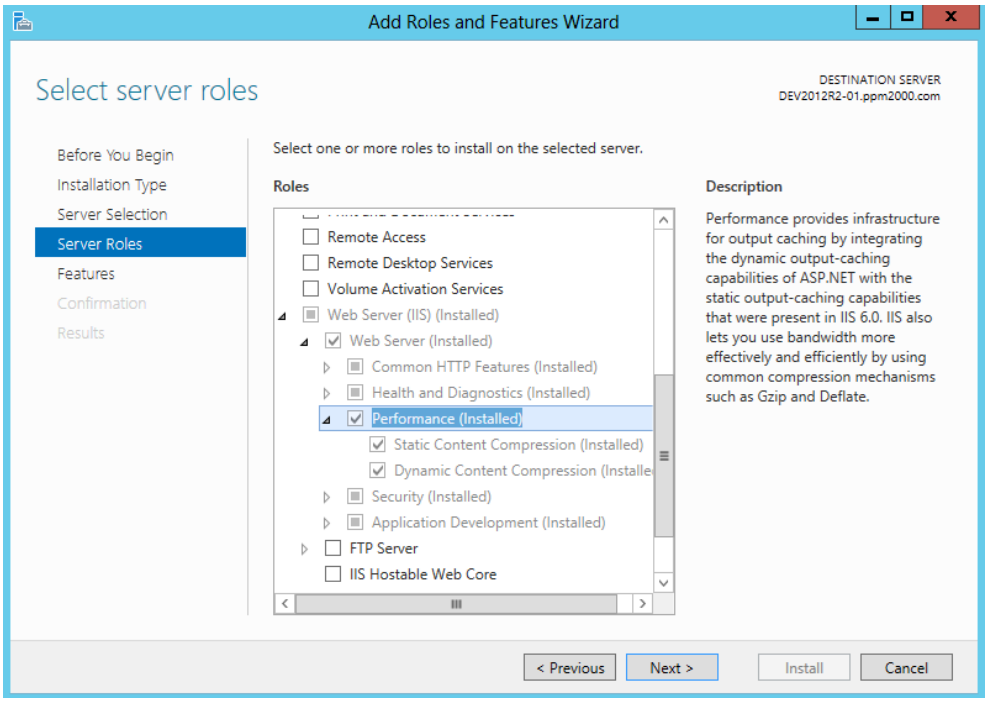
To access Perspective Service Manager, go to **C:\Program Files\PPM 2000 Inc\Perspective\4.6\ServiceManager > Perspective.ServerManager** or open it from the Startup menu.

Remember to complete each editing action in Perspective Service Manager by clicking **Save Changes**. To implement your settings in Perspective, restart **Internet Information Services** (IIS) (and the Perspective Web server). Note that restarting IIS will affect anyone currently logged on to Perspective. Ensure that all users have saved their work and exited the program prior to completing this step.

Configuring HTTP Compression for ClickOnce Packages

Configuration: Windows Server 2012R2

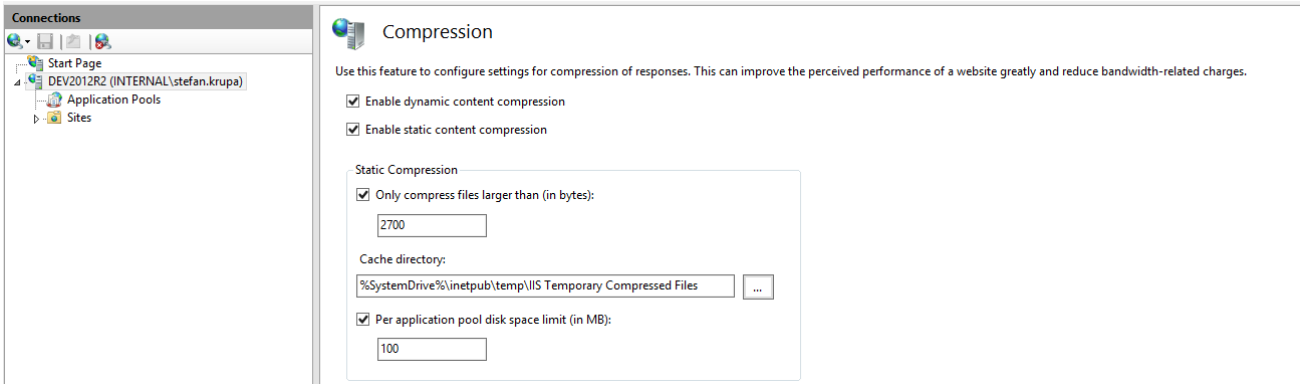
1. Verify that **Static** and **Dynamic Content Compression** Roles are enabled (done through server manager).



2. In IIS manager, click on your server.

3. Under IIS, click **Compression**.

4. Verify the **Enable dynamic content compression** and **Enable static content compression** checkboxes are selected.



5. In IIS manager, click on your server.

6. Under IIS, click **MIME Types**. Here you can see all file extensions and their associated MIME Types. The basic MIME Types for ClickOnce deployment are:

```
.application –> application/x-ms-application
.manifest –> application/x-ms-manifest
.deploy –> application/octet-stream
```

7. For the above MIME Types to be compressed, you need to edit the **applicationhost.config** file which can be found in the **%windir%\system32\inetsrv\config** folder.

8. Open this file. Under the http compression tag and under **dynamic types** and **static types**, add:

```
<add mimeType="application/octet-stream" enabled="true" />

<add mimeType="application/x-ms-application" enabled="true" />

<add mimeType="application/x-ms-manifest" enabled="true" />
```

```
<httpCompression directory="%SystemDrive%\inetpub\temp\IIS Temporary Compressed Files">
    <scheme name="gzip" dll="%Windir%\system32\inetsrv\gzip.dll" />
    <staticTypes>
        <add mimeType="text/*" enabled="true" />
        <add mimeType="message/*" enabled="true" />
        <add mimeType="application/javascript" enabled="true" />
        <add mimeType="application/atom+xml" enabled="true" />
        <add mimeType="application/xaml+xml" enabled="true" />
        <add mimeType="application/octet-stream" enabled="true" />
        <add mimeType="application/x-ms-application" enabled="true" />
        <add mimeType="application/x-ms-manifest" enabled="true" />
        <add mimeType="*/*" enabled="false" />
    </staticTypes>
    <dynamicTypes>
        <add mimeType="text/*" enabled="true" />
        <add mimeType="message/*" enabled="true" />
        <add mimeType="application/x-javascript" enabled="true" />
        <add mimeType="application/javascript" enabled="true" />
        <add mimeType="application/octet-stream" enabled="true" />
        <add mimeType="application/x-ms-application" enabled="true" />
        <add mimeType="application/x-ms-manifest" enabled="true" />
        <add mimeType="*/*" enabled="false" />
    </dynamicTypes>
</httpCompression>
```

9. Run Command prompt as an Administrator and execute this command. This command will cache every file instantly:

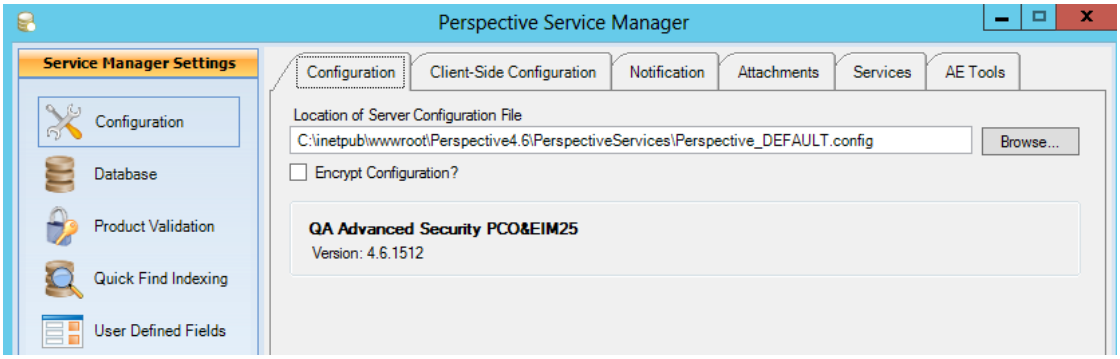
   %windir%\system32\inetsrv\appcmd.exe set config -section:system.webServer/serverRuntime -frequentHitThreshold:1

10. Reset IIS.

Configuration

Select the **Configuration** component from the Perspective Service Manager menu and open the **Configuration** tab. Click **Browse** to navigate to the **Location of Server Configuration File**.

Note: This option would be used when Perspective Services has been installed in a different location than the default option.



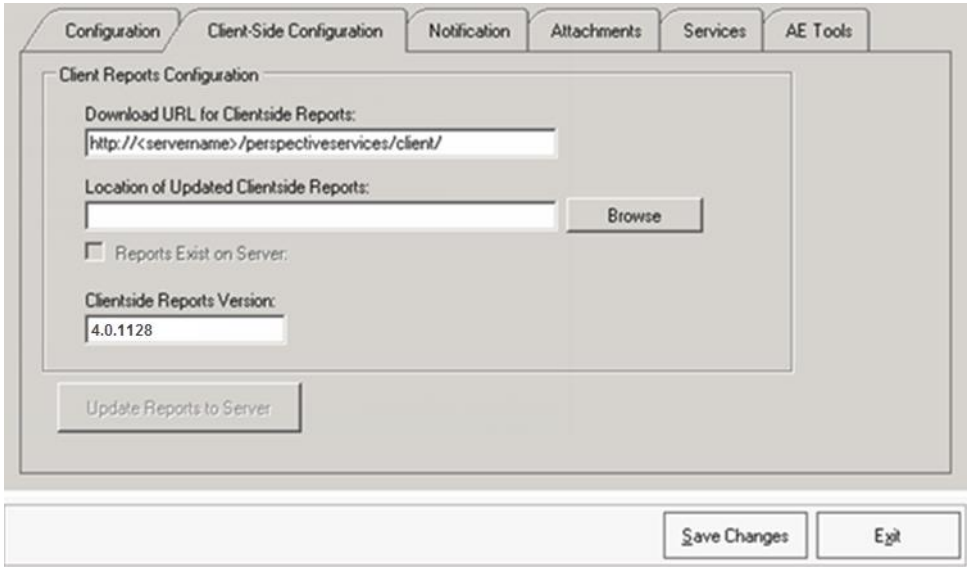
Client-Side Configuration

1. Select the **Configuration** component from the Perspective Service Manager menu and open the **Client-Side Configuration** tab.

2. To update the configuration with a .zip file provided by the Technical Support, click **Browse** to navigate to the **Location of Updated Client-Side Reports**. The field below will indicate the **Version** of the client-side reports.

3. Click **Update Reports to Server** to complete the update.

   Note: This option would be used if a newer version of client-side reports is available.



Email Notifications

In Perspective, users may send email notifications containing incident or case details or report attachments through **Simple Mail Transfer Protocol (SMTP)**. Otherwise, email notifications may be sent when new investigators are assigned to an investigation or when assignments are created, modified, or completed.

*Note: The Case and Investigation components are only available in the **EIM** and **ICM** editions of Perspective.*

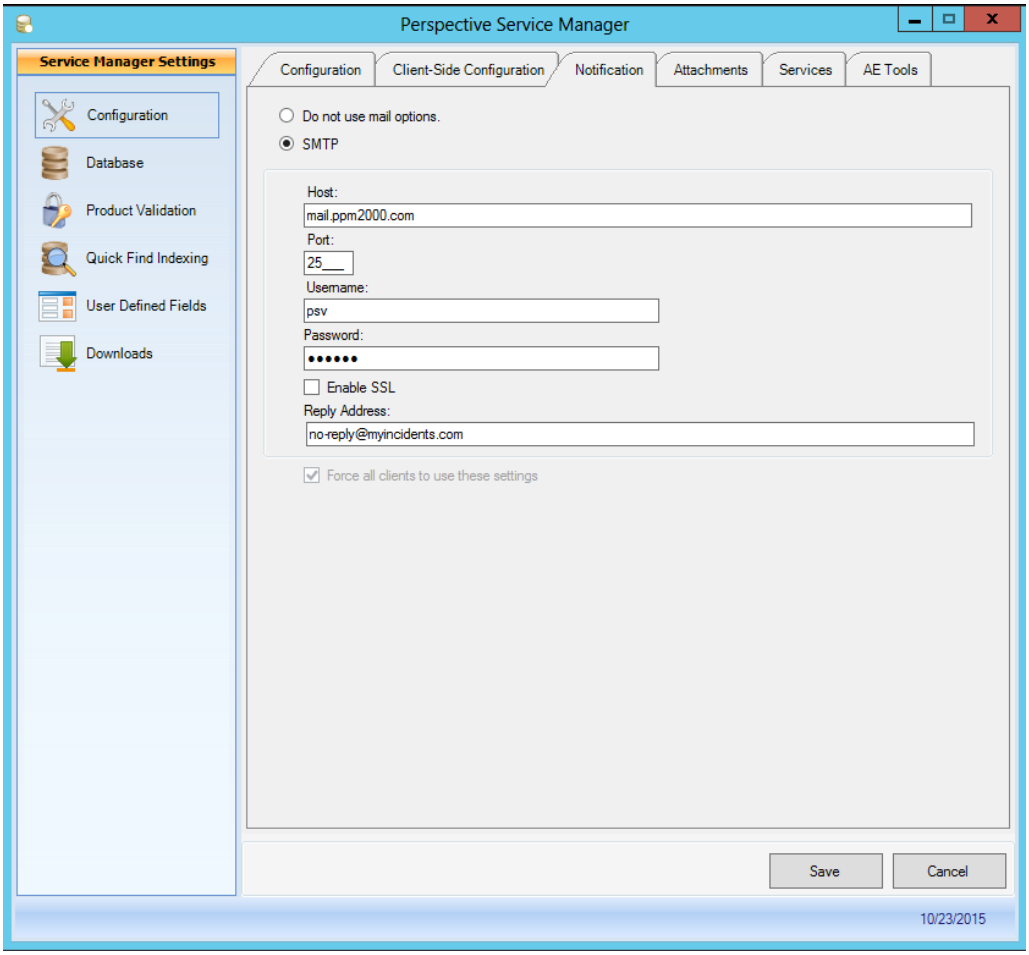
To set up email notification options, select the **Configuration** component in the Perspective Service Manager menu and open the **Notification** tab. Alternatively, the email function can be disabled by selecting the **Do not use mail options** radio button.

Connect to an External SMTP Server

To use an SMTP server to send emails from Perspective, switch **SMTP** and enter the appropriate information for connecting to the SMTP server:

- **Host**: The domain name of the SMTP service.
- **Port**: The port the SMTP service will be listening on for connections.
- **Username**: A valid user name to connect to the SMTP service.
- **Password**: The appropriate password for the user name.
- **Enable SSL**: Select this option to encrypt the SMTP connection with Secure Socket Layer (SSL).
- **Reply Address**: By default, the SMTP service will include the Reply Address specified in the Service Manager when sending emails, unless the Person who is currently logged in has an email address saved on their record.

The email settings outlined above will be used as system defaults for every client.



Uploading Attachments

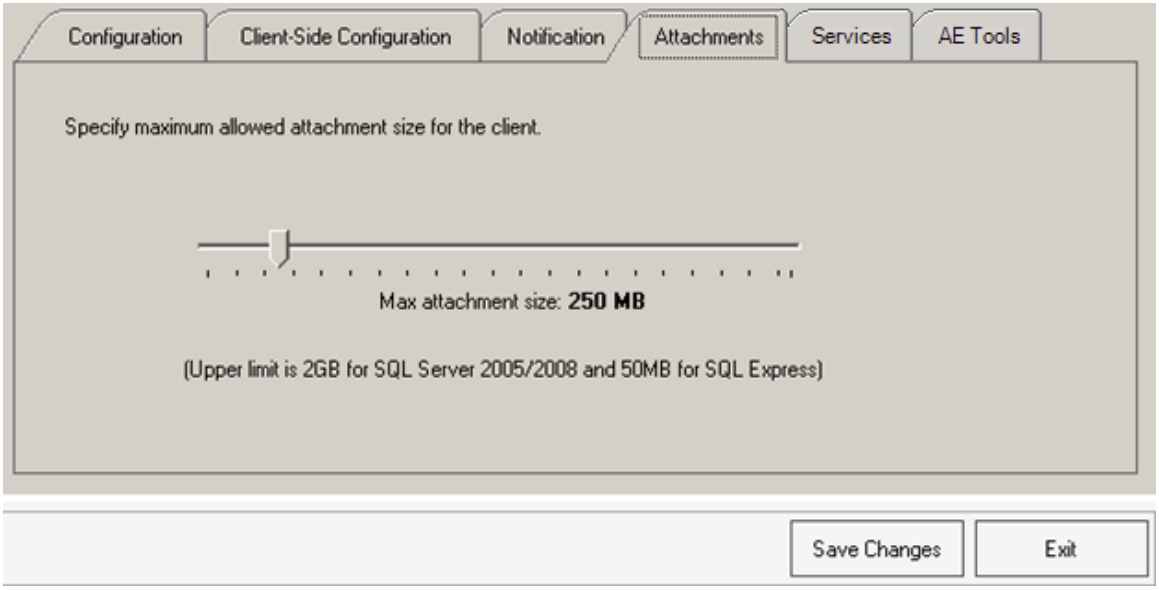
Perspective allows users to attach any file type to any data record in the application. These files are stored directly in the SQL database. Attachment size is the greatest factor in determining how much space will be required in SQL.

To set up the maximum attachment size, select the **Configuration** component in the Perspective Service Manager menu and open the **Attachments** tab.

Perspective can support files up to 2 GB in size (SQL's limit for binary data types); however, due to restrictions you may have on the space available for your Perspective database or bandwidth in your network, we do include an option to decrease this 2-GB limit to a size that can be better supported in your environment.

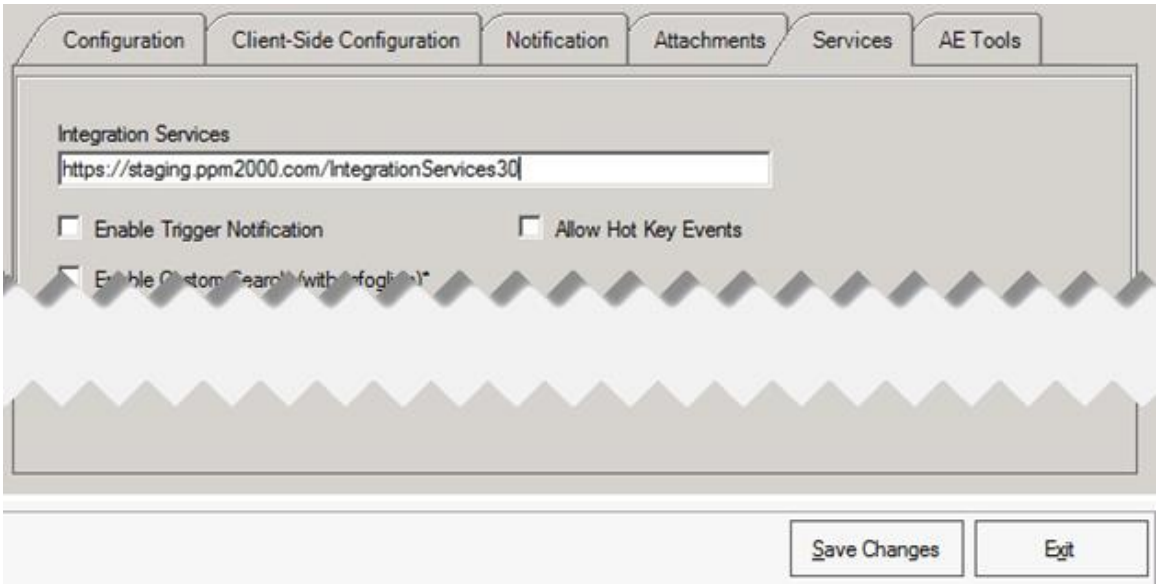
- On SQL Standard or Enterprise, this value can be set between 1 MB and 2000 MB. The default is set to 250 MB.
- On SQL Express, this value can be set between 1 MB and 50 MB. The default is 10 MB.

To change this value to an appropriate value for your organization, move the slider.



Integration Services URL

11. To enable event trigger in Integration Services, select the **Configuration** component from the Perspective Service Manager menu and open the **Services** tab.
12. Enter the URL set up with the Integration Services in the **Integration Services** field.
13. To enable trigger events on create and update, check the **Enable Trigger Notification** box. To enable context-sensitive events, check the **Allow Hot Key Events** box.

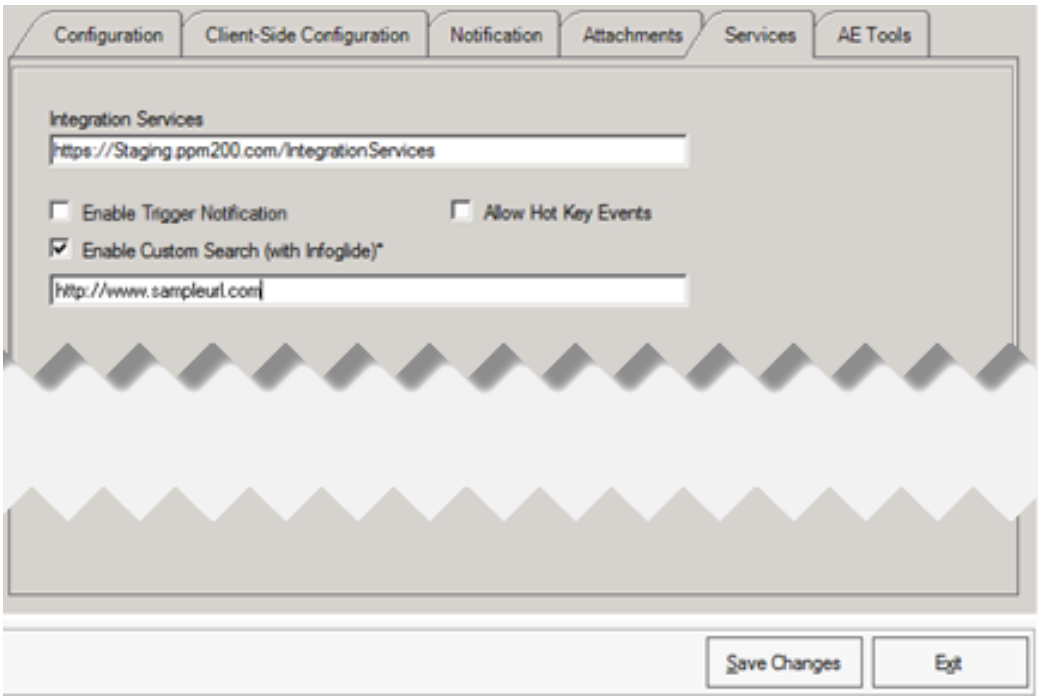


Custom Search Integration

With Perspective's Custom Search feature, you can integrate Perspective with Infoglide Identity Resolution Engine™ (IRE) to search several data sources at once. Complete the following steps to enable this integration. Note that you must first configure your Perspective database within the Identity Resolution Engine before proceeding.

To set up the Custom Search feature, select the **Configuration** component from the Perspective Service Manager menu and open the **Services** tab. Check the **Enable Custom Search (with Infoglide)** box and enter the URL for the Infoglide Identity Resolution Engine in the field below.

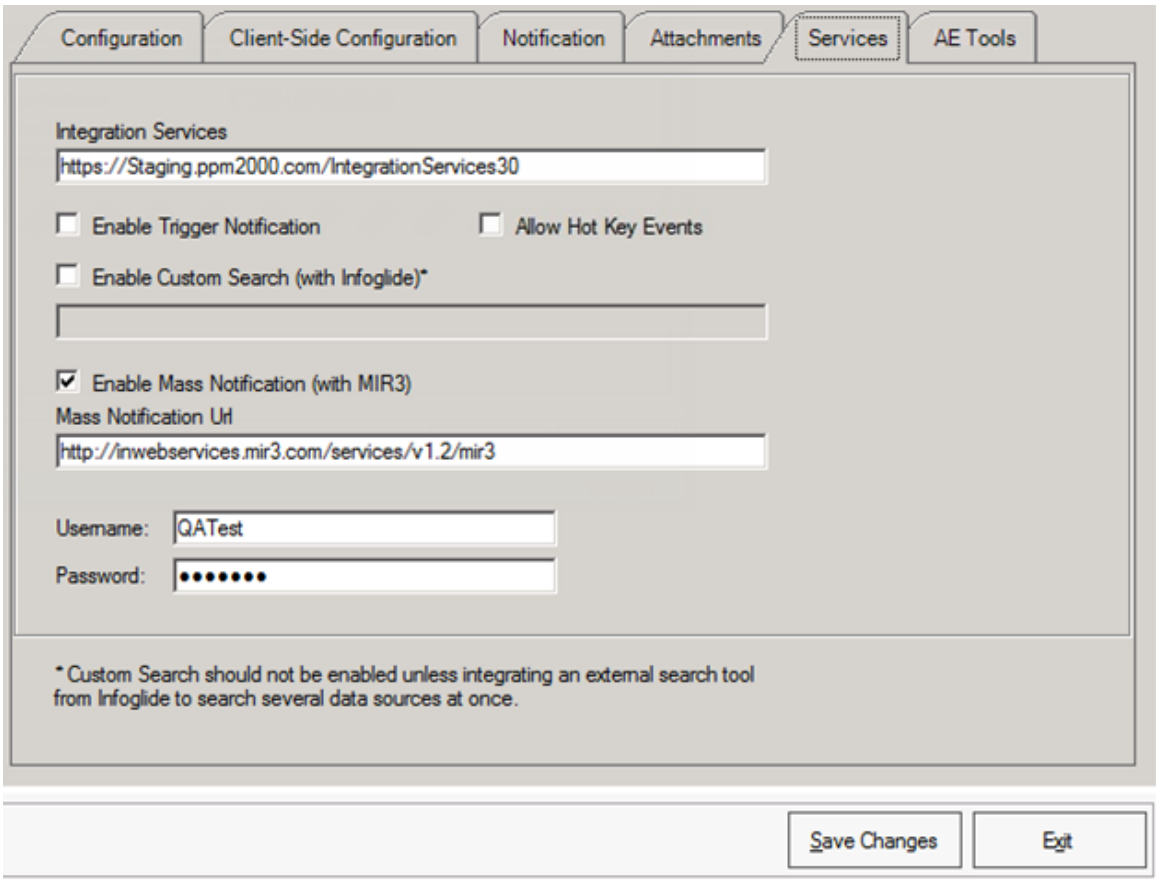
Note: To access the Custom Search feature, users must be granted the appropriate access rights in Perspective. For details on administering Custom Search access for roles and users, see "Select general role rights" and "Set general user rights" in the "Roles" and "Users" sections of the Perspective Administrator's Guide.



Mass Notifications

In Perspective, users can integrate their MIR3℠ inEnterprise™ solution into Perspective in order to send mass notifications about selected activities via Perspective DispatchLog.

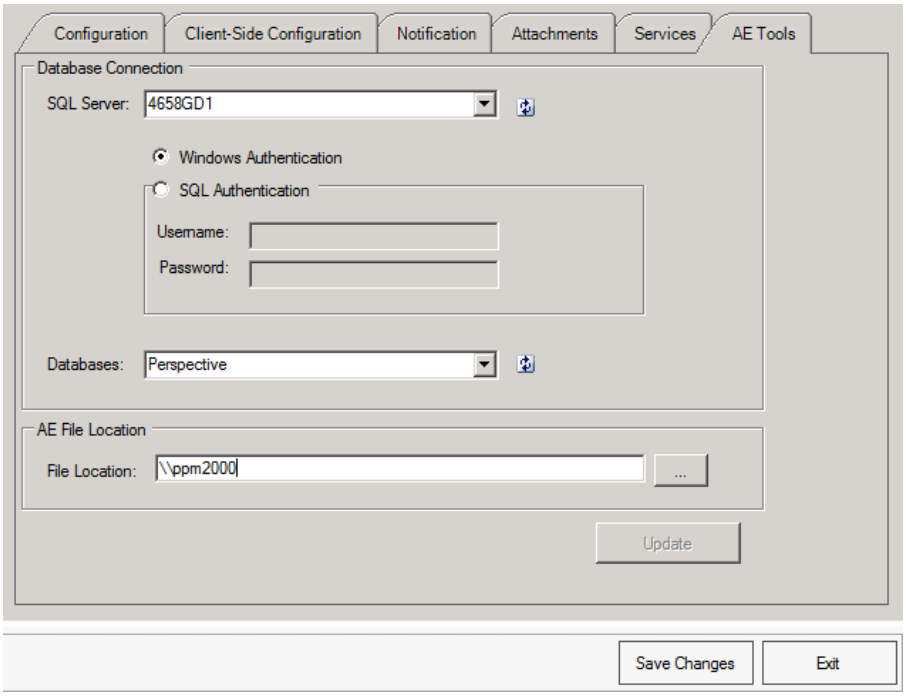
To set up the Mass Notification feature, select the **Configuration** component from the Perspective Service Manager menu and open the **Services** tab. Check the **Enable Mass Notification (with MIR3)** box and enter the **Mass Notification URL**, **Username** and **Password** provided by MIR3 in the field below.



Analysis Expert Tools

If you experience difficulties with the correct Analysis Expert (AE) query display, this function must be used to update the AE **.dat file** provided by Technical Support.

1. Select the **Configuration** component from the Perspective Service Manager menu and open the **AE Tools** tab.
2. Specify the **SQL Server**.
3. Select either the **Windows** or **SQL Authentication**. If you selected SQL Authentication, enter the correct **Username** and **Password**.
4. Choose the **Database** you wish to update your queries on.
5. Specify the correct path to the AE .dat file provided by Technical Support in the **File Location** field.
6. Click **Update**.



Quick Find Indexing

With Perspective's Quick Find tool, you can quickly search for text anywhere in the database, including text within attachments. This works by scanning an index file generated on the server.

1. To set up indexing on your database, select the **Quick Find Indexing** component in the Perspective Service Manager menu.

2. To enable this feature, select **Allow Quick Find**.

3. Select an **Index Directory** to store the index files. The index directory must end with your organization's business ID name (e.g. C:\Temp\[BusinessIDName]) and IIS must have access to read this directory.

   *Note: If you're using **Perspective On Premise** and your organization's business ID is Default, the index entry will end in Default (e.g. C:\Temp\Default).*

4. *Optional:* You can expect the Index file to be approximately 1/3 of your database size. If storage on the local drive would be problematic, you can force the index cache to use a separate directory by checking **Specify folder in alternate drive to store cache while indexing?** and then selecting a directory.

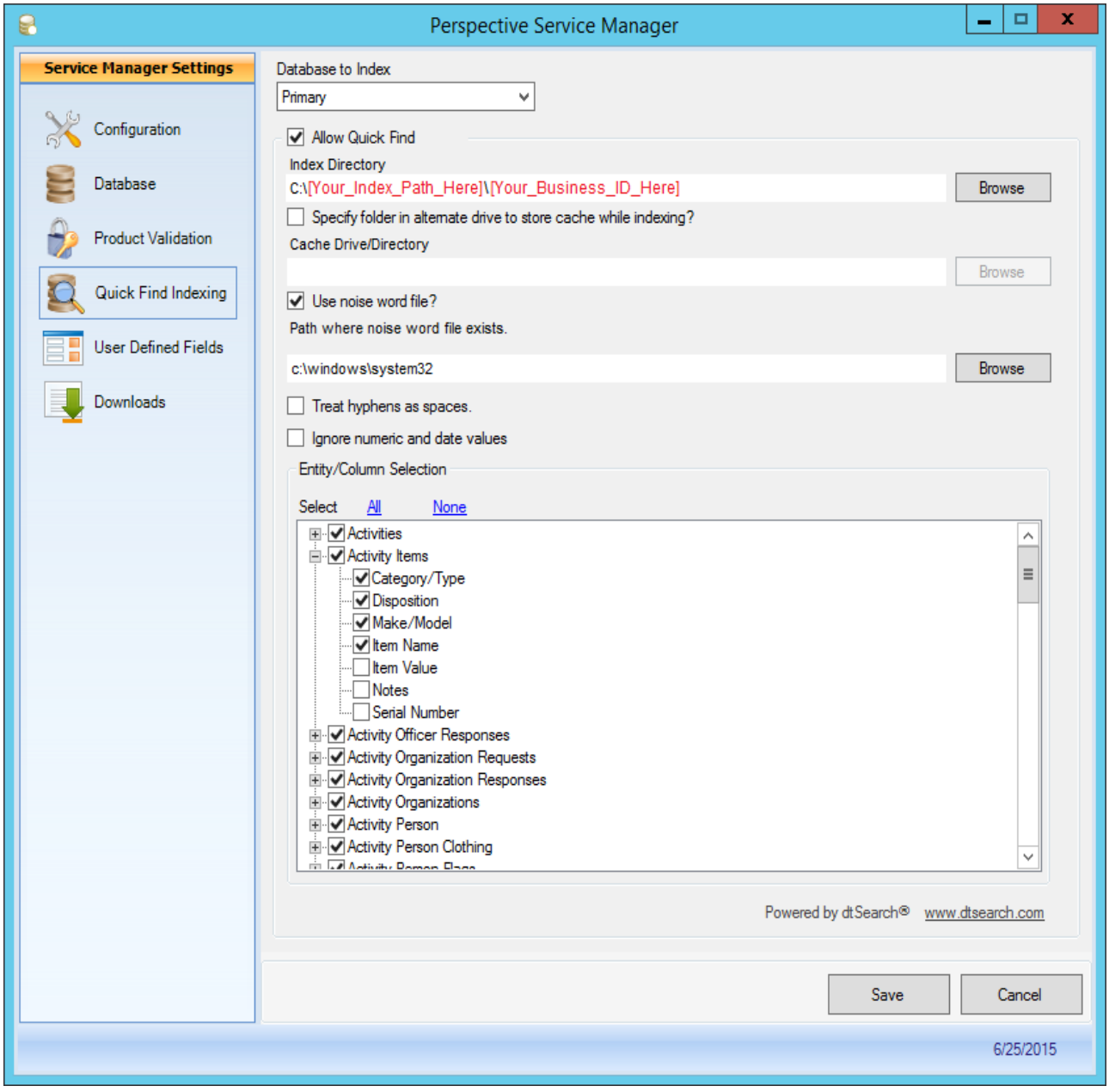
5. *Optional:* If you would like certain common words to be ignored when indexing (e.g., a, the, an, at, to, etc.), select **Use noise word file?** and specify the directory where your Noise.dat file exists. Perspective does not provide a Noise.dat file.

6. *Optional:* If you would like hyphenated words to be indexed as two separate words, you can select **Treat hyphens as spaces**.

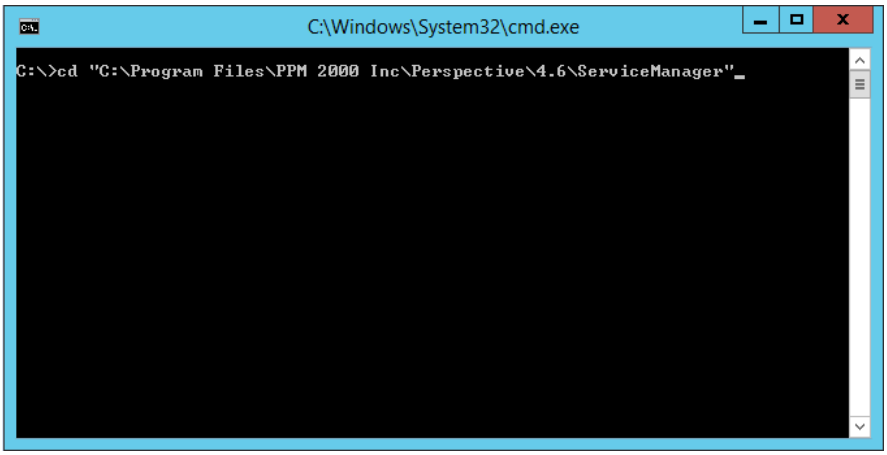
7. *Optional:* If you would like the index files to ignore any numeric text, you can select **Do not index numeric values**.

8. Expand the nodes listed under **Tables** and select each table you want data to be indexed from individually. Note that attachments are indexed separately from the main entities and can be found at the bottom of the list.

9. Click **Save**.



10. As data is added, deleted, or modified in the database, the index must be kept up-to-date. You can perform full indexing or incremental indexing on a database by using the Perspective.Indexer.exe program. To do this, open a Windows command prompt and navigate to the Perspective Service Manager directory as follows:
    `cd "C:\Program Files\PPM 2000 Inc\Perspective\4.6\ServiceManager"`



11. To perform full indexing on the default database, enter the following command:
    `Perspective.Indexer.exe c="C:\[PerspectiveServicesPath]\Perspective4.6\PerspectiveServices\Perspective_Default.config"`

12. To perform full indexing on a specific database, add the /d switch to the command:
    `Perspective.Indexer.exe /c="C:\[PerspectiveServicesPath]\Perspective4.6\PerspectiveServices\Perspective_Default.config" /d="database name"`

13. To perform incremental indexing on the default database, add the /i switch to the command:
    `Perspective.Indexer.exe /c="C:\[PerspectiveServicesPath]\Perspective4.6\PerspectiveServices\Perspective_Default.config" /i`

14. To perform incremental indexing on a specific database, use the /d and /i switches:
    `Perspective.Indexer.exe /c="C:\[PerspectiveServicesPath]\Perspective4.6\PerspectiveServices\Perspective_Default.config" /d="database name" /i`

15. Repeat steps 10-15 for every database you want to index.

16. There are other switches available when using Perspective.Indexer.exe. To view all of the switches and their functions, enter the command `Perspective.Indexer.exe ?`

User-Defined Fields

Although user defined fields (UDFs) can only be created by specialized users with access to both the server machine and the Service Manager, they are maintained by Administrators in the same manner as all other fields within Perspective. Visibility and access rights to a user defined field can be controlled under System Privileges, Role Privileges or User Privileges. UDF labels can be modified and created for other languages under Form Labels. Moreover, if the UDF is a lookup field, lookup values and workgroup visibility for these values can be customized under Lookups.

You may add user defined fields to the Item, Person, Organization and Vehicle forms under the General tab, as well as to numerous sections of the Incident and Case forms.

Note: The case component is only available in the Premium Edition of Perspective.

1. To set up user defined fields for Perspective, select the **User Defined Fields** banner at the bottom of the Perspective Service Manager menu and open the **General** tab.

2. In the Server Authentication section, specify the **Database Name**. Ensure that this information is correct before proceeding. The Form lookup list will become available.

3. From the **Form l**ookup list, select the data form in which you would like the new user defined field to appear. Your options are as follows:

    - Incidents
    - Incident Items (Involved Items)
    - Incident Organizations (Involved Organizations)
    - Incident Persons (Involved Persons)
    - Incident Vehicles (Involved Vehicles)
    - Items
    - Organizations
    - Persons
    - Vehicles
    - Cases
    - Activities

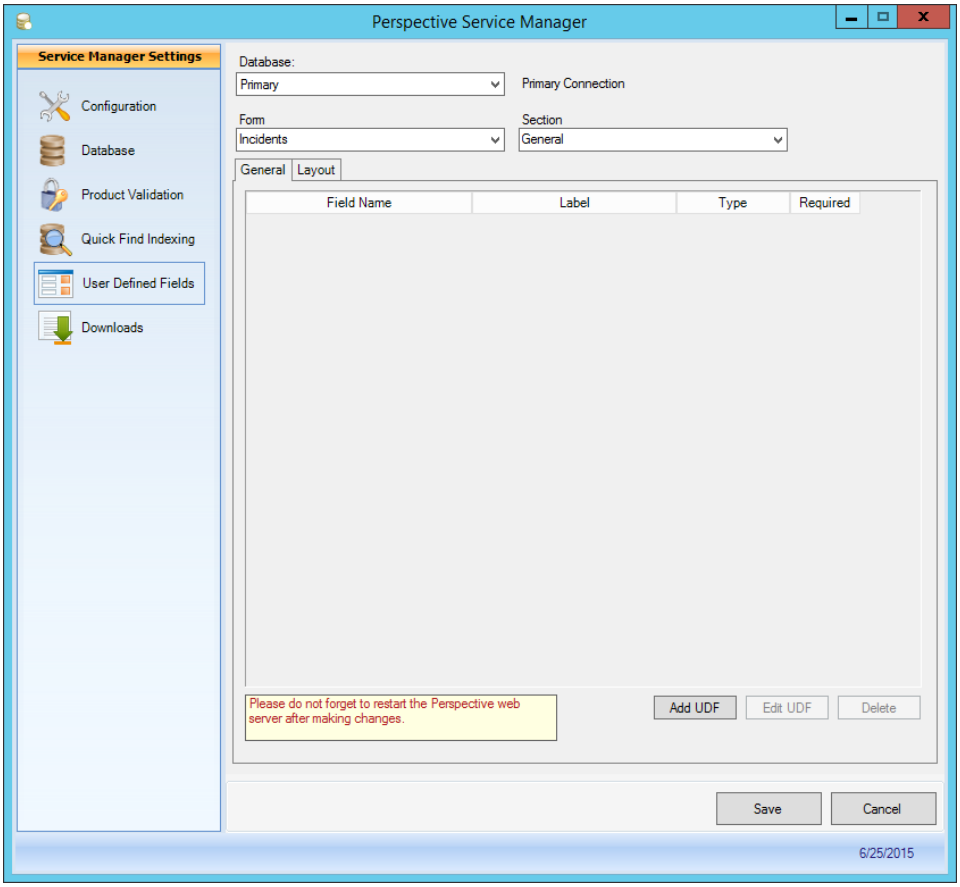
4. From the **Section** lookup list, select the specific section of the form that you would like the user defined field to appear in. For all forms except Incidents and Cases, the only option available is the General tab. For the Incidents form, you may choose the General, Investigations (Details) or Controls tab. For the Cases form, you may choose either the General or Controls tab.

    *Note: The Investigations tab is only available in the **ICM** and **EIM** versions of Perspective.*

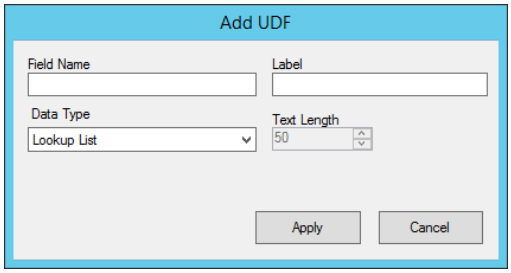
5. Click the **Add** button at the bottom of the window. An Add UDF dialog box will open.

6. Enter the new user defined field's name in the **Field Name** text box. Note that no special characters or spaces may be used—letters only. Then, assign the field its default System English **Label**. The System English label is what users will see on the Perspective form.

7. Choose the field type from the **Data Type** lookup list. The available field type options for UDFs are Number (for whole numbers), Decimal Number (for numbers with up to two decimal places), Text, Date, Yes/No (for a checkbox field) and Lookup List. If you selected Text as the data type, you may also specify the maximum number of characters that can be entered in the field under Text Length.



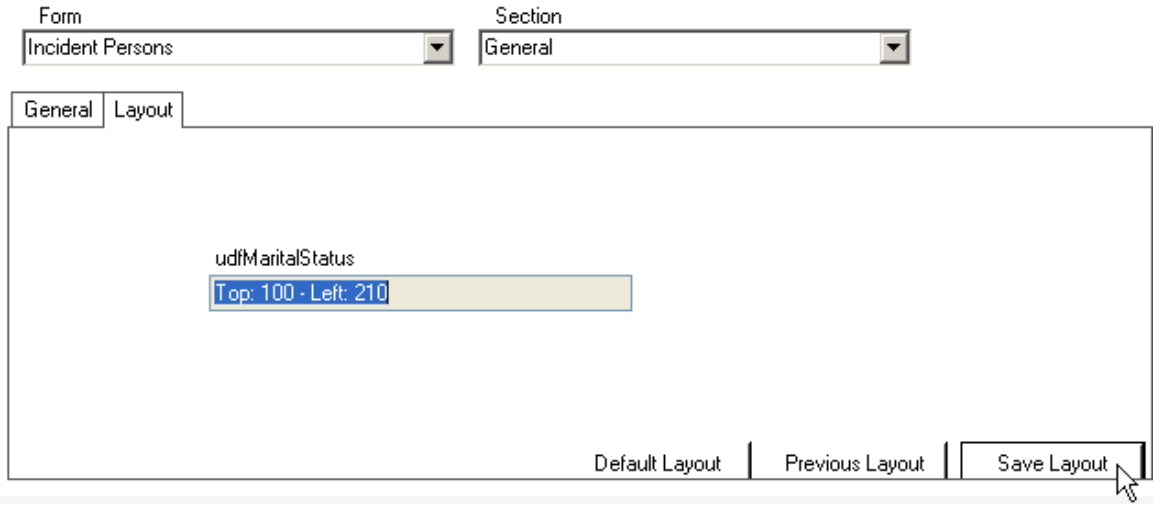
8. Click **Apply**. The user defined field's details will now appear under the General tab.



- To edit the user defined field, click the arrow to the left of the Field Name to select the entire row and click the **Edit** button. Make changes in the Edit UDF dialog box and click Apply.
- To delete the user defined field, click the arrow to the left of the Field Name to select the entire row and click the **Delete** button. A Delete UDF confirmation window will open warning you of potential loss of data. If you choose to delete the selected UDF and click Yes, any

data previously tracked in the UDF will be erased as well. Instead, it's recommended that you hide or lock the UDF within Perspective, if you no longer wish to use it to track data.

9. To view the user defined field with its default form location, select the **Layout** tab. The **Top** and **Left** values indicate the number of pixels that the UDF will be located from the top left corner of the User Defined Fields section of the form. The User Defined Fields section always appears at the bottom of the form.



- Click and drag the UDF label to move the UDF to an alternative location on the form. The entire scrollable window beneath the Layout tab is representative of the User Defined Fields section of the form. Click **Save Layout** to save the chosen UDF location on the form.
- At any time, you may click **Default Layout** to return the UDF to its original assigned position on the form. To return the UDF to its last saved location, click **Previous Layout**.

Troubleshooting Tips

Event Viewer

When an error occurs in your Perspective session, first check Event Viewer to see if it has been recorded here.

1. Go into **Windows Event Viewer**.
2. Click the **Windows Logs** folder.
3. Click the **Application** sub-folder. Most errors that have occurred in Perspective will be logged here.

Perspective Server

Ensure Perspective Services are set up

1. Open IIS manager, navigate to the Perspective Services Virtual Directory, and try to browse the **Service.asmx** file.
2. If the page that is displayed reads “Service”, the install was successful.

   If you get an error code page:

   a. Check the properties of the Perspective Services Directory and ensure it is running under Microsoft .NET 4.0 on the ASP.NET tab.

   b. Re-install Microsoft .NET 4.0 with ISS using the following command line: *C:\WINDOWS\Microsoft.NET\Framework\v4.0.30319\aspnet_regiis.exe*

Connect to the database using ODBC

1. Select *Control Panel > Administrative Tools > Data Sources (ODBC)*, and open the **System DSN** tab.
2. Click **Add** to create a data source, select **SQL Server**. Click Finish.
3. Enter the name “Perspective” and select the name of your SQL Server.
4. If your Perspective database is using SQL authentication, select the SQL server authentication option and enter your SQL login credentials.
5. Click **Finish**, and then click **Test Data Source**.

Test the application pool

An application pool is used to connect to the database server. To test if there is an issue with the Web application pool, change the account to **Network Services** and see if it runs. If you are using Windows Authentication for your Perspective database, change the application pool to the same one used for your database. Reset the application pool, and then launch Perspective and try to login.

Restart IIS

Right-click your Computer icon and select **Manage**. Expand the **Services and Applications** folder and right-click **Internet Information Services (IIS)**. Select **All Tasks**, then restart IIS and click OK. Another way to restart IIS is to run the command line *issreset* from the Start menu.

Database Server

Ensure that the database login account has been assigned DBO access rights

1. In Enterprise Manager, select *Security* > *Logins*.
2. Double-click the domain user account that the Perspective server uses to connect to the database (e.g., the test account “PerspectiveDBCon”).
3. On the **Database Access** tab, select the Perspective database and ensure that **dbo** access is assigned.

Ensure that your database is in compatibility mode for a SQL version other than SQL 2000

In the Compatibility Settings in your SQL Database, ensure that your database is in compatibility mode for a SQL version **other than SQL 2000**. If it is not, follow the steps below:

1. Open the Microsoft SQL Management Studio and expand **Databases**.
2. Right-click on your Perspective Database and select **Properties**.
3. On the left-hand column, select **Options**.
4. In the Compatibility level field, select **SQL 2008**.

Reporting Services Server

For assistance and information on setting up **SQL Reporting Services**, view the deployment guide on Microsoft’s Web site: http://technet.microsoft.com/en-us/library/ms159868(SQL.90).aspx

Check the version of the Microsoft .NET Framework

If .NET Framework 3.5 is enabled on the machine, only client-side components of Reporting Services will be installed. If necessary, remove the .NET Framework 3.5 before installing Reporting Services, and re-install 3.5 afterwards using the following command line: *C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe*

Specify path for .bat file

1. Using the Windows Start menu's Search function, search for the **rs.exe** file.
2. Place a copy of the rs.exe file in the *Perspective Install* > *Reports Setup* folder.

Perspective Client

Connect to the Web site

Open your Web browser and enter the following URL:

http://<IIS Server Name>/PerspectiveServices/Service.asmx

Ensure SQL login account is configured properly

The SQL login account (e.g., the test account "PerspectiveDBCon") needs permissions.

Troubleshoot Windows authentication issues

1. Open up Perspective Service Manager, go to Database then Authentication – ensure Perspective is set to Windows Authentication.
2. In IIS, open the Default Web Site and your Perspective Services site.
3. Double-click the Authentication icon.
4. Ensure that:

   Windows Authentication is Enabled.

   Anonymous Authentication is Disabled.
5. Return to the previous screen and click Edit Permissions on the right side menu.
6. Open the Security tab, click Edit, and add appropriate Perspective Groups with View, Read, and Execute permissions.
7. Reset IIS once you have completed the steps to ensure the changes take place.
8. Test logging in with a User who is set up for Windows Authentication in Perspective.

9.

Troubleshoot application download issues

If the client machine's operating system is **Windows Vista**, **Windows 7, Windows 8**, clear the contents of the following folder: *C:\Users\<username>\AppData\Local\Apps\2.0*.

Note: If you delete the contents of the folders, all Click-Once applications will be deleted.

1. Browse to the Perspective Services URL: *http://<IIS server name>/PerspectiveServices*.
2. Click the **Launch Perspective** button to re-download the entire Perspective application.
3. In the dialog box that opens, click **Run**. The Perspective client will automatically launch.
4. Enter the Perspective Services URL (e.g., *http://IISServer/PerspectiveServices*), and click OK.

   Proceed to log on. If the problem persists, please contact PPM 2000 Technical Support at 1-877-776-2995 for assistance.

Error Messages

Error Message	Explanation
No Connection.	Perspective Client error
Solution • Launch the Perspective client from the Perspective server and attempt to logon. • Make sure the user account is a member of the IIS_WPG group on the Perspective server.	
Response is not well formed .XML.	Perspective Client error
Solution • May be due to a missing bracket or other formatting issue in the **Perspective_Default.config** file. • May also be a permissions issue. See your local Security Policy.	
Connection to the service not found/SQL Exception/Login failed for user.	Perspective Server error
Solution Ensure the application pool account has access to the database. The account that the Perspective server is using to connect to the database must be specified as the Application Pool identity, and requires membership in the IIS_WPG.	

Contact Information

Technical Support

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