

Introduction

American Innovations (AI) is pleased to announce version 1.9 of our Pipeline Compliance System Axis® software (PCS Axis®). This document explains how to install PCS Axis in a client/server network with support for replication (Figure 1).

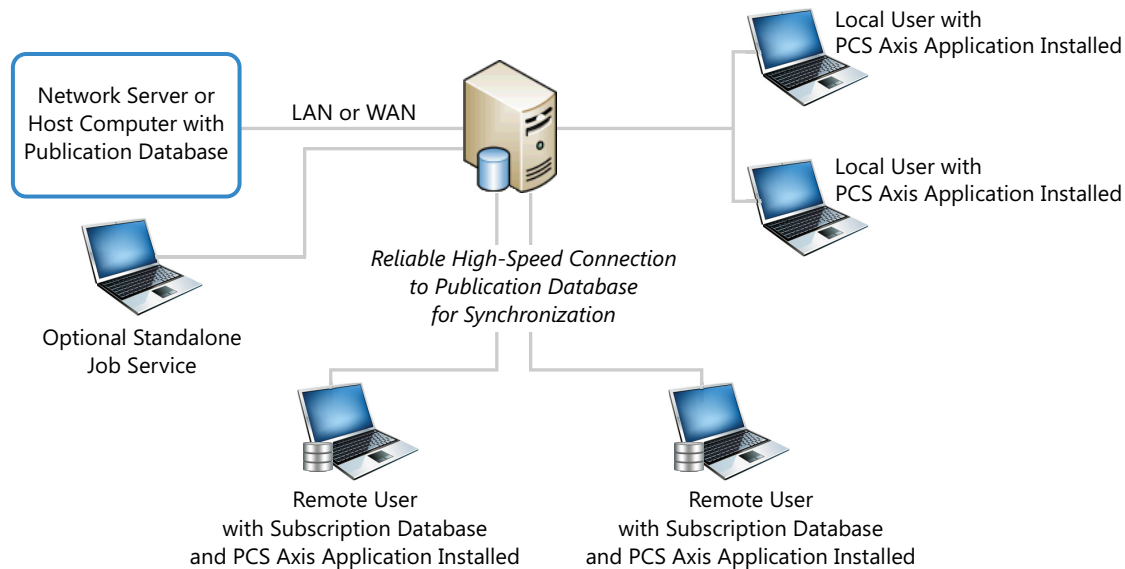


Figure 1. PCS Axis Client/Server Installation with Replication/Synchronization

Information in this document is intended for your company's IT System Administrator, Database Administrator (DBA), and PCS Axis Administrator.

IMPORTANT: The person who installs and sets up the PCS Axis database on the central database server must have full DBA privileges and be a member of the *sysadmin* fixed server role.

The following topics are covered in this installation guide:

- *PCS Axis Best Practices* (page 3)
- *Installation Overview* (page 10)
- *Installation Requirements* (page 12)
- *Adding the Local Domain User Group* (page 15)
- *Creating the Publication Share Folder* (page 16)
- *Restoring the PCS Axis Database and Creating the Publication* (page 19)

- *Running Fill Factor Reset and Creating a Database Maintenance Job* (page 20)
- *Creating a Login for the Publication Database and Setting Permission Roles* (page 21)
- *Installing the PCS Axis Job Service* (page 23)
- *Starting PCS Axis Job Service* (page 26)
- *Installing the PCS Axis Application on a Local Client Computer* (page 29)
- *Installing PCS Axis on a Subscriber's Computer (Remote Client)* (page 34)
- *Setting Up Users in PCS Axis (Local and Remote Clients)* (page 39)
- *Installation Checklist* (page 41)
- *Product Support and Training* (page 43)

If you have questions or need assistance with the installation, contact [PCS Technical Services](#) using the contact information on page 43.

PCS Axis Best Practices

PCS Axis Best Practices is a series of topics demonstrating best practices for setting up the PCS Axis[®] database and related services on a network server running Microsoft[®] SQL Server[®] 2008 R2. Topics include those in the following list:

- *Importing Large Amounts of Data in PCS Axis*
- *Running PCS Axis Job Service* (page 3)
- *Managing the PCS Axis Database* (page 5)
- *Running SQL Server (MSSQLServer) Service* (page 8)

Importing Large Amounts of Data in PCS Axis


Index fragmentation may occur in the PCS Axis database after importing large amounts of data using Bridge Import, Bullhorn Bridge, or Field Computer. Index fragmentation can result in slow system performance. The following list identifies best practice methods that can prevent index fragmentation:

- Enable the option *Reindex after import* in the Bridge definition of a Bridge Import or Bullhorn Bridge. See [PCS Axis Help](#) for more information.
- Create a scheduled database maintenance job on the central database server using the *Reindex Stored Procedure* provided with the PCS Axis installation file. For more information see *Running Fill Factor Reset and Creating a Database Maintenance Job* (page 20).

NOTE: SQL server maintenance jobs can only be created when running a full version of SQL server. SQL Server Express does not support this feature.

Running PCS Axis Job Service

Run the *PCS Axis Job Service* under a domain account or a SQL Server account with access to the server and PCS Axis database. To set up *PCS Axis Job Service*, follow these steps:

- 1 Click the Windows **Start** button  and navigate to *Computer*. Right-click **Computer** and select **Manage** in the shortcut menu to open the *Computer Management* console (Figure 2, page 4).
- 2 Double-click **Services and Applications** in the left pane of the console. Then click **Services** to display a list of services in the middle pane.

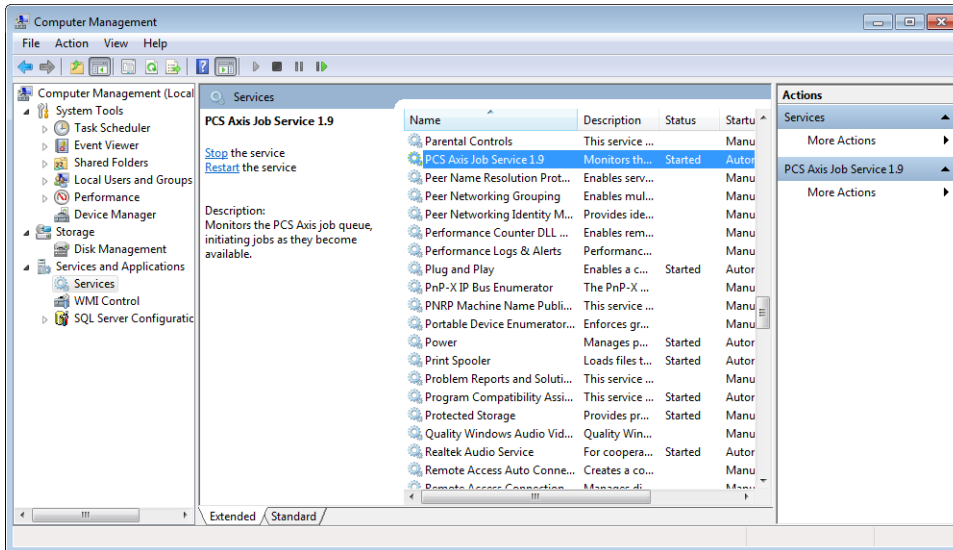


Figure 2. Computer Management Console

- 3 Right-click **PCS Axis Job Service 1.9** and select **Properties** in the shortcut menu to open the *Properties* dialog box. Click the **Log On** tab and select the option **This account** (Figure 3).

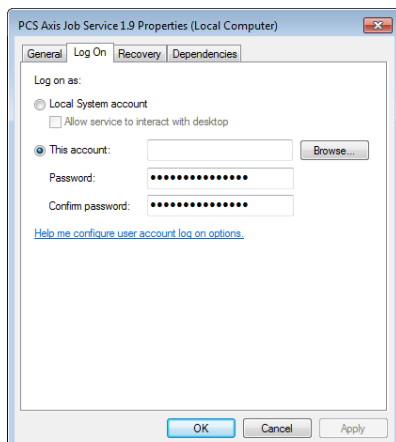


Figure 3. PCS Axis Job Service 1.9 Properties

- 4 Set up *PCS Axis Job Service* with a user account to log on as a service using a domain account or a SQL Server account with access to the server and PCS Axis database. Type the user name and password in the appropriate fields (*This account*, *Password*, *Confirm Password*). You can also view a list of appropriate user account by clicking *Browse > Advanced > Find Now*.

NOTE: The user account must be a member of the *Axis_Users* group and have access to the database server, PCS Axis database, and the Bullhorn server (www.bullhornsys.com).

- 5 Click **Apply** and then **OK** to close the *Properties* dialog box and return to the *Computer Management* console.
- 6 Click **File > Exit** to close the *Computer Management* console.

Managing the PCS Axis Database

Information in this section covers best practices for managing the PCS Axis database using Microsoft® SQL Server® Management Studio (SSMS). Topics include those in the following list:

- *Setting the Database Owner*
- *Recommended Autogrowth Setting* (page 6)

Setting the Database Owner

To prevent errors from occurring when migrating or restoring the PCS Axis database, or when establishing a connection, set the “Owner” of the database to the “sa” account. Follow these step to set the database “Owner:”

- 1 Start SQL Server Management Studio (SSMS). Click **Start > Microsoft SQL Server 2008 R2 > SQL Server Management Studio**.
- 2 Double-click the **Databases** folder in *Object Explorer* to open the folder.
- 3 Right-click the **PCS Axis database** and select **Properties** in the shortcut menu to open the *Database Properties* dialog box.
- 4 Select **Files** in the *Select a page* navigation panel.
- 5 Type **sa** in the *Owner* field (Figure 4, page 5) and click **OK** to save changes and close the dialog box.

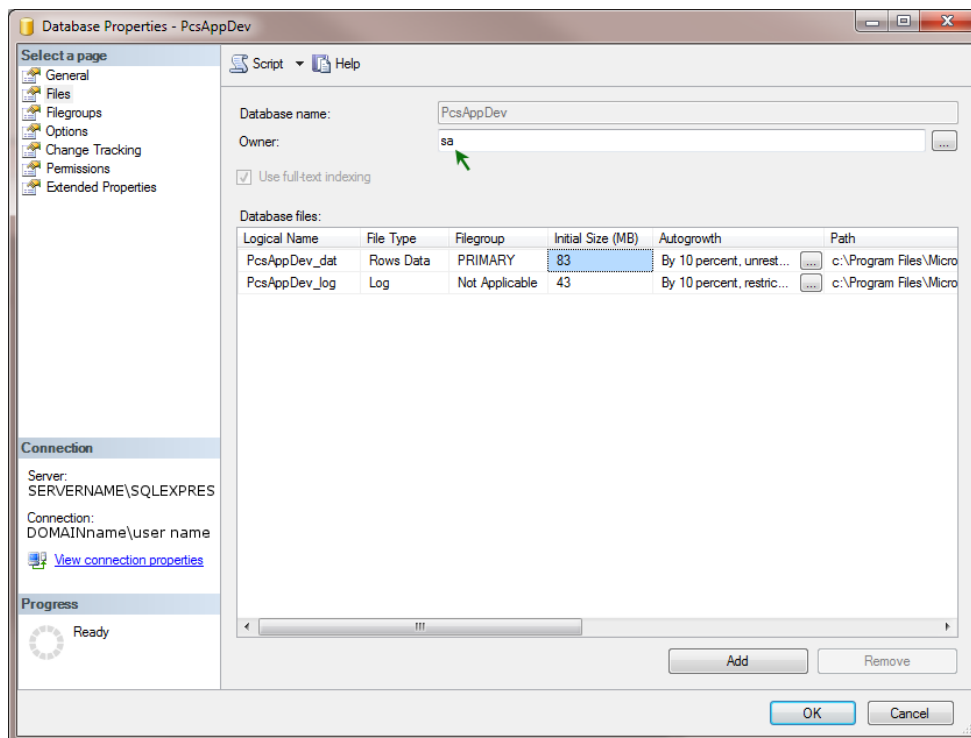


Figure 4. Database Owner

Recommended Autogrowth Setting

Information in this section applies to the PCS Axis database and log file. If you are running PCS Axis in a client/server network with synchronization, the information also applies to the publication and subscription databases.

Autogrowth indicates how much additional space is allocated when the PCS Axis database and log file require more space. Setting *Autogrowth* properties allow the PCS Axis database and log file to resize automatically based on a predetermined percentage. Because the database resizing process is a significant drain on computer resources, it is recommended that you set properties in a manner that does not require the database to constantly resize itself.

NOTE: When using PCS Axis with synchronization, set *Autogrowth* properties after you create the publication and subscription databases. Settings in the following procedure were chosen based on typical usage. Consult your DBA for appropriate settings for your environment.

To set *Autogrowth* properties for the database (*_dat*) and log (*_log*) files, follow these steps:

- 1 Start SSMS. Click **Start > Microsoft SQL Server 2008 R2 > SQL Server Management Studio**.
- 2 Double-click **Databases** in *Object Explorer*.
- 3 Right-click the PCS Axis database and select **Properties** in the shortcut menu to open the *Database Properties* dialog box.
- 4 Click **Files** in the *Select a page* navigation panel (Figure 5).

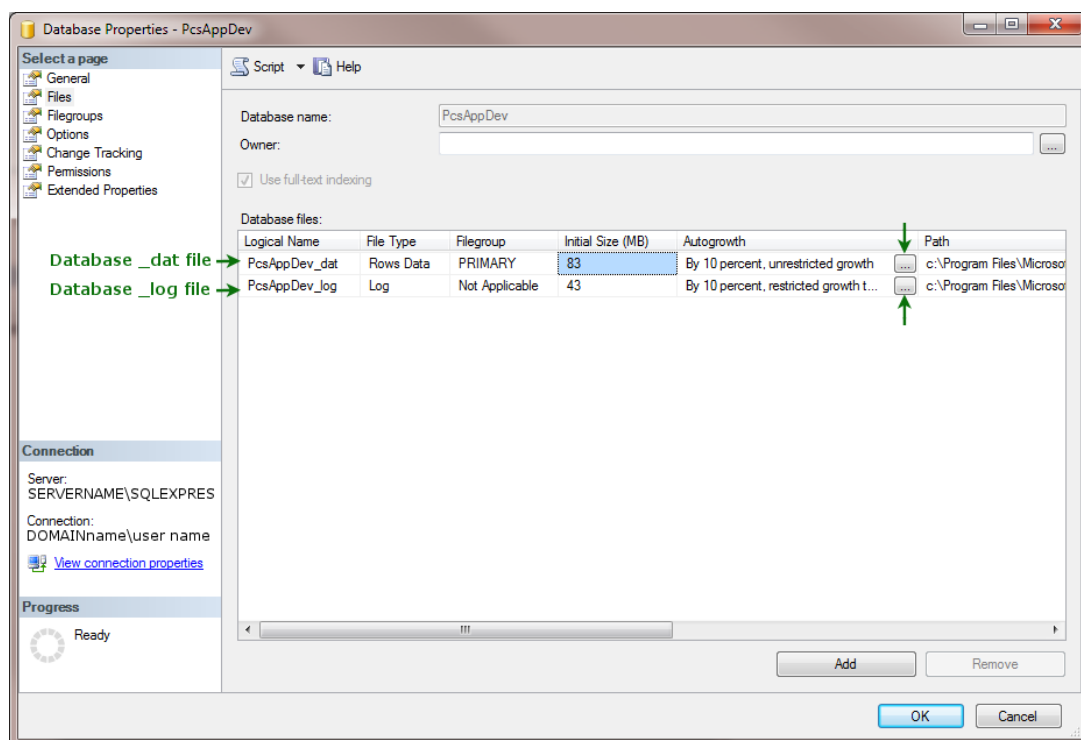


Figure 5. Files - Database Properties

- 5 Complete the following steps to set *Autogrowth* properties for the database (*_dat*) and log (*_log*) files:
 - a Click the ... ellipsis button in the *Autogrowth* column of the database *_dat* file to open the *Change Autogrowth* dialog box (Figure 6).
 - b Click the **Enable Autogrowth** check box to place a check mark inside the check box.
 - c For the *File Growth* property setting, select the option **In Percent** and then type **10** in the adjacent field. This property setting automatically allocates 10% additional space when the database requires more space.
 - d Click **OK** to close the *Change Autogrowth* dialog box.
 - e Repeat step 5 for the database *_log* file.
 - f Click **OK** to close the *Database Properties* dialog box. Then click **File > Exit** to exit SSMS.

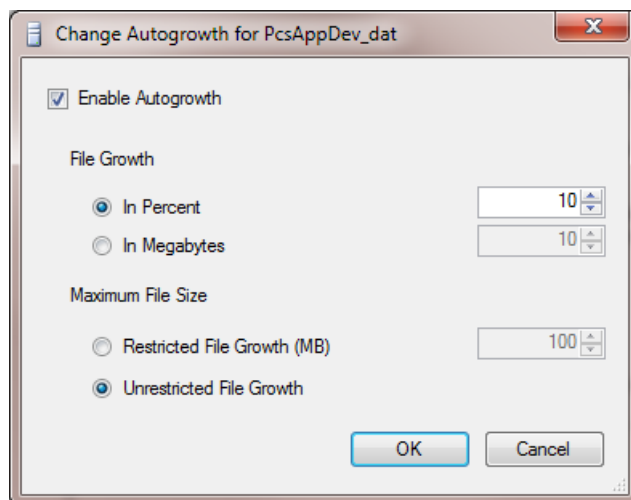



Figure 6. *Change Autogrowth*

Running SQL Server (MSSQLSERVER) Service

Run the Windows *SQL Server (MSSQLSERVER)* service under a domain account with access to the PCS Axis database. To set up the service, follow these steps:

- 1 Click the Windows **Start** button  and navigate to *Computer*. Right-click **Computer** and select **Manage** in the shortcut menu to open the *Computer Management* console (Figure 7).
- 2 Double-click **Services and Applications** in the left pane of the console. Then click **Services** to display a list of services in the middle pane.

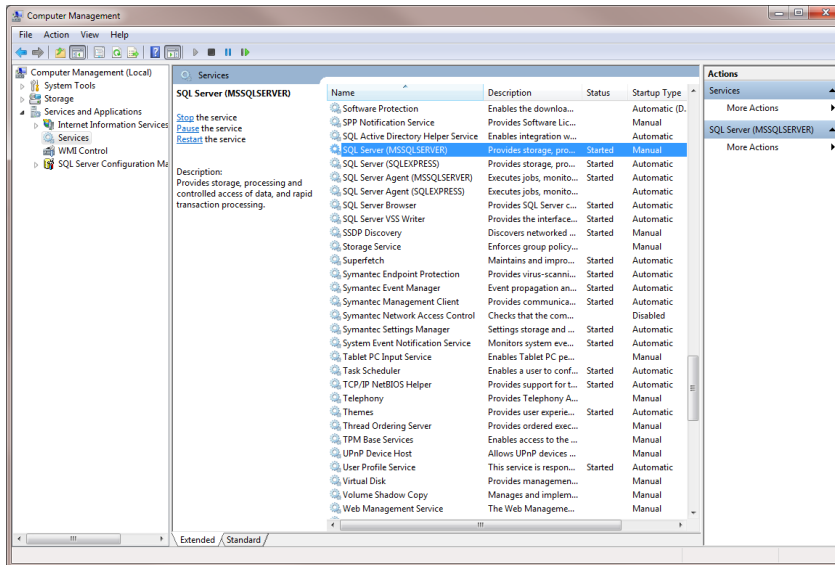


Figure 7. Computer Management Console

- 3 Right-click **SQL Server (MSSQLSERVER)** and select **Properties** in the shortcut menu to open the *Properties* dialog box (Figure 8).

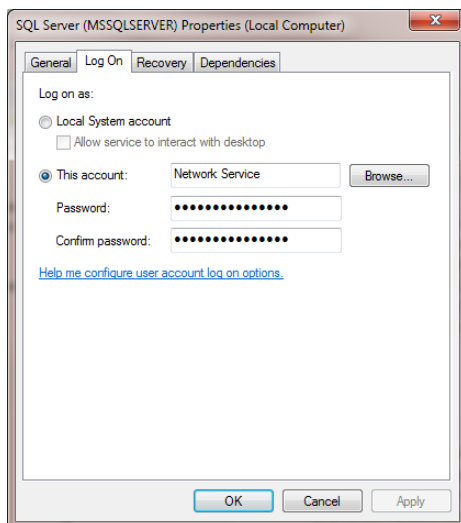


Figure 8. SQL Server (MSSQLSERVER) Properties

- 4 Click the **Log On** tab and select the option **This account**.
- 5 Set up *SQL Server (MSSQLSERVER)* with a user account to log on as a service using a domain account with access to the PCS Axis database. Type the user name and password in the appropriate fields (*This account, Password, Confirm Password*). You can also view a list of appropriate user account by clicking *Browse > Advanced > Find Now*.
- 6 Click **Apply** and then **OK** to close the *Properties* dialog box and return to the *Computer Management* console.
- 7 Click **File > Exit** to close the *Computer Management* console.

Installation Overview

Installation tasks covered in this document include those described in the following list and are intended for your company's IT System Administrator, Database Administrator (DBA), and PCS Axis Administrator.

NOTE: The term *central database server* is used in this document to refer to a network server or host computer.

IT System Administrator Tasks

- Run *Windows Computer Management* on the central database server to create a local domain user group named *Axis_Users*. Add all PCS Axis users (local and remote clients) in the *Axis_Users* group with appropriate permissions to access the central database server. See *Adding the Local Domain User Group* (page 15).
- Use Windows Explorer on the central database server to create a share folder for the publication snapshot files. These files are a "snapshot" of the publication database and are created at the time the publication is created. Set the share folder with read/write permissions for the *Axis_Users* group. See *Creating the Publication Share Folder* (page 16).

NOTE: Remaining tasks are completed after Database Administrator (DBA) tasks are completed.

- Install the *PCS Axis Job Service* on the same server as the publication database or on a separate network server. See *Installing the PCS Axis Job Service* (page 23).
- Start *PCS Axis Job Service*. See *Starting PCS Axis Job Service* (page 26).
- Install the PCS Axis application on the local computer of the PCS Axis Administrator and all other users (local and remote clients). Use *Connection Manager* during the installation to set the server and database connection to the publication database on the central database server. See *Installing the PCS Axis Application on a Local Client Computer* (page 29) and *Installing PCS Axis on a Subscriber's Computer (Remote Client)* (page 34).
- Install the following items on the computer of all PCS Axis subscribers (remote clients). See *Installing PCS Axis on a Subscriber's Computer (Remote Client)*, page 34.
 - Microsoft® SQL Server® Express 2008 R2 SP2, 64-bit version
 - PCS Axis application

Database Administrator Tasks

- Restore the PCS Axis database on the central database server using the backup file provided by PCS Technical Services. Run the PCS Axis application to create the publication database on the central database server. See *Restoring the PCS Axis Database and Creating the Publication* (page 19).

IMPORTANT: If someone other than your company's Database Administrator (DBA) plans to restore the PCS Axis database and create the publication database, this person must have full DBA privileges and be a member of the *sysadmin* fixed server role to successfully complete the database tasks on the central database server.

- Run the *Fill Factor Reset* script labeled *Defrag Fill Factor Reset Post Deployment.SQL* to reset the fill factor limit of the PCS Axis database. The *Fill Factor Reset* script is included in the PCS Axis download package provided by PCS Technical Services. Run this script after installing or upgrading the publication database as well as creating one or more subscription databases. See *Running Fill Factor Reset and Creating a Database Maintenance Job* (page 20).
- Create a scheduled database maintenance job on the central database server using the *Reindex Stored Procedure* labeled *dbo.DefragmentIndexes*. The stored procedure is included in the PCS Axis download package provided by PCS Technical Services. See *Running Fill Factor Reset and Creating a Database Maintenance Job* (page 20).

NOTE: SQL server maintenance jobs can only be created when running a full version of SQL server. SQL Server Express does not support this feature.

- Create a new SQL login labeled *Axis_Users* for the publication database. Set permission roles for the *Axis_Users* login. See *Creating a Login for the Publication Database and Setting Permission Roles* (page 21).

PCS Axis Administrator Tasks

Run the PCS Axis application to: add all PCS Axis users in *User Management*; add all subscribers in *Synchronization Configuration* (remote clients); and then set up the subscription database on the computer of all subscribers. See *Setting Up Users in PCS Axis (Local and Remote Clients)*, page 39.

Installation Requirements

Before installing PCS Axis, verify the items in the following list are available. Also verify the central database server and the local client and subscriber computers meet the system requirements identified in Table 1 through Table 2 (pages 13-14).

- *PCS Axis License File*: The installation process prompts you for the PCS Axis license file provided by AI.
- *Bridge Import License File*: If your company purchased the optional Bridge add-on to import data from a third-party application, activating Bridge import for operation requires the license file provided by AI.

NOTE: A Bridge license file is not required to import data from Bullhorn® Asset Tracker (BAT™) or export data from PCS Axis. You can maintain all PCS Axis licenses for your organization in the same shared folder location. PCS Axis will request the file and location the first time each user opens the PCS Axis application. The Bridge activation key is assigned only once for the PCS Axis database; once it is assigned it functions for all users.

- *PCS Axis Installation File*: Install PCS Axis using either the installation DVD provided by AI or the installation file downloaded from a location identified in an email from PCS Technical Services.
- *System Requirements*: Verify the central database server and the local client and subscriber computers meet the system requirements identified in Table 1 through Table 2 (pages 13-14).

Table 1. Local Client Computer Requirements

Properties	Recommended
Processor	Intel Core i7
Processor Speed	2.3 GHz or faster
RAM	8 GB
Operating System	Windows 7 64-bit, Service Pack 1 (SP1)
Available Disk Space	720 MB (see note)
Resolution	1920x1080
Microsoft .NET Framework	Version 4.5 (see note)

NOTES:

- *Microsoft .NET Framework*: If the target computer does not have Microsoft .NET Framework v4.5 installed, the PCS Axis installation automatically installs it for you. This feature requires an active Internet connection to complete the installation of .NET Framework v4.5.
- *PCS Axis Installation*: By default, only the PCS Axis application is selected for installation on the computer of local clients in a client/server network. See Table 2 (page 14) for information about the system requirements for installing the PCS Axis database and job service on the central database server.
- *Microsoft SQL Server Express 2008 R2 SP2, 64-bit*: For client systems that wish to use Synchronization, a 64-bit version of Microsoft SQL Server 2008 Express R2 SP2 (or Standard edition for databases exceeding 10 GB) must be installed on the subscriber's computer (the remote client). Once PCS Axis is installed, a subscription database must be created on the subscriber's computer prior to working off-line.
- *Disk Space with Synchronization*: If using a remote client to subscribe to and synchronize with a central database, sufficient disk space must be reserved for database use (11 GB when using Microsoft SQL Server 2008 Express).

Table 2. Dedicated Central Database Server Requirements

Properties	Recommended
Processor	Intel Xeon
Processor Speed	2 Quad Core CPUs at 2.4 GHz or faster
RAM	32 GB (see note)
Operating System	Windows Server 2008 R2
Relational Database Software	SQL Server 2008 R2
Available Disk Space	100 GB (see note)
Resolution	1920x1080

NOTES:

- Larger databases may require more RAM for optimum performance.
- Hosting the PCS database on a shared SQL server may result in poor performance.
- Consult with your company's IT personnel or DBA to determine where database backups will be created.
- The PCS Axis database installs on the central database server. If selected in *Setup Wizard* during the installation, the PCS Axis application and job service can install on the central database server as well. For local client and subscriber computer requirements, see Table 1 (page 13).

Adding the Local Domain User Group

Information in this section explains how to add a local domain user group on the central database server labeled *Axis_Users*. By adding the *Axis_Users* group, all PCS Axis users will have access to the server. The following information is intended for the IT System Administrator.

Complete the following steps on the central database server:

- 1 Open *Computer Management*. Click **Start > Administrative Tools > Computer Management**.
- 2 Click to expand **System Tools** and then **Local Users and Groups** in the navigation tree.
- 3 To add the local domain user group labeled *Axis_Users*, follow these steps:
 - a Right-click **Groups** and select **New Group** in the shortcut menu to open the *New Group* dialog box (Figure 9).
 - b Type **Axis_Users** in the *Group name* field and a description for the user group in the *Description* field.
 - c Click **Add > Advanced > Find Now** to view a list of user names. Add all PCS Axis users in the *Axis_Users* group (local and remote users).
 - d Click **Create** and then click **Close** to close the dialog box.
- 4 Continue the installation with the next section titled *Creating the Publication Share Folder* (page 16).

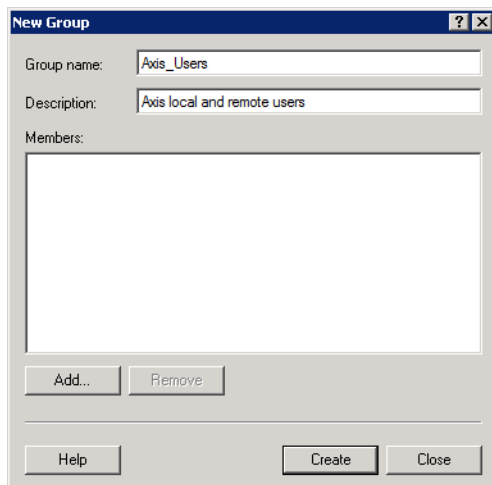


Figure 9. *Axis_Users* Local Domain User Group

Creating the Publication Share Folder

Information in this section explains how to create a share folder for the publication snapshot files and then configure the share folder with read/write permissions for the *Axis_Users* group created earlier (page 15). The following information is intended for the IT System Administrator.

Complete the following steps:

- 1 Add a new folder on the central database server labeled *AxisSnapshot* or something similar.
- 2 Right-click the share folder and select **Properties** in the shortcut menu to open the folder *Properties* page.
- 3 Click the **Sharing** tab, then click **Share** to open the *File Sharing* dialog box (Figure 10).
- 4 Share the folder with the local domain user group labeled *Axis_Users* by clicking the down arrow and selecting **Axis_Users** in the selection list. Then click **Add**.

If the group name *Axis_Users* does not appear in the selection list:

- a Select **Find People** in the selection list to open the *Select Users or Groups* dialog box.
- b Click **Object Types** to open the *Object Types* dialog box.
- c Click the **Group** check box, then click **OK** to return to the *File Sharing* dialog box.
- d Select **Axis_Users** in the selection list, then click **Add**.

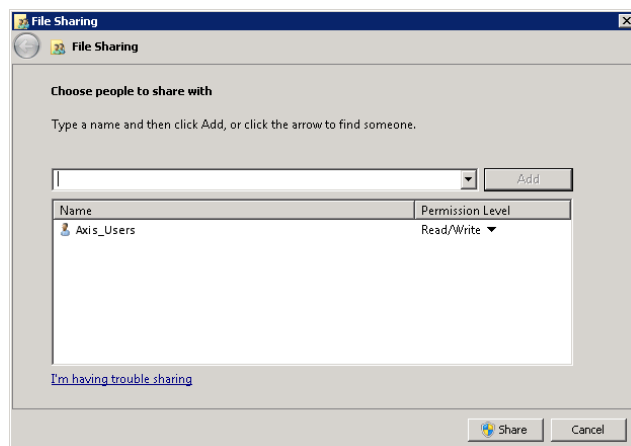


Figure 10. Publication Share Folder

- 5 Assign the *Axis_Users* group *Read/Write* permissions. Select **Axis_Users**, then click **Read/Write** in the shortcut menu that opens.
- 6 Click **Share** to share the folder and close the *File Sharing* dialog box.
- 7 Click **Advanced Sharing** in the *Sharing* tab of the *Properties* dialog box to open the *Advanced Sharing* dialog box (Figure 11, page 17).

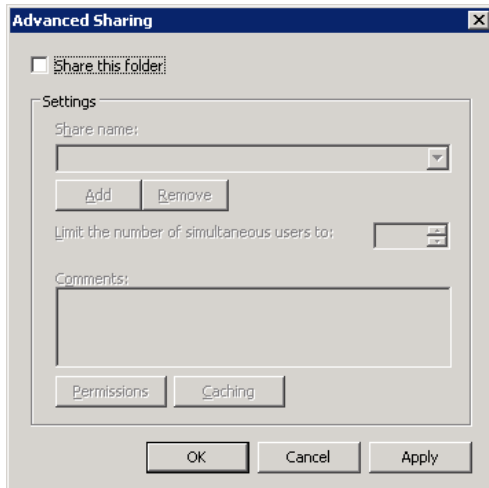


Figure 11. Advanced Sharing

- 8 Click the check box **Share this folder** and then click **Permissions** to open the *Permissions* dialog box (Figure 12).
- 9 Select **Axis_Users** in the *Group or user names* group box. Then click the **Allow** check boxes for **Full Control**, **Change**, and **Read** in the *Permissions* group box. A check mark inside an *Allow* check box indicates the permission has been granted as shown in the following figure (Figure 12).
- 10 Click **Apply** and then **OK** to close the *Permissions* dialog box.
- 11 Click **Apply** and then **OK** to close the *Advanced Sharing* dialog box. Then click **Close** to close the *Properties* dialog box.

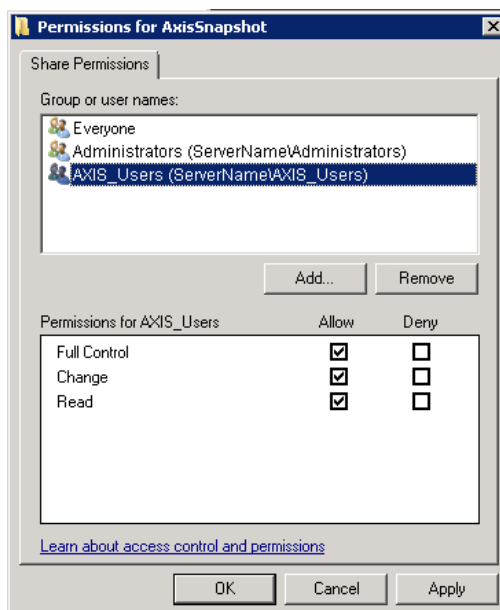


Figure 12. Permissions

- 12 Complete the following steps to assign *Network Service* permissions in the *Security* tab of the *Properties* page:
 - a Click the **Security** tab in the *Properties* page. Then click **Edit** to open the *Permissions* dialog box (Figure 13).
 - b Select **NETWORK SERVICE** in the group box labeled *Group or user names*.
 - c In the group box labeled *Permissions for NETWORK SERVICE*, click the **Allow** check box for **Full control** to place a check mark inside the check box.
 - d Click **OK** to close the dialog box. Then click **Close** to close the *Properties* page.
- 13 After the Database Administrator restores the PCS Axis database on the central database server (see page 19), continue the installation with the section entitled *Installing the PCS Axis Job Service* (page 23).

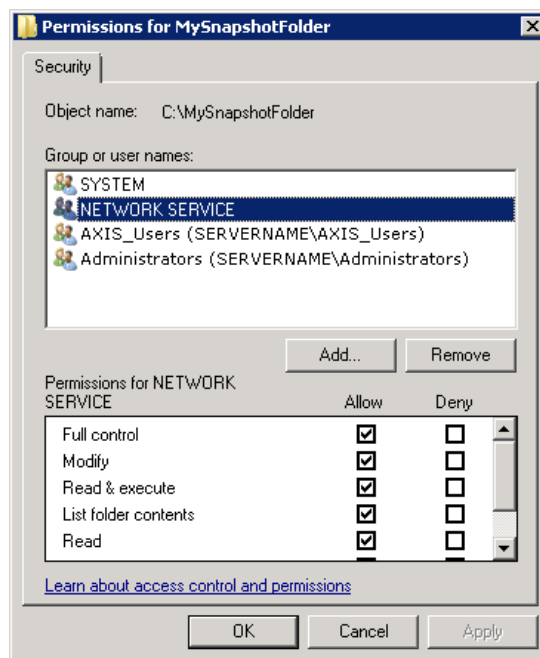


Figure 13. Security / Network Service Permissions



Restoring the PCS Axis Database and Creating the Publication

Information in this section is intended for the Database Administrator. The information explains how to:

- Restore the backup file of the PCS Axis database on the central database server.
- Run the PCS Axis application to create the publication database on the central database server.
- Create a new login labeled *Axis_Users* for the publication database. Then set permission roles for the *Axis_Users* login.

NOTE: During the publication creation process, PCS Axis also assigns the *Axis_Users* login read/write permissions to the distribution database.

Complete the following steps:

- 1 Start SQL Server Management Studio (SSMS). Restore the PCS Axis database on the central database server using the database backup file provided by PCS Technical Services.
- 2 After the IT System Administrator installs the PCS Axis application on your local computer, complete the following steps to create the publication database:
 - a Start PCS Axis. Click the Windows  **Start** button, then click **All Programs** >  **PCS Axis 1.9**.
 - b Click **Tools** > **Options** > **Synchronization**.
 - c In the field **Synchronization User Group Name**, type your company's *domain name* and the name of the local domain user group created earlier labeled *Axis_Users* using the format *Domain Name\Axis_Users*. Click **Save** and then close the *Options* window.
 - d Click **Tools** > **Synchronization** > **Create Publication** to open the *Create Publisher* dialog box (Figure 14).

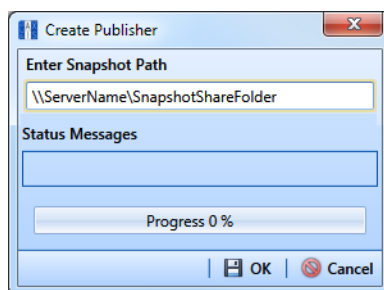




Figure 14. Create Publisher

- e Type the server path to the share folder used for the publication snapshot in the field **Enter Snapshot Path** using the format `\\ServerName\SnapshotShareFolder`.
- f Click  **OK** to create the publication and add snapshot files in the share folder.
- g Click  **OK** when the message *Publisher Creation Complete* displays. Then continue with the next section *Running Fill Factor Reset and Creating a Database Maintenance Job* (page 20).

Running Fill Factor Reset and Creating a Database Maintenance Job

Information in this section is intended for the Database Administrator (DBA). The information explains how to complete the following tasks on the central database server after installing or upgrading the PCS Axis database:

- Run the *Fill Factor Rest* script labeled *Defrag Fill Factor Reset Post Deployment.SQL* to reset the fill factor limit of the publication database.
- Use the *Reindex Stored Procedure* labeled *dbo.DefragmentIndexes* to create a scheduled database maintenance job. The stored procedure is intended to optimize system performance by reorganizing and defragmenting the indexes in the PCS Axis database.

IMPORTANT: Schedule the database maintenance job to run daily or once a week during an off-peak time. Scheduling the database maintenance job at regular intervals will ensure optimum system performance.

Complete the following steps:

- 1 Start SQL Server Management Studio (SSMS). Click **Start > All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio**.
- 2 Use SSMS to run the *Fill Factor Reset* script labeled **Defrag Fill Factor Reset Post Deployment.SQL** on the PCS Axis database.
- 3 Use SSMS to create a scheduled database maintenance job for the PCS Axis database using the *Reindex Stored Procedure* labeled **dbo.DefragmentIndexes**. Set the job to run daily or once a week during an off-peak time.

IMPORTANT: AI recommends running the stored procedure daily or once a week during non-peak hours.

For a best practice guide in creating database maintenance jobs, visit the Microsoft website at [http://technet.microsoft.com/en-us/library/ms187658\(v=sql.105\).aspx](http://technet.microsoft.com/en-us/library/ms187658(v=sql.105).aspx).

- 4 Exit SSMS.

Creating a Login for the Publication Database and Setting Permission Roles

Information in this section explains how to create a new login labeled *Axis_Users* for the publication database and then set database permissions for the new login. The information is intended for the Database Administrator.

NOTE: During the publication creation process, PCS Axis assigns the *Axis_Users* login read/write permissions to the distribution database. See *Restoring the PCS Axis Database and Creating the Publication* (page 19) for more information.

Complete the following steps:

- 1 Start SQL Server Management Studio (SSMS). Connect to the central database server and then switch to the PCS Axis publication database.
- 2 Click to expand **Security**, then **Logins** in the navigation tree of *Object Explorer*. Right-click **Logins** and select **New Login** in the shortcut menu to open the *Login-New* dialog box (Figure 15).

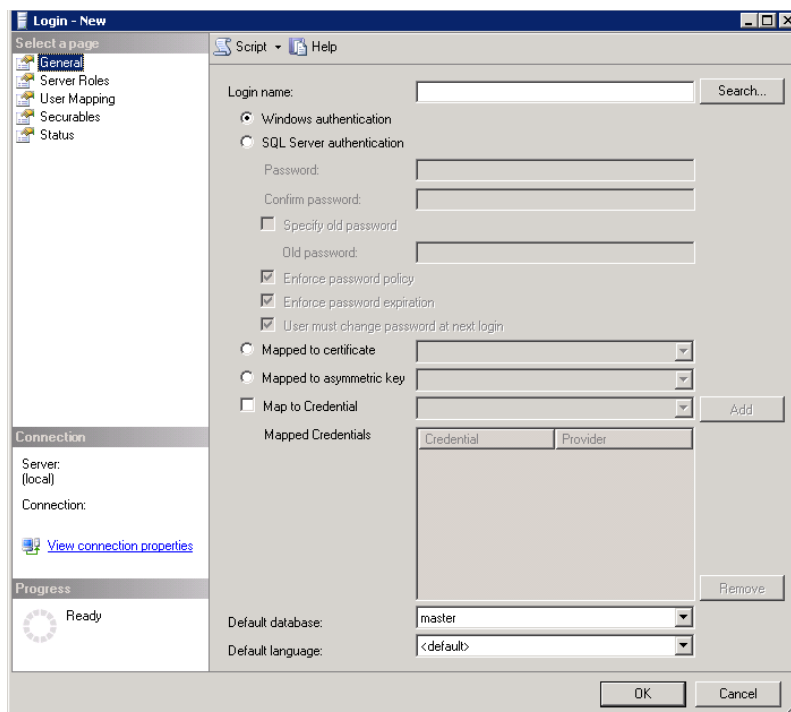


Figure 15. *Login-New*

- 3 Set the following properties in the *General* page:
 - a Type **Axis_Users** in the *Login name* field. If the group name *Axis_Users* does not appear in the selection list, complete the following steps:
 - (1) Select **Find People** in the selection list to open the *Select Users or Groups* dialog box.
 - (2) Click **Object Types** to open the *Object Types* dialog box.
 - (3) Click the **Group** check box, then click **OK** to return to the *File Sharing* dialog box.
 - (4) Select **Axis_Users** in the selection list, then click **Add**.
 - b Enable the option **Windows authentication** if it is not enabled.
 - c Verify **master** is selected in the *Default database* field.
- 4 Click **Server Roles** in *Select a page* and enable the **public** check box.
- 5 Click **User Mapping** in *Select a page* and enable the following properties:
 - a In the group box *Users mapped to this login*, enable the **PCS Axis publication database**.
 - b In the group box *Database role membership for*, enable the following properties:
 - o Axis_Users
 - o db_datareader
 - o db_datawriter
 - o db_ddladmin
 - o db_owner
 - o public
 - c Click **OK** to save settings and close the *Login-New* dialog box.

Tasks performed by the Database Administrator are now complete.

Installing the PCS Axis Job Service

The following information is intended for the IT System Administrator. It explains how to install the *PCS Axis Job Service* on a network server. You can install the service either on the same server as the publication database or on a separate network server.

Complete the following steps:

- 1 If you are using the installation DVD to install PCS Axis, insert the DVD in the DVD/CD-ROM drive of the computer. Open Windows Explorer to view the contents of the installation DVD.

If you previously downloaded the installation file using a link in an email from PCS Technical Services, navigate to the location of the installation file.

NOTE: A single installation file labeled *setup.exe* is used to install PCS Axis on a 32-bit and 64-bit computer. If the target computer does not have Microsoft .NET Framework v4.5 installed, the PCS Axis installation automatically installs it. This feature requires an active Internet connection to complete the installation of .NET Framework v4.5.

- 2 Double-click the **setup.exe** installation file to open the PCS Axis dialog box (Figure 16).

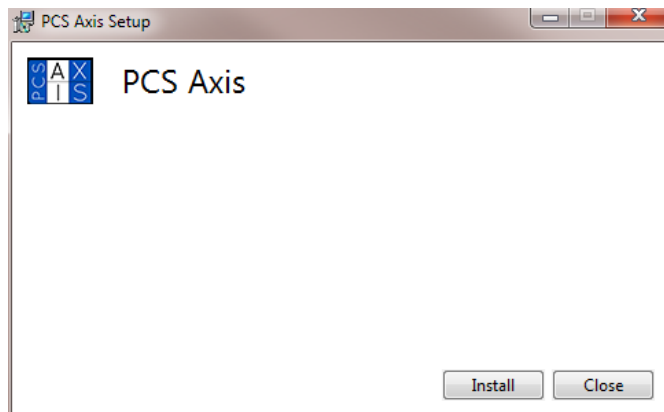


Figure 16. PCS Axis Installation

- 3 Click **Install** in the PCS Axis dialog box to open *Setup Wizard* (Figure 17, page 24).
- 4 Click **Next** to read the *End-User License Agreement*. To accept the license agreement, click the check box **I accept the terms in the License Agreement** to place a check mark inside the check box.

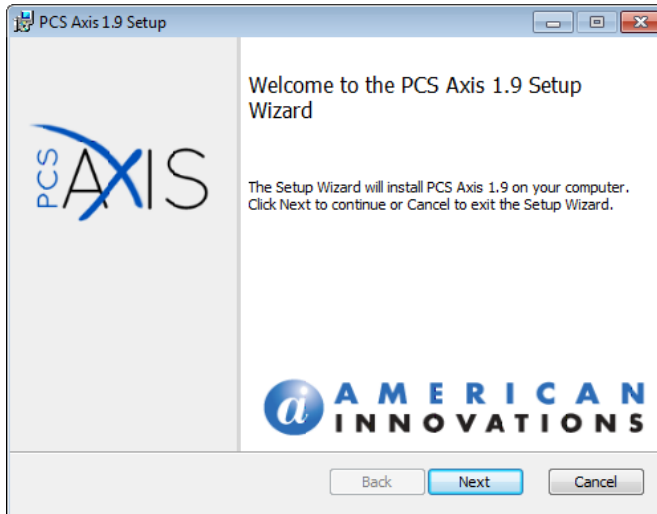




Figure 17. Setup Wizard

- 5 Click **Next** to display *Custom Setup* (Figure 18).
- 6 By default the PCS Axis application is selected for installation. If you are working on the central database server and do not want to install the application on the server, click the down arrow in  **PCS Axis** and select the option **Entire feature will be unavailable**.
- 7 By default the *PCS Axis Job Service* is not selected for installation. To install the service on the server, click the down arrow in  **PCS Axis Job Service** and select the option **Entire feature will be installed on local hard drive**.
- 8 Click **Next** and then click **Install** to begin the installation.

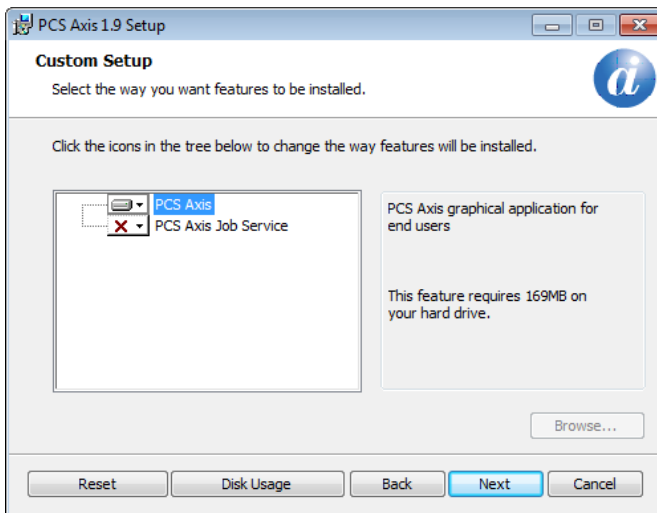





Figure 18. Custom Setup

When the installation completes and after a short delay, *Connection Manager* opens automatically on top of *Setup Wizard* (Figure 19).

- 9 Complete the following steps in *Connection Manager* to set *Server* and *Database* settings:
 - a Type the name of the central database server in the **Server** field. Or click **Select** in the *Server* field to select the server in the *Select Server* dialog box.
 - b Type the name of the publication database in the **Database** field. Or click **Select** in the *Database* field to select the database in the *Select Database* dialog box.
 - c Click  **Test** to verify the connection to the server and database. When the message *Connection successful displays*, click  **OK** to close the message.
 - d Click  **Save and Close** to exit *Connection Manager*.
- 10 Click **Finish** in *Setup Wizard* and then click **Close** in the PCS Axis dialog box to close the PCS Axis installation file (*setup.exe*).
- 11 Installation of the *PCS Axis Job Service* is now complete. Continue with the next section to start the service (page 26).

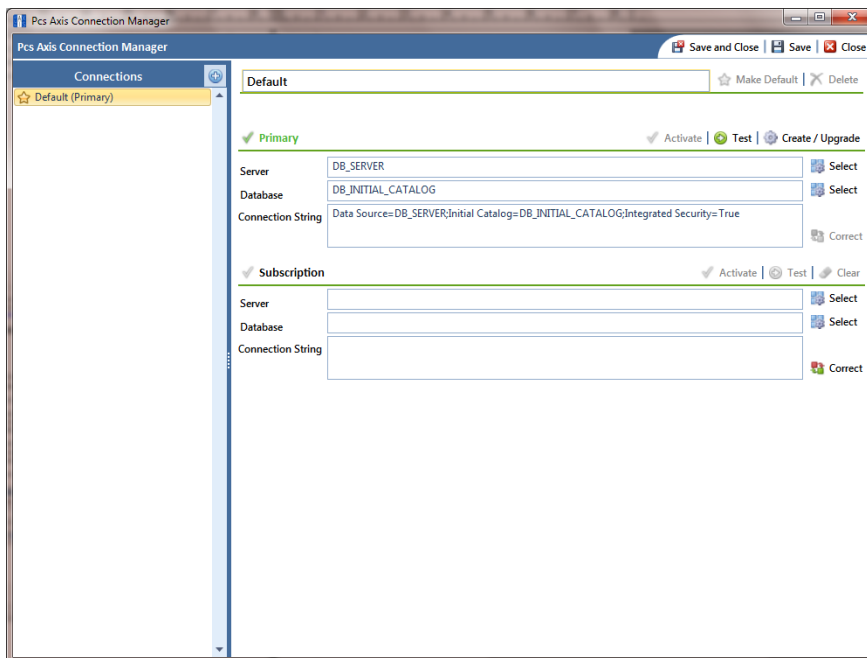



Figure 19. *Connection Manager*

Starting PCS Axis Job Service

The purpose of *PCS Axis Job Service* is to monitor the PCS Axis job queue and initiating jobs as they become available. The following procedure explains how to use Windows Services to start *PCS Axis Job Service*. The information is intended for the IT System Administrator.

Complete the following steps:

- 1 If the PCS Axis database and *PCS Axis Job Service* are installed on two different network servers, complete the following steps to set up a user account to log on as a service. The user account must have access to the central database server and publication database.
 - a Click the Windows **Start** button  and navigate to *Computer*. Right-click **Computer** and select **Manage** in the shortcut menu to open the *Computer Management* console (Figure 20).
 - b Double-click **Services and Applications** in the left pane of the console. Then click **Services** to display a list of services in the middle pane.

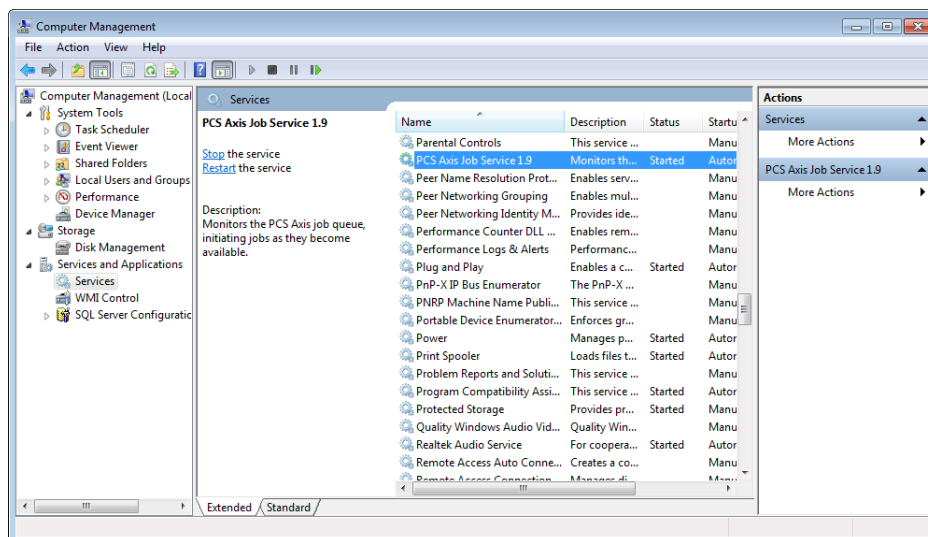


Figure 20. Computer Management Console

- c Right-click **PCS Axis Job Service 1.9** (Figure 20) and select **Properties** in the shortcut menu to open the *Properties* dialog box (Figure 21, page 27).
- d Click the **Log On** tab and select the option **This account**. To set up a user account to log on as a service, type the user name and password in the appropriate fields. You can also view a list of appropriate user accounts by clicking *Browse > Advanced > Find Now*.

IMPORTANT: The user account must be a member of the *Axis_Users* group and have access to the central database server and PCS Axis database. The user account set up to run *PCS Axis Job Service* also needs to be a member of the local computer's *Administrators* group in Windows Computer Management to be able to write to the event logs (*Windows Computer Management > Local Users and Groups > right-click Administrators to add user account*). The user also needs to have full network access to the Bullhorn server (www.bullhornsys.com).

- e Click **Apply** and then **OK** to close the *Properties* dialog box and return to the *Computer Management* console.

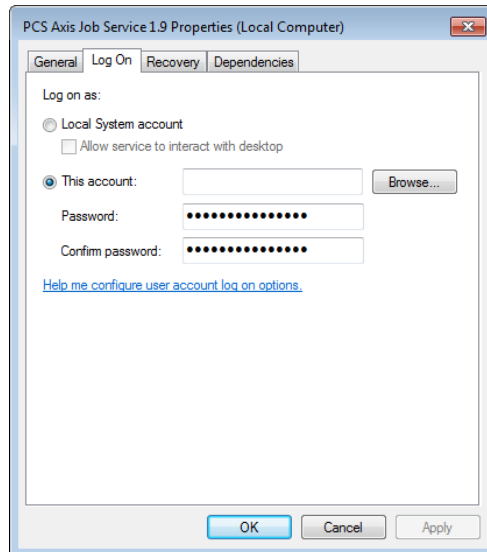


Figure 21. PCS Axis Job Service 1.9 Properties

- 2 Complete the following steps in the *Computer Management* console to start *PCS Axis Job Service*:
 - a Select **PCS Axis Job Service 1.9** and then click **Start** (Figure 22).
 - b Click **File > Exit** to close the *Computer Management* console.

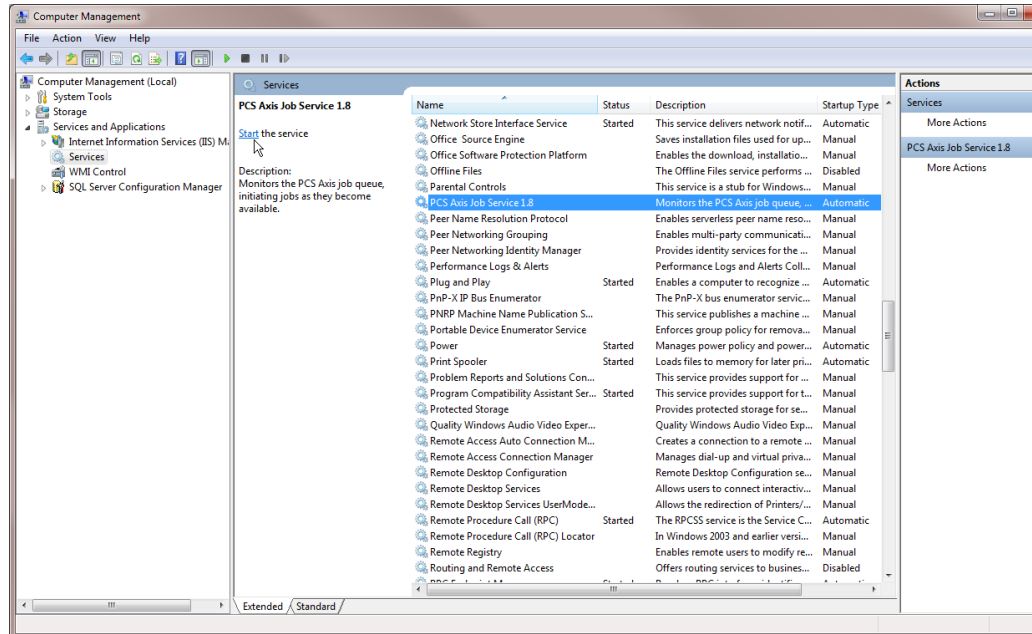


Figure 22. Computer Management Console

- c In PCS Axis, click **Tools > Job Service Viewer**. Verify the message *Running* displays in the *Status* field (Figure 23).

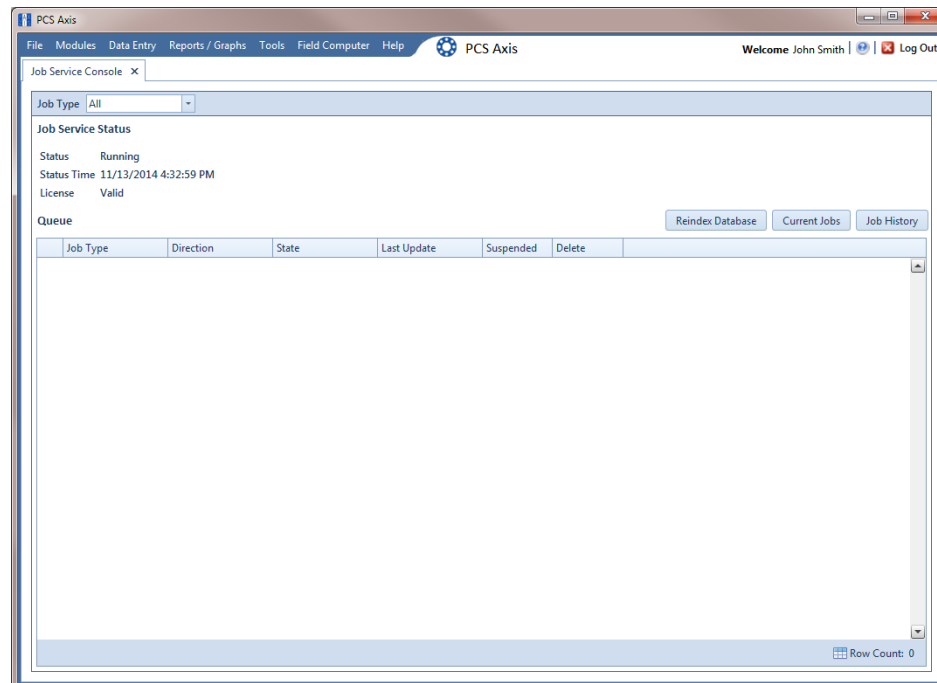


Figure 23. Job Service Console

Starting *PCS Axis Job Service* is now complete. Continue with the next section to install the PCS Axis application on local client computers (page 29).

Installing the PCS Axis Application on a Local Client Computer

Information in this section is intended for the IT System Administrator. It explains how to install only the PCS Axis application on the computer of local client users. Installing the application on remote client users (subscribers) is provided in the next section (page 34).

Complete the following steps:

- 1 If you are using the installation DVD to install PCS Axis, insert the DVD in the DVD/CD-ROM drive of the computer. Open Windows Explorer to view the contents of the installation DVD.

If you previously downloaded the installation file using a link in an email from PCS Technical Services, navigate to the location of the installation file.

NOTE: A single installation file labeled *setup.exe* is used to install PCS Axis on a 32-bit and 64-bit computer. If the target computer does not have Microsoft .NET Framework v4.5 installed, the PCS Axis installation automatically installs it. This feature requires an active Internet connection to complete the installation of .NET Framework v4.5.

- 2 Double-click the **setup.exe** installation file to open the PCS Axis dialog box (Figure 24).

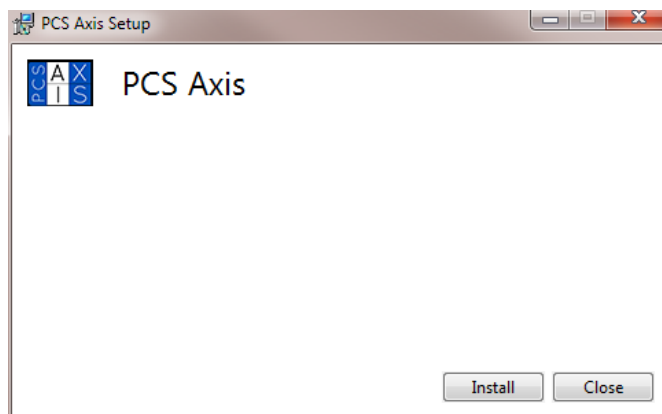


Figure 24. PCS Axis Installation

- 3 Click **Install** in the PCS Axis dialog box to open *Setup Wizard* (Figure 25, page 30).

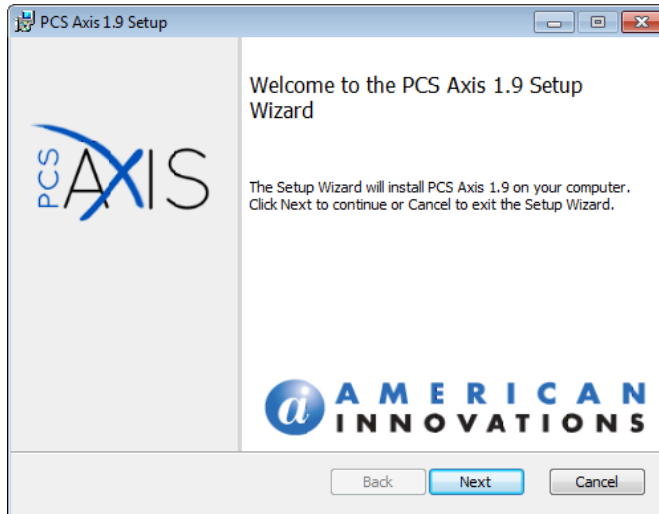




Figure 25. Setup Wizard

- 4 Click **Next** to read the *End-User License Agreement*. To accept the license agreement, click the check box **I accept the terms in the License Agreement** to place a check mark inside the check box.
- 5 Click **Next** to display *Custom Setup* (Figure 26).
- 6 By default the  **PCS Axis** application is selected for installation. The  **PCS Axis Job Service** **should not** be selected for installation. Verify selections in *Custom Setup* match those in the following figure (Figure 26).
- 7 Click **Next** and then click **Install** to begin the installation.

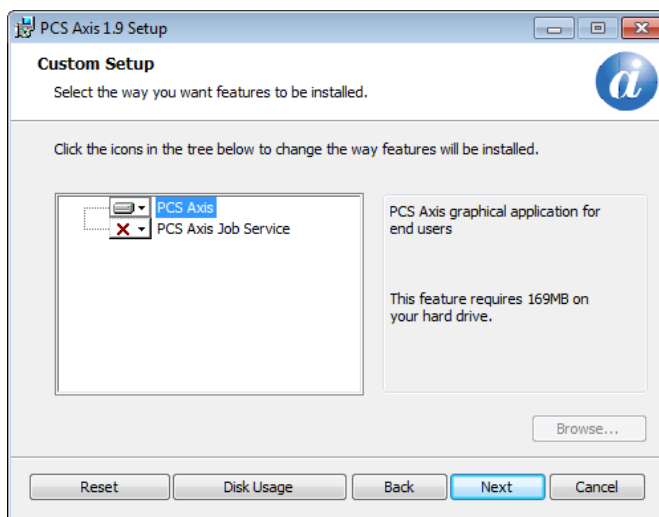





Figure 26. Custom Setup

When the installation completes and after a short delay, *Connection Manager* opens automatically on top of *Setup Wizard* (Figure 27).

- 8 Use *Connection Manager* to establish a connection to the publication database on the central database server as follows:
 - a Type the name of the central database server in the **Server** field. Or click **Select** in the *Server* field to select the server in the *Select Server* dialog box.
 - b Type the name of the publication database in the **Database** field. Or click **Select** in the *Database* field to select the database in the *Select Database* dialog box.
 - c Click  **Test** to verify the connection to the server and database. When the message *Connection successful* displays, click  **OK** to close the message. Click  **Save and Close** to exit *Connection Manager*.
- 9 Click **Finish** in *Setup Wizard* and then click **Close** in the PCS Axis dialog box to close the PCS Axis installation file (setup.exe).

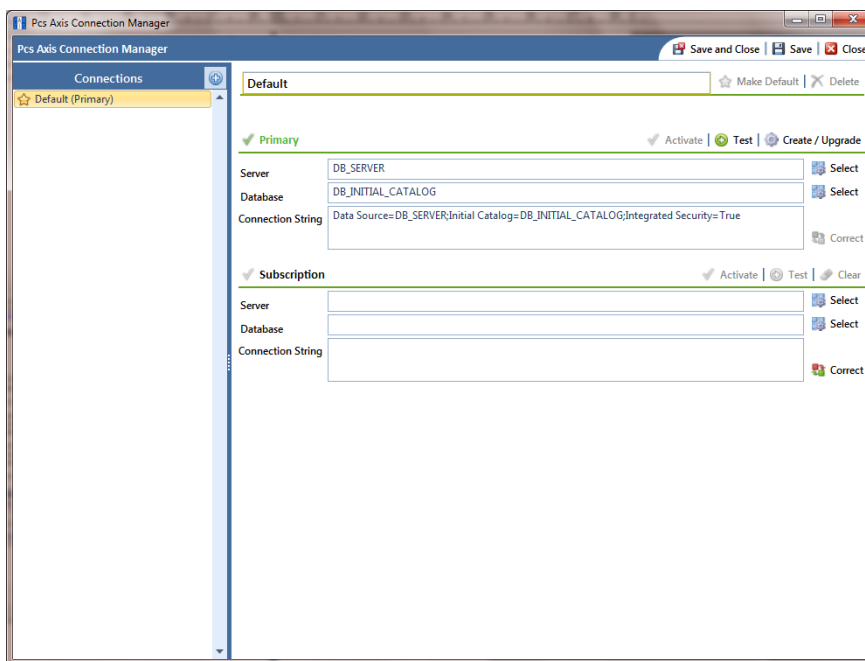






Figure 27. *Connection Manager*

- 10 Start PCS Axis on the client computer. Click the Windows  **Start** button, then **All Programs >  PCS Axis 1.9**.
- 11 When the *Activation Key* message opens, click  **OK** and then locate and select your PCS Axis activation key (Figure 28, page 32).
- 12 When the *License Agreement* window opens, click  **I Agree**.

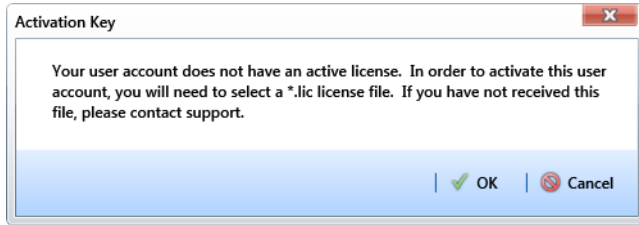


Figure 28. Activation Key

- 13 If your company purchased the optional Bridge import add-on, complete the following steps to activate the feature for operation:
 - a Click **Tools > Job Service Viewer** to open the *Job Service Console* (Figure 29).
 - b Click **Activate Bridge Import License**. When the *Activation Key* dialog box opens, navigate to the license file and select it. Then click **Open** to close the dialog box and return to the *Job Service Console*.

The message *Valid* displays in the *License* field. If *Not Valid* displays instead, contact PCS Technical Services for assistance using the contact information on page 43.

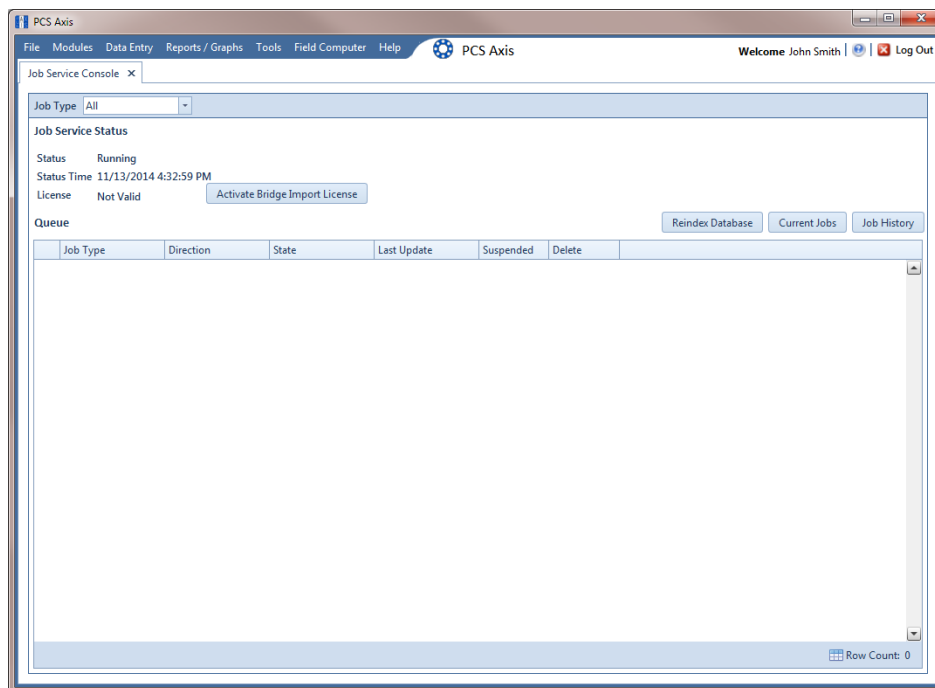


Figure 29. Job Service Console

- 14 Open the *About* window in PCS Axis to view information about the software and database version. Click **Help > About PCS Axis** to open the *About* window (Figure 30).

NOTE: Clicking *Copy To Clipboard* in the *About* window copies the following information to the Windows clipboard: network server and database connection; software application version; and build information (date and time). After copying information to the clipboard, you can then paste it in an email or other type of document, such as Microsoft Word. Use this feature when contacting PCS Technical Services for support with PCS Axis.

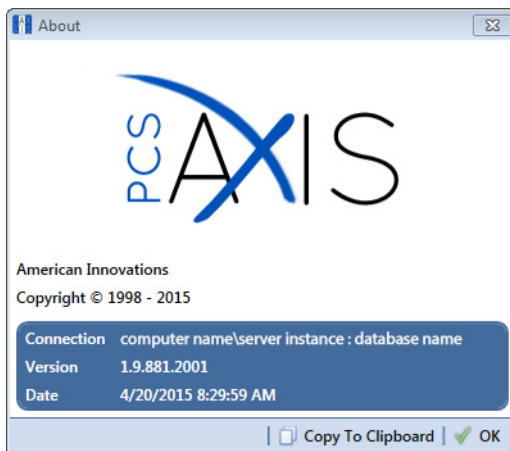


Figure 30. *About PCS Axis*

- 15 Repeat the steps in this section (pages 29-33) to install the PCS Axis application on all other local client computers.

The local client installation is complete after installing the PCS Axis application on all local client computers. Continue with the next section to install PCS Axis on remote client computers (subscribers).


Installing PCS Axis on a Subscriber's Computer (Remote Client)


Information in this section explains how to install the following items on the computer of a remote client (subscriber). The information is intended for the IT System Administrator.

- Microsoft® SQL Server® Express R2 SP2 with Tools, 64-bit version
- PCS Axis application

NOTE: Creating and connecting to the subscription database occurs later in the section entitled *Setting Up Users in PCS Axis (Local and Remote Clients)* (page 39).

Complete the following steps:

- 1 Download and install *Microsoft SQL Server Express R2 SP2 with Tools, 64-bit version* as follows:
 - a Visit the Microsoft Download Center at <http://www.microsoft.com/download/>.
 - b Type **SQL Server 2008 R2 SP2 Express Edition** in the search bar and then click the  search button.
 - c Click the link **Microsoft® SQL Server® 2008 R2 SP2 - Express Edition** to open the product download page.

NOTE: Information related to the installation is available when clicking the  expand button for any of the following items: *Details, System Requirements, Install Instructions, and Related Resources*.
 - d Click **Download** to open a page with a list of files available for download.
 - e Complete the following steps to download and install the installation file labeled *SQLEXPRT_x64_ENU.exe*:
 - (1) Click the check box for the installation file labeled **SQLEXPRT_x64_ENU.exe**. Then click **Next** to begin the download.
 - (2) To install, double-click the **SQLEXPRT_x64_ENU.exe** installation file and follow on-screen prompts. PCS Axis functions normally with a default installation set up with all default options.
- 2 If you are using the installation DVD to install PCS Axis, insert the DVD in the DVD/CD-ROM drive of the computer. Open Windows Explorer to view the contents of the installation DVD.

If you previously downloaded the installation file using a link in an email from PCS Technical Services, navigate to the location of the installation file.

NOTE: A single installation file labeled *setup.exe* is used to install PCS Axis. If the target computer does not have Microsoft .NET Framework v4.5 installed, the installation automatically installs it. This feature requires an active Internet connection to complete the installation of .NET Framework v4.5.

- 3 Double-click the **setup.exe** installation file to open the PCS Axis dialog box (Figure 31).

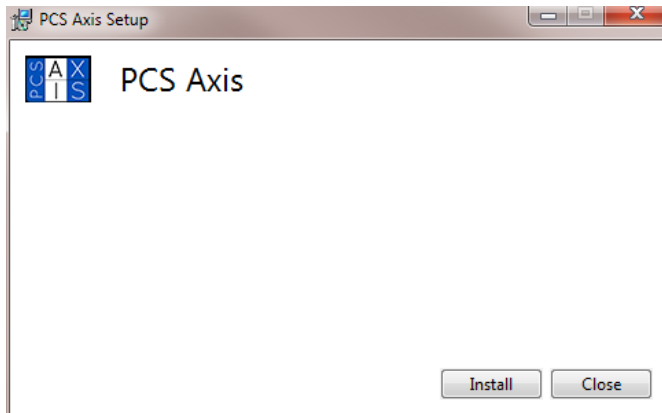


Figure 31. PCS Axis Installation

- 4 Click **Install** in the PCS Axis dialog box to open *Setup Wizard* (Figure 32).
- 5 Click **Next** to read the *End-User License Agreement*. To accept the license agreement, click the check box **I accept the terms in the License Agreement** to place a check mark inside the check box.

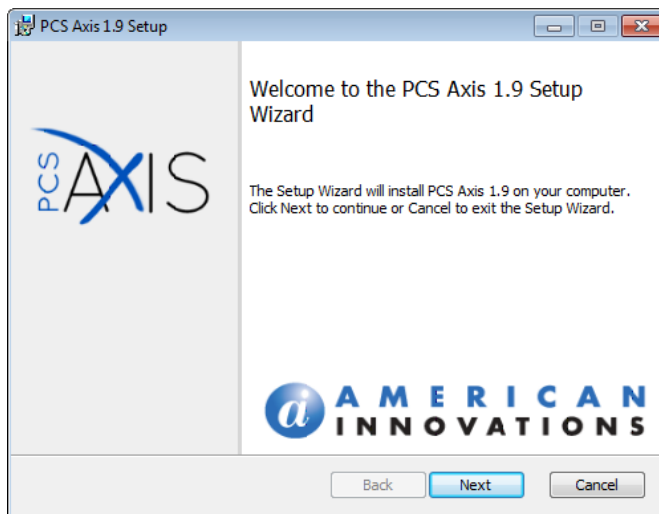


Figure 32. Setup Wizard

- 6 Click **Next** to display *Custom Setup* (Figure 33).
- 7 By default the PCS Axis application is selected for installation. Click **Next** and then click **Install** to begin the installation.

NOTE: Do not install *PCS Axis Job Service* on a subscriber's computer. The PCS Axis application provides this functionality when using a subscription.

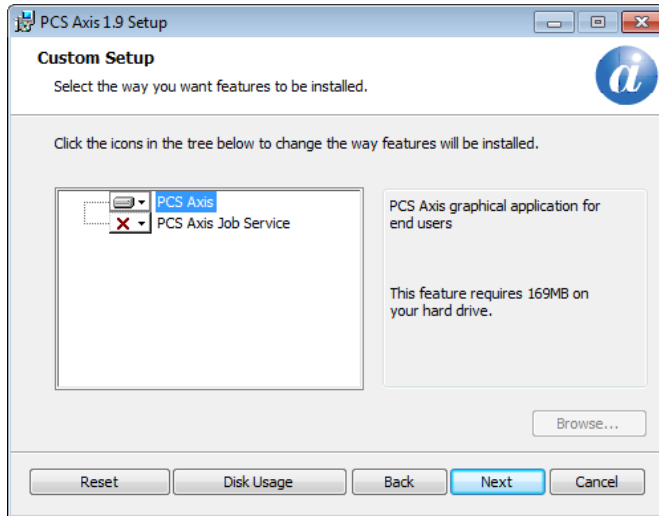





Figure 33. Custom Setup

When the installation completes and after a short delay, *Connection Manager* opens automatically on top of *Setup Wizard* (Figure 34, page 37).

- 8 Complete the following steps in *Connection Manager* to establish a connection to the publication database on the central database server.

NOTE: Creating and connecting to the subscription database occurs later in the section entitled *Setting Up Users in PCS Axis (Local and Remote Clients)* (page 39).

- a Type the name of the central database server in the **Server** field. Or click **Select** in the *Server* field to select the server in the *Select Server* dialog box.
 - b Type the name of the publication database in the **Database** field. Or click **Select** in the *Database* field to select the database in the *Select Database* dialog box.
 - c Click  **Test** to verify the connection to the server and database. When the message *Connection successful* displays, click  **OK** to close the message. Click  **Save and Close** to exit *Connection Manager*.
- 9 Click **Finish** in *Setup Wizard* and then click **Close** in the PCS Axis dialog box to close the PCS Axis installation file (setup.exe).

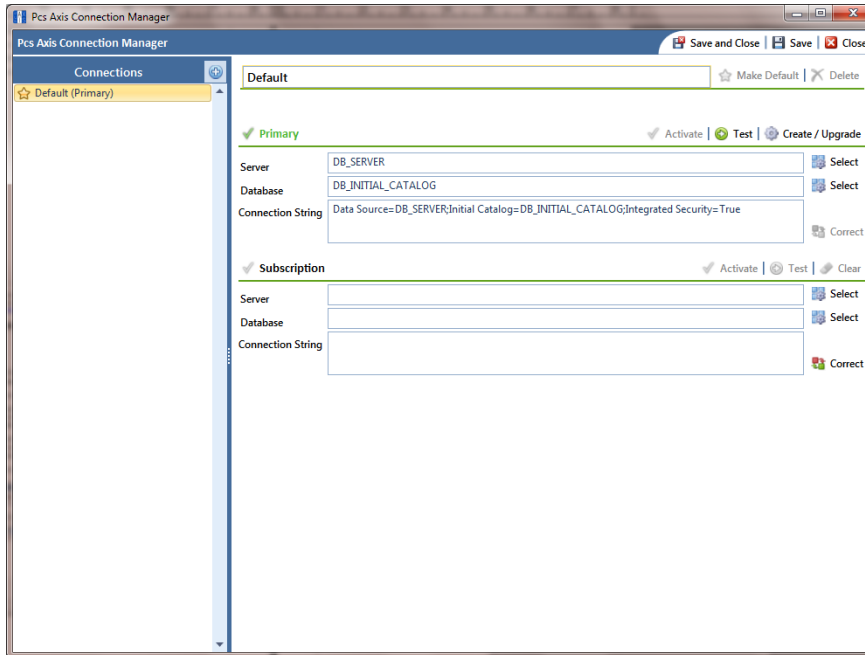






Figure 34. Connection Manager

- 10 Start PCS Axis on the remote client computer. Click the Windows  **Start** button, then **All Programs** >  **PCS Axis 1.9**.
- 11 When the *Activation Key* message opens, click  **OK** and then locate and select your PCS Axis activation key (Figure 35).
- 12 When the *License Agreement* window opens, click  **I Agree**.

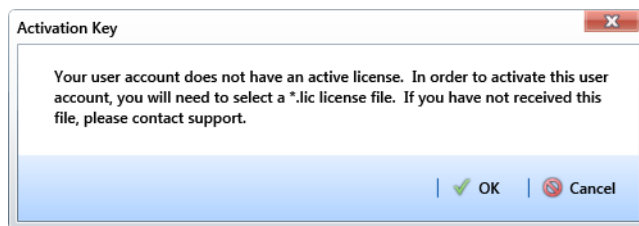


Figure 35. Activation Key

- 13 Open the *About* window in PCS Axis to view information about the software and database version. Click **Help** > **About PCS Axis** to open the *About* window (Figure 36, page 38).

NOTE: Clicking *Copy To Clipboard* in the *About* window copies the following information to the Windows clipboard: database connection; software application version; and build information (date and time). After copying information to the clipboard, you can then paste it in an email or other type of document, such as Microsoft Word. Use this feature when contacting PCS Technical Services for support with PCS Axis.

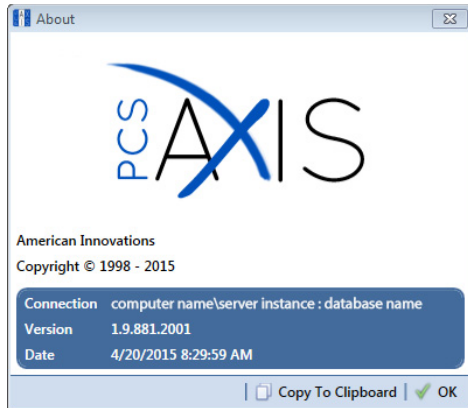


Figure 36. About PCS Axis

14 Complete the following steps to run the *Fill Factor Reset* script included in the PCS Axis download package provided by PCS Technical Services:

- a** Start SQL Server Management Studio (SSMS). Click **Start > All Programs > Microsoft SQL Server 2008 R2 > SQL Server Management Studio**.
- b** Use SSMS to run the *Fill Factor Reset* script labeled **Defrag Fill Factor Reset Post Deployment.SQL** on the PCS Axis database.

For a best practice guide in creating database maintenance jobs, visit the Microsoft website at [http://technet.microsoft.com/en-us/library/ms187658\(v=sql.105\).aspx](http://technet.microsoft.com/en-us/library/ms187658(v=sql.105).aspx).

- c** Exit SSMS.

15 Continue with the next section (page 39) to set up a subscription database on the remote client computer (subscriber).


The remote client installation is complete after installing PCS Axis on the computer of all remote clients (subscribers).

Setting Up Users in PCS Axis (Local and Remote Clients)

Information in this section is intended for the PCS Axis Administrator. The information explains how to complete the following tasks:

- Add all PCS Axis users in *User Management* (local and remote clients).
- Add all subscribers in *Synchronization Configuration* (remote clients).
- Set up a subscription database on the computer of all subscribers (remote clients).

Complete the following steps:

- 1 Start the PCS Axis application and then click **Tools > User Management > + Add**.
- 2 To add a user in PCS Axis:
 - a Type the user's Windows domain user name in the **User Name** field and then press **Tab**. PCS Axis automatically adds the user's email address. Verify **Active** is enabled.
 - b Update other information as needed, such as a user **Role** selection.
 - c Click  **Save** and then repeat step 2 for each user you want to add.
- 3 To add a subscriber in PCS Axis (remote client):
 - a Click **Tools > Synchronization > Synchronization Configuration > Add** to open the *Add Subscription* dialog box (Figure 37). A list of all Windows domain user accounts display in the dialog box.
 - b Select the user name of the remote client user you want to add as a subscriber and then click **OK**.
 - c Repeat step 3 for each remote client user you want to add as a subscriber.

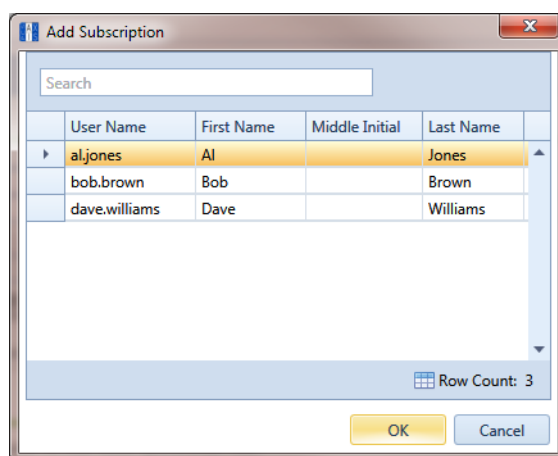


Figure 37. Add Subscription

- 4 To set up a subscription database on the computer of a remote client (subscriber):
 - a Use PCS Axis *Connection Manager* to establish a connection to the publication database on the central database server.
 - b Start PCS Axis and then click **Tools > Synchronization > Configure Subscription** to open the *Configure Subscriber* dialog box (Figure 38).
 - c PCS Axis provides the name of the subscriber's computer in the field **Enter Instance Name**. Include the name of the local SQL server instance in this field using the following format:
`ComputerName\LocalSQLServerInstanceName`

NOTE: To view the name of the local SQL server instance using Microsoft SQL Server Management Studio (SSMS): (1) Start SSMS and connect to the server. (2) Right-click the server instance in *Object Explorer* and select *Properties*. (3) On the *General* page, view the SQL server instance name in the *Name* field.

- d The default name of the subscription database set up in system Options (*Tools > Options > Synchronization*) displays in the field **Enter Subscription Database Name**. If you want to change the default name of the subscription database, type a name in this field.

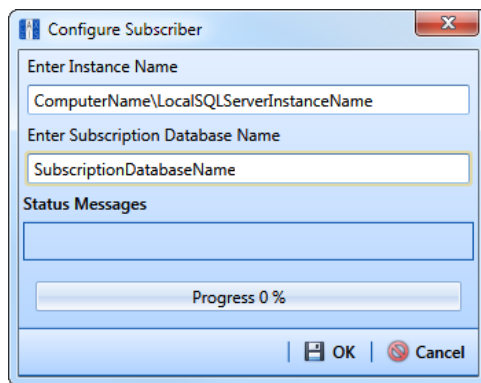




Figure 38. *Configure Subscriber*

- e Click  **OK** to begin the configuration process.
 - f When the message *Subscription Complete Restart* displays, click  **OK**. PCS Axis restarts and then connects to the subscription database.
- 5 Repeat step 4 as needed to set up a subscription database on the computer of another remote client (subscriber).

Installation Checklist

IT System Administrator Tasks

- Create a local domain user group labeled *Axis_Users* on the central database server. Add PCS Axis users to the *Axis_Users* group who are listed in Windows Active Directory.
- Create a share folder for the publication snapshot files on the central database server. Set the share folder with read/write permissions for the *Axis_Users* local domain user group. Then set *Full Control for Network Services* in the *Security* tab.

NOTE: Remaining IT tasks are completed when Database Administrator tasks are completed.

- Install *PCS Axis Job Service* on the same server as the publication database or on a separate network server. Then use Windows Services to start *PCS Axis Job Service*.
- Install the PCS Axis application on the local computer of the Database Administrator, PCS Axis Administrator, and all local users (clients). Use PCS Axis Connection Manager during the installation to set the server and database connection to the publication database on the central database server.
- Install Microsoft SQL Server Express 2008 R2 SP2 and the PCS Axis application on the computer of all PCS Axis subscribers (remote clients).

Database Administrator Tasks

- Restore the PCS Axis database on the central database server.
- Use SQL Server Management Studio (SSMS) to run the provided *Fill Factor Reset* script labeled *Defrag Fill Factor Reset Post Deployment.SQL*. Run this script after installing or upgrading the publication database as well as creating one or more subscription database(s).
- Use SSMS to create a database maintenance job using the provided *Reindex Stored Procedure* labeled *dbo.DefragmentIndexes*.
- Create a new login for the PCS Axis database labeled *Axis_Users*.

- Set the following permission roles for the new login *Axis_Users*:
 - Axis_Users*
 - db_datareader*
 - db_datawriter*
 - db_ddladmin*
 - db_owner*
 - public*
- Run the PCS Axis application and create the publication database on the central database server.

PCS Axis Administrator Task

- Use PCS Axis to add all users in *User Management* (local and remote clients).
- Use PCS Axis to add all subscribers in *Synchronization Configuration* (remote clients).
- Set up the subscription database on the computer of all subscribers (remote clients).

Product Support and Training

If you have a suggestion, question, feature request, or a bug to report-your feedback would be appreciated. Also if you have a training need for your organization or would like to know more about upcoming PCS Axis training classes, please use any of the following contact information to reach PCS Technical Services:

Support E-mail: pcstechservices@aiworldwide.com
Support Telephone: 1-800-229-3404 (select 1, then press 2)
American Innovations: <http://www.aiworldwide.com>