V 4.5.1

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Please check www.bluebeamq.com for the most up-to-date version of this manual.

Section 1.0 - Introduction

Thank you for choosing Bluebeam Q^{TM}. Bluebeam Q (referred to in this manual as simply "Q") provides a centralized and powerful method for converting numerous types of files in an automated manner.
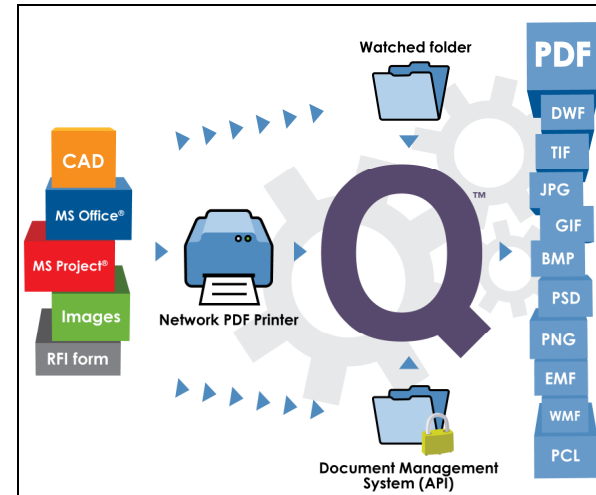
Figure 1 – Bluebeam Q Server

AutoCAD Drawings, SolidWorks and Microsoft Office files (Excel, PowerPoint and Word) can be converted to a multitude of output formats, including PDF, TIF, and JPG. Q also converts other document types such as Visio and Microsoft Project via MIME-type associated printing. Additionally, Q can convert numerous raster (.tif, .bmp, .png) or Postscript files to PDF.

Utilizing the **Script Engine** and **Application Programming Interface (API)**, PDF processing operations can be automated. In fact, the functionality available through the Script Engine and the API provide a complete solution for automating your entire PDF workflows.

There are 4 primary interfaces for interaction with Q:

1. Watched Folder Interface: Any number of "watched folders" can be configured with specific conversion parameters. The watched

folders, which can be located on either the Q Server computer or on a network shared filesystem, can be monitored by the Q watched folder processes.

There are two ways to configure the watched folder monitoring. You can point to an existing, "in-place" folder, or you can define a new folder for the process to watch. In either case a conversion will trigger when users place a source file in the watched folder.

Once a watched folder is defined, users can copy their native AutoCAD (.dwg) or SolidWorks (.slddrw) drawings or Office documents (.doc, .ppt, .xls) to any of the configured directories.

A folder may be configured such that all files dragged into the folder will be ANSI D size. Some examples of typical watched folder configuration options include:

- Specification of output file types (PDF, TIF, and so on).
- Page Size definition.
- Application of a stamp to single or multiple pages.
- Filtering to print specific layouts within AutoCAD.
- Adding a text stamp to all pages.
- Inserting a cover page.

When Q is configured to monitor existing folders, conversions are triggered at defined time intervals. For example, existing folders can be scanned every morning at 2:00 a.m.; any new or modified files since the previous scan will be converted. The timing can be freely configured. Typical examples would be to convert every day at a certain time, once a week at a certain time, or every X number of hours.

To learn more about using the Q Manager Application for configuring watched folders, see **Section 6.0**.

2. Network Printer Interface: Q includes the Bluebeam Network Printer. A printer driver can be installed onto each client computer within your organization. Users can then select the **Bluebeam Net PDF** printer when printing documents from their applications and, after entering the name for the converted output file, Q will create the file and store it in the designated location.
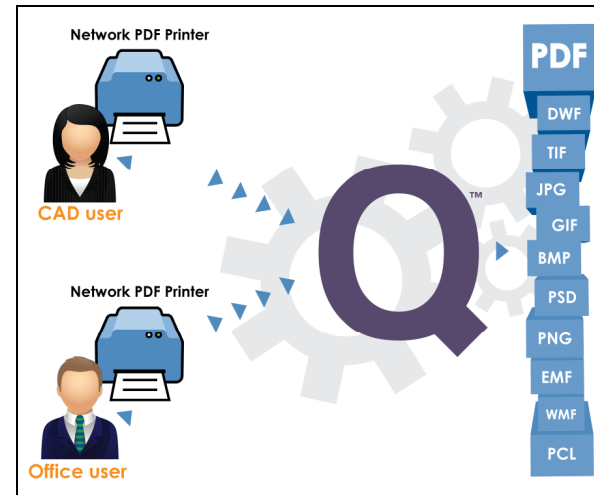

Figure 2 – Network Printer

Additional details about configuring and using the network printer feature are provided in **Section 9.0**.

3. API: Q supports a .NET API which can be used to develop C# or VB.NET (or any other .NET supported programming language) applications to control both the conversion/creation process as well as PDF processing. An extensive API help document is included with the installation of Q, located in *{Q Install folder}\Bluebeam Software\Help\Bluebeam Q API.chm* file. A number of source code examples are included in the Q distribution files to illustrate the functionality. **Section 11.0** describes the API in further detail.

4. The Script Engine: With Q, you can perform automated operations on your existing PDF files by writing and executing scripts. Scripts can be used to apply Headers & Footers, Stamps, PDF Security, and much more. Within Q there are several ways to interact with the Script Engine:

- Configure a watched folder's **Script** tab.
- Write a custom program using the **.NET API**.
- Write a stand-alone script in the **Script Editor**.
- Run a script directly from the **command line**.

The Script Editor is a separate program which can be located by exploring the *{Q Install folder}\Bluebeam Software\Script* folder.

A help file describing the use of the Script Editor is located in: *{Q Install folder}\Bluebeam Software\Help\ScriptEditorHelp.chm*. **Section 11.0** describes the API in further detail.

System Monitoring and Management

There are two interfaces for controlling and monitoring the performance of the Q Server: **Bluebeam Q Manager** and the **Q Web Reporting Tool**.

The Bluebeam Q Manager (*Server Manager.exe*) is a program located on the Q Server in *{Q Install folder}\Program Files\Bluebeam Software\Conversion Server* folder. During the install process, an option is available to create a shortcut to this program on the desktop.

The Bluebeam Q Manager is used to configure system-wide settings. The Q Manager is also used to define the watched folder parameters and to manually control the starting and stopping of the Server Processes. Refer to **Section 6.0** for further details regarding the use of the Q Manager.

The Q Web Reporting Tool provides a web interface for monitoring the status of conversions. Use the Q Web Reporting tool to view the status of any conversion processed by placing a file in the watched folders or sent through the print client. Failed jobs can be resubmitted through this interface. Additionally reports can be run over user-defined time periods to determine usage. Refer to **Section 7.0** for further information regarding the Q Web Reporting Tool.

Windows Selector Tool

Q includes a Windows Selector Tool, which automates user interactions. A dialog window will often appear when an AutoCAD or Microsoft Office file is opened, and will need some sort of user intervention such as clicking an "OK" or "Cancel" button. The Window Handler process monitors the progress of the conversion job and looks for dialog windows that are waiting for user input in order to keep the conversion process running. The Windows Selector Tool configures the dialogs which the Window Handler will process. Details on adding handled events are described in **Section 8.0**, which provides additional information regarding the Window Selector Tool application.

Section 2.0 - System Requirements

Q integrates with host applications on the Server computer. To convert AutoCAD (.dwg) files to PDF or other supported output formats, AutoCAD must be installed on the same computer that the Q Server is installed on. The same concept applies for SolidWorks (.sldpart, .sldasm, .slddrw) files and Office (.doc, .docx, .xls, .xlsx, .ppt, .pptx) files.

Operating Systems:

Windows XP SP2 or higher/Windows Vista/Windows7
Windows Server 2003/Server 2008

Most 32-bit & 64-bit OS configurations are supported. Please refer to Bluebeam website (www.bluebeamq.com) for up-to-date supported configurations.

Microsoft Internet Information Service (IIS) must be installed in order to use the Q Web Monitoring Tool.

Watched Folder or Programmatic Implementations:

AutoCAD Versions:
2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012
64 bit versions supported

Microsoft Office:
XP, 2003, 2007, 2010

SolidWorks Versions:
2006, 2007, 2008, 2009, 2010, 2011

Hardware

A workstation-class computer is sufficient for the installation of Q. Any computer capable of running AutoCAD or SolidWorks is sufficient hardware for Q. Graphics card requirements are minimal as the applications run in a non-display mode.

If the Q Server will primarily be used for MS Office conversions, any computer capable of running MS Office applications will be sufficient.

If the Bluebeam Q Server will be used as a Network PDF print host or to run Q Script Engine applications, any modern hardware platform will be sufficient. The Q Server has been tested with a wide range of computing environments from Core 2 Duo processors to the latest Core i7 processors. The minimal host OS memory requirements typically are the minimum requirement for running the Q Server. Generally, the more memory available, the better overall system performance will be.

Section 3.0 - Installation

Prerequisites:

1. If you are installing on a computer with a Windows Server OS, ensure that it is not configured as a domain controller. Because Q requires a local user account, it cannot be installed on a computer that is configured as a domain controller.

2. Applications that are used for conversion must be installed on the server computer: AutoCAD, SolidWorks, Office, etc. We recommend that prior to starting the Q installation process, these applications be installed.

3. As part of the installation, the Windows Installer will be upgraded to version 3.1 and the Microsoft .NET 3.5 SP1 framework will be installed.

4. There are two primary modes for running Q, as a Windows **Service** or in **Standard** (Interactive) **mode**. If the Q Server will be used for performing source to PDF conversions (e.g. AutoCAD or Office to PDF) Q will need to run in Standard mode. This is because the host programs (AutoCAD, SolidWorks, Office) must start the applications in a Windows context as part of the conversion process. If the Q Server will be acting only as a print host or to run Q Script Engine applications, it can be run either in Standard mode or as a Service.

If you choose to run as a service, a user account must be created on the server computer, with the following settings:

- The account should have administrative privileges.
- The password should be set to never expire.
- Add the user to *Administrative Tools\Local Security Policy\Local Policies\User Rights Assignment*
  - 'Log on as a service'; and
  - 'Increase quotas' or 'Adjust memory quotas for a process'

  Note: If these privileges are not set, the installation process will set these permissions for you.

NOTE: You should be the Administrator or have administrative privileges on the server computer when performing the installation.

1. Start the installation program.

- It is recommended that you check the Bluebeam website (www.bluebeamq.com) for the latest download of Q. If you downloaded the software from the Bluebeam web-site, double-click: **BluebeamQ400.exe** (or **BluebeamQ400x64.exe** for 64-bit installs). Note the latest shipping version number may be different; however the setup program will be similarly named.

or

- If you have the CD, load it in your CD-ROM drive. The CD is set to autorun; if the installation does not start automatically, run **setup.exe** on the CD.

NOTE: Depending on which version of the Windows Installer is present on the system, the installation program may require that Windows be restarted at this point.

2. Welcome

Click *Next* on the first screen to be guided through the remainder of the installation process.

3. License Agreement

Please read the license agreement. Click *Yes* if you agree to the license agreement and want to continue with the installation process. Otherwise the installation will exit.

4. Setup Type

Choose the **Standard Installation** to run the server in an interactive mode. Select **Service Installation** to run as a Windows Service. Refer to the section **Section 6.0** *Using the Q Manager Application* for further details.

Reminder: **Service** *mode should only be used for hosting the* **network print clients or using the Script Engine only. When using the plugins to convert AutoCAD, SolidWorks, or MS Office files via a watched folder, the Q must be configured to run in** Standard *mode.*

Complete the setup dialog by choosing the destination directory to store the Q installation and program files.

5. Install Options

As part of the Q Installation, Revu (Bluebeam's PDF viewing and editing application) will be installed on the Server. Check *Place a shortcut for Bluebeam PDF Revu* on the desktop to add the shortcut. The second checkbox should be checked to make Revu the default viewer. Checking the third checkbox will place a separate shortcut for the Q Manager on the Desktop. If you choose not to place these shortcuts on the desktop, the applications can be accessed later through the Start Menu. The final checkbox "Install Internet Explorer plugin for viewing PDFs" will add the PDF viewing plugin to IE on the server computer. This setting is off by default.

6. Service Account

If the Service Mode is selected, enter the username and password of the service account which will be used to run the server (this is the user account defined as part of the prerequisites). If you wish to use an existing account, enter the existing account information. Select create new account if you wish to create a new username and password based on the information entered in this dialog.

7. Registration

At purchase time, you will be provided with a Serial Number and Product Key. Please refer to the email that was sent to you for licensing information.

Enter your Serial Number and Product Key and click *Register*. If you are evaluating the software, click the *Use as Trial* button to proceed.

Note: You can access the registration screen for the Q license after installation via the Tools menu in the Bluebeam Administrator (*Start > All Programs > Bluebeam Software > Bluebeam Administrator).*

Online Authorization
After you click *Register*, online authorization will be attempted automatically. This authorization process will activate the software on your computer. If the authorization process cannot connect to the Internet, you will be prompted to authorize manually.

Manual Authorization
Click *Authorize Manually*. The Manual Authorization screen will appear. It will prompt you for an Authorization Code. You can obtain an Authorization Code by selecting the *Web* button or going to http://www.bluebeam.com/authorize.asp

Note that the installation will automatically attempt an online authorization. If the online authorization fails, the manual authorization dialog will be displayed. The manual option will only appear if the online authorization fails.

If you cannot access the web page, contact Bluebeam by clicking *Email.* A request is sent to registration@bluebeam.com, and an Authorization Code will be returned to you via email.

To obtain an Authorization Code, please reference your Serial Number and Product Key.

Once you receive an Authorization Code, please enter it and click *Authorize*. The system will authorize your computer.

8. Finish

Use this dialog to determine what actions to perform once the installation is complete. It is recommended that you leave **Launch Getting Started Wizard** checked. The wizard will guide you through the watched folder and other configuration choices. The wizard is explained in the following section.
Launch Q will start the server processes running.

Section 4.0 - Using the Setup Wizard

The Getting Started Wizard starts after the initial installation of the Q Server. If you wish to run this program at a later time, it can be accessed under *Start > Programs > Bluebeam Software > Bluebeam Setup Wizard*. The wizard assists with configuring several of the interfaces for normal Q operation.

The settings in this dialog are used to configure primary interfaces to Q (the Watched Folders, the Network Printer, the Q Web Reporting Tool), and to display further information about the API/Script Engine.
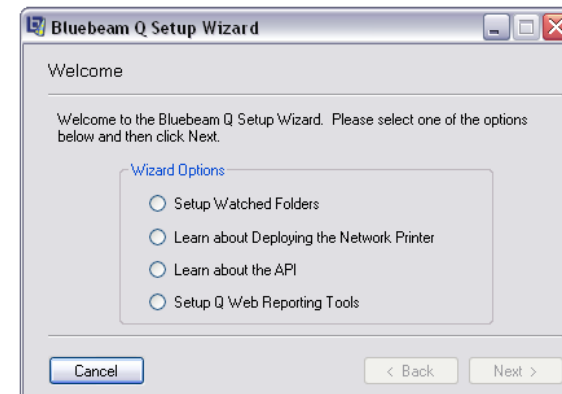
Setup Watched Folders

There is a 3 step process for configuring the watched folders. Use the Q Manager after this initial setup to configure specific parameters for the watched folders.

Step 1 of the Setup Wizard determines how the watched folders are to be used.
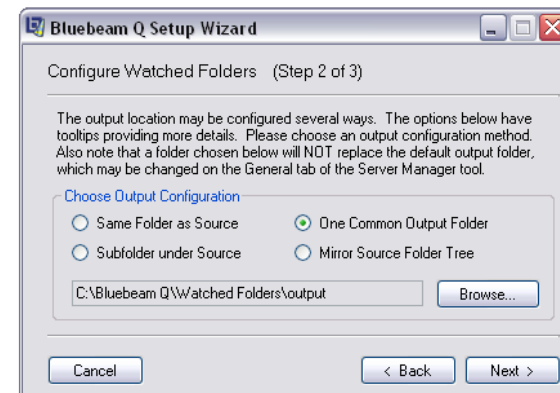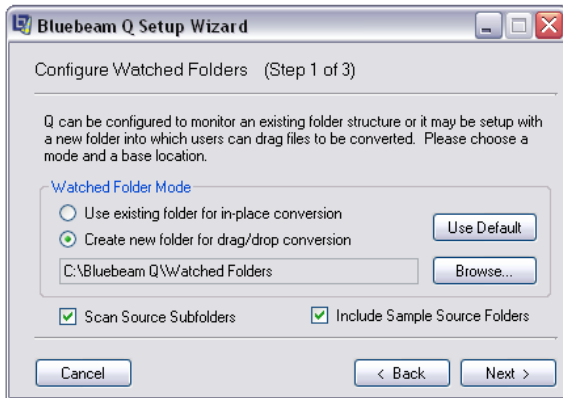
Use existing folder for in-place conversion - Select this to point Q to a set of folders which you currently have defined for your projects. Press the *Browse* button to select the base directory to monitor. You can point to an existing folder to actively monitor source files. As source files are modified or added into the folders, Q will convert the files to the specified output type (.pdf, .tif, .jpg, and so on). The source files will remain in the same location after the conversion completes.

Create new folder for drag/drop conversion - Defines a new location which will be monitored for conversions. Any time a source file is dragged into the folder, an output file will be created and the source file will be moved to an archive location. By moving the source file used for conversion out of the source folder, the source folder should generally remain empty, except for any file which has not yet been converted.

Check the **Scan Source Subfolders** box to look in all subfolders for files. If you want to monitor just the one folder indicated in the directory box, leave this unchecked.

Include Sample Source Folders - Creates a default set of sample pre-configured folders for drag and drop conversion. The watched folders will be located in *C:\Bluebeam Q\Watched Folders*. These sample folders are included for illustrative purposes and may be deleted if you do not need them. They do provide a good starting point for learning about how the watched folders can be configured.

Step 2 of the Watched Folder setup wizard specifies the output location for the converted files.

There are 4 options:

Same Folder as Source - Places the converted file in the same location which the source file resides.

Subfolder under Source – Selecting this option displays the folder path window. The subfolder name entered here is where Q saves converted files. Consider the following example:

Q is configured to monitor *P:\projects* and the *Scan Source Subfolder* option is selected. These folders will be monitored:

```
P:\projects\project101
        \project200
```

If *pdf* is entered in the folder definition box (the text entry box to the left of the *Browse* button), converted PDFs will be placed in the newly created *pdf* folder under each actively monitored folder:

```
P:\projects\project101
                \pdf {output files placed here}
        \project200
                \pdf {output files placed here}
```

One Common Output Folder – Places all converted files from all watched folders into one common output folder. If the "o:\output" folder is defined with this option, all output files from all monitored subfolders will be placed in this folder.

Mirrored Source Folder Tree – Creates a mirror image output tree structure of the watch folders. If the watch folders are monitored

```
P:\projects\project101
           \project200
```

and "O:\output" is defined in the folder selection with this option checked, the output files will be placed in the following locations

```
O:\output\projects\project101 {converted files here}
                   \project200 {and here}
```

Step 3 completes the watch folder configuration process

Launch Q Manager – Starts the Q Manager for additional watched folder configuration options.

Explore the Watched Folder – Opens the root watched folder in a separate explorer window.

Launch Bluebeam Q – Starts the Q server processes. The main process for running the Q server is *BbServer.exe*. The Q Manager (see **Section 6.0**) application displays the active running Q processes in the Processes > Mode tab. The typical processes running include:

Once your Watched Folder is selected you can **Close** the setup wizard, or go **Back** to display information regarding the other interfaces for Q.

Network Printer Information Setup Wizard

Choosing to set up the network printer displays the network printer interface settings.
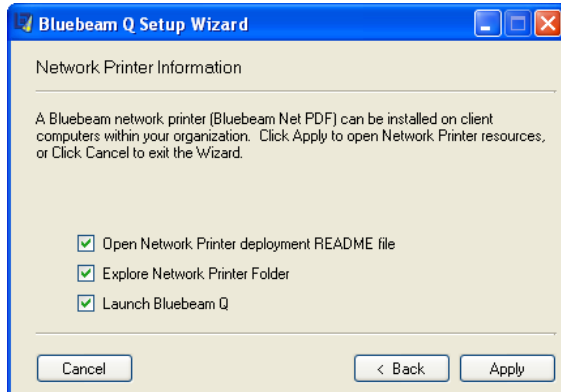
Open the Network Printer deployment README file – gives a detailed procedure for setting up the network printer clients. The README walks through the steps for performing an installation of the network printer on your users' computers within your organization. A print client installation must be run on each user's computer who will send print jobs to Q. The README additionally describes techniques for performing an automated client installation.

Explore Network Printer Folder – Opens the folder containing the installation files needed to run on users' computers. In addition to the setup files, support files to aid in the automated installation are included in this directory.

Launch Bluebeam Q – Starts the Q processes.

Once the options are applied you can **Close** the setup wizard or go **Back** to display information regarding the other interfaces for Q.

API Information Wizard screen
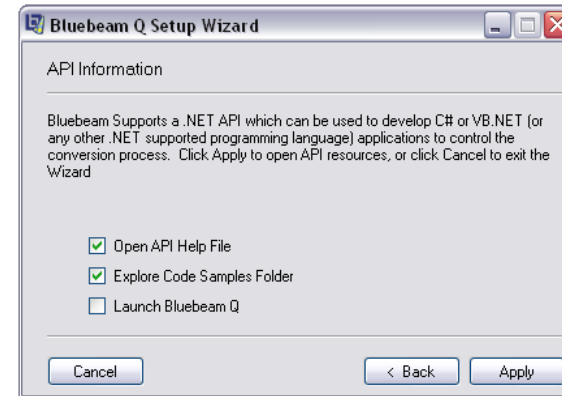
Open API Help File – Displays the Windows help file describing the API for interacting with Q.

Explore Code Samples Folder – Opens to the folder containing the VB.NET and C# samples for interacting with the Q API. There are also examples describing the Script Engine interface.

Launch Bluebeam Q – Starts the Bluebeam Q processes.

Once the options are applied you can **Close** the setup wizard, or go **Back** to display information regarding the other interfaces for Q.

Configuring the Q Web Reporting Tool

The last option in the configuration tool is to install the Bluebeam Q Web Reporting Tool. The Bluebeam Q Web Reporting Tool provides a web interface for monitoring the status of conversions. Use the Bluebeam Q Web Reporting tool to view the status of any conversion processed by placing a file in the watched folders or sent through the print client. Failed jobs can be resubmitted through this interface. Additionally reports can be run over user-defined time periods to determine usage.

This installation requires that Microsoft Internet Information Servers (IIS) be installed on the same system with Q. If you do not wish to install the Web Reporting Tool, press the **Cancel** button. If IIS is currently not installed or enabled, this process will install IIS. During the installation of IIS you may be prompted for your Operating System installation CD. If you do not wish to install IIS, uncheck the **Install Internet Information Services** checkbox.
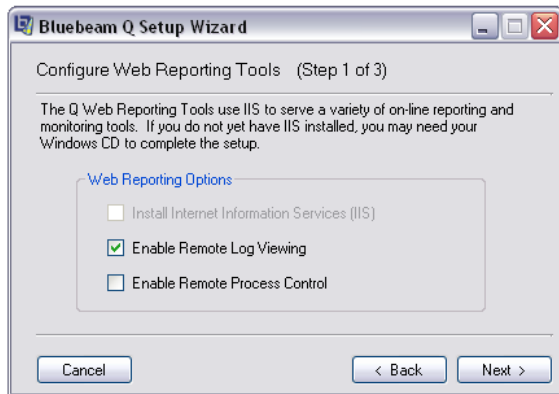

The Q Web Reporting Tool provides the capability to remotely view log files. If you wish to enable this feature, make sure the **Enable Remote Log Viewing** is checked. Likewise, the Reporting Tool can be configured to start and stop the Q processes. If you do not want to enable this for security reasons, uncheck the **Enable Remote Process Control** checkbox.

In Step 2 you will configure the accounts for access to the Q Web Reporting Tool. There are other settings to encrypt the passwords (optional). You can also use this dialog to add users to the system by pressing the **Add** button.

The last step controls what to do after the Q Web Reporting Tool completes installation. Checking the **Open Web.config file** box displays this file for further editing. To view a document describing the steps for manually configuring the Q Web Reporting Tool (not required if the installation completed successfully), check **View manual web tools setup tutorial**. And finally to launch Q after the installation process is complete, check **Launch Bluebeam Q**.
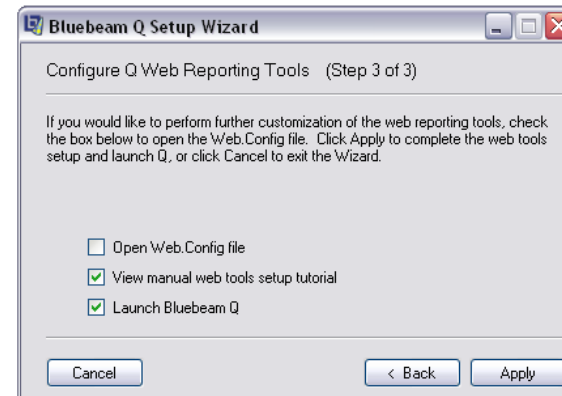
Section 5.0 - Q Operation

Q Server Modes

The Q Server can run in either an interactive/application (Standard) mode or as a Windows service. If you intend to use watched folders or the Conversion API specifically for converting files, the Q Server should be run in Standard Mode. If the Q Server is to be run using only the network printer, the server should be run in Service mode. If the Script Engine will be used for processing PDFs, it is recommended that the Service mode be used.

When the server is configured to run in Service mode, each time the computer on which the Q Server is installed is restarted, the Server processes will startup in the background. You can monitor the process by starting the Task Manager (Ctrl-Alt-Del, Task Manager) and looking for the *BBServer* process.

Start > Programs > Bluebeam Software contains the following:
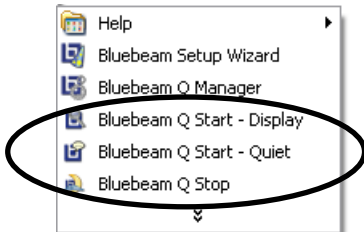
To display a console window while the Server is running, click *Bluebeam Q Start – Display*. To start the Server without displaying the console window, click *Bluebeam Q Start – Quiet*. In order to shut down the Q Server, click *Bluebeam Q Stop*. If the Q Server is set to start as a service, it will automatically restart on the next server boot. If Q is set to run in Standard mode, it will need to be restarted via the shortcuts described above.

Archiving

As files are converted, the original source files are moved to an archive directory. By default, the archive directory is located at *{My Documents}\Bluebeam\backup*. Each job is given a job ID. A typical directory that has several converted archive directories would appear like the following illustration.
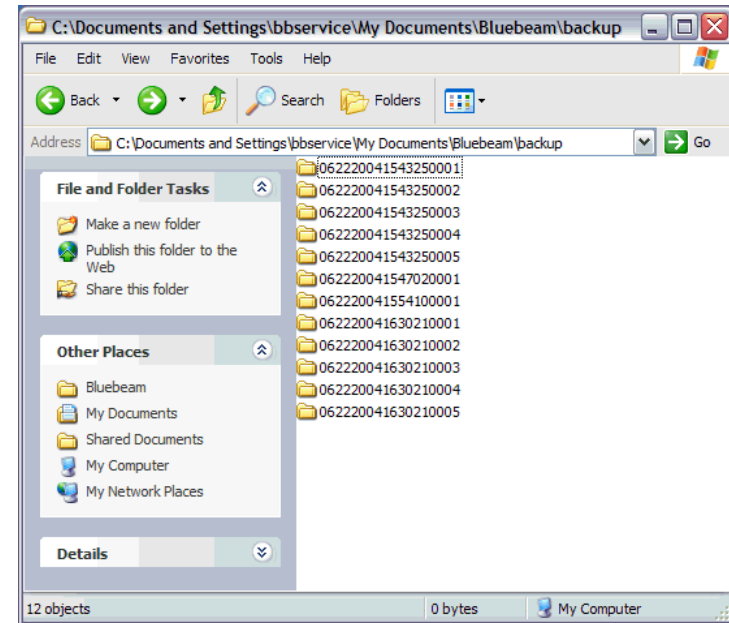
It is recommended that periodically this directory be cleared out in order to keep the disk usage down. The Q Manager provides a mechanism for automatically clearing the archive folder on a regular basis.

Section 6.0 - The Q Manager Application

The Q Manager is the primary interface for configuring Q. Typical settings that can be configured are:

- Running the server in Standard or Service Mode.
- Starting and stopping the Q server processes.
- Creating and configuring watched folders.
- Removing temporary and archive folders.

The following sections describe the configuration options.

General Settings
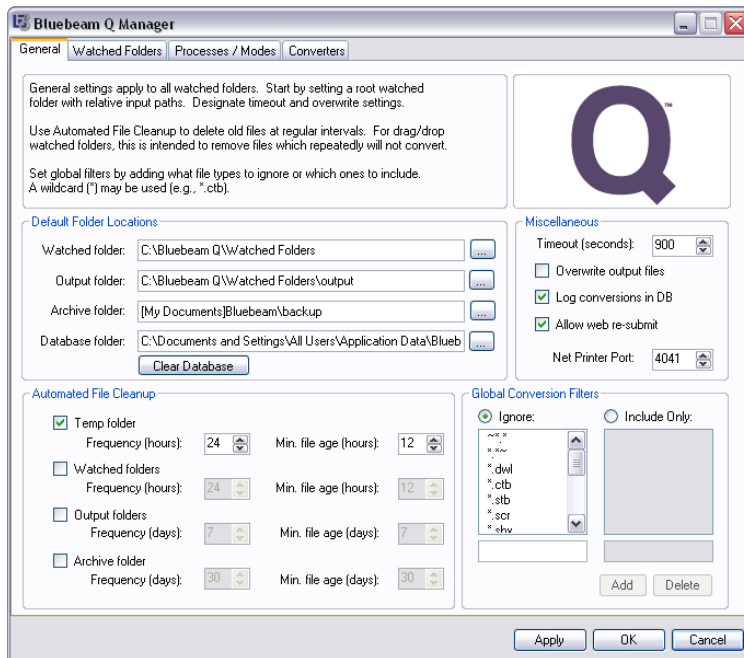
Default Folder Locations

Watched Folder - Specifies the top level location for the watched folders. This may point to a pre-existing location that has a repository of source files for conversions, or it may be a new folder.

It is very important that if the watched folder is pointing to a pre-existing location, the *Move input files after conversion* (in the

Watched Folders > Advanced Settings **dialog) not be checked, or original source files will be relocated to the archive file.**

Output Folder – The default output location for files that the Q Server processes.

Archive Folder – Location where source files are archived after a conversion takes place. Each time a conversion is performed the source file will be moved to this location.

Database Folder – Location of the Q conversion history database file. Each time a conversion is attempted, the information is logged to this database. The Q Web Reporting Tool uses this data for reporting job status and the Q Server uses this to determine which files to attempt to re-convert. It is recommended that this database be backed up on a regular basis.

Automated File Cleanup

These settings are used to automatically delete various files that may remain during the course of normal conversion operations. The **Frequency** setting determines how often to check for old files. The **Min File age** deletes files older than the specified time. As an example, if the **Frequency** setting is 24 hours and the **Min. File age** is set for 12 hours, the process will check every 24 hours and remove files that that are older than 12 hours. The 4 areas that are scanned are:

Temp folder – During the conversion process certain intermediate files are created. These files are generally cleaned up automatically, however sometimes certain files will remain. Often these files have a .pxb or .mxb file extension in any one of several temporary directories. These files will be removed if this cleaner is enabled.

Watched folders – Files may sometimes be placed in a watched folder which the Q Server does not know how to convert. The files will remain in the watched folder. Over time the watched folders will accumulate these unconvertible files. Set this cleaner to remove files older than a certain age. **Note: the files, if they are removed, will be deleted permanently from the filesystem.**

Output Folder – Enable this cleaner to remove files placed in any of the defined output folders. Any file that remains in any output folders outside of the defined time parameters will be deleted.

Archive Folder – After a conversion successfully completes, the source file is moved to the defined archive directory. The archive directory is primarily meant to provide a means of recovering a source file if a user accidentally moves a source file into the watched folder. If the archive folder is not cleaned in a regular manner, it may get very large due to all of the source files potentially being copied to this location.

Miscellaneous Settings

This area controls a number of other settings related to the operation of the Q Server.

Timeout – Sets the system timeout for conversions. If a Conversion has not completed within this specified time, the Q Server will move on to the next Conversion job.

Overwrite output files – If this option is checked, output filenames will be overwritten. If this is unchecked, each filename will have a number appended to the filename. For example, if *project-document.pdf* exists and a new version is created with this checkbox unchecked, the new name will be *project-document001.pdf*. If a conversion occurs again, another file will be named *project-document002.pdf*.

Log Conversions in DB – Each time a file conversion is performed, information is written to a database regarding the files converted and the status of the conversion. If you wish not to store the conversion information in the database, uncheck this option. If you do not store conversion information, the Q Web Reporting Tool will not be able to display report and statistical information for the conversions.

Allow Web Resubmit – Checking this option will allow failed conversion jobs to be re-submitted through the Q Web Reporting tool.

Network Printer Port – Sets the default port that the Q Server listens to for print job requests. Client workstations need to be configured to connect to a specific port on the Q Server when using the Network Printer Interface. Define the port for the Q Server to use by entering a port number in this field. Refer to Section 9.0 for further details about the Print client.

Global conversion filters

Ignore – Q will not attempt to convert any files with an extension type present in this list. An example of why this is useful would be DWL files. When AutoCAD opens a drawing file, it creates a lock file with extension.dwl and the same name as the associated AutoCAD drawing. When the .dwl extension is present in the Ignore list, the Q Server will not attempt to convert this file if it exists in the watched folder.

Include Only – Q will only convert filetypes with the extensions specified in this list. Use this option if the Q Server needs to be configured to only convert a few specific types of files.
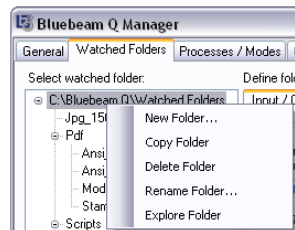
Watched Folder Configuration

The Q Manager provides extensive tools for configuring watched folders. There are 5 tabs in the Watched folder configuration. On the left-hand side of the dialog is a folder tree indicating the currently defined watched folders.
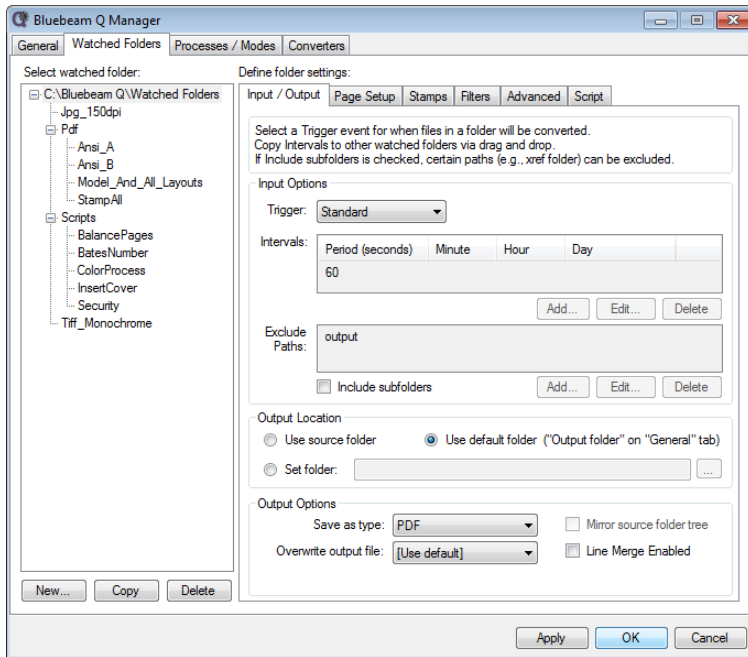
When a folder is selected, the settings currently defined for the selected watched folder are displayed in the tabs (Input/Output, Page Setup, Stamps, Filters, Advanced, Script) on the right-hand side of this dialog.

To create a new folder, right-click the parent folder to display a context menu, then click **New Folder**. **Copy Folder** will make a new folder with the same properties as the source folder. **Rename Folder** changes the name of the folder. **Explore Folder** opens the folder in Windows Explorer.


This section explains the configuration settings available for the watched folders. The settings are described by tab.

Input/Output

Trigger - The Server can run in **Standard**, **Event**, **Interval** or **Event/Interval** Mode. **Standard** mode relies on Windows processes to notify the Q Server that a file is ready to be converted. In **Interval** mode the server scans the watched folders at specified times to determine if there are any new or modified source files to convert. If there are new or newly modified files since the last time the scan was performed, Q converts the files to the specified output format. The scan time is set by modifying the **Interval** field below Trigger. **Event** mode uses Windows processes to indicate when a file is updated or first placed in a watched folder. **Event/Interval** mode triggers a conversion any time a new file is placed or an existing file in the watched folders is modified. The "Event" in **Event/Interval** refers to any Windows file system update that occurs within the watched folders.

Using **Event/Interval** ensures the most rapid conversion from source to output file since the watched folder structure will be continuously scanned for new or modified folders.

Set the **Interval** period by pressing the **Add** button. The interval setting works by scanning "at some point" per scan interval. For example, if 2 AM under Hour is the only value entered in the interval fields, Q will scan once per day at some point in the 2:00 AM hour. If you need to make this time a closer constraint, set the minute value, for example enter "10". This will instruct Q to scan the watched folders each day at some point between 2:10 and 2:11. It is recommended to set the hour and minute interval for daily scans.
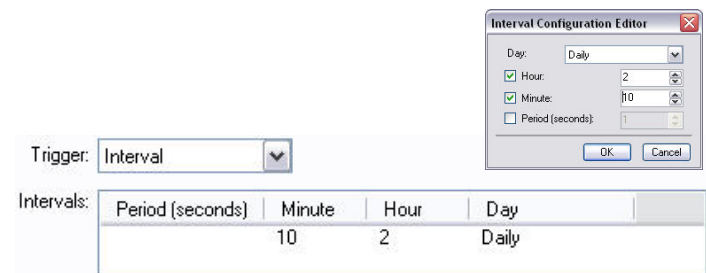
Set the **Include subfolders** checkbox to scan any subfolders for new or modified files to convert. Enter any output folders in the **Exclude Paths** to ignore the output file locations. Entering these paths will prevent "conversion loops" from occurring.

Next specify the **Output Location** for the currently selected Watched Folder. **Use Source Folder** places the output file in the same folder as the source file location. Note that if you are going to use this option, it is recommended that you filter the output file type by adding the output file type to the **Ignore** list discussed in the previous section. For example, if the **Use Source** location is checked and the output file type is defined as PDF, make sure that PDF is in the **Watched Folders** - **Filters** dialog so that the PDF file will not be re-converted. **Note:** If ".pdf" is added to the ignore list, and if scripting is set, the PDF will not be processed. You should specify a separate folder for processing PDFs if you want to apply scripting operations to PDFs.

Use default folder to select the default folder as identified on the General settings, Output Folder setting.

To specify a different output folder, click the **Set folder** button and enter the path in the text box to the right of the button, or choose the file selection button [...] next to the file path text box.

To select an output file type other than PDF (including PDF/A for archiving), click the **Save As Type** list under **Output Options**. To overwrite existing files with the same name in the output folder, click **On** in the **Overwrite output file** list. If the mode is set to **Off**, a numeric value will be appended to the end of any duplicate file names. Subsequent conversions will be saved with an incremented number appended to the end of the filename. If **[Use default]** is selected, the default Overwrite setting from the **General** tab will be used.

Check the **Mirror source folder tree** box to build up subfolders similar to the source folder structure. If this is not selected, all resulting converted files will be placed in one folder specified in the **Output Location**.

Check the **Line Merge Enabled** box to created line merged PDFs from the AutoCAD plugin.

Watched Folders – Page Setup

This tab is used to control the output (or converted) file parameters.
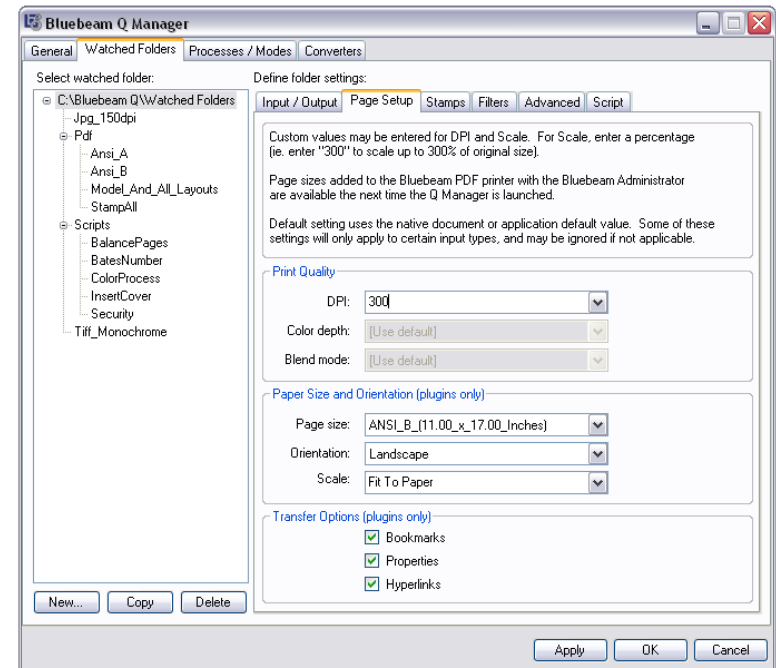
The left hand panel (Select watched folder) displays the currently configured watched folders.

Once a particular watched folder has been selected, change the parameters by editing the values on the right-hand side of the watched folders dialog. These parameters are described below.

DPI – sets the dots per inch (DPI) setting to use for graphics included in files. If PDF is defined as the output filetype this is the down-sample resolution to use when converting files that have embedded graphics. If a raster output file is chosen (JPG, TIF) this is the overall DPI setting to use for the output file.

Color depth – Defines the number of colors to have available in the output file. For black and white choose 1 bit.

Blend Mode – Enables or disables transparency in the output file. When converting AutoCAD files, this setting enables or disables what is often referred to as "line merge" on drawing files.

Page size - Select the page size to use for the output file. If the Page size does not appear in the drop down, use the **Bluebeam Administrator** to add a custom Page Size. The Administrator can be started under *Start > Programs > Bluebeam Software.*

Orientation - Define the default orientation (Portrait/Landscape).

Scale – Scale factor of the source document.

Transfer Options - When Converting AutoCAD, SolidWorks, Microsoft Word, PowerPoint, or Excel files, **Bookmarks**, (file) **Properties** and **Hyperlinks** can be transferred into PDF files. Check these boxes if you wish to transfer this information into the PDF.

Watched Directory – Stamps

Place a text stamp using the Stamps menu. Use the Stamp Editor accessible under *Start > Programs > Bluebeam Software* to define custom stamps. A detailed help file describing the use of the Stamp Editor is located at: *{Q Install folder}\Bluebeam Software\Help\StampEditor.chm*
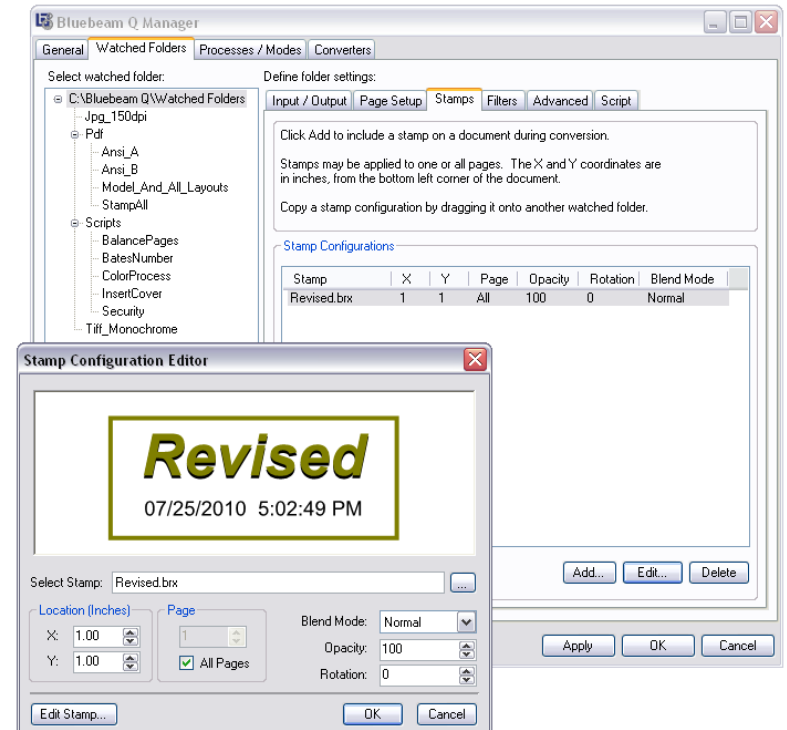
Watched Directory – Filters

Conversion Filters - Use the **Ignore/Include Only** settings in this tab to specify which file type to attempt to convert. Q will not attempt to convert file types entered in the **Ignore** section. Alternatively setting a file type in the **Include Only** field causes Q only to attempt conversion of these specified file types.
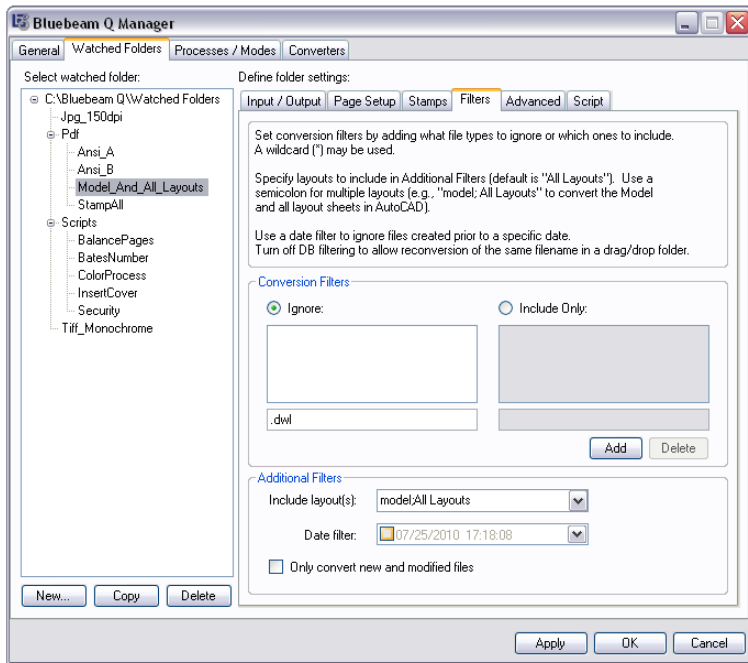
When converting AutoCAD files, use the **Include layouts** setting to specify Model and All Layouts, or just All Layouts. There are several other settings to specify which layouts to use when converting the source AutoCAD drawings. Setting the **Date filter** instructs Q to ignore all source files before the given date. That is, if the date is set for July 2, 2002, all source files older than this date will not be marked for conversion.

By default Q will not convert a file if it has already been converted. If the file has been modified since last conversion, it will be re-converted. If there has been no modification to the file and you wish to force a conversion, leave the **Only convert new and modified files** button unchecked. Otherwise conversions will only occur on newly added files to the watched folders, or if a file has been updated.

Watched Directory – Advanced

Q uses Bluebeam plugin technology for converting AutoCAD, SolidWorks, Microsoft Word, PowerPoint and Excel files to PDF and the other output file formats. Use this tab to add parameters to the watched folders for setting plugin-specific settings to control the

conversion. Additional settings can be configured by pressing the **Add** button. Certain parameters depend upon other parameters to also be defined. If a parameter is selected that depends upon another parameter, the Q Manager will automatically add this additional parameter to the Application settings.

Move input files after conversion will move the source files to the Archive folder specified in the General Settings tab. If this watched folder is pointing to a general projects folder this option should be turned off since source files in folders may inadvertently be moved.
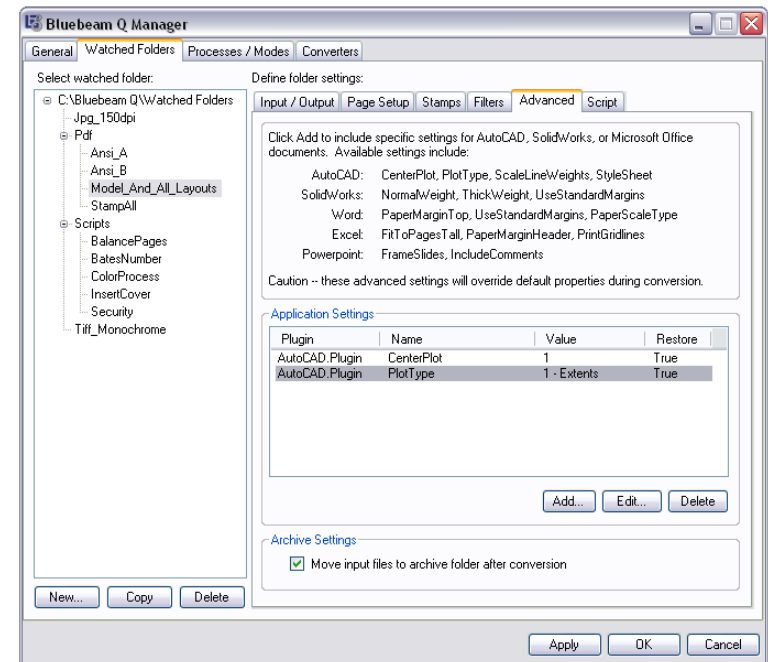
Watched Directory – Script
Use the script tab to enter commands for processing PDFs placed in a watched folder. This panel contains an intelligent script editor which assists in the entry of syntactically correct scripts. Scripts will not run unless the **Enable Scripts** checkbox is checked in the tab.
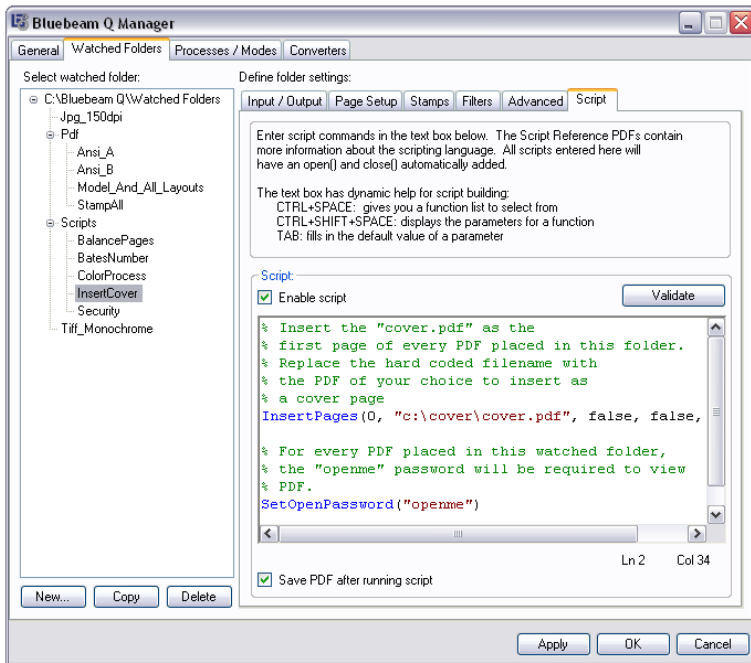
Use the CTRL+Space keyboard shortcut to get a list of available commands for the Script Engine. As you are entering commands, pressing Tab will enter default values for the script to assist in rapidly developing the scripts. Refer to the *Bluebeam Q Watched Folder Script Reference* as part of the Q Server software distribution for a complete description of available commands. **The Save PDF after running script** should be checked in order to save the PDF after it has been processed by the script.

When processing files in the Watched Folders, Bluebeam Q automatically handles the opening, saving, and closing of the PDF files taking into account the source and destination folders already associated with the Watched Folders. Therefore, Watched Folder scripts are very simple, and in many instances are only one line. There can be more than one command in a script file, for example you could write one script to insert a cover page, add headers and footers, flatten and apply security.

One additional note, the Script Editor is actually an embedded version of the full Script Editor application available under *Start > Program > Bluebeam Software*. This same editor can be used to edit Scripts that can be sent to the command line for processing by the Script Engine.

The Bluebeam Script Reference included with the Q Server distribution provides more information regarding running Scripts in this manner. This document is located in the directory under *{Q Install folder}\Bluebeam Software\Help*.

Server Manager – Processes/Modes

This tab controls the starting and stopping of Q and provides a convenient display of process status as the Q runs. The display is similar to the Processes window in the Windows Task Manager.
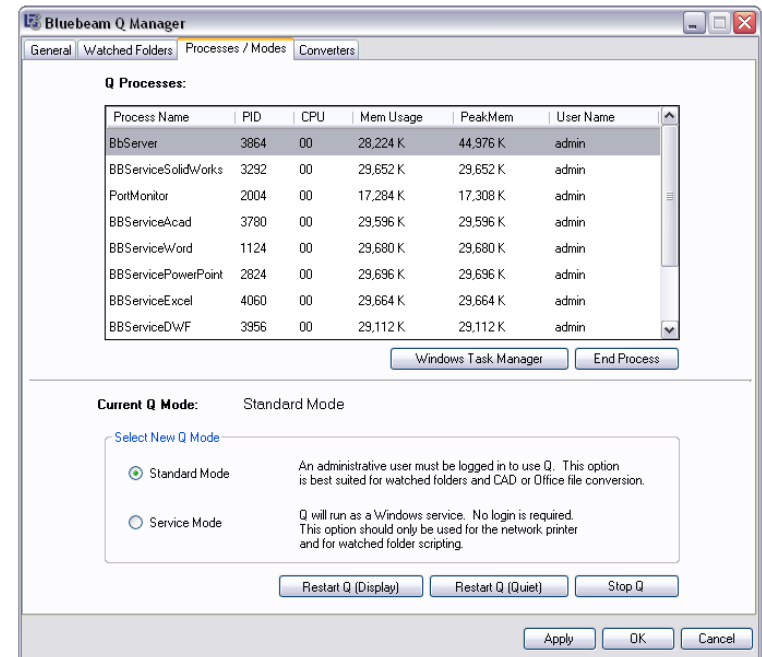
There are 2 modes in which to run Q:

Standard Mode – Runs in a "live" or interactive user account. In this state Q runs as a logged-in user. This is the most reliable setting for using the watched folder interface when converting AutoCAD, SolidWorks or MS Office documents. Because of Windows security and application requirements, this is the only mode that the Server should be run in if the watched folder interface is being utilized.
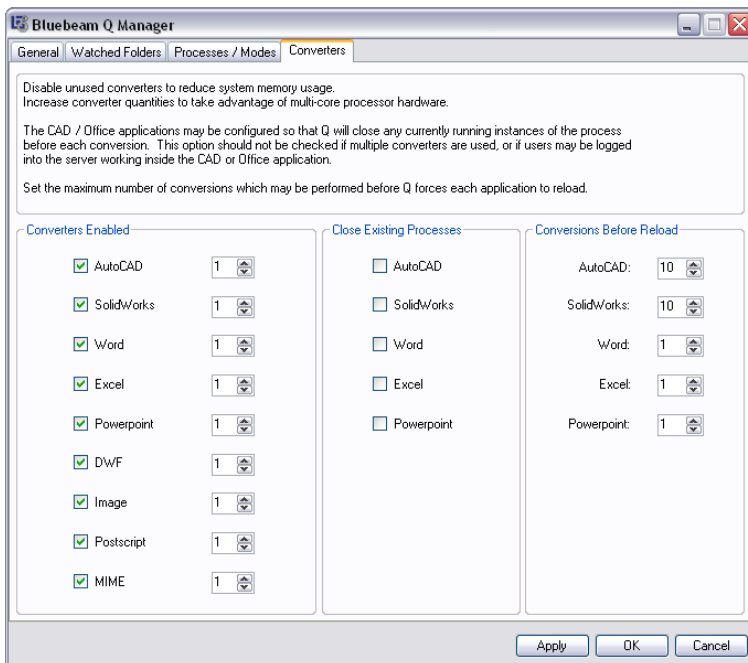
Service Mode – Starts Q as a set of Windows services. This will run AutoCAD, SolidWorks and Office applications in a service mode when

converting these native document types. This is not a recommended configuration due to limitations of Windows security. This mode can be used if you are primarily using the Bluebeam Network printer or the Script Processing Engine.

You can switch between the modes by selecting corresponding radio button and pressing the **Apply** button. Press the **Restart Server** button to stop and automatically restart the server in the new mode.

Q Manager – Converters

Converters Enabled allows you to take advantage of multiple-core modern computer hardware. The number should only be increased above 1 if Q is running on a multiple-core or multiprocessor workstation. If multiple converters are started, use the Windows Task manager to set the affinity of each worker to different processors on the server to maximize throughput of conversions.

It is possible to restart the host applications after a certain number of conversions have occurred by setting the values in the **Conversions Before Reload** for each application. If this value is set to '10' for the AutoCAD converter, the Q server process will launch AutoCAD and the AutoCAD process will remain open for 10 conversions. After the 10th conversion a restart of AutoCAD will occur. It is recommended to set values for restarting the applications because oftentimes, when applications remain open too long, they will tend to consume more and more memory and resources. These resources are freed when the application restarts.

Check the **Close Existing Processes** to ensure that conversion jobs will not get attached to currently running sessions of applications.

Section 7.0 - The Q Web Reporting Tool

The Q Web Reporting Tool is an application to provide status information that is accessible via a web browser. To access the Web Reporting Tool, simply enter *localhost* into an open web browser on the workstation running Q. The default login is user: *admin*; password: *admin*. Once you log in, the **overview** will be displayed.

The overview gives summary information about the number of jobs configured over the past several days; a list of the last jobs converted; jobs that are currently in queue and current Q system processes.
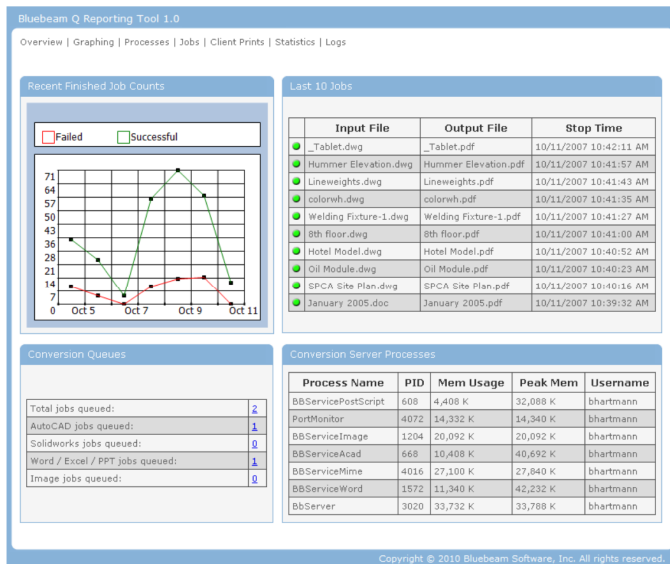
If a job failed, a red icon will be next to the job in the **Last 10 Jobs** box. Click the line to see further detail about the job. Jobs may be re-submitted if conversions fail. To see the active conversions taking place, click on a line in the **Conversion Queues** box. For example, to see the current AutoCAD conversions taking place, click the AutoCAD job conversion queue.
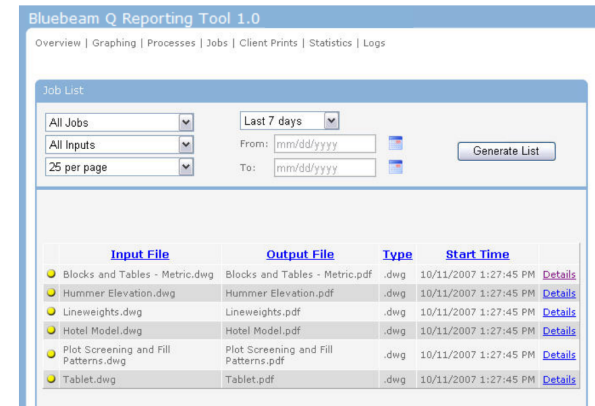
The colored circle next to the line indicates progress: red indicates failed, yellow means in-process and green indicates the job has finished. Clicking the **Details** link will display more information.

There are additional pages accessible through the navigation bar at the top of the overview. Use the **Graphing** page to obtain reports about completed and failed conversion jobs over a user definable date range.

Processes shows processes currently running related to the server. Q can be stopped and restarted and individual processes can be stopped on this screen.

The **Jobs** page shows recent conversion jobs. Reports can be run by specifying the date criteria at the top of the page. Reports can also be run on failed or successful jobs.

Job List

All Jobs
All Inputs
25 per page

Last 7 days
Today
This week
This month
This year
Last 7 days
Last 30 days
Last 12 months
No date limit
Custom

Generate List

Input File	Output File		Time	Stop Time	Conversion Time	
_Tablet.dwg	_Tablet.pdf		0:39:20 AM	10/11/2007 10:42:11 AM	2:50	Details
Hummer Elevation.dwg	Hummer Elevation.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:41:57 AM	3:06	Details
Lineweights.dwg	Lineweights.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:41:43 AM	2:52	Details
colorvh.dwg	colorvh.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:41:35 AM	2:44	Details
Welding Fixture-1.dwg	Welding Fixture-1.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:41:27 AM	2:36	Details
8th floor.dwg	8th floor.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:41:00 AM	2:09	Details
Hotel Model.dwg	Hotel Model.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:40:52 AM	2:01	Details
Oil Module.dwg	Oil Module.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:40:23 AM	1:32	Details
SPCA Site Plan.dwg	SPCA Site Plan.pdf	.dwg	10/11/2007 10:38:50 AM	10/11/2007 10:40:16 AM	1:25	Details
January 2005.doc	January 2005.pdf	.doc	10/11/2007 10:38:50 AM	10/11/2007 10:39:32 AM	0:41.9	Details
Logos.doc	Logos.pdf	.doc	10/11/2007 10:38:50 AM			Details
Tablet.dwg	Tablet.pdf	.dwg	10/11/2007 10:38:50 AM			Details
xxbjlaxm.yjl.dwg	xxbjlaxm.yjl.pdf	.dwg	10/11/2007 12:49:54 AM	10/11/2007 12:56:42 AM	6:47	Details
hjdlh0zs.434.dwg	hjdlh0zs.434.pdf	.dwg	10/11/2007 12:28:15 AM	10/11/2007 12:34:41 AM	6:25	Details
3hrvrogq.kad.xls	3hrvrogq.kad.pdf	.xls	10/11/2007 11:38:38 PM	10/11/2007 11:43:20 PM	4:41	Details
mtywdngn.jdl.doc	mtywdngn.jdl.pdf	.doc	10/11/2007 11:27:14 PM	10/11/2007 11:34:07 PM	6:52	Details
1gfykavg.x0d.tif	1gfykavg.x0d.pdf	.tif	10/11/2007 11:31:41 PM	10/11/2007 11:32:51 PM	1:09	Details
po4u2aav.qcd.dwg	po4u2aav.qcd.pdf	.dwg	10/11/2007 10:40:43 PM	10/11/2007 10:47:21 PM	6:37	Details
3b3p3wel.dtx.dwf	3b3p3wel.dtx.pdf	.dwf	10/10/2007 10:33:47 PM	10/10/2007 10:37:08 PM	3:20	Details

Any jobs sent through the network print client are listed on the **Client Print** job list page. If the client IP address name can be resolved by the server, the name of the host will be displayed in the source column, otherwise the client IP address is displayed.

Client Print Job List

All Jobs
All Outputs
25 per page

Last 7 days
From: mm/dd/yyyy
To: mm/dd/yyyy

Generate List

Source	Application	Output	Start Time	Print Time
192.168.10.31	NOTEPAD.EXE	.pdf	10/11/2007 2:25:19 PM	0:01.5
demo-comp	EXCEL.EXE	.pdf	10/11/2007 2:22:12 PM	0:02.2
192.168.10.31	acad.exe	.pdf	10/11/2007 2:20:17 PM	0:03.7
192.168.10.31	WINWORD.EXE	.pdf	10/11/2007 2:18:29 PM	0:02.5
192.168.10.31	NOTEPAD.EXE	.pdf	10/11/2007 2:17:28 PM	0:02.0
192.168.10.31	NOTEPAD.EXE	.pdf	10/11/2007 2:17:00 PM	0:02.2

Statistics provides a lifetime summary of the total conversions performed by Q.

Conversion Job Statistics

Total jobs submitted:	7241
Total jobs completed:	5556
Total jobs failed:	1683
Longest time to convert a file:	12:05:59
Shortest time to convert a file:	0:01.9
Average time for jobs to complete:	5:50
Average time for jobs to fail:	2:55:14

Client Printer Statistics

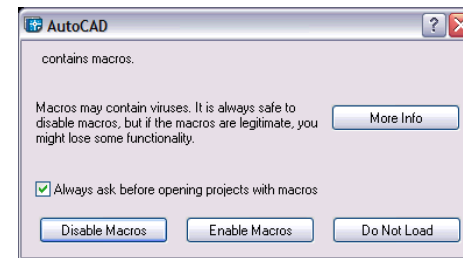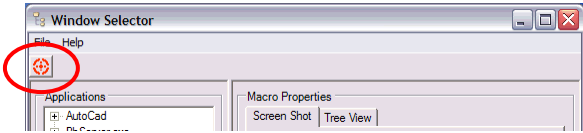|	
Total client prints:	51
Total prints completed:	36
Total prints failed:	14
Longest time to print:	0:04.2
Shortest time to print:	0:01.6
Average time for prints to complete:	0:02.3

Section 8.0 - Using the Windows Selector Tool

This section describes the process for configuring the Window Selector Tool to catch additional Windows dialogs which may pop up when a source file is opened. The Window Selector Tool will automate button pressing, simulating user input so that the conversion can complete conversions. Without utilizing the Window Selector Tool, conversion jobs will get "hung" as the Q Server will be waiting for user input. There are 3 main steps for adding a new window handler event to Q:

1. **Trigger** the dialog box which you want to automate.
2. **Teach** the Window Selector Tool to handle the dialog.
3. **Save** the changes.

We will now walk through the steps for a specific example.

We want to add a window handler event to automatically press the "Disable Macros" button each time the following window appears when an AutoCAD drawing is opened.

AutoCAD

contains macros.

Macros may contain viruses. It is always safe to disable macros, but if the macros are legitimate, you might lose some functionality.

More Info

☑ Always ask before opening projects with macros

Disable Macros   Enable Macros   Do Not Load

- **Start AutoCAD** on the Q workstation and open a drawing for which the preceding popup appears.
- **Load** the **Window Selector Tool** program:
  - On the **Start** menu, click **All Programs**.
  - Click **Bluebeam Software**.
  - Click **Bluebeam Conversion Server**.
  - Click **Window Selector Tool**.
- **Teach** the server to handle the new window:
  - Click the red **Teach** button. (See following illustration.)
  - The Window Selector Tool will vanish momentarily so you can focus on the target AutoCAD window. Click the **Disable Macros** button to record the action.

- Now you will **save** the changes.
  - In the **Macro Action Selector**, type in a name for the new macro, and click **OK.**
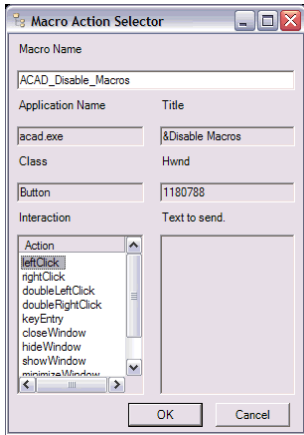
  - The Window Selector dialog will reappear and display the new macro.
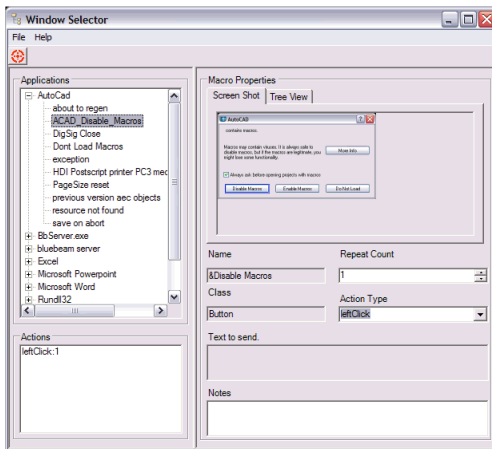
- On the **File** menu, click **Save**. This will write the new window handler macro to the server.
- Finally, let's test the updated Window Handler.
  - Open a drawing that previously triggered the "Disable Macros" dialog. You should see the dialog pop up briefly, then disappear.

If you no longer wish to automate the handling of a window, select the Macro in the Application tree, right-click on the macro you wish to remove, and select **Delete**.

Section 9.0 - Network Printer

Users can access Q by installing the network printer on a client machine. After installing Q, the network printer installation files will be located in *{Q Install Folder}\Conversion Server\PrintClient*. Refer to the *PrintClientREADME.rtf* file for examples of how to do a silent install (for network deployment).

Installing the Network Printer Client

The Bluebeam print client installs a Windows system printer device (Bluebeam Network PDF) on each user's computer who will be printing to the Bluebeam Q server. Note the print client is not needed if you wish your users to interface with Bluebeam Q via the Watched Folder, API, or Script Engine interfaces.

The Print Client interface follows a Client-Server model. The Q server is installed centrally on a workstation and any number of print clients can access the Q server through the Network PDF printer. This interface utilizes a network connection to communicate between the client computer and the Q workstation.
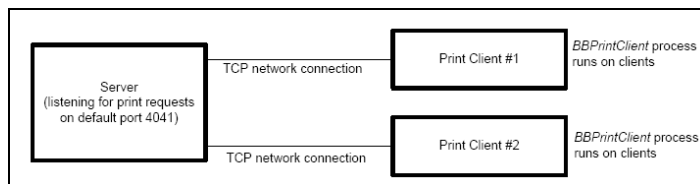
The Server is running a process "listening" for print jobs from any number of clients. By default Q listens on port number 4041. If the workstation running Q is using a firewall, you need to open this port.

In order to add the Network Printer client to the client workstations, a setup program needs to be run. When Bluebeam Q is installed, this setup program is placed in the following directory:

```
C:\Program Files\Bluebeam Software\Conversion
Software\PrintClient
```

You should either copy the contents of this file to the client workstations, or make this folder a network share that can be accessed from the client computers. Then follow this procedure:

- Run the *NetPrinter_32bit.exe* program (or *NetPrinter_x64.exe* for 64-bit operating systems) to begin the install on the client. Once the install is complete, a new printer will be added to the user's workstation called **Bluebeam Net PDF**.

- Configure the printer by starting the Administrator.

  o On the **Start** menu, click **All Programs.**
  o Click **Bluebeam Software.**
  o Click **Print Client Administrator**.
  o **Enter** the name of the server (or IP Address) in the dialog.

If you have multiple servers running Q, you can add additional server name / port combinations via the Manage Servers dialog. The client will try to connect to each server in the list from the top down. If none of the servers can be contacted, the print job will fail. There is also a setting to randomize the order for each print job (for load balancing).
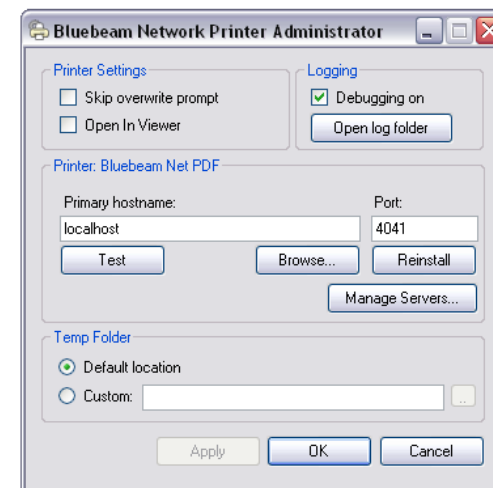
- Press **Test** to ensure that the client can connect to the Bluebeam Q server. If there is a timeout, verify that:
  o If a firewall is running on the Bluebeam Q computer, it has been configured to allow connections to port 4041
  o Open a Windows command prompt and attempt to do a network ping of the Q workstation.

- Try to print from the print client.
    - On the print client workstation, when you print from an application, you should see a "Save As" dialog prompting for the name to give to the PDF and the location to store the file.
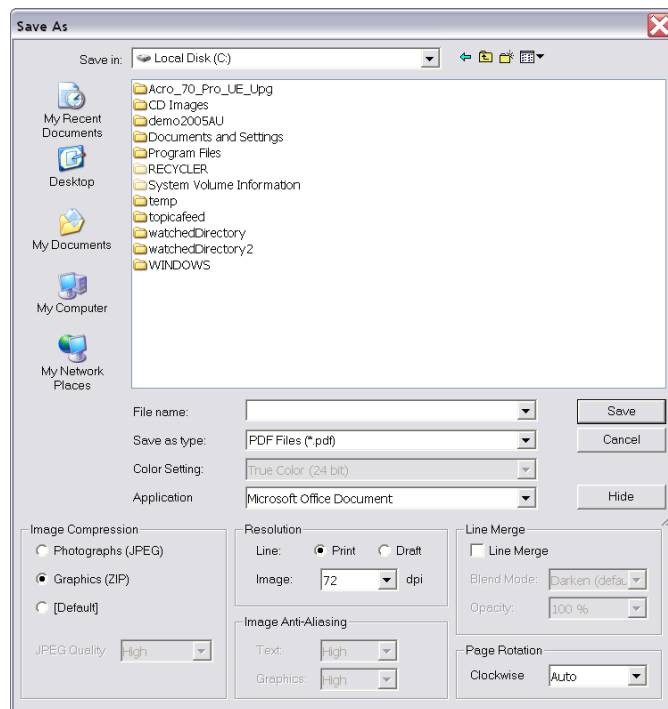
- If the "Save As" dialog **does not** appear, verify that "BBNetPrint" is running in the Task Manager. If it is not, explore the following path.

```
C:\Program Files\Bluebeam Software\Client
```

Once there, double-click on the *BBNetPrint.exe* file.

This process should normally start on its own each time you reboot the workstation. The Registry key *HKEY_LOCAL_MACHINE\ SOFTWARE\Microsoft\Windows\CurrentVersion\Run*, should have an entry, BBClientStart, which should point to the EXE:

```
C:\Program Files\Bluebeam Software\Client\BBNetPrint.exe
```

Section 10.0 - Under the Hood: Q Architecture

Q is built upon a component architecture. The two components which are of interest to the Administrator are the **Converter** and **Listener**.

The **Listener** component shepherds the conversion process through the 4 other components of Q. This process manifests itself through the Windows Handler application. For example, the Listener monitors conversion jobs. If a conversion process is waiting for user input (i.e., an AutoCAD file is opened and a user prompt is displayed asking whether or not the drawing should be regenerated), the Window Handler automates the process of clicking the **OK** button to continue to the process of conversion.

The **Converter** component is where the file type is tied to the mechanism for performing the conversion. There are four paths for converting from an input or source file into an output file. This concept is demonstrated in the diagram below:
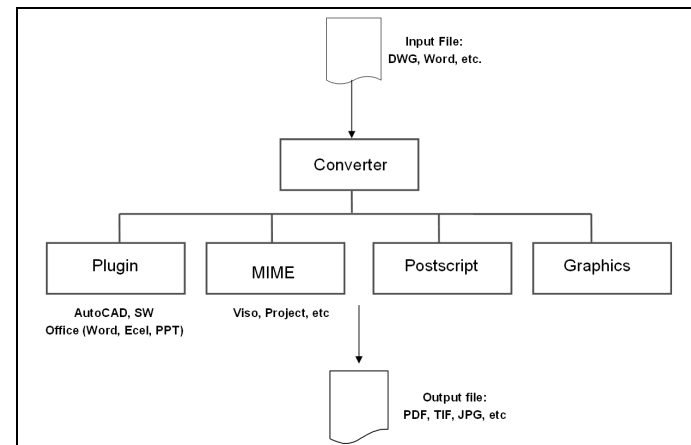
The source input file type determines what converter will get called for performing the transformation. Each converter has different capabilities for performing conversions.

Plugin: This is the most powerful conversion path. Q leverages plugins to various host applications and because of this, can interface with the host application at a lower level than is typical. Bluebeam Q currently directly integrates with AutoCAD, SolidWorks, MS Word, PowerPoint and Excel. Any file types which can be natively handled by these applications can be converted through this mechanism.

What this means is that when Q encounters a DWG, SLDDRW, DOC, XLS, or PPT file, Q can call the appropriate plugin to process the conversion. Via the plugin, Q can set parameters such as whether or not to transfer file properties, bookmarks and hyperlinks, set pen tables and page sizes to use within AutoCAD and specify named layout sheets to convert. The linking of associating files types to specific plugins are set in the *basicconfig.xml.*

Mime: There is a MIME printing path for those applications which Q does not directly integrate with. Using this path, Q issues the equivalent of a File > Print command to the application. An example of this would be a Microsoft Visio file. Q can be instructed to take any VSD file and, so long as the Visio application is installed on the Q server, will launch Visio, open the document and issue a print command to save the file in the specified output format. There are no mechanisms for controlling the page setup in applications using the MIME printing path; that is, the page setup (page size, scaling factor, etc.) in the mode which the files were last saved will be used when converted using the MIME conversion path.

Postscript: Any encountered postscript (.ps) file can be handled natively by Q. A postscript file will be converted to the specified output format.

Graphics: A set of standard raster based graphics formats can also be handled natively by Q. TIF, BMP, JPG, PNG, GIF are valid formats.

Section 11.0 - Script Engine & Conversion API

Q provides a powerful set of automation functionality, enabling both the conversion of source documents (AutoCAD, SolidWorks) to PDF as well as the processing of PDFs in order to combine, flatten, stamp and perform up to 50 other functions. There are 2 sets of API function calls: one focused on the source file to output file creation (e.g., AutoCAD to PDF, Word to PDF); and the other available through the Script Engine interface for automating the processing of PDFs. The following figure depicts the API at a high level.
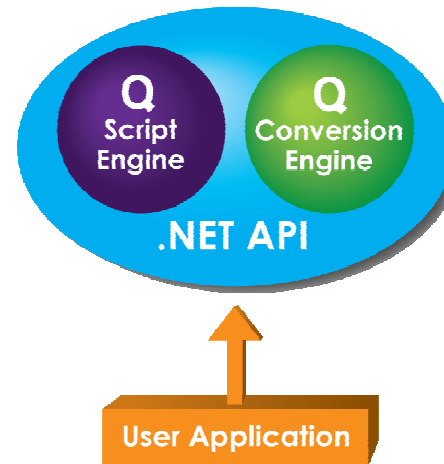
The Bluebeam Q distribution includes many examples of using the API in the *{Q Install folder}\Bluebeam Software\Conversion Server\Code Samples* directory. A **readme.txt** file describes the sample projects included with the distribution.

The Script Engine

With Q, performing automated operations on your existing PDF files is now possible. The possibilities include applying Headers & Footers, Stamps, PDF Security and much more. Scripting is the mechanism that enables this functionality. Within Q there are several ways to utilize scripting. The following diagram depicts the interfaces to the Scripting Engine.
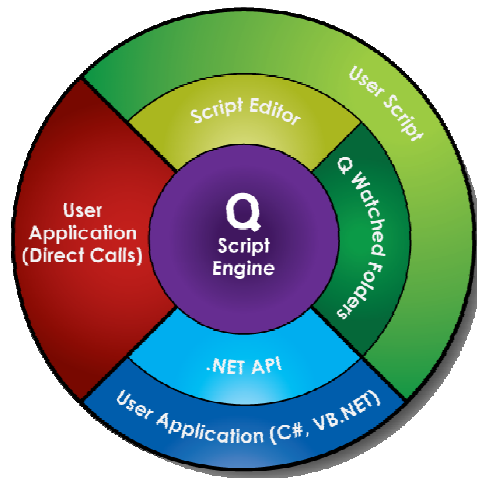
The easiest way to use scripting is with the Watched Folders (shown in green in the above diagram). Using the Bluebeam Q Manager, a batch script can be written that is executed on any file that is dragged into the specified folder. The Script Editor within the Bluebeam Q Manager has auto-complete and integrated help to make authoring scripts as simple as possible. Additionally, the scripting can be run in conjunction with the conversions that the Watched Folders already support. For instance, a watched folder can be set up to convert AutoCAD files to PDF, and then a script could run that adds PDF Security to the newly converted PDF file. The Watched Folders support a subset of the scripting commands that work in a batch environment.

For users with .NET programming capabilities, all of the script commands are included in the Bluebeam Q API. This is represented in the preceding diagram by the blue area. Using the API makes more commands available, and, in contrast to the basic batching done with watched folders, logic can be applied to the operations done to the PDF. For instance, with the API, file properties could be queried from the PDF, and based upon the file properties present in the PDF, particular stamps could be applied.

Finally, for users who do not use .NET, but still want full access to the scripting capabilities, scripts can be run directly from the command line. This is shown in the red "User Application" area of the diagram on the prior page. The script engine supports two modes: normal and

interactive. The normal mode simply runs the script and then exits. The interactive mode listens to the standard input for commands, and then writes the results back to the standard output. Using the interactive mode allows for the same capabilities as the API, but supports any language that can read and write to standard in and standard out. Also, a standalone version of the Script Editor is included with Q to help users write and debug stand-alone scripts. The Script Editor resides in *{Q Install folder}\Bluebeam Software\Script* folder. A help file describing the use of the Script Editor is located in: *{Q Install folder}\Bluebeam Software\Help\ScriptEditorHelp.chm*.

The Q Conversion API

This section gives a brief overview of the Q API. The complete API help is part of the Q installation and is located in the following default folder on the installed system:

```
C:\Program Files\Bluebeam Software\Help\Bluebeam Q API Help.chm
```

Q is built on the Microsoft .NET framework v3.5,sp1, however the API supports .NET 2.0 and later. It is recommended that Visual Studio 2005, 2008 or 2010 be used for development. Bluebeam has supplied code samples for both C# and VB.NET. Getting started with either environment is very similar. One important point to note is that using the API will connect to an existing instance of the server. To use any of the examples, be sure that the server is already running.

Creating a new Project and adding Reference paths
Any Project type should work with Q, however for the purpose of this guide, create a Console Application. To do this open Visual Studio and click *File > New Project*, then select Console Application from either Visual Basic Projects or from C# Projects. The Q API is located in the file BBServerAPI.dll which is installed into *C:\Program Files\Bluebeam Software\Conversion Server*. After creating the new project, add a reference to BBServerAPI.dll, then **Add** the appropriate include statement as follows:

Visual Basic
```
Imports Bluebeam.Hydra.LightProgrammaticInterface
```

C#
```
using Bluebeam.Hydra.LightProgrammaticInterface;
```

Simple Example

The following code example should be entered into the Main() function. It illustrates the most basic usage of Q. Refer to the included sample projects under *C:\Program Files\Bluebeam Software\Conversion Server\Sample Code*.

Visual Basic

```
Dim task As ITask = TaskManager.CreateNewTask()
Dim inputFile As IInputFile =
task.InputFiles.Add("c:\Test\colorwh.dwg")
task.OutputFullPath = "c:\Test\colorwh.pdf"
task.Run()
```

C#

```
ITask task = TaskManager.CreateNewTask();
IInputFile inputFile =
task.InputFiles.Add(@"C:\Test\colorwh.dwg");
task.OutputFullPath = @"C:\Test\colorwh.pdf";
task.Run();
```

A slightly more complicated VB.NET example is shown next.

```
Imports Bluebeam.Hydra.LightProgrammaticInterface

Module AdaptorExVB
Sub Main()
Dim task As ITask = TaskManager.CreateNewTask()
Dim inputFile As IInputFile =
task.InputFiles.Add("c:\Test\colorwh.dwg")
task.OutputFullPath = "c:\Test\colorwh.pdf"

Dim controller As ITaskController = task.Controller
While controller.MoveNext()
  If controller.CurrentConverterName = "AutoCAD.plugin" Then
    Dim conv As ITaskConverter = controller.CurrentConverter
    conv.Adapter.PageSizeEnum = PageSizeEnum.ANSI_D
    conv.Adapter.ScaleType = BbScaleType.ScaleToFit

    conv.Convert()
  End If
 End While
End Sub
End Module
```

The following illustration depicts another annotated example. Please refer to the API samples and help on the Q server for further details.

Section 12.0 - Troubleshooting Q

This section provides further background information regarding initial setup and troubleshooting of Q.

Q has several prerequisites; please verify that you have performed these actions before/during the install:

Validating the Q Installation
1. Q leverages the Bluebeam plugin integrations to AutoCAD, SolidWorks and MS Office (Word, Excel & PowerPoint). In order to make the installation run as smoothly as possible, it is recommended that you install these applications before installing Q. If you will be converting AutoCAD drawings, make sure AutoCAD is installed. If you are converting MS Office drawings, make sure that you have installed MS Office apps.

2. If intending to run in service mode, identify the account which you want to run the Q processes as. At install time you will be prompted for username and password for this account. This account should have local administrator privileges and the following permissions should be allowed:

- log on as a service
- adjust memory quotas for a process
- replace a process level token

Note: As part of the installation process, these above permissions will be automatically set on the user account.

3. You should log in as the user defined in Step 2 and start Word, Office, Excel and AutoCAD and verify that the applications start up and are initialized.

4. Log in and perform the Q Install as local System Administrator, or local user with Administrative privileges.

5. Once you have installed the Q software, you should log in as the account identified in Step 2 and start AutoCAD and the Office applications to verify that the integration with these applications has completed successfully. The easiest way to tell if the integration has happened is if you see the Bluebeam PDF creation buttons in the source applications (AutoCAD, SolidWorks and MS Office). You should also click the **Create PDF** button in the application to ensure that the PDF is created successfully through the plugin interface.

6. To make sure that the desired services start on login, reboot the workstation.

Files dragged into Watched Folder not converting
Q maintains a database of converted jobs. If a file is dragged to a particular watched folder it will convert once. The second time the same file is dragged to the watched folder, it will not reconvert because there is logic in the server to only convert a particular file one time. In order to make the file convert again, the file will have to be modified. Modifying the source file will trigger the server to convert the file again.

Alternatively you can force Q to re-convert an un-modified source file regardless of whether or not it has been converted before. In the Q Manager, check the **do not reconvert files which have not been updated** checkbox in the *Watched Folders > Filter* tab.

Section 13.0 - Technical Support

If you require further assistance, please contact your authorized Bluebeam reseller, or contact Bluebeam directly by one of the methods below. Technical support is available through our website or e-mail at:

www.bluebeam.com
support@bluebeam.com

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