Liquent InSight Rendering 4.4 Administration

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Liquent InSight Rendering 4.4 Administration

This documentation is designed for system administrators and describes how to:

- Configure an InSight Rendering repository
- Configure an InSight Rendering domain
- Submit job tickets
- Administer an domain and the activities performed by a domain

What is Liquent InSight Rendering

Liquent InSight Rendering consists of three parts:

- A library of components known as business services that perform requested tasks
- A performance framework that handles the execution of the business services with failover and load balancing
- A user interface for configuring the framework

The Liquent InSight Rendering Watch Manager enables users to create a wizard-generated set of rendering options defined in an XML job ticket that can be executed at a specified time or interval. The Watch Manager is commonly used to setup a re-occurring polling of a document repository. XML job tickets invoke the business services to render source documents to PDF, based on your license key.

Liquent InSight Rendering Framework

The library of components consists of various business services that can operate independently of one another within the Liquent InSight Rendering framework. The framework handles the execution of the business services on one or more servers, also known as repositories. The framework actually is considered the host of the services. It is a workflow engine that manages the execution of workflow components on one or more repositories.

Highlights of the Liquent InSight Rendering framework include:

- Scalable single-server and multiple-server workflow management
- Ability to perform automatic load balancing
- Event processing and remote notification
- Status and error logging
- Services can be stacked or used interchangeably
- Through TCP/IP, Liquent InSight Rendering can communicate with a Web service or Web site.

The installation of Liquent InSight Rendering on a server is called a repository. There can be only one repository on one server. The installation of a Liquent InSight Rendering repository includes the complete framework: the BusinessServiceServer service that launches the Business Service Manager, which manages the activity of the business services. The figure below illustrates the layout of the framework on a single Liquent InSight Rendering repository server. An application, such as Liquent InSight Rendering Watch Manager, or Liquent InSight submits XML job tickets to the Liquent InSight Rendering framework.

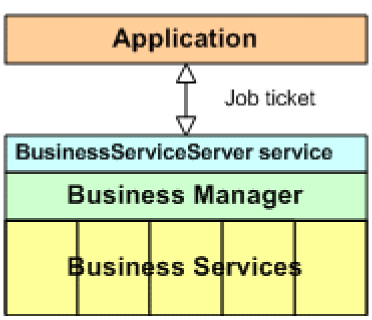


Figure 1:

Representation of the Liquent InSight Rendering framework (single server)

Workflow Engine

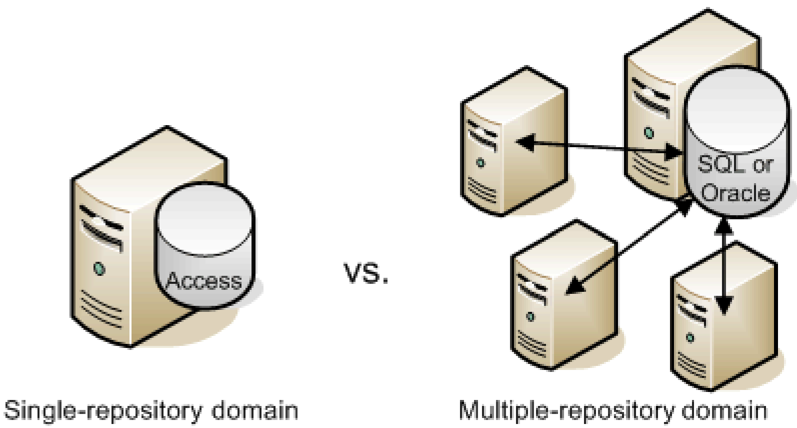
A workflow is the computerized facilitation or automation of the steps in a business process, in whole or part. For example, an InSight Rendering workflow for the business process of rendering a document may include the following steps:

- Retrieving a document
- Rendering a document
- Distributing the document back to a Document Management System (DMS)

In the workflow, the business process is represented as XML. This XML representation is called a job ticket. In an XML job ticket file, the parent node is the workflow and the child nodes are the business service steps of the workflow. You can customize your own XML job ticket with specific business services.

InSight Rendering Domain

As represented in the figure below, an InSight Rendering domain can be comprised of either one or more repository servers that share a central database, login information, and a license key. In a multiple-repository domain, the repositories communicate with each other to distribute work evenly across the domain and to protect against the loss of jobs when failures occur. The InSight Rendering domain can be configured to assign specific business services to a repository, and to notify users by e-mail of the events occurring on the repositories.



License Activated Business Services

While the InSight Rendering installation includes the complete library of business services, the license key that you purchase from determines which business services are activated for use. Please note, the InSight Rendering Watch Manager interface will not restrict you from submitting job tickets that request a business service for which you are not licensed. However, the submitted job ticket will fail since the unlicensed business service will not attempt to perform the requested job.

Liquent InSight Rendering Components

The Liquent InSight Rendering environment contains several components, which are available for use based on your license:

- **Business Services** are the library of components that represent business functions used by Liquent InSight Rendering-based applications, that is, applications that submit XML job tickets to the Liquent InSight Rendering framework. The business services that may be employed is determined by your license key. The Liquent InSight Rendering business services are primarily designed to perform and manage document processing.
- **Domain Manager** is used to configure and administer the Liquent InSight Rendering domain and the repositories within that domain.
- **Watch Manager** is used to schedule watches for rendering documents and to write customized Scheduled Work job tickets.
- **Liquent PDF Creator** is a printer driver that uses the Windows Print function with the freely provided PDF Converter technology to produce a print stream to encapsulate page elements in PDF.
- **Plug-ins** are format translators that let you open source documents in authoring programs and send them to the PDF printer.
- **DMS modules** enable you to access document repositories in a document management system (DMS). These modules handle logging on to a DMS, retrieving and distributing documents and their renditions, and gathering properties for documents.

Notes Regarding Authoring Applications

Consider the following with regards to InSight Rendering authoring application support:

- If a source document is not compatible with the rendering server authoring tools, change the source document to make it compatible. You cannot use downgraded versions of the authoring tools on the servers.
- Before installing Microsoft Office, if you set the Regional Option to non-US/English for your operating system, bookmark extraction will not work properly when rendering a document. Any non-US/English Regional Option settings should be made after Microsoft Office has been installed.
- InSight Rendering can render documents for many different authoring programs to PDF, license permitting. The authoring programs for which you want to render source documents must be installed on each repository in the InSight Rendering domain. Using the service account that you set up when you installed InSight Rendering, install the authoring programs following the installation instructions provided by that vendor.
- InSight Rendering can render documents accurately only if authoring programs run successfully and without prompts or dialogs, including registration dialogs. After you install InSight Rendering, start each authoring program to confirm that it runs this way.

Configuring a Liquent InSight Rendering Domain

These topics describe in detail how to configure a Liquent InSight Rendering domain, to which one or more Liquent InSight Rendering repositories belong.

Liquent InSight Rendering Domain Manager

The Liquent InSight Rendering Domain Manager is used to configure and administer the Liquent InSight Rendering domain and the Liquent InSight Rendering repositories within the domain. The graphical user interface (GUI) has a directory tree view in the left pane with related information displayed in the right pane. You can use the left pane to manage repository machines, logins, licenses and services.

To access Domain Manager, on the Windows desktop, double-click the Domain Manager icon. This icon is shown in *Icons Used in the Domain Manager*.

Icons Used in the Domain Manager

You can use the following icons in the Domain Manager:

Icon	Name	Description
	Domain Manager	Starts the Domain Manager.
	New	Create a new service, input, login, routing, subdomain, content type, or data category.
	Delete	Delete a service, input, login, routing, subdomain, content type, data category, repository, job, scheduled job, notification, log message.
	Properties	Edit the properties of a domain, subdomain, repository, service, input, login, content type, data category, license, job, scheduled job, or routing.
	Suspend	Suspend a repository, job, scheduled job, or routing.
	Resume	Resume a repository, job, scheduled job, or routing.
	Cancel	Cancel a job.
	Filter	Filter details about a notification, job, scheduled job, or log message.
	Refresh	Update the current page or pane.
	Install License	Install an license.
	In Progress	Indicates the In Progress job status.
	Completed	Indicates the Completed job status.

Icon	Name	Description
	Suspended	Indicates the Suspended job status.
	Failed	Indicates the Failed job status.
	Cancelled	Indicates the Cancelled job status.

Saving and Restoring Domain Settings

Any changes that you make using the Domain Manager do not take effect until you save your changes. Up until the moment you save your changes, you can revert back to the Domain Manager settings from the last time they were saved.

1. To save your **Domain Manager** changes, from the menu bar, choose **File** > **Save**.
2. To revert your **Domain Manager** settings to the last save, from the menu bar, choose **File** > **Reload**.

Viewing License Properties

The license file that provides you controls aspects of your InSight Rendering domain and determines which business services can be used.

To view license properties:

1. In **Domain Manager**, click the **Configuration** tab in the left pane.
2. Expand **Domain** and then click **Licenses**.
   a) In the right pane, all the business services installed for this repository are listed.

   If you are licensed to use a business service, **yes** appears in the **Licensed** column.
3. Right-click on **Licenses** in the left pane and choose **Properties**.
   The **License Properties** dialog box opens.

License Properties

On the **General** tab:

Setting	Description
Version	The Liquent InSight Rendering version number.
Company	The name of the company that bought the product.
License Period	The length of time when the license is active.
Expires:	The date when the license expires.
Max Servers	The maximum number of servers on which InSight Rendering can be installed.
Max Services	The maximum number of business services that can be configured and licensed on an InSight Rendering repository server.

Setting	Description
OEM	Indicates whether the license is for an OEM customer that will be redistribute the license.
Allow Custom Services	Indicates whether you can create your own custom business services.

On the **Products** tab:

Setting	Description
RenderPerfect or **StatusViewer**	Indicates whether you have a license for the associated product.
Version	The StatusViewer version.
Max Users	The maximum number of users who can use StatusViewer.

Configuring URL's for Online Help

When you install InSight Rendering, default URLs for the locations where you can access online help for InSight Rendering are configured automatically.

After installation, you can change these URLs.

If you want to change the URLs, note the following:

- A user who runs InSight Rendering needs access rights to the help file location to be able to use the help.
- The help can be in any shared folder in the same InSight Rendering domain.

To change the URLS for InSight Rendering help, do the following:

1. Open the **Domain Manager**.
2. On the menu bar, click **Help**.
3. On the Help menu, click **Help Configuration...**.
4. On the **Help Configuration** window, change the URLs.
5. Click **OK**.

Changing the Service Account

Prior to installing InSight Rendering, you were instructed to set up a service account for installing all required applications, and for installing, configuring, and running all InSight Rendering repositories. If necessary, you can configure InSight Rendering to work with another service account that you have set up.

This procedure requires the InSight Rendering application to be restarted. Confirm that no jobs are in progress before proceeding. Unless instructed to do so, changing the service account is not recommended.

To change the service account:

Note: Perform this procedure on each repository in a domain.

1. In **Domain Manager**, choose **File** > **Set User**.
   The **Set User** dialog box opens.
2. In the **Domain** box, enter the name of this repository server.

3. In the **User** box, enter the user name for the new service account.
4. Enter the password for the new service account in the **Password** and **Confirm Password** boxes.
   You are prompted that in order for the setting to take effect, the application must be restarted.
5. Click **Yes** to confirm.

Configuring the Liquent InSight Rendering Database

The Liquent InSight Rendering domain of repositories is served by a central database in which domain settings and job tickets are stored. These topics include various procedures for configuring your Liquent InSight Rendering database.

Establishing an External Database

A multi-repository domain requires a separate server running an Oracle database.

An Oracle database running on a separate server is required for a multiple-repository Liquent InSight Rendering domain. Use this procedure to set up an external database for your Liquent InSight Rendering domain.

Note: The following procedure should only be performed on the first repository server to be added to the a multiple-repository Liquent InSight Rendering domain.

To establish an external database for a Liquent InSight Rendering domain:

1. In the left pane of **Domain Manager**, click the **Configuration** tab.
2. At the top of the directory tree, right-click **Domain** and choose **Properties**.
   The Domain Properties dialog opens.
3. Click the **Database** tab.
4. To use Oracle, it must already be installed on a database server with the Liquent InSight Rendering tables created, see Oracle requirements.
5. Do the following:
   a) For **Service**, specify the Oracle server database service that you created when you installed the Oracle Client on the repository server.
   b) Enter **VISTA1** for the user, and then enter the password defined when the database was established.
   c) After confirming the database is installed and started on the database server, and that the database tables have been created, click **Test Database**.
   d) Click **Test Database** once the tables have been created. A dialog stating that the Database test was successful appears.
6. Click **OK** in the Domain Properties dialog box.
7. When prompted, click **Yes** to confirm that you want to change to the Oracle database.
8. Select **File** > **Save** to save your changes.
9. Restart the Liquent InSight Rendering server.

Moving Repositories to the External Database

Now that you have added a repository server to the domain of an external database, you can move additional repository servers to that InSight Rendering domain by joining them to the database.

To move a repository to the database for a InSight Rendering domain:

1. Start **Domain Manager** on the repository server that you want to move.
2. Suspend the repository.
   Suspending the repository enables it to finish processing current jobs but prevents it from processing any others while you are moving it.
3. Do the following:
   a) In the left pane, click the **Administration** tab.
   b) Expand **Domain**.
   c) Click the repository that you want to move.
   d) After the right pane refreshes to display the business services, right-click the repository and click **Suspend**.
4. If the repository is the logging server for the domain, configure another repository to be the logging server.
5. Click the **Configuration** tab in the left pane.
6. Expand **Domain** > **Repositories**, and then click the repository you are moving.
7. From the menu bar, choose **Edit** > **Move**.
   The **Move Repository** dialog box opens.
8. Since the database was established for the first repository server in the InSight Rendering domain, you can move the repository by clicking **Machine** and specifying the **Name** of the first repository server. This action joins the repository server on which you are working to the InSight Rendering domain and database. You can also move the repository by clicking **Database** and specifying the database as you did in *Establishing an external database*.
9. Click **OK**.
10. Return to the **Administration** tab in the left pane, right-click on the server you moved and select **Resume**.
11. Choose **File** > **Save** to save your changes.
12. Restart Domain Manager.

    Now that this repository server has been moved from the local single-repository InSight Rendering domain to the multiple-repository InSight Rendering domain, the repository disappears from the **Domain Manager** window. To view this repository in the multiple-repository InSight Rendering domain, choose **View** > **Domain** to change the InSight Rendering domain you are viewing in the **Domain Manager** window.

Repairing a Database Configuration

There are many reasons why your initial configuration settings for your database may no longer apply, such as your database password has changed, the connection information in your registry is no longer accurate, or the originally configured database no longer exists.

When the Domain Manager cannot connect to the database using the established configuration settings or password, the **Domain Repair** dialog box opens. The Domain Repair dialog box displays your previous settings and enables you to change, test, and execute new database configuration and password settings.

If an outdated password is the reason for activating the Domain Repair function, refer to the topic *Changing the database password*.

Repairing Configuration Settings

When the **Domain Manager** is unable to connect to the database due to inaccurate registry information or a change in database, you need to reset your configuration settings. Depending on the condition that activated the Domain Repair function, you may need to complete some or all of the following steps.

Note: A Domain Manager repair must be performed from each machine in the domain.

To repair your configuration settings for an Oracle server:

1. In the **Domain Repair** dialog box, select the service.
2. Click **Repair**.
3. If a license is required, the **Install License** dialog box opens.
4. Click the browse button and navigate to the location of the license file.
5. Click the license file.
6. Click **Open**.
7. Click **Install License**.
8. Confirm that you want to continue with the installation of the license file.
9. When the installation is complete and the date and time have updated in the dialog box, click **Close**.

Changing the Database Password

When the **Domain Manager** detects an out-of-date password, the Domain Repair function is activated. The **Domain Repair** dialog box opens to the database type in question and requests a new password.

To change the database password:

1. Enter the new password.
2. Click **Repair**.
   Domain Manager connects to the database server automatically, using the new password.

Configuring E-mail

InSight Rendering has the ability to send e-mail notifications regarding the status of jobs and repositories within the domain. These topics explain how to setup e-mail notifications in Domain Manager.

Defining E-Mail Notifications

Once you establish an SMTP server on each repository in the domain, you can specify the e-mail addresses of the users to be notified, and the monitored events for which they will receive e-mail notifications.

Note: Perform this domain-level procedure on only one repository in a domain.

To configure e-mail notifications:

1. In **Domain Manager**, click the **Administration** tab in the left pane.
2. Click the **Notifications** tab in the right pane.

3. Right-click within the **Notifications** tab and choose **New notification** from the shortcut menu.
   The **New Notification Properties** dialog box opens.
4. In the **General** tab, do the following:
   a) In the **Recipient** box, enter a user's e-mail address.
   b) The **Requestor** box is read-only since you are defining a domain-level notification from Domain Manager.
   c) In the **Events** list box, click each event for which you want e-mail notifications to be sent.
   d) Click **Select All** for e-mail notifications on all monitored events.

   Note: E-mail notifications can also be established at the job level so that users receive e-mails regarding the progress of a specific job, see *Submitting Job Requests* for more information.
5. Use the **Job Filter** and **Scheduled Job Filter** tabs to further narrow the job events for which notifications are sent, see *Filter Criteria*.
6. Click **OK**.
7. Repeat this process for each individual to receive domain-level notifications.

Configuring Content Types for Rendering

The rendering to PDF documents is accomplished using plug-ins. A plug-in is a format translator that can also contain entity identification rules. Each plug-in must be associated with a content type so that InSight Rendering can determine which plug-ins to use for processing a source document.

Every source file has a file format descriptor. File format descriptors can be either a file extension or a DMS attribute assigned to a document. For example, the file type of a Microsoft Word document in a file system is `doc`, while it is `msw<version>` in Documentum. If you are using two or more DMSs, then you must create a content type for each file format descriptor included in your publications. If a document's file format descriptor is not associated with a plug-in, then InSight Rendering cannot render that source document.

Note: Perform this domain-level procedure on only one repository in a domain.

To configure content types:
1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** and click **Content Types**.
3. In the right pane, the **File Extension** column shows the file extensions for which plug-ins have been associated.
   To change a content type settings:
   a) Right-click the content type and choose **Properties**.
   b) Continue to step 5.
4. To associate a new content type with a plug-in, right-click in the right pane and choose **New content type**.
   The **Content Type Properties** dialog box opens.
5. In the **File Extension** box, enter the file extension, without the period, to which the plug-in is to be associated.
   You may also associate a plug-in to a **Documentum** file type.
6. In the **Description** box, provide a description of the content type.
7. In the **Plugin** box, select the plug-in to associate with the file extension.
8. Check **Create Bookmarks** if you want to use the plug-in to generate bookmarks in your rendered output.
9. To customize the rendering or bookmark extraction settings for a content type, click either **Rendering Options** or **Bookmark Options**.
   If the content type permits customization, the button will not be greyed-out.
10. Click **OK** to close the **Add Content Type** dialog box.
11. Repeat steps 3 through 10 for each content type that you need to configure.

12. Choose **File** > **Save** to save your changes.

    Note: On international operating systems, if you configure the bookmark options for the Microsoft Word content type to use template extraction, and then after rendering a document you attempt to reconfigure the bookmark options, you may receive an error. If this occurs, delete and then recreate the Microsoft Word content type to reconfigure it.

Configuring Archive and Purge Intervals

To eliminate the unnecessary accumulation of processed job tickets and temporary files, the Domain Manager provides a means for archiving job tickets and for purging job tickets and temporary files.

To support the InSight Rendering fault tolerance mechanism, XML job tickets and temporary files used by business services are stored and retained.

Note: Perform this domain-level procedure on only one repository in a domain.

To specify the job archive and purge intervals:

1. In **Domain Manager**, select the **Configuration** tab in the left pane.
2. At the top of the directory tree, right-click **Domain** and select **Properties**.
   The **Domain Properties** dialog box opens.
3. In the **Domain Properties** dialog box, select the **General** tab.
4. Under **Job Archiving**, define the following:
   a) From the **Archive Machine** list, specify the repository that handles the tasks of archiving/purging job tickets from the database.
   b) In the **Purge Age** box, specify the age (in days) at which archived job tickets whose age exceeds the purge interval are purged.
   c) In the **Archive Age** box, specify the age (in days) at which processed job tickets whose age exceeds the archive interval are archived. The archive interval must be less than purge interval.
5. Under **Temporary files (com platform only)**, do the following:
   a) In the **Delete Age** box, specify the age (in days) at which saved temporary files whose age exceeds the delete interval are deleted. On an hourly basis, files are deleted based on each file's date/time stamp.
   b) Clear the **Use network shared folders** setting to disable network sharing among the local **SharedTemp** folders. It is selected by default and is required for InSight.

   Note: Clearing the **Use network shared folders** setting can result in inconsistent versions for output documents in a multi-server environment.
6. Click **OK**.
7. To save your change, choose **File** > **Save**.
   Every midnight the archive server archives processed jobs and purges archived jobs based on the intervals that you defined.

Setting the Automated Purge of Temporary Files

When a server executes business services, temporary files are created in several places throughout the operating system by the authoring applications. These files are not needed after the original document has been processed, but there is no way to easily clean up the temporary files. Leaving these files in place can lead to problems later as they accumulate. To that end, there is a new function to automate the deleting of these temporary files.

InSight Rendering comes with a default set of folders specified. These folders have been known to be problematic if too many files accumulate therein.

To access the temporary folders cleanup function:

1. In the **Configuration** tab of Domain Manager, right-click on **Domain**.
2. Select **Properties**, then select the **Temp Folders** tab.
   The default folders can be removed or edited here, and additional folders can be added.

Specifying a Folder to be Cleaned Up

To specify a folder to be cleaned up:

1. Choose the folder, and click **Edit**.
2. Set the **Age**.
   Files this age or older when the process is run (every hour) will be deleted from each InSight Rendering server in the Domain.
3. Set any filter criteria for the file types to be purged.

Configuring Centralized Logging

As rendering and publishing activities take place in an domain, each repository records log messages on the server hosting the repository. Included with Domain Manager is a user interface that enables you to view and query the log messages generated on all the repository servers in an InSight Rendering domain.

To use this centralized logging feature, you must configure one of the repository servers in the domain as the log server. The log server will “collect” the log messages from the repositories in the domain and store them in the domain database. Once the log messages are stored in the database, the **Log Messages** tab can be used to view and query the messages.

Be aware that you can still view the log files individually on each repository server using a text editor such as Notepad.

Centralized logging is most useful if you are having a problem with . You can configure centralized logging to provide one view of all log messages in the domain while you are troubleshooting the problem. After you resolve the problem, disable centralized logging because it increases the size of the database on the domain log server, reducing the performance of .

To set up a repository server as the domain log server:

1. On the desktop of the repository server that you want to be the log server, right-click **My Computer**, and on the menu, click **Manage**.
2. In the left pane of the **Computer Management** window, expand **Services and Applications**, and click **Services**.
3. In the right pane, right-click **BusinessServiceLogServer**, and click **Properties**.
4. On the **General** tab of the **BusinessServiceLogServer Properties** dialog box, on the **Startup type** list, click **Automatic**.
5. Under **Service status**, click **Start**.
6. Click **OK**.
7. Close the **Computer Management** window.
8. In **Domain Manager**, select the **Configuration** tab in the left pane.
9. At the top of the directory tree, right-click **Domain** and choose **Properties**.
   The **Domain Properties** dialog box appears.

10. In the **Domain Properties** dialog box, select the **Logging** tab.
11. Under **Logging Level**, select the messages detail level.
    This determines the type of messages that the log server collects and stores in the domain database. Any logging level increases the size of the domain database, but the **Error** level has the least negative impact on the performance of InSight Rendering.
12. Under **Log Server**, do the following:
    a) Specify the **Machine** that will be the log server for the domain.
       It is recommended that you do not change the default **Port** setting.
    b) In the **Purge Age** box, specify the age (in days) at which archived log messages whose age exceeds the purge interval are purged.
    c) In the **Archive Interval** box, specify the age (in days) at which log messages whose age exceeds the archive interval are archived.
       The archive interval must be less than purge interval.
    d) Click **Check Log Server** to confirm that the repository server is available.
13. Click **OK**.
14. Choose **File** > **Save** to save your changes.

> **Note:** With centralized logging enabled, you will receive “unable to notify business service” warnings when jobs are processed for which e-mail notifications are not configured.

Disabling Centralized Logging

To disable centralized logging:

1. On the desktop of the domain log server, right-click **My Computer**, and on the menu, click **Manage**.
2. In the left pane of the **Computer Management** window, expand **Services and Applications**.
3. Click **Services**.
4. In the right pane, right-click **BusinessServiceLogServer**, and on the menu, click **Properties**.
5. On the **General** tab of the **BusinessServiceLogServer Properties** dialog box, on the **Startup type** list, click **Manual** or **Disabled**.
6. Under **Service status**, click **Stop**.
7. Click **OK**.
8. Close the **Computer Management** window.
9. In **Domain Manager**, select the **Configuration** tab in the left pane.
10. At the top of the directory tree, right-click **Domain** and choose **Properties**.
    The **Domain Properties** dialog box opens.
11. In the **Domain Properties** dialog box, select the **Logging** tab.
12. Under **Log Server**, select **Machine** and use the Delete or Back Space keys to clear the value.
13. Click **OK**.
14. Choose **FileSave** to save your changes.

Configuring Content-Based Routing of Jobs

Domain Manager allows you to route job requests to individual repository servers or groups of servers, called subdomains, within the InSight Rendering domain based on job properties or business services.

Defining Subdomains

A subdomain is a grouping of repository servers that represents a subset of the servers belonging to an InSight Rendering domain.

For example, if your InSight Rendering domain consists of servers in the US and UK, you can define a subdomain including all the US servers and a subdomain including all the UK servers. There is no limit to the number of servers that you can join to a subdomain, and an individual repository server can belong to more than one subdomain.

Regarding content-based routing, if you want to route job requests to a group of servers in a subdomain, you must first define the subdomain before you can define the content-based routing criteria.

If you want to route job requests to a group of servers in a subdomain, based on job properties or business services, you must first define the subdomain before you can define the content-based routing criteria.

You need to perform this procedure on only one repository in a domain.

To define a subdomain:

1. In **Domain Manager**, click the **Configuration** tab in the left pane.
2. Expand **Domain** and click **Subdomains**.
   In the right pane, the **Name** column lists any subdomains that have already been defined.
3. To change a subdomain's settings:
   a) Right-click the subdomain and choose **Properties**.
   b) Continue to step 5.
4. To create a new subdomain, right-click in the right pane and choose **New subdomain**.
   The **Subdomain Properties** dialog box opens.
5. In the **Name** box, enter a name for the subdomain.
6. In the **Description** box, enter a description for the subdomain.
7. In the **Repositories** list box, check the repository servers that you want to join to this subdomain. You can also join repositories to existing subdomains using the **Repository Properties** dialog box; see *Repository Properties*.
8. Click **OK**.
9. Repeat steps 3 through 8 for each subdomain that you need to define.
10. Choose **File** > **Save** to save your changes.
    Once you have established your subdomains, you can use them when defining job routing criteria.

Defining Routing Criteria

Content-based routing enables you to direct job requests to individual repository servers or sub-domains based on the routing criteria you define. You can define routing criteria by job property or by business service.

Routing by Job Property

You can route job requests based on the following properties that appear in an XML job ticket:

Job property	Description
job-name	This routes jobs by job name.
priority	This routes jobs by the priority (1-10) assigned to a job with the **priority** attribute.
product	This routes jobs based on the `product` attribute.
submitted-on	This routes jobs by the name of the repository server that submitted the job.
submitter	This routes jobs based on the `submitter` attribute.

Job property	Description
tag	This routes jobs based on the `tag` attribute.

Defining Routing by Job Property

Note: Perform this domain-level procedure on only one repository in a domain.

To define routing by job property:

1. In **Domain Manager**, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Routing** and click **Routing by job**.
3. In the right pane, the **Job Property** column lists any routing criteria that have already been defined.
4. To change a routing criterion's settings, right-click the routing criterion and choose **Properties**.
5. To create a new routing criterion, right-click in the right pane and choose **New routing**.
   The **Routing by Job Properties** dialog box opens.
6. On the **General** tab, do the following:
   a) In the **Property** drop-down box, select the job property by which you want to route job requests.
   b) In the **Condition** drop-down box, select the option by which you want to qualify the job property you selected.
   c) In the **Value** box, enter the value that determines whether a job request meets the routing criterion.
7. On the **Routing** tab, check the sub-domains and individual repository servers to which job requests meeting the routing criterion are directed.
8. Click **OK**.
9. Repeat steps 3 through 8 for each routing criterion that you need to define.
10. Choose **File** > **Save** to save your changes.

Routing by Business Service

You can route job requests based on the business service requested in the job request.

Note: Perform this domain-level procedure on only one repository in a domain.

To define routing by business service:

1. In **Domain Manager**, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Routing** and click **Routing by service**.
3. In the right pane, the **Service** column lists any routing criteria that have already been defined.
4. To change a routing criterion's settings, right-click the routing criterion and choose **Properties**.
5. To create a new routing criterion, right-click in the right pane and choose **New routing**.
   The **Routing by Service Properties** dialog box opens.
6. On the **General** tab, do the following:
   a) In the **Service**, **Request** and **Parameter** drop-down boxes, select the business service and attributes by which you want to route job requests.
   b) In the **Condition** drop-down box, select the option by which you want to qualify the business service you selected.
   c) In the **Value** box, enter the value that determines whether a job request meets the routing criterion.
7. On the **Routing** tab, check the sub-domains and individual repository servers to which job requests meeting the routing criterion are directed.
8. Click **OK**.
9. Repeat steps 3 through 8 for each routing criterion that you need to define.

10. Choose **File** > **Save** to save your changes.

Setting PDF Rendering Options

To set options that determine how PDF documents are rendered, do the following on only one repository in a domain:

1. In **Domain Manager**, click the **Configuration** tab in the left pane.
2. On the Domain tree, click **PDF options**.
3. For each of the following group of options, click the option group under PDF Options in the Domain tree or click the tab for the option group, and type or select values for the options:
   - Render Method
   - General Settings
   - Font substitution
   - Font embedding
4. Click **OK**.
5. On the menu bar, click **File**.
6. On the **File** menu, click **Save**.

Render Method Options

In Domain Manager, you can set PDF options for rendered PDF documents. The following PDF options are set on the Render Method tab.

All the options on this tab apply to the LIQUENT PDF Creator printer.

Option	Description
LIQUENT PDF Creator	Use the LIQUENT PDF Creator to render documents. This is the default.
Predefined	The predefined page size of rendered documents. To render A4-size documents, select **Predefined**, and then select **A4** from the drop-down list. To render 8.5 x 11 (letter) documents, click **Predefined**, and then select **Letter** from the drop-down list. If you assign a value to either of the following, that value overrides the value of **Predefined Page Size**: • **Disallow A4/Letter paper resizing** in the transformation options for the Microsoft Word plug-in • **Scale content for A4 or 8.5 x 11" paper sizes** in Microsoft Word For more information about options for resizing, see *Configuring Microsoft Office for Rendering* and *Microsoft Word*.
Custom	Renders 8.5 x 14 (legal) documents as documents with the page size that you specify. To define a default paper size for the LIQUENT PDF Creator printer, select **Custom**, type values for **Width** and **Height**, and select the unit of measure for **Units**

General Settings

To configure Domain Manager, you can set PDF options for rendered PDF documents. The following options are set on the **General Settings** tab.

Option	Description
Version	The Acrobat PDF version for rendered output. If you assign a value to either of the following, that value overrides the **Version** option: • The version option in Watch Manager • The version parameter for the Render business service in a custom-written job ticket The default option of Version is **Acrobat 5 (1.4)**.
Optimize for fast web view	Makes PDF files more suitable for viewing on the Web. This option makes the first page of a PDF document load as fast as possible. The PDF Document Properties dialog box in Adobe Acrobat indicates whether a PDF document is optimized for fast Web view.
Delete blank bookmarks	When heading level styles are not included in a source document, InSight Rendering includes blanks in the bookmark tree by default for the missing heading levels. If you select this option, InSight Rendering removes the blank bookmarks and adjusts the nesting of the bookmarks. For example, if Heading 1 is missing from the source document, the Heading 2 bookmark is nested in the bookmark tree where Heading 1 would have been.
Bookmark level on open	The number of bookmark levels in a rendered document when it is opened. This can be **All** or a number from 1 to 20. If the **Page Mode** option is set to **UseNone**, a rendered document is opened without bookmarks and the **Bookmark level on open** option is not used. If **Page Mode** is set to **UseBookmarks**, a rendered document is opened with the number of bookmark levels that **Bookmark level on open** specifies. **Bookmark level on open** is a global option for all your PDF renditions. However, it can be overridden by options made in Watch Manager and by an optional parameter in the Render business service of a custom-written job ticket.
Show bookmark panel when no bookmarks	Shows the Bookmarks panel without bookmarks in a rendered document when the document does not contain bookmarks and the **Page Mode** option is set to **UseBookmarks.**
Open cross-document links in same window	Sets whether cross-document links in rendered output are opened in the same window: • **Default**: Use the Preferences setting configured in the user's PDF viewer. • **No:** Do not open cross-document links in the same window. • **Yes**: Open cross-document links in the same window.
Page Layout	One of the following page layouts for a rendered document when is is opened: • **Single Page**: Displays one page in the document pane at a time. • **OneColumn:** Arranges the pages in one continuous column. • **TwoColumnLeft:** Arranges the pages in two columns, with all odd-numbered pages in the left column. • **TwoColumnRight:** Arranges the pages in two columns, with all odd-numbered pages in the right column. The default page layout is set on a user's **Adobe Acrobat Document Properties** dialog box.

Option	Description
Page Mode	One of the following page modes for a rendered document when it is opened: • **UseNone**: Displays the document pane without a navigation pane containing bookmarks and thumbnails. • **UseBookmarks**: Displays the document pane and the navigation pane with the Bookmarks panel in the following cases. If the PDF document contains bookmarks, **UseBookmarks** displays the Bookmarks panel with bookmarks. If the PDF document does not contain bookmarks and the option **Show bookmark panel when no bookmarks** is selected, **UseBookmarks** displays the Bookmarks panel without bookmarks. • **UseThumbnails**: Displays the document pane and the navigation pane with thumbnails for the pages.
Magnification	One of the following kinds of magnification for a rendered document when is is opened: • **Default**: The default zoom magnification on the user's Adobe Acrobat Document Properties dialog box. • **Fit Width**: The width of the page is the width of the window. • **Fit Height**: The height of the page is the height of the window. • **Fit Visible**: The width of the page content (text and graphics) is the width of the window. The window does not contain the left and right vertical margins. • A percentage of the actual page size.
Hide menubar	Hides the Acrobat or Acrobat Reader menu bar.
Hide toolbar	Hides the Acrobat or Acrobat Reader toolbar.
Hide window controls	Displays a PDF file without the left pane and status bar.
Fit window	Displays the PDF page to fill the screen.
Center window	Centers the PDF page on the screen.
Display document title	Displays the document title on the page.

Font Substitution Options

To configure Domain Manager, you can set PDF options for rendered PDF documents.

When creating published PDF output from InSight, InSight Rendering substitutes Windows fonts for PDF postscript fonts in the PDF.

Out-of-the-box, InSight Rendering maps many of the commonly occuring postscript fonts to their Windows font equivalent for substitution. Using the **Font Substitution** tab, you can define the mapping for fonts.

You can select the default Window font for all PDF postscript fonts by going to the **Default Window font** box and clicking the font.

To override the default Window font for a specific PDF postscript font:

1. On the **Font Substitution** tab, in the table at the bottom, right-click anywhere.
2. Click **New font substitute**.
3. On the **New Font Substitute Properties** page, in the **PDF font** box, type the PDF font name.
4. In the **Windows font** box, click the Windows font that you want to substitute for the PDF font.

Where Office 2013 is installed throughout the InSight Rendering domain, select **Arial Unicode MS**. This has all of the characters that will be needed for most languages.

Where there is at least one instance of Office 2016 installed in the InSight Rendering domain, use the following as a guide (select any font that will work; these are merely suggestions):

- Arial - Latin characters
- Meiryo - Japanese characters
- PMingLiU - Traditional Chinese (Taiwan/HK/Macau) characters
- SimSun - Simplified Chinese (P.R.C. Mainland/Singapore) characters
- Betang - Korean characters

5. Click **OK**.

Font Substitution: Delete Window Font

To delete the Window font mapped to a specific PDF postscript font:

1. On the **Font Substitution** tab, right-click a row containing a PDF font and Windows font.
2. Click **Delete**.
3. Click **Yes**.

Font Embedding Options

In Domain Manager, you can set font embedding options for rendering PDF documents.

Option	Description
Optimized Font Embedding	Enables the creation of fonts in a uniform fashion for the entire InSight Rendering system. It utilizes the CompactFont format and Identity-H encoding to embed the fonts while achieving the most portable and compliant PDF possible.
Standard Font Embedding	Enables the standard font embedding for the entire InSight Rendering system.
Embed fonts	Enables or disables font embedding for the entire InSight Rendering system.
Subset	If **Embed fonts** is selected, **Subset** embeds only the font characters used in the document. This setting does not apply to fonts for which you define exceptions in the table below this option. For example, if **Subset** is selected but for the MSMincho font the **Embedding** field in the table is set to **None**, no characters from the MSMincho font are embedded in the document.
Full	If **Embed fonts** is selected, **Full** embeds all characters from the fonts used in the document, whether or not those characters are used in the document. This setting does not apply to fonts for which you define exceptions in the table below this option. For example, if **Full** is selected but for the MSMincho font the **Embedding** field in the table is set to **Subset**, only the MSMincho characters that are in the document are embedded in it.

Setting Specific Font Embedding Options

You can specify exceptions to the **Embed fonts** option by specifying whether specific fonts are embedded in PDF documents.

Note: To make a document comply with FDA regulations, do not specify any exceptions to full embedding.

To set a specific font embedding option:

1. On the **Font Embedding** tab, in the table at the bottom, right-click anywhere.
2. To define an exception for a specific font, click **New font embedding**.
3. On the **New font Embedding Properties** dialog box, in the **Windows Font** box, click the font name.
4. In the **Embedding** box, click one of the following embed rules for the font that you selected:
   - **None**. This does not embed the font for any characters.
   - **Full**. This embeds the font for all characters, whether or not they are used in the document.
   - **Subset**. This embeds the font only for the characters used in the document.
5. Click **OK**.

Deleting a Specific Font Embedding Option

To delete a specific font embedding option:

1. On the **Font Embedding** tab, right-click the row containing the font for which you no longer want a specific embedding option defined.
2. Click **Delete**.
3. Click **Yes**.

   The font you deleted will now adhere to the overall system setting defined at the top of the **Font Embedding** tab.

Configuring a Repository

Within the InSight Rendering domain, there are settings for each repository that determine how a repository functions and interacts in the domain. These settings affect business services, communications, and database connections.

Repository Properties

To view or modify repository properties:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Repositories** and click a repository in the directory tree.
3. Choose **Edit** > **Properties**. The Repository Properties dialog box opens.
   - The **General** tab consists of TCP/IP ports on which the repositories in an InSight Rendering domain communicate. It is recommended that you do not change the default port settings, however you can change the port settings in the event of a conflict with another application.
   - The **Database** tab enables you to specify connection pooling settings. By checking **Connection Pooling**, you can specify the **Max Connections** that are held open and available at all times, and the **Connection Timeout** value that specifies in minutes how long before a connection is dropped between calls to the database.
   - The **Sub-domains** tab enables you to join a repository to a subdomain.

4. To close the Repository Properties dialog box, click **OK**.
5. To save your changes, choose **File** > **Save**.
6. Restart the InSight Rendering server.

Business Services

When InSight Rendering is installed, all the Parexel business services available in are included with the installation. The license that you purchase from Parexel determines whether a business service is available for use. Using Domain Manager, you can:

- Determine if you are licensed for a service
- Add or delete a business service from a repository
- View and modify the default configuration of a business service for a repository
- Specify which business services a repository performs.

Licensed Business Services

To view your licensed business services:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** and click **License** in the directory tree.
3. In the right pane, all the business services installed for this repository are listed.
   If you are licensed to use a business service, **yes** appears in the **Licensed** column.

Add or Delete a Business Service

Depending on your license, you can create custom business services that the Business Service Server can invoke when the service is called in an XML job ticket.

To add a business service to a repository:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Repositories** > **<repository name>**, right-click **Services**, and choose **New service**.
3. Complete the **Add New Service Properties** dialog box while referencing the field descriptions in **Business Service configuration**.
4. Click **OK**.
   Include the new business process in the list of business services processed by this repository.
5. To save your change, choose **File** > **Save**.

Deleting a Business Service

To delete a business service from a repository:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Repositories** > **<repository name>**, and then click **Services**.
3. In the right pane, highlight the service(s) that you wish to delete, right-click on a highlighted service, and then choose **Delete**.
4. After confirming the deletion, the business service(s) no longer appears in the list of services.
5. To save your change, choose **File** > **Save**.
6. Restart the InSight Rendering server.

Business Service Configuration

The Parexel business services properties are initially installed with default settings, some of which may be modified to suit your needs.

To view and modify the configuration of a business service for a repository:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Repositories** > **<repository name>** and click **Services** to view the list of services installed on this repository in the right pane.
   Included in the right pane are several columns representing the settings for a business service.
3. Right-click the business service you wish to modify and choose **Properties**.
   Service Properties
4. The business service settings are as follows:

Business Service Setting	Description
Alias*	The name of the business service as it appears in an XML job ticket.
Concurrent	The number of simultaneous instances of this business service that may run on the repository. **Concurrent** must be set to **1** for the following business services: Backbone-generator, IpFusion, IpLinkSetter, MSWord, and Render.
Platform †	Indicated whether the service is COM (Windows)-based or JAVA-based.
Prog ID* †	The ID that is referenced to instantiate the business service executable.
Queue Type	This defines the priority order for the execution of business service requests from job tickets. A business service can process job ticket requests as first-in, first-out (**fifo**), or in a **priority** order of 1-10 as defined in a job ticket.
Retry Count †	How many times the business service should attempt to reprocess an unsuccessful job.
Retry Interval †	How many seconds the business service should wait before attempting to reprocess an unsuccessful job. This value must be set to 1 or greater if the **Retry Count** is set to 1 or greater.
Timeout †	This specifies the maximum amount of time that you expect a business service to need to process a job. If a job runs longer than this timeout period, the job is cancelled. For BusinessServiceRender, you might need to increase this value to process the content of the documents that you usually render.
Persist Jobs*	Whether to save the job ticket for the business service in the InSight Rendering domain's database. It is highly recommended that you select this option.

   * denotes a default setting that should not be changed for the Parexel business services installed with .

   † denotes fields that are disabled for the Workflow business service since they are not relevant to that service.
5. Click **OK**.
6. To save your change, choose **File** > **Save**.
7. Restart the InSight Rendering server.

Default InSight Rendering Service Settings

The following are the recommended default settings for the services displayed in the InSight Rendering Domain Manager.

Alias	Concurrent	Timeout	Retry Count	Retry Interval
backbone-generator	1	60	0	0
distribute	5	30	2	4
file	5	5	0	0
ftp	5	5	0	0
IpFusion	1	5	1	3
IpLinkSetter	1	30	1	3
MsWord	1	30	2	2
notify	5	5	0	0
PDFFile	5	5	1	3
printer	1	30	1	2
queue	5	5	2	3
render	1	30	2	2
retrieve	5	5	2	3
watermark	5	5	1	2
workflow	5	0	0	0
zip	5	5	0	0

Business Services Performed by a Repository

You can restrict which licensed business services are performed by a repository. The ability to limit the business services performed provides a means for load balancing the work processed in an InSight Rendering domain.

To specify the business services performed by a repository:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. Expand **Domain** > **Repositories** > **<repository name>**, and then click **Inputs**.
   The right pane displays the TCP/IP socket port through which jobs are submitted to the repository for processing.
3. Right-click the TCP/IP port and choose **Properties**.

   Channel specifies the TCP/IP port number used for internal communications among the repositories in the domain. The default input channel for the repositories in an InSight Rendering domain is **2867**. It is highly recommended that you do not change the default port setting. Under **Specify which services use this input** are all the business services installed on the repository. A check next to a business service means that jobs for that service can be sent to this repository for processing.

   The **Input Properties** dialog box opens.
4. Check all the licensed business services that you want this repository to process.
   By unchecking a service, jobs for that service will not be submitted to this repository.
5. Click **OK**.

6. To save your change, choose **File** > **Save**.
7. Restart the InSight Rendering server.

Deleting a Repository

A repository server can be removed from an InSight Rendering domain by deleting it from the Domain Manager window.

To delete a repository from an InSight Rendering domain:

1. Suspend the repository.
   Suspending the repository enables it to finish processing current jobs but prevents it from processing any others while you are deleting it.
2. Do the following:
   a) In the left pane, click the **Administration** tab.
   b) Expand **Domain**.
   c) Click the repository that you want to delete.
   d) After the right pane refreshes to display the business services, right-click the repository and click **Suspend**.
3. If the repository is the logging server for the domain, configure another repository to be the logging server.
4. Click the **Configuration** tab in the left pane.
5. Expand **Domain** > **Repositories**, and then click the repository you are deleting.
6. From the menu bar, choose **Edit** > **Delete**.
   After confirming the deletion, the repository no longer appears in the left pane.
7. To save your change, choose **File** > **Save**.

Improving Repository Server Performance

There are settings that can be defined to improve the publishing and rendering performance of the InSight Rendering repository servers in an domain.

Improving Performance on a VmWare Host

If an InSight Rendering server runs on a VMWare host, configure the following VMWare reservations for InSight Rendering to improve performance:

- 50% CPU reservation
- 100% RAM reservation

For information on how to configure VMWare reservations and tune for VMWare, refer to the *Enterprise Java Applications on VMware Best Practices Guide* - http://www.vmware.com/files/pdf/techpaper/Enterprise-Java-Applications-on-VMware-Best-Practices-Guide.pdf.

Collected links
http://www.vmware.com/files/pdf/techpaper/Enterprise-Java-Applications-on-VMware-Best-Practices-Guide.pdf

Memory Allocated to Java-Based Business Services

InSight uses the Java-based eCTD backbone business service to create the XML files and checksum files required for a compliant eCTD submission. The eCTD backbone business service, as well as any other Java-based business service, is allocated a maximum of 512 MB of memory by default on an repository server, which is usually sufficient for most publishing jobs. However, if the memory allocation is not enough, the eCTD backbone job will fail. To avoid this error, Domain Manager enables you to increase the maximum amount of memory on the servers in the InSight Rendering domain that can be allocated to a Java-based business service.

Perform this domain-level procedure on only one repository server in a domain.

To increase the memory allocation:

1. In Domain Manager, click the **Configuration** tab in the left pane.
2. At the top of the directory tree, right-click **Domain** and choose **Properties**.
   The **Domain Properties** dialog box opens.
3. In the **Domain Properties** dialog box, select the **General** tab.
4. Under **JVM Option (Java business services)**, in the **Memory Size** box, enter a value between 512 and 1024 MB.
5. Click **OK**.
6. Choose **File** > **Save** to save your changes.

Server Performance Options

In order for an InSight Rendering repository server to process rendering jobs in a proficient manner, certain performance options must be set on the server. The following procedures explains how to set these performance options.

Note: This procedure must be performed on each repository server in a domain.

To set the system performance settings:

1. On the Windows desktop, right-click on **Computer** and choose **Properties**.
2. In the **Control Panel\System** window, click **Advanced system settings**.
3. In the **System Properties** dialog box, click the **Advanced** tab.
4. Under **Performance,** click **Settings**.
5. **Performance Options** dialog box, click the **Advanced** tab.
6. Under **Processor scheduling**, click **Programs**.
7. Click **OK** to save the setting and close the **Performance Options** dialog box.
8. Click **OK** to close the **System Properties** dialog box.
9. Close the **Control Panel\System** window.

Restricting Virus Scans on InSight Rendering

Do not run a virus scan on the following:

- InSight Rendering install folder
- VistaTempDir folder
- Target file for the Liquent PS Printer

Running a virus scan on an InSight Rendering folder can do the following:

- Make Java fail
- Corrupt documents
- Reduce performance

Do not run a virus scan on any InSight Rendering folder continuously. Continuous virus scans reduce InSight Rendering performance.

Liquent InSight Rendering Repository

In the realm of a Liquent InSight Rendering domain, the servers that belong to the domain are called repositories. Except where explicitly stated otherwise, the term "repository" is a reference to a Liquent InSight Rendering server.

Fault Tolerance and Load Balancing

InSight Rendering always provides:

- Fault tolerance that minimizes the loss of jobs when repositories fail.
- Load balancing that ensures that over time work is evenly distributed across the repositories, and at any given time, work is sent to the least busy repository.

Optionally, you can also configure fault tolerance and load balancing for Service (IRS). See *Fault Tolerance and Load Balancing for Liquent InSight Rendering Service (IRS)*.

Fault Tolerance for Repositories

InSight Rendering makes a reasonable attempt to protect against the loss of jobs when repository failures occur. All jobs are initially 'owned' by the repository to which the job was submitted. The owning repository is responsible for ensuring that the job gets done. However, if a repository goes down (for example, a machine failure or program crash), the fault tolerance mechanism is initiated. How fault tolerance is provided depends on:

- Whether the domain has one or more repositories
- Whether a repository shutdown is abnormal (failure) or normal (all jobs are suspended and the BusinessServiceServer service is stopped)
- The state that the job is in (in-progress or queued)

If a domain has more than one repository, then each repository acts as a backup repository for the others. A backup repository is responsible for taking ownership of another repository's queued and in-progress jobs if that repository goes down.

If termination of a repository is normal (that is, user requested), in-progress jobs will be cancelled (the Jobs tab will show them as "cancelled"). If desired, the Jobs tab can be used to resubmit these jobs. If a backup repository is available, the backup will take ownership of queued jobs (that is, jobs not yet started) and resume them. If no backup is available, then queued jobs are resumed when the terminated repository is restarted.

If termination is abnormal (that is, due to failure) then the backup (if any) will take ownership of queued and in-progress jobs and resume them. If no backup, then these jobs will be resumed when the repository is restarted.

In a multiple-repository domain, repositories may send jobs to other repositories to be executed. Each repository monitors other repositories in the domain and is aware of which repositories are down. This prevents jobs from being sent to repositories that are not available. In addition, if a job is sent to another repository and that repository subsequently goes down then the sending repository will detect this condition and retry execution of the job.

Not mentioned above are scheduled jobs and event notifications. Like regular jobs, these are owned by the machines on which they were originally requested. If a repository goes down, then the backup repository (if any) will take ownership and be responsible for performing the work until the original repository is restarted. Ownership is then transferred back to the original repository and the work continues there. If no backup is available (single-repository domain), then the work will continue when the single-repository is restarted.

Managing Large Tickets

To support the fault tolerance mechanism and control the size of an domain's database, job tickets 128,000 characters for an Oracle database are stored on the submitting repository server's local drive while the file names of the job tickets are still stored in the domain's database.

Job ticket files are also stored on up to two additional repository servers in a multiple-repository domain. The repositories designated by the domain to backup the job ticket files are identified by a **Y** in the **Database Backup** column on the **Repositories** tab.

When a job ticket is purged from the InSight Rendering domain's database the job ticket file is deleted from the local drives of the submitting and backup repository servers.

Hardware Exceptions

The following hardware exceptions might be relevant to InSight Rendering on your system.

Virtual Memory and Rendering Graphics-Laden Documents

For the vast majority of rendering jobs, the amount of physical memory and virtual memory available on a server for rendering documents is more than adequate. However, when rendering documents that contain a large amount of graphics, it is possible to receive warnings from the server that you are running low on virtual memory. If virtual memory errors persist, increase the virtual memory to eliminate these errors.

Load Balancing for Repositories

Load balancing for repositories is used to ensure that:

- Work is evenly distributed across the repositories.
- At any given time, work will be sent to the least busy repository.

For business services other than the Render business service, this is accomplished by each repository periodically publishing its current work load to the other repositories. When a repository has the option to send a job to more than one repository, it uses this information to choose the best repository.

For the Render business service, due to potentially long running rendering jobs, an “on demand” queuing approach is used. A rendering job is held by the server on which the job request was submitted while the server notifies the other servers in the domain that a job is available. The idle server that first responds to the notification is given the job. In other words, only a server that is ready to do the work is given the work. This “on demand” queuing approach for rendering avoids having jobs queued up behind a long running job while idle servers are available.

Fault Tolerance and Load Balancing for Liquent InSight Rendering Service (IRS)

Liquent InSight Rendering releases before 4.1 included the VistaJ component, installed on the Insight application server. This server used VistaJ services to communicate with Liquent InSight Rendering.

Liquent InSight Rendering releases starting with 4.1 include the Service (IRS) Web service, installed on one or more servers, instead of VistaJ. The InSight application server now uses IRS services to communicate with Liquent InSight Rendering.

Eliminating the Single Point of Failure

You configure InSight Publisher to have the URL for an IRS that handles all job requests to Liquent InSight Rendering. However, if this IRS fails, InSight Publisher cannot communicate with Liquent InSight Rendering.

To eliminate this single point of failure, you can use several industry-standard, third-party, load-balancing and fail-over solutions. All the solutions require IRS to be installed on more than one InSight Rendering server. You can contract the Parexel Client Enablement team to configure these solutions.

If you do not use a software or hardware load balancer, you can create a DNS alias for the InSight Rendering server.

If you do not implement a fail-over solution and the IRS fails, you must configure the InSight application to have a new URL. Then you must restart the InSight Rendering server.

Configuring Web Farms

Microsoft provides fault-tolerant or load-balancing software solutions for use with Microsoft Internet Information Server (IIS) and the InSight Publisher application server. A Web farm enables InSight Publisher to point to the URL of a server that distributes job requests to all active IRS servers in the Web farm. If one IRS servers fails, the Web farm continues to send requests to other active IRS servers.

To create a Web farm on a Windows server, an IT administrator installs IIS with Application Request Routing (ARR) and URL Rewrite Module. For more information, see the Microsoft tutorials at http://www.iis.net/learn/web-hosting/scenario-build-a-web-farm-with-iis-servers.

Collected links
>http://www.iis.net/learn/web-hosting/scenario-build-a-web-farm-with-iis-servers

Managing Memory Usage by the LIQUENT InSight Rendering Service (IRS)

The **web.config** file installed with the InSight Rendering Service (IRS) controls how the Microsoft Internet Information Server (IIS) interacts with IRS and how the IRS operates.

Generally, you do not need to change the properties in this file. However, you can, for example, if you encounter out of memory errors when is processing large tickets. To use less memory, change the following threshold properties in the appSetting section of the file:

- DecompresAsFileThresholdKB. The IRS decompresses any compressed job ticket smaller than this in memory. The IRS decompresses larger tickets by using a temporary file.
- SubmitJobAsFileThresholdKB. The IRS passes any job ticket larger than this to a business service manager as a filename and a file, rather than keeping the ticket only in memory.

To use less IRS memory, decrease the value of either property, but note that using less memory degrades IRS performance.

Note: The `web.config` file also contains properties for ticket dump variables used for debugging. Do not change these properties unless Technical Support asks you to.

Administer a Liquent InSight Rendering Domain

These topics discuss the tools provided with Liquent InSight Rendering for monitoring and administering Liquent InSight Rendering domain and the repositories within the domain.

Liquent InSight Rendering Domain Administration

In the left pane of the Domain Manager window is the **Administration** tab, which consists of several tools for monitoring and administering a Liquent InSight Rendering domain and the repositories in that domain.

When you click on **Domain** at the top of the directory tree in the left pane, five tabs appear in the right pane for managing your Liquent InSight Rendering domain.

Repositories Tab

The **Repositories** tab shows the availability of each repository in the InSight Rendering domain. By right-clicking on a repository in the right pane, you can:

- **Suspend** – This prevents a repository from processing jobs.
- **Resume** – This resumes a suspended repository.
- **Refresh** – This updates the information displayed in the right pane.

Note: If you suspend a repository that is the logging server for the domain, configure another repository to be the logging server.

Services Tab

The **Services** tab lists all the InSight Rendering business services and shows the number of jobs in each of the various processing stages.

Jobs Tab

The **Jobs** tab is used to monitor the jobs in an domain that are in process or have been processed. Information about the jobs are presented in three panes: the **Parent Job Status** pane, the **Child Job Status** pane and the **Job Details** pane. The jobs that appear in these panes are the result of job tickets submitted to an InSight Rendering repository, see *Submitting job requests*.

Job Options

You can select one or more jobs in the **Parent Job Status** pane and then right-click to open a shortcut menu containing several job options. The **Domain Manager** window has icons that correspond to some of these menu options. The following table describes these menu options and icons:

Option	Icon	Description
Archive jobs	No icon	Archive the ticket information for the selected jobs. This information is archived from the domain database.
Cancel jobs		Cancel the selected jobs.
Delete jobs		Remove from the domain database all ticket information for the selected jobs. The information is not archived.
Resume jobs		Resume any suspended jobs that you selected. If you suspend a job and it does not resume after you choose the **Resume jobs** option, choose the **Re-submit jobs** option to reprocess the job.
Suspend jobs		Immediately suspend processing the selected jobs.
Re-submit jobs	No icon	Reprocess the selected jobs. Use this to re-submit a failed job. If you suspend a job and it does not resume after you choose the **Resume jobs** option, choose the **Re-submit jobs** option to reprocess the job.
Submit new job	No icon	Create and submit a job ticket.
Cancel all jobs	No icon	Cancel all jobs listed in the **Parent Job Status** pane.
Resume all jobs	No icon	Resume all jobs listed in the **Parent Job Status** pane.
Suspend all jobs	No icon	Immediately suspend processing all jobs listed in the **Parent Job Status** pane.
Filter jobs		Filter the job status details. See *Defining Filter Criteria*.
Refresh jobs		Return to the beginning of the job list and update the displayed information and color-coded status icons for the jobs on the list.
Save request as	No icon	Save the XML job ticket that appears on the Original Request tab of the **Job Details** pane as a `.xml` file. This option is available only when just one job is selected.
Save results as	No icon	Save the XML job ticket that appears in the Current Results tab of the **Job Details** pane as a `.xml` file. This option is available only when just one job is selected.

Parent Job Status Pane

Jobs are submitted to the InSight Rendering repositories as job tickets in XML format. Use the Parent Job Status pane to monitor the progress of the jobs being processed in InSight Rendering domain. Each of the following color-coded icons quickly communicates the status of a job.

Icon	Name	Description
	In Progress	Indicates the In Progress job status.
	Completed	Indicates the Completed job status.
	Suspended	Indicates the Suspended job status.
	Failed	Indicates the Failed job status.
	Cancelled	Indicates the Cancelled job status.

The jobs displayed in this pane can become numerous and are shown in increments of 100. To continue through the list of jobs, click **Next Set**. To return to the beginning of the job list and to update the progress of the jobs displayed and the color-coded status icons, click the **Refresh** icon. This icon is shown in *Icons Used in the Domain Manager*.

Child Job Status Pane

The XML job tickets that are submitted to the InSight Rendering repositories consist of “sub-jobs” representing the business service steps of the workflow. The **Child Job Status** pane “breaks down” the job you have highlighted in the **Parent Job Status** pane into its sub-jobs.

Each time you click on a parent job in the **Parent Job Status** pane, the **Child Job Status** pane refreshes, which may effect system performance. You can avoid automatic refreshing by clearing the **Auto-display sub-jobs** option. You can then click **Display** to control when you want to view the sub-jobs for a parent job.

The sub-jobs displayed in this pane can become numerous and are shown in increments of 100. To continue through the list of sub-jobs, click **Next Set**. To return to the beginning of the list and update the sub-job displayed, click the **Refresh** icon. This is icon is shown in *Icons Used in the Domain Manager*.

You can highlight one or more sub-jobs in the **Child Job Status** pane and then right-click to open a shortcut menu of sub-job options. The **Domain Manager** window has icons that correspond to these Sub-job Edit menu options. The following table describes these menu options and icons:

Sub-Job Options

Option	Icon	Description
Filter sub-jobs		Filter the sub-job status details.
Refresh sub-jobs		Return to the beginning of the sub-job list and update the information and color-coded status icons for the displayed sub-jobs.

Job Details Pane

The **Job Details** pane shows you advanced job ticket information for the parent job or child job that you have highlighted in either the **Parent Job Status** pane or **Child Job Status** pane. The tabbed sections in the **Job Details** pane show XML ticket information, current results, and brief descriptions of executed processes:

- **Status Detail** – This tab gives a general breakdown of the job ticket
- **Original Request** – This is the original XML job ticket request
- **Current Results** – This tab shows the XML-encoded results of a processed job ticket
- **Status Description** - This tab displays any messages generated by the repository regarding the current status. If the job failed, this description should contain an appropriate error message.

InSight Rendering Job Fails at InSight Job Requests

If a job request (such as publish, prepare to publish, or volumization by size) takes longer than 12 hours, please contact your account executive or Technical Support. The Enterprise Connector web service timeout is set to 12 hours (43200 seconds) in the `web.config` file. If necessary, your system administrator can modify the `web.config` file in the Enterprise Connector folder to increase the default timeout.

Scheduled Jobs Tab

The **Scheduled Jobs** tab is used to manage the XML job tickets with which a specified time or recurring interval is associated, that is, the job tickets to be executed at a defined schedule. The individual recurring jobs performed by the business services as requested by a scheduled job ticket appear in the panes of **Jobs** tab.

Scheduled Job Options

You can select one or more scheduled jobs and then right-click to open a shortcut menu of scheduled job options. The Domain Manager window has icons that correspond to most of these menu options. The following table describes these menu options and icons:

New scheduled job	No icon	Create and submit a scheduled job ticket.
Delete scheduled jobs		Remove from the InSight Rendering domain database the ticket information for the selected scheduled jobs. The information is not archived.
Suspend scheduled jobs		Immediately suspend processing the selected scheduled jobs.
Resume scheduled jobs		Resume the suspended scheduled jobs that you selected.
Filter scheduled jobs		Filter details about the selected scheduled jobs.
Refresh scheduled jobs		Return to the beginning of the scheduled jobs list and update the displayed information and color-coded status icons for the scheduled jobs on the list.
Properties		Edit a scheduled job ticket. This option is available only when just one scheduled job is selected.

Notifications Tab

The **Notifications** tab allows you to manage the jobs, recipients and events for which e-mail notifications are sent.

From the **Notifications** tab you can create domain-level event notifications and modify job-level event notifications.

Notification Options

You can select one or more e-mail notifications and then right-click to open a shortcut menu of notification options. The **Domain Manager** window has icons that correspond to most of these menu options. The following table describes these menu options and icons:

Option	Icon	Description
New	No icon	Create a domain-level e-mail notification for a user.
Delete		Removes the selected notifications.
Filter		Filter details about the selected notifications.
Refresh		Return to the beginning of the notifications list and update the displayed notifications information.
Properties		Edit a notification. This option is available only when just one notification is selected. For a job-level notification, you can edit only the events for which the notification is sent.

Log Messages Tab

The **Log Messages** tab enables you to view and query the log messages stored in the InSight Rendering domain's database by the log server. However, before you can use the **Log Messages** tab, your domain must be set up for centralized logging.

The log messages displayed can become numerous and are shown in increments of 100. To continue through the list of messages, click **Next Set**. To return to the beginning of the list, and to update the display with the most recently generated log messages, click the **Refresh** button..

Log Message Options

You can highlight one or more scheduled jobs and then right-click to open a shortcut menu of sub-job options:

- **Archive log messages** – This allows you to archive the selected messages.
- **Delete log messages** – This allows you to delete the selected messages.
- **Save log messages as** – This allows you to export the selected messages by saving them to a specified file name and location.

You can also export log messages by choosing **File** > **Export Log Messages** and then completing the filter criteria in the Export Log Messages dialog box. See *Filter criteria* for an explanation of the fields in the **Export Log Messages** dialog box.

To filter log messages, click the **Filter** icon. This icon is shown in *Icons Used in the Domain Manager*.

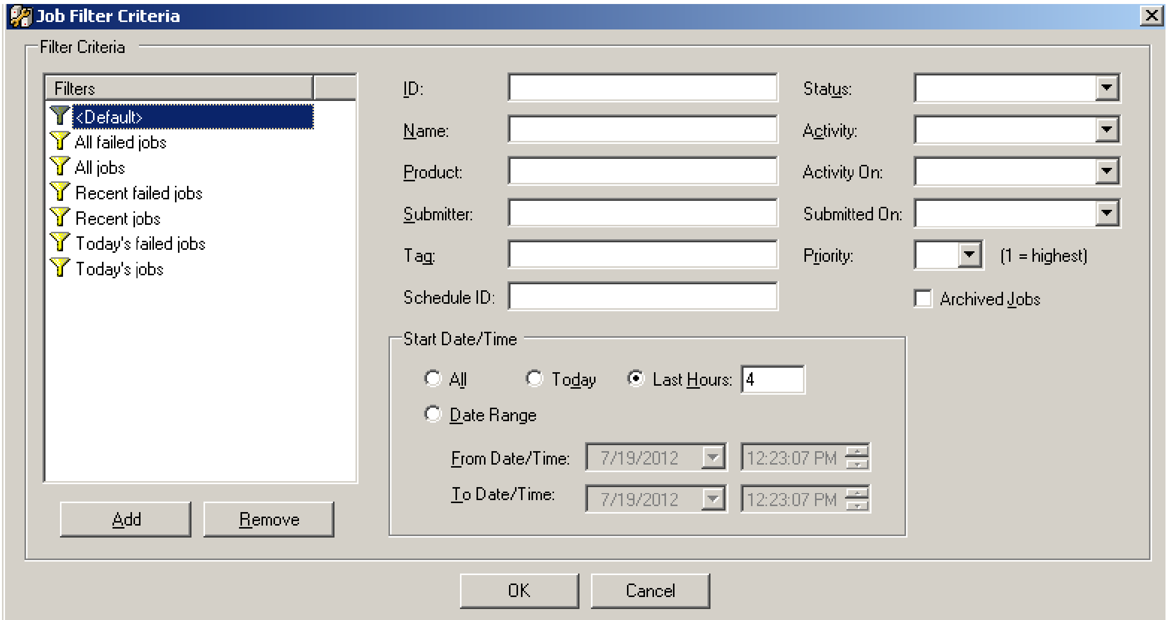
Defining Filter Criteria

For the **Jobs**, **Scheduled Jobs**, and **Notifications** tabs, the items listed in the tabs depend upon the defined filter criteria shown in the **Filter** drop down box just above the listed items. In the **Filter** drop down box you can choose from canned filters or custom filters that you define.

To define filtering criteria:

1. Do one of the following to open the **Filter Criteria** dialog box:
   - Click the **Filter** icon next to the **Filter** drop down box just above the listed items you wish to filter.
   - Right-click within the listed items you wish to filter and choose the filter option from the shortcut menu.

   The screen shown here is the filter criteria dialog box for the Parent Job pane in the **Jobs** tab. While the definable criteria that appear in a dialog box vary based on what you are filtering, the steps for defining criteria are the same.
2. Do one of the following:
   - To create a new job filter, click **Add** and then name the filter.
   - To edit an existing job filter, click the job filter you wish to edit in the list box to the left.
   - To delete a job filter, click the job filter you wish to delete in the list box to the left and then click **Remove**.
3. If you are creating or editing a job filter, define the **filter criteria** as desired.
4. Click **OK**.
5. To apply a new or edited filter, choose the filter name from the **Filter** drop down box just above the listed items you wish to filter.



Filter Criteria

The following table is a comprehensive list of the filter criteria you may see in the various dialog boxes for defining filter criteria.

Criteria	Description
Activity	This filters jobs by business service.
Activity On	This filters jobs by the name of the repository server that processed the job.
Agent	This filters e-mail notifications by the business service that sent the e-mail.
Archived Jobs or Archived Logs	This option only displays jobs or logs that have been archived in the InSight Rendering domain's database.
Creation Date/ Time	This filters scheduled jobs by the date(s) and time(s) at which the recurring job ticket for a scheduled job is submitted.
Events	This filters e-mail notifications by the notification event(s) defined for each e-mail notification.
File	This filters log messages by the file in the InSight Rendering application generating the message.
ID	This filters jobs by the internal ID assigned to a job and embedded in the processed job ticket.
Machine	This filters log messages by the repository server on which the message was generated.
Message	This filters log messages by the text you specify.
Module	This filters log messages by the component generating the message; for example **BusinessServiceManager** or **DomainManager**.
Name	This filters jobs by job name.
Priority	This filters jobs by the priority (1-10) assigned to a job with the **priority** attribute in an XML job ticket.
Product	This filters jobs based on the **product** attribute in an XML job ticket. This can be user or application defined.

Criteria	Description
Recipient	This filters e-mail notifications by receiving e-mail address.
Requestor	This filters e-mail notifications by the application used to define the e-mail notification(s).
Schedule ID	This filters jobs by the ID assigned to a scheduling job ticket.
Source	This filters log messages by the event or method in the application code generating the message.
Start Date/Time	This filters jobs (not scheduled jobs) by the date(s) and time(s) at which the job ticket is submitted.
Status	This filters jobs by job status.
Submitter	This filters jobs based on the **submitter** attribute in an XML job ticket. This can be user or application defined.
Submitted On	This filters jobs by the name of the repository server that submitted the job.
Tag	This filters jobs based on the **tag** attribute in an XML job ticket. This can be user or application defined.
Types	This filters log messages by the log message types selected.

Repository Administration

On the Domain Manager **Administration** tab, when you expand **Domain** at the top of the directory tree in the left pane, all the repositories belonging to the InSight Rendering domain are displayed. Click a repository and the right pane displays the business services that are available on the repository, the maximum number of jobs that each business service can concurrently process, and the number of jobs in each of the various processing stages for a business service.

Repository Options

Right-click a repository to open a shortcut menu of options:

- **Suspend** – This prevents a repository from processing jobs. New execute requests will be rejected, but requests that are already queued or in progress will be processed.
- **Resume** – This resumes a suspended repository.
- **Refresh** – This updates the information displayed in the right pane.

Note: If you suspend a repository that is the logging server for the domain, configure another repository to be the logging server.

Services Options

You can highlight one or more business services and then right-click to open a shortcut menu of options:

- **Suspend** – This prevents a business service from processing jobs.
- **Resume** – This resumes a suspended business service.

Routing Administration

On the Domain Manager **Administration** tab, when you expand **Domain** at the top of the directory tree in the left pane, the routing categories for which you can define routing criteria are displayed. Click either **Routing by job** or **Routing by service** and the right pane displays the routing criteria that have been defined.

Routing Options

Right-click **Routing**, **Routing by job** or **Routing by service** in the left pane and you can choose **Refresh** from the shortcut menu to update the information displayed in the right pane.

Routing Criteria Options

You can highlight one or more routing criteria and then right-click to open a shortcut menu of options:

- **Suspend** – This prevents the routing of job requests for a routing criterion.
- **Resume** – This resumes a suspended routing criterion.

Diagnostic Tools and Procedures

These topics describe some tools and procedures for diagnosing issues and for correcting installations.

Log Files

The InSight Rendering repositories generate log files that report on the activity and any errors occurring on the repositories in an domain. The default log file location is <Installation_folder>\Log. There are several types of log files generated, including:

- A log file for each business service
- A log file for each administration component, specifically Domain Manager and Watch Manager
- A log file for the InSight Rendering Resource Manager that manages instances of Microsoft Word
- A Documentum trace log file that records all Documentum calls and responses for a session. This log is a configurable option that is not set by default, see *Setting Documentum Properties*.

If centralized logging is enabled, you can use the **Log Messages** tab to view the messages from the log files for the repositories.

To assist Parexel Technical Support with investigating issues in your InSight Rendering environment, you can e-mail copies of the log files from the locations mentioned above, or you can e-mail copies of specific log messages.

Documentum Database Table

If you want to know the result (success or failure) of a request to render a document in a Documentum database, check the dmi_queue_table in the docbase. now optionally writes job results for Documentum documents in this table. To enable this functionality, check the **Update queue item with results** checkbox in the **Watch Properties** screen of Watch Manager (queue watch only).

Exporting an InSight Rendering Domain Configuration

To assist Parexel Technical Support with investigating issues in your InSight Rendering environment, you can export details about your InSight Renderingdomain’s configuration to an XML file.

To export an InSight Rendering domain configuration:

1. In Domain Manager, choose **File** > **Export Configuration**.
   The **Save Export Configuration** dialog box opens.
2. Navigate to the location where you want to save the XML configuration file.
3. In the **File Name** box, enter a name for the XML configuration file.
4. Click **Save**.
   The saved XML configuration file can now be e-mailed to Parexel Technical Support.

Exporting an InSight Rendering License

To assist Parexel Technical Support with investigating issues in your InSight Rendering environment, you can export your license to an XML file.

To export an InSight Rendering license:

1. In Domain Manager, choose **File** > **Export License**.
   The **Save Export License** dialog box opens.
2. Navigate to the location where you want to save the XML license file.
3. In the **File Name** box, enter a name for the XML license file.
4. Click **Save**.

   The saved XML license file can now be e-mailed to Parexel Technical Support.

Adding a Repository Server to a Domain

After completing the installation of an InSight Rendering repository on a server, if for some reason the repository server does not belong to any domains, you can complete the following procedure to join the repository to a domain.

Note: This procedure should not be completed for a repository that already belongs to a domain. If you want to move a repository from one domain to another, see *Moving Repositories to the External Database*.

To add a repository to a domain:

1. Start Domain Manager on the repository server that needs to be added to an domain.
2. Confirm that the repository server does not belong to any domains.
   - If you have more than one InSight Rendering domain, choose **View** > **Domain** to select a domain by server name or by a domain's database.
   - In the left pane, click the **Configuration** tab, then expand **Domain** > **Repositories** to view the repositories that belong to the domain.
3. If necessary, choose **View** > **Domain** to select the InSight Rendering domain to which the repository will be added.
4. Choose **File** > **Add Repository**.
   The **Repository Properties** dialog box opens.
5. Enter the name of the repository server in the **Machine** box.
6. Choose **com** from the **Platform** drop-down list.

   See *Repository properties* for information on the remaining fields.
7. Click **OK**.
8. To save your change, choose **File** > **Save**.

9. Expand **Domain** > **Repositories** on the **Configuration** tab to confirm that the repository has been added.

Registering Business Services

Occasionally when executing a job, you may get either the error `Invalid class string` or `Unable to create instance of Vista.Name` on the **Status Description** tab; see *Job Details Pane*. This occurs because the business service specified in the error message failed to register correctly during installation. To correct this, you need to manually register the business service.

To register an .exe business service:

1. Navigate to the InSight Rendering installation folder, which is usually located at `C:\Program Files (x86)\Common Files\Liquent`.
2. In the Windows task bar, click **Start** and then **Run**.
3. Click and drag the `.exe` file for the business service specified in the error message the InSight Rendering installation folder to the Open box in the Run dialog box.
4. Type `/regserver` after the `.exe` file name in the Open box, and then press **Enter**.
   You do not receive a confirmation that the registration was successful, but you will no longer encounter the error when invoking the business service.

Registering a Business Service (.DLL Format)

To register a .dll business service:

1. Open the DOS command line.
2. Copy the full path of the business service that you want to register.
3. Include the business service name.
   For example, the path can be `c:\Liquent\BusinessServiceFile.dll`.
4. Navigate to the .NET framework folder that contains the utility `regasm.exe`.
   For example, this folder can be `C:\Windows\Microsoft.NET\Framework`\v4.0.30319.
5. Run the utility `regasm.exe` with the parameter `codebase`.
   This parameter ensures that the registry contains all the necessary information.
6. At the prompt, type: `regasm.exe “<.dll path>" /codebase`
   `regasm.exe “c:\Liquent\BusinessServiceFile.dll” /codebase`

Showing or Hiding Rendering Applications

When generating rendered output, InSight Rendering works with the applications that are associated with the content types being rendered; see *Configuring Content Types for Rendering*. By default, the applications and any dialog boxes are not shown to the user during the rendering process. For troubleshooting purposes, it can be useful to view the applications during the rendering process.

This procedure allows you to configure InSight Rendering to show or hide the applications during the rendering process. This procedure requires the application to be restarted. Confirm that no jobs are in progress before proceeding.

Note: Perform this procedure on each repository server in a domain.

To set InSight Rendering to show or hide rendering applications:

1. In Domain Manager, choose **File** > **Show/Hide Rendering**.

The **Show Rendering** dialog box opens and shows your current setting.

2. Do one of the following:
   - To configure InSight Rendering to show the applications, select **Show rendering applications**, and then click **OK**.
   - To configure InSight Rendering to hide the applications, select **Hide rendering applications**. Enter the user for the Network Service Account Information that you set up for installing and applications. Enter the user's password, and enter it again to confirm it. See *Setting Up the Service Account Used for Installation*, and then click **OK**.
3. You are prompted that in order for the setting to take effect, the application must be restarted.
   Click **Yes** to confirm.

Submitting Job Requests

These topics describe the various user interfaces for submitting job tickets to the InSight Rendering framework and the InSight business services for which you are licensed.

InSight Rendering Job Tickets

In the InSight Rendering framework, jobs are tickets written in XML that make requests to the InSight Rendering business services to perform tasks. Included in the user interface installed with InSight Rendering are wizards and dialog boxes for creating and submitting job tickets. The topics below discuss how to use these tools.

Regarding the wizards and dialog boxes, be aware that they do not restrict you from submitting a job ticket that requests a business service for which you are not licensed. If you do submit a ticket for an unlicensed business service, the submitted job ticket will fail since the business service will not attempt to perform the requested job.

Source Document Considerations

Before submitting job tickets to create renditions of your source documents, consider the following regarding your source documents.

Microsoft Excel Documents

When rendering Excel documents to HTML, sometimes the Excel plug-in generates a hidden error dialog warning that the data conversion feature will not be saved in the HTML file. BusinessServiceRender does not properly handle this dialog and the rendition job fails.

When printing an Excel file containing multiple sheets, you can print page numbers in the header or footer in sequential order across all the sheets in the workbook. However, the rendered output of the same workbook results in the page numbers starting over for each sheet. With InSight Rendering, you can render an entire workbook, but the pagination is not preserved in the PDF output.

InSight Rendering does not process password-protected documents created using applications other than Word. For example, it does not process password-protected sheets in a Microsoft Excel workbook.

A chart for which **Paper size** in Excel is set to a value other than **Letter**, **A4**, or **Tabloid** is not resized correctly in Liquent InSight Rendering if all of the following apply:

- InSight Rendering is running in hide mode. (Applications and dialog boxes are not shown to you during rendering.)
- On the **Excel Transformation** dialog box in Liquent InSight Rendering, **Paper Orientation** is set to a value that does not match the **Orientation** setting in Excel.
- On the **Excel Transformation** dialog box, **Page Size** is set to **Original**.

Microsoft Outlook Documents

You cannot render a Microsoft Outlook meeting request if either of the following is true:

- No Microsoft Exchange accounts have been configured in Outlook on the InSight Rendering server.
- The calendar entry for the meeting request was deleted after the request was saved.

Microsoft PowerPoint Documents

InSight Rendering does not resolve hyperlinks in PowerPoint documents.

Microsoft Project Documents

Microsoft Project renditions might contain more pages than you expected from the original source document. This is because the pages that are rendered depend on what was displayed in the **Microsoft Project** window when you last saved the document. To avoid additional pages, save the Microsoft Project source file with only the desired information displayed.

Microsoft Visio Documents

To configure the rendering of Microsoft Visio source documents, you can set Visio transformation options for all documents or options for each document. The transformation options override the options for individual documents.

InSight Rendering might not render a Visio diagram with the number of sheets (tiles) in the width or length that you specify. For example, if you specify two sheets across and two sheets down, InSight Rendering might render the diagram with two sheets across but only one sheet down.

You can configure InSight Rendering to render a Visio document with links. A Visio document can link to:

- External documents
- Websites
- Locations in the source document, if you print all document pages, not just the active page

If a Visio source document has links:

- In the rendered document, if a link hot spot on two tiles is divided by a page break between the tiles, then each tile has part of the hot spot.
- In the rendered document, if the target page of a link is tiled and the page breaks between tiles, the link destination is the first tile.
- If you resize the rendered page containing the diagrams, the link hot spots can be misaligned.
- If a Visio object contains multiple links, only the top-most link is rendered.
- If a Visio object that contains a link has child objects that contain links, only the link from the parent object is rendered.
- If a link hot spot is an entire Visio page, the link is not rendered.
- If you print only the active page, links to the same document are not rendered.
- If you set the number of sheets in the width or length of a Visio diagram to 2 but Visio prints the document on one page, the link hot spots in the rendered diagram can be misaligned.

Microsoft Word Documents

InSight Rendering does not render Word source documents that contain the AutoOpen macro fields. Confirm that your Word source documents do not include AutoOpen macro fields before trying to generate PDFs.

You can create a PDF file from a Word document that contains secured or protected fields. However, Parexel cannot guarantee that any transformation options that you select will work. Word documents that contain secured or protected fields can be successfully rendered to PDF, but features such as bookmarks and links might not work.

InSight Rendering processes password-protected documents created in Word, although it does not process password-protected documents created in other applications.

InSight Rendering can process protected Word documents that require a password to open or change, if all the documents have the same password. InSight Rendering can also process protected Microsoft Word documents that do not require a password.

InSight Rendering renders blank Word documents, that is, Word documents that are either entirely empty, or contain only a header, footer, or image.

Word enables you to create bookmarks to hidden text. If you deactivate hidden text and then render a document, these bookmarks still appear in the rendered document. Consequently, because the hidden text (containing the targets for such bookmarks) is excluded, some or all of the bookmarks can reference the wrong pages.

When using a reference as a field code in a Word document, the reference is rendered by the Render business service as a hyperlink, and the link color matches what is defined for preserved internal TOC links in the Word content type.

To preserve links in shapes in PDF files rendered from .docx documents on systems with Word 2013, configure InSight Rendering to show Word windows during rendering.

InSight Rendering cannot extract any character from an equation object in a Word source document. An equation object does not appear in a bookmark in a PDF document rendered from a Word document.

If you render a Microsoft Word `.doc` document created in Word 2007 or earlier, some characters can be rendered in a different font size and unbolded characters can be bolded in the output PDF document. If you encounter either of these errors, save the document in the `.docx` format or resave it in Word 2013. Then render it again to produce a rendition without the error.

Password-Protected Documents from Applications Other Than Microsoft Word

InSight Rendering does not process password-protected documents created by using applications other than Word. For example, it does not process sheets in an Excel workbook or a PowerPoint document.

If you try to render a password-protected PowerPoint document, the rendering process times out and you cannot render any other PowerPoint document until you close and reopen PowerPoint.

Files Other than Microsoft Office Files

If you render a file other than a Microsoft Office file from the file system to PDF, the properties of the PDF file might be different from the properties of the source file.

Text Documents

If a text file source document contains a tab, the rendered document might look different from the source document. The application used to view the rendered document might replace the tab with a number of spaces. Consequently, some text on the line that has the tab might exceed the right margin and even be truncated. To prevent this, set a text transformation option to substitute a space for a tab.

Use of the Less-Than Sign (<) and the Greater-Than Sign (>)

In a cover page or overlay, do not use the less-than sign or the greater-than sign, except to enclose variables. Using these characters for any other purpose can cause undesired results.

Watch Wizard for Rendering

A watch item is a wizard-generated set of rendering options defined in an XML job ticket that can be executed at a specified time or interval. This feature is commonly used to setup a recurring poll of a document repository.

Using the Watch Wizard to Create a Watch

You run the Watch Wizard to create a watch that defines options for rendering a document at a specific time or interval.

Watch Properties in Domain Manager and the Watch Wizard

When you run the Watch Wizard, some fields are prefilled with global values set in the Domain Manager. You can accept or override those values. After you run the wizard, changing the values in the Domain Manager does not change the values for watches that the Watch Wizard already created.

Create A Watch

To create a watch:

1. Start the **Watch Manager** application. .
2. Select **Edit** > **New** > **Watch**.
   The **Watch Wizard** opens and displays the **Watch Properties** dialog box.
3. Enter or select values for the following.

Field	Description
Name	The name that identifies the watch.
Priority	The priority for this watch. This is the priority for looking in a specific folder for a document to render, not the priority for rendering the document.
Watch	The type of folder or queue that you want to watch.
Folder	The path to the folder or queue that you want to watch. Browse to this folder or queue.
User	The user name required to access the folder contents, if the folder has security settings. **Note:** If you enter values for User and Password, they are not encrypted. You do not have to enter these values in the Watch Wizard. If you want these values encrypted, use Domain Manager to configure them.
Password	The password required to access the folder contents, if the folder has security settings.
Output sub-folder	The location of the rendered files, if you do not want to use the default folder (Output).
Filter	The specific files or file types that you want to render. Use an asterisk as a wild card. For example, to render all files in the folder, do not change the *.* default. To render only Microsoft Word documents, enter `.docx`.

4. Click **Next**.
   The **Scheduling** dialog box opens.
5. To specify when the watch item will run, enter or select values for the **Schedule** fields:

Field	Description
Once At	Once at the time that the **Now** or **At** option specifies. **Now** means as soon as you finish creating the watch.
Daily At	Every day at the time that the **At** option specifies, in the date range that the **From** and **To** options specify.
Daily Between	Every day, between the times that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies. Do not set **Every** to less than 30 seconds.
Weekdays At	At the time that the **At** option specifies, in the date range that the **From** and **To** options specify, on the weekdays that the **On** option specifies.

Field	Description
Weekdays Between	Between the times of day that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies, on the weekdays that the **On** option specifies. Do not set **Every** to less than 30 seconds.
Monthly At	Once a month, at the time that the **At** option specifies, in the date range that the **From** and **To** options specify.
Monthly Between	Once a month, between the times of day that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies. Do not set **Every** to less than 30 seconds.

6. Select either **Now** to initiate the watch as soon as the wizard settings are complete, or select **At** and then set the date and time.
7. Click **Next**.
   The **PDF Options** dialog box opens.
8. In the **PDF Options** dialog box, enter or select values for the following:

Field	Description
Version	The Acrobat PDF version for rendered output.
Optimize for fast web view	Makes PDF files more suitable for viewing on the Web. This option makes the first page of a PDF document load as fast as possible. The PDF Document Properties dialog box in Adobe Acrobat indicates whether a PDF document is optimized for fast Web view.
Delete blank bookmarks	When heading level styles are not included in a source document, InSight Rendering includes blanks in the bookmark tree by default for the missing heading levels. If you select this option, InSight Rendering removes the blank bookmarks and adjusts the nesting of the bookmarks. For example, if Heading 1 is missing from the source document, the Heading 2 bookmark is nested in the bookmark tree where Heading 1 would have been.
Bookmark level on open	The number of bookmark levels in a rendered document when it is opened. This can be All or a number from 1 to 20. If Bookmark level on open is set to any value except All: • If the **Page Mode** option is set to **UseNone**, a rendered document is opened without bookmarks and the **Bookmark level on open** option is not used. • If **Page Mode** is set to **UseBookmarks**, a rendered document is opened with the number of bookmark levels that **Bookmark level on open** specifies.
Show bookmark panel when no bookmarks	Shows an empty bookmark panel in a rendered document when the document does not contain bookmarks.
Open cross-document links in same window	Sets whether cross-document links in rendered output are opened in the same window: • **Default**: Use the Preferences setting configured in the user's PDF viewer. • **No**: Do not open cross-document links in the same window. • **Yes**: Open cross-document links in the same window.
User password	To password-protect the file, select **User Password** and enter a password. Passwords are case-sensitive. Do not use the same password for **User Password** and **Owner Password** .

Field	Description
Owner password	To prevent unauthorized changes to the other PDF security properties that you set, select **Owner Password** and enter a password. Passwords are case-sensitive. Do not use the same password for **Owner Password** and **User Password**.
Do not allow printing	Prevents printing of the PDF.
Do not allow changing text	Prevents editing of the PDF.
Do not allow copying text	Prevents copying text from the body of the PDF.
Do not allow changing comments	Prevents adding comments to the PDF.
Page layouts	One of the following page layouts for a rendered document when it is opened: • **Single Page**: Displays one page in the document pane at a time. • **OneColumn**: Arranges the pages in one continuous column. • **TwoColumnLeft**: Arranges the pages in two columns, with all odd-numbered pages in the left column. • **TwoColumnRight**: Arranges the pages in two columns, with all odd-numbered pages in the right column. The default page layout is set on a user's Adobe Acrobat Document Properties dialog box.
Page Mode	One of the following page modes for a rendered document when it is opened: • **UseNone**: Displays the document pane without bookmarks and thumbnails. • **UseBookmarks**: Displays the document pane and the navigation pane with bookmarks. The Bookmark pane is displayed only if bookmarks are defined in the PDF document. • **UseThumbnails**: Displays the document pane and the navigation pane with thumbnails for the pages.
Magnification	One of the following kinds of magnification for a rendered document when it is opened: • **Default**: The default zoom magnification on the user's Adobe Acrobat Document Properties dialog box. • **Fit Width**: The width of the page is the width of the window. • **Fit Height**: The height of the page is the height of the window. • **Fit Visible**: The width of the page content (text and graphics) is the width of the window. The window does not contain the left and right vertical margins. • A percentage of the actual page size.
Watermark	To add a watermark to all the pages in the PDF, select **Watermark** and enter the watermark text.
Text	The watermark text.

Field	Description
Font	The font family for the watermark text. • For a watermark where Office 2013 is installed throughout the InSight Rendering domain, select **Arial Unicode MS**. This has all of the characters that will be needed for most languages. • For a watermark where there is at least one instance of Office 2016 installed in the InSight Rendering domain, use the following as a guide (select any font that will work; these are merely suggestions): • **Arial** - Latin characters • **Meiryo** - Japanese characters • **PMingLiU** - Traditional Chinese (Taiwan/HK/Macau) characters • SimSun - Simplified Chinese (P.R.C. Mainland/Singapore) characters • **Betang** - Korean characters
Position	The watermark location on the page. The default position is **Centered On Page**.
Intensity	The watermark location on the page. The default position is **Centered On Page**.
Hide menubar	Hides the Acrobat or Acrobat Reader menu bar.
Hide toolbar	Hides the Acrobat or Acrobat Reader toolbar.
Hide window controls	Displays a PDF file without the left pane and status bar.
Fit window	Displays the **PDF page** on the screen.
Center window	Centers the **PDF page** on the screen.
Display document title	Displays the document title on the page.

9. Click **Next**.
   The **Mail Notification** dialog box opens.
10. If you want users to receive automatic e-mail notifications of the progress of this watch item, perform the following for each user:
    a) In the Notification recipient list box, click **Add** and enter the user's e-mail address.
    b) In the **Monitored events** list box, click each event for which you want the user to receive e-mail notifications, or click **Select All** if you want the user to receive e-mail notifications for all monitored events.

    You must set up an SMTP server for mail notification on each InSight Renderingrepository.

    You can also establish e-mail notifications at the domain level so that one or more users receive e-mails about the progress of all jobs defined in a InSight Rendering domain.
11. Click **Next.**
    The **Finish** dialog box summarizes the watch for you to review.
12. If you want to view the XML job ticket that the wizard created, click **Display info**.
13. If you want to save a displayed XML job ticket as an `.xml` file, click **Save Request As**.
    This can be useful if you need to manually submit jobs.
14. Click **Finish**.
    The watch that you created appears in the left pane of the Watch Manager under **WatchManger** > **Watches** > **<document repository>**, with an icon indicating the watch status

Watch Properties in Domain Manager and the Watch Wizard

When you run the **Watch Wizard**, some fields are prefilled with global values set in the Domain Manager. You can accept or override those values. After you run the wizard, changing the values in the Domain Manager does not change the values for watches that the **Watch Wizard** already created.

Watch Folder and Queue Settings

When completing the Watch Properties screen of the Watch Wizard, you must specify the folder or queue that you want InSight Rendering to watch, and define settings related to watching the folder or queue.

Watch Type = FileSystem Folder

Choose this to watch a file system folder. Ensure that the folder to be watched only contains copies of source materials, because documents are deleted from the watched folder after processing. Specify the following:

- The folder to be watched.
- For file system folders, you can watch a shared folder on a local drive, but we recommend that the file system folder resides on a network drive. Do not specify mapped network drives. Use full UNC paths to network drives.
- The username/password for folder access (if necessary).
- The name of the destination sub-folder for rendered output (folder resides in same directory as the watch folder).
- An optional filter to restrict jobs to a specific file name or file extension (for example, `*.doc` to only process Microsoft Word documents).

Watch Type = Documentum Folder, Open Text Folder, or SharePoint Folder

Choose one of these to watch a folder in a Documentum, Open Text, or SharePoint. For Documentum, to avoid processing errors, ensure that virtual documents in a watch Documentum folder contain content. Specify the following:

- Select a folder within a repository by clicking the browse button, choosing a repository, and typing the username/password necessary to connect to the repository.

Note: Ensure that you only set one watch per folder or queue.

- The user/password for DMS access (You do not need to complete this step if you defined a login for the DMS in Domain Manager.
- The name of the destination sub-folder for rendered output (folder resides in same directory as the watch folder).
- The name of the work sub-folder. InSight Rendering copies the source files to be rendered from the watch folder and temporarily stores them in the work folder (folder resides in same directory as the watch folder).
- The name of the error sub-folder where InSight Rendering stores unsuccessful rendering attempts (folder resides in same directory as the watch folder).
- For Documentum, you can define an optional DQL WHERE clause (excluding the word "where" from your clause) that filters the source documents to be rendered.

Note: For SharePoint watches, rendered output is stored in a folder named **Liquent Renditions** that is located in the top level of the SharePoint site's folder hierarchy. The sub-folder that you defined in the watch as the destination for rendered output is used for storing a copy of the source document.

Watch Type = Documentum Queue

Choose this to watch a Documentum queue. Specify the following:

- Select a Documentum queue within a Docbase by clicking the browse button, choosing a Docbase, and typing the username/password necessary to connect to the Docbase. The default Documentum queue is **dm_autorender_win31**.
- The user/password for DMS access (you need not complete this step if you defined a login for the DMS in Domain Manager; see *InSight Rendering Domain Manager*).
- An optional DQL WHERE clause (excluding the word "where" from your clause) that filters the source documents to be rendered.

Creating A Watch

To create a watch:

1. Start the Watch Manager application.
2. Select **Edit** > **New** > **Watch**.
   The **Watch Wizard** opens and displays the **Watch Properties** dialog box.
3. Enter or select values for the following.

Field	Description
Name	The name that identifies the watch.
Priority	The priority for this watch. This is the priority for looking in a specific folder for a document to render, not the priority for rendering the document.
Watch	The type of folder or queue that you want to watch.
Folder	The path to the folder or queue that you want to watch. Browse to this folder or queue.
User	The user name required to access the folder contents, if the folder has security settings. **Note:** If you enter values for **User** and **Password**, they are not encrypted. You do not have to enter these values in the Watch Wizard. If you want these values encrypted, use Domain Manager to configure them. For information on how to configure these values in Domain Manager, see *Configuring DMS Logins*.
Password	The password required to access the folder contents, if the folder has security settings. (See the warning in the description of the **User** field.)
Output sub-folder	The location of the rendered files, if you do not want to use the default folder (Output).
Filter	The specific files or file types that you want to render. Use an asterisk as a wild card. For example, to render all files in the folder, do not change the *.* default. To render only Microsoft Word documents, enter **docx**.

4. Click **Next**.
   The **Scheduling** dialog box opens.
5. To specify when the watch item will run, enter or select values for the **Schedule** fields:

Field	Description
Once At	Once at the time that the **Now** or **At** option specifies. **Now** means as soon as you finish creating the watch.
Daily At	Every day at the time that the **At** option specifies, in the date range that the **From** and **To** options specify.
Daily Between	Every day, between the times that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies. Do not set **Every** to less than 30 seconds.

Field	Description
Weekdays At	At the time that the **At** option specifies, in the date range that the **From** and **To** options specify, on the weekdays that the **On** option specifies.
Weekdays Between	Between the times of day that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies, on the weekdays that the **On** option specifies. Do not set **Every** to less than 30 seconds.
Monthly At	Once a month, at the time that the **At** option specifies, in the date range that the **From** and **To** options specify.
Monthly Between	Once a month, between the times of day that the **Between** option specifies, in the date range that the **From** and **To** options specify, at the frequency that the **Every** option specifies. Do not set **Every** to less than 30 seconds.

6. Select either **Now** to initiate the watch as soon as the wizard settings are complete, or select **At** and then set the date and time.
7. Click **Next**. The PDF Options dialog box opens.
8. In the **PDF Options** dialog box, enter or select values for the following:

Field	Description
Version	The Acrobat PDF version for rendered output.
Optimize for fast web view	Makes PDF files more suitable for viewing on the Web. This option makes the first page of a PDF document load as fast as possible. The **PDF Document Properties** dialog box in Adobe Acrobat indicates whether a PDF document is optimized for fast Web view.
Delete blank bookmarks	When heading level styles are not included in a source document, includes blanks in the bookmark tree by default for the missing heading levels. If you select this option, InSight Rendering removes the blank bookmarks and adjusts the nesting of the bookmarks. For example, if Heading 1 is missing from the source document, the Heading 2 bookmark is nested in the bookmark tree where Heading 1 would have been.
Bookmark level on open	The number of bookmark levels in a rendered document when it is opened. This can be **All** or a number from 1 to 20. If **Bookmark level on open** is set to any value except **All**: • If the **Page Mode** option is set to **UseNone**, a rendered document is opened without bookmarks and the **Bookmark level on open** option is not used. • If **Page Mode** is set to **UseBookmarks**, a rendered document is opened with the number of bookmark levels that **Bookmark level on open** specifies.
Show bookmark panel when no bookmarks	Shows an empty bookmark panel in a rendered document when the document does not contain bookmarks.
Open cross-document links in same window	Sets whether cross-document links in rendered output are opened in the same window: • **Default**: Use the Preferences setting configured in the user's PDF viewer. • **No:** Do not open cross-document links in the same window. • **Yes**: Open cross-document links in the same window.
User Password	To password-protect the file, select **User Password** and enter a password. Passwords are case-sensitive. Do not use the same password for **User Password** and **Owner Password**.

Field	Description
Owner Password	To prevent unauthorized changes to the other PDF security properties that you set, select **Owner Password** and enter a password. Passwords are case-sensitive. Do not use the same password for **Owner Password** and **User Password**.
Do not allow printing	Prevents printing of the PDF.
Do not allow changing text	Prevents editing of the PDF.
Do not allow copying text	Prevents copying text from the body of the PDF.
Do not allow changing comments	Prevents adding comments to the PDF.
Page Layout	One of the following page layouts for a rendered document when it is opened: • **Single Page**: Displays one page in the document pane at a time. • **OneColumn:** Arranges the pages in one continuous column. • **TwoColumnLeft:** Arranges the pages in two columns, with all odd-numbered pages in the left column. • **TwoColumnRight:** Arranges the pages in two columns, with all odd-numbered pages in the right column. The default page layout is set on a user's **Adobe Acrobat Document Properties** dialog box.
Page Mode	One of the following page modes for a rendered document when it is opened • **UseNone**: Displays the document pane without bookmarks and thumbnails. • **UseBookmarks**: Displays the document pane and the navigation pane with bookmarks. The Bookmark pane is displayed only if bookmarks are defined in the PDF document. • **UseThumbnails**: Displays the document pane and the navigation pane with thumbnails for the pages.
Magnification	One of the following kinds of magnification for a rendered document when it is opened: • **Default**: The default zoom magnification on the user's **Adobe Acrobat Document Properties** dialog box. • **Fit Width**: The width of the page is the width of the window. • **Fit Height**: The height of the page is the height of the window. • **Fit Visible**: The width of the page content (text and graphics) is the width of the window. The window does not contain the left and right vertical margins. • A percentage of the actual page size.
Watermark	To add a watermark to all the pages in the PDF, select **Watermark** and enter the watermark text.
Text	The watermark text.

Field	Description
Font	The font family for the watermark text. • For a watermark where Office 2013 is installed throughout the InSight Rendering domain, select **Arial Unicode MS**. This has all of the characters that will be needed for most languages. • For a watermark where there is at least one instance of Office 2016 installed in the InSight Rendering domain, use the following as a guide (select any font that will work; these are merely suggestions): • **Arial -** Latin characters • **Meiryo** - Japanese characters • **PMingLiU** - Traditional Chinese (Taiwan/HK/Macau) characters • **SimSun** - Simplified Chinese (P.R.C. Mainland/Singapore) characters • **Betang** - Korean characters
Position	The watermark location on the page. The default position is **Centered On Page**.
Intensity	The watermark darkness expressed as a percentage.
Hide menubar	Hides the Acrobat or Acrobat Reader menu bar.
Hide toolbar	Hides the Acrobat or Acrobat Reader toolbar.
Hide window controls	Displays a PDF file without the left pane and status bar.
Fit window	Displays the PDF page to fill the screen.
Center window	Centers the PDF page on the screen.
Display document title	Displays the document title on the page.

9. Click **Next**.
   The **Mail Notification** dialog box opens.
10. If you want users to receive automatic e-mail notifications of the progress of this watch item, perform the following for each user:
    a) In the **Notification recipient** list box, click **Add** and enter the user's e-mail address.
    b) In the **Monitored events** list box, click each event for which you want the user to receive e-mail notifications, or click **Select All** if you want the user to receive e-mail notifications for all monitored events.

    You must set up an SMTP server for mail notification on each repository.

    You can also establish e-mail notifications at the domain level so that one or more users receive e-mails about the progress of all jobs defined in a domain.
11. Click **Next**.
    The **Finish** dialog box summarizes the watch for you to review.
12. If you want to view the XML job ticket that the wizard created, click **Display info**.
13. If you want to save a displayed XML job ticket as an `.xml` file, click **Save Request As**.
    This can be useful if you need to manually submit jobs.
14. Click **Finish**.
    The watch that you created appears in the left pane of the Watch Manager under **WatchManger** > **Watches** > **<document repository>**, with an icon indicating the watch status.

Copying a Watch

The **Copy this Watch** option is available on the status page of a previously submitted Watch. Select the Watch in the navigation tree to view the status details.

Use the **Copy this Watch** option to reopen the Watch Wizard to create a new Watch by copying the original. When the Watch Wizard opens, 'Copy of' is prepended to the name of the original Watch.

Follow the same procedures presented in the topic *General Watch Item Setup* to define the settings for the Watch you copied. All the settings established for the original Watch appear in the subsequent dialog boxes. You have the option to change these settings, as needed.

Editing a Watch

The **Edit this Watch** option is available on the status page of a previously submitted Watch. Select the Watch in the navigation tree to view the status details.

Use the **Edit this Watch** option to reopen the **Watch** Wizard and revise settings for a Watch. When the **Watch** Wizard opens, the settings previously established for the Watch are presented.

Deleting a Watch

The **Delete this Watch** option is available on the status page of a previously submitted Watch. Select the Watch in the navigation tree to view the status details.

Use the **Delete this Watch** option to permanently delete the Watch from the schedule and delete its settings. A confirmation message opens for confirming whether to delete the Watch.

If you do not want to delete the Watch yet, remove it from the schedule.

Suspend/Resume this Watch

1. Select the Watch in the navigation tree to view the status details.
   The **Suspend/Resume this Watch** option is available on the status page of a previously submitted Watch.
2. One of the following occurs if you select this option:
   - If the Watch is active, clicking this option prevents the Watch from being performed, yet keep the Watch settings on file.
   - If the Watch is suspended, clicking this option reactivates the Watch schedule.

   In both cases, a confirmation message is displayed for you to confirm your selection.

Submitting a Scheduled Job

A scheduled job is an XML job ticket that has a specified time or recurring interval associated with it, that is, the job ticket is to be executed at a defined schedule. A job ticket alone without a schedule is processed one time when it is submitted. A “scheduled job” is different from a “job” because of the schedule, which dictates when and how often the job ticket is processed.

A scheduled job can run when an InSight Rendering server is turned on, but nobody is logged on to the server. Using InSight Rendering this way is referred to as using it in non-interactive mode.

In InSight Rendering, there are two ways to submit a scheduled job ticket: the Scheduled Work Wizard provided with the Watch Manager application, or the scheduled job dialog provided with the Domain Manager application. Both user interfaces function the same way, differing only in their presentation.

Scheduled Work Wizard

To submit a scheduled job using the Scheduled Work Wizard:

1. Start the Watch Manager application.
2. Choose **Edit** > **New** > **Scheduled work**.
   The **Scheduled Work Wizard** opens with the **Work Properties** dialog displayed.
3. Do the following:
   a) In the **Name** box, assign a name to the scheduled job.
   b) Type an XML job ticket or click the browse button to import an job ticket from an existing XML file on a local or network drive.
   c) Click **Save Request As** if you want to save the currently displayed job ticket as an XML file on a local or network drive.

   If you import a job ticket, you may edit the job ticket.
4. Click **Next**.
   The **Scheduling** dialog is displayed.
5. On the **Scheduling** dialog, select from the list the schedule frequency at which your watch item should run, and then define the settings for that frequency.
6. Choose from the following frequencies:
   - **Once At** – Runs a job once at the time specified.
   - **Daily At** – Runs a job daily at the time specified.
   - **Daily Between** – Runs a job daily between a specified start time and end time.
   - **Weekdays At** – Runs a job once at the time specified but only during weekdays.
   - **Weekdays Between** – Runs a job between a specified start time and end time but only during weekdays.
   - **Monthly At** – Runs a job at the time specified once a month.
   - **Monthly Between** - Runs a job between a specified start time and end time but only once a month.

   Note: If you select one of the **Between** schedules, do not set the **Every** polling frequency to less than 30 seconds.
7. Click **Next**.

   With the Mail Notification dialog, you can specify the e-mail address of one or more users to receive automatic e-mail notifications of this scheduled job's progress each time it is executed.

   An SMTP server for mail notification must be setup on each InSight Rendering repository.

   The **Mail Notification** dialog is displayed.
8. In the **Notification recipient** list box, click **Add** and enter a user's e-mail address.
9. In the **Monitored events** list box, click each event for which you want this user to receive e-mail notifications.

   Note: E-mail notifications can also be established at the domain level so that one or more users receive e-mails regarding the progress of all jobs defined in an InSight Rendering domain.

   Click **Select All** for e-mail notifications on all monitored events.
10. Click **Finish**.
    The established scheduled job appears in the left pane of the Watch Manager under **Watch Manager** > **Scheduled Work**.

Scheduled Job Dialog in Domain Manager

To submit a scheduled job ticket using Domain Manager:

1. In Domain Manager, click the **Administration** tab in the left pane.
2. Click **Domain** at the top of the directory tree in the left pane.
3. In the right pane, click the **Scheduled Jobs** tab.
4. Right-click within the **Scheduled Jobs** tab and choose **New scheduled job** from the shortcut menu.

   The remainder of this procedure is identical to the Scheduled Work Wizard with two exceptions: instead of a **Next** button, you click the tab corresponding to the step in the procedure, and instead of a **Finish** button you click **OK**..

   Once complete, the established scheduled job appears under the **Scheduled Jobs** tab in the right pane of the Domain Manager's **Administration** tab.

   The **New Scheduled Jobs Properties** dialog box opens.

Submitting a Job

InSight Rendering allows you to submit an XML job ticket as a one-time request to the business services to perform tasks. When submitting a job, the XML ticket is processed once. There is no recurring schedule defined for the job ticket request to be processed again. Using InSight Rendering this way is referred to as using it in interactive mode.

To submit a job ticket:

1. In Domain Manager, click the **Administration** tab in the left pane.
2. Click **Domain** at the top of the directory tree in the left pane.
3. In the right pane, click the **Jobs** tab.
4. Right-click within the **Parent Job Status** pane of the **Jobs** tab and choose **Submit new job** from the shortcut menu.
   The **Submit Job** dialog box opens.
5. **Under Specify File Containing Request**, do one of the following:
   a) Click the browse button to submit a job ticket directly from an existing XML file on a local or network drive. You must make any necessary edits to the XML file before selecting and submitting the job ticket.
   b) Check **Wait until job done** to view the XML-encoded results of the processed job ticket and any messages regarding the job's status in the **Submit Job** dialog box.
   When unchecked, you must use the **Job Details** pane of the **Jobs** tab to monitor the job's progress.
   c) Click **Submit Job**.
6. Under Enter/modify request below or select file containing request, do one of the following:
   a) Either type an XML job ticket or click the browse button to import a job ticket's XML code from an existing XML file on a local or network drive.
   If you import a job ticket, you may edit the XML code on this screen.
   b) Click **Save Request As** if you want to save the currently displayed job ticket as an XML file on a local or network drive.
   c) Check **Wait until job done** to view the XML-encoded results of the processed job ticket and any messages regarding the job's status in the **Submit Job** dialog box.
   When unchecked, you must use the **Job Details** pane of the **Jobs** tab to monitor the job's progress.
   d) Click **Submit Job**.

7. If you checked **Wait until job done**, use the **Current Results** tab to view the XML-encoded results of the processed job ticket.
   a) The **Status Description** tab displays any message generated by the repository to regarding the current status.
      If the job failed, this description should contain an appropriate error message.
8. Click **Close** once the job has been processed.

Watch Manager

The InSight Rendering Watch Manager is a user interface tool that includes monitoring and administering capabilities for managing domains. This tool is made available to all installations, regardless of the licenses that they have.

To open the Watch Manager:

1. On the Windows desktop, double-click the **Watch Manager** icon.
   This icon is shown in *Icons Used in the Watch Manager*.
2. When you are prompted to log in, type your user ID and password, and press **Enter** or click **Login**.
3. When you log in for the first time after installing , type `Admin` for the user and `123` for the password.

   When InSight Rendering is installed, the login **render-perfect** with this username and this password is created for the Watch Manager. For instructions on changing this username and password, see the *Liquent InSight Rendering Installation Guide*.
4. In the left pane, click on items in the directory tree to change the information displayed in the right pane.

Watch Manager Components

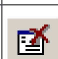
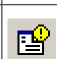
File Menu

- **Logout** – This exits the current domain and returns you to the Login screen to administer another InSight Rendering domain.
- **Exit** – Exits the application.

Edit Menu

Use the Edit menu to create and administer rendering Watches and custom Scheduled Work job tickets. You have complete access to this GUI functionality, but your license key determines the business services that an XML job ticket can use.

The **Watch Manager** window has icons that correspond to some of the Edit menu options. The following table describes these menu options and icons:

Option	Icon	Description
New		Create a render Watch or a custom Scheduled Work job ticket.
Copy	No icon	Copy a render Watch or Scheduled Work job ticket.
Delete		Remove a render Watch or Scheduled Work job ticket.
Suspend		Suspend a render Watch or Scheduled Work. Suspended items remain in this state indefinitely.

Option	Icon	Description
Resume		Resume a suspended render Watch or Scheduled Work.
Properties		Edit the properties of a render Watch or Scheduled Work job ticket.

Navigation Pane

The left pane presents rendering Watches and Scheduled Work in their groups. In the Watches group, rendering watch items are organized by the file system and Document Management Systems (DMSs) (for example, Documentum) being watched.

You can create a rendering Watch by clicking a DMS in the left pane, right-clicking in the right results pane, and selecting **New Watch** on the shortcut menu. This invokes the **Watch Wizard** described in *Watch Wizard for Rendering*.

Scheduled Work is a feature that enables you to schedule a job ticket. This option requires an XML job ticket to be entered manually.

Results Pane

As you make a selection in the left pane, the Watches or Scheduled Work associated with your selection is displayed in the right pane. You can right-click an existing Watch or Scheduled Work in the right pane to access the shortcut menu for editing item. The following color-coded icons quickly communicate the status of a rendering Watch or Scheduled Work:

Icon	Name	Description
	Active	Indicates the Active status of a rendering Watch or Scheduled Work.
	Suspended	Indicates the Suspended status of a rendering Watch or Scheduled Work.
	Expired	Indicates the Expired status of a rendering Watch or Scheduled Work.
	Error	Indicates the Error status of a rendering Watch or Scheduled Work. Watches with this status are usually XML or SVG render watches that InSight Renderingno longer supports. Remove or redefine these watches.

Icons Used in the Watch Manager

You can use the following icons in the Watch Manager:

Icon	Name	Description
	Watch Manager	On your Windows desktop, double-click this to open the Watch Manager window.
	New	Create a render Watch or a custom Scheduled Work job ticket.
	Delete	Remove a render Watch or Scheduled Work job ticket.
	Suspend	Suspend a render Watch or Scheduled Work. Suspended items remain in this state indefinitely.

Icon	Name	Description
	Resume	Resume a suspended render Watch or Scheduled Work.
	Edit	Edit the properties of a render Watch or Scheduled Work job ticket.
	Active	Indicates the Active status of a rendering Watch or Scheduled Work.
	Suspended	Indicates the Suspended status of a rendering Watch or Scheduled Work.
	Expired	Indicates the Expired status of a rendering Watch or Scheduled Work.
	Error	Indicates the Error status of a rendering Watch or Scheduled Work. Watches with this status are usually XML or SVG render watches that InSight Renderingno longer supports. Remove or redefine these watches.

Plug-In File Formats and Settings

This topic presents the file formats that can be processed by the plug-ins and discusses how to customize rendering and extraction settings in InSight Rendering.

File Formats

Many different file formats can be processed by using the plug-in applications that are supplied with InSight Rendering. This topic lists the common file formats that can be processed by each of the plug-ins supplied with . You can use this information to help you determine which plug-in you should use for rendering source documents with .

Note: For current descriptions of supported file types, please refer to the respective manufacturers of those plug-ins.

For each plug-in, you will find a description of all the file formats that plug-in can process. The file formats are listed using file system extensions. For DMS content type equivalents, see your DMS administrator to determine the DMS content type assignments for file formats.

Some graphic file format extensions can have several variations. For example, `.jpg`, `.jpeg`, `.jfif`, and `.jpe` are all JPEG file interchange formats. Unless otherwise noted, all variations of a listed file format extension can be processed by a plug-in. An asterisk (*) after a file format indicates that any one of several numbers may be a part of this file format extension.

Plug-in (as shown in Domain Manager)	File types
Imaging	`.tif` (single and multi page), `.bmp`, `.gif` (non-animated only), `.jpg`
Microsoft Excel	`.csv`, `.dbf`, `.lab`, `.prn`, `.slk`, `.wks`, `.xla`, `.xlc`, `.xlm`, `.xls`, `.xlsx`, `.xlt`, `.xlw`
Microsoft PowerPoint	`.bmp`, `.pot`, `.pps`, `.ppt`, `.pptx`
Microsoft Outlook	`.msg`
Microsoft Project	`.mpp`
Microsoft Visio	`.emf`, `.gif` (only non-animated), `.jpg`, `.png`, `.vsd`, `.vss`, `.vsw`, `.vsx`
Microsoft Word	`.asc`, `.doc`, `.docx`, `.mcw`, `.msw`, `.rtf`, `.txt`, `.wri`
PDF	`.pdf`, `.ai` (only in PDF, not EPS, format)
Text	`.asc`, `.dat`, `.lst`, `.m11`, `.sas`, `.txt`, `.xpt`
Tiffx	`.tif`, `.tiff` (single and multi page)

Rendering and Extraction Settings for Plug-Ins

Several plug-ins have rendering and/or bookmark extraction settings that specify how the content of a document is laid out in the PDF rendition or which entities will be extracted from its text. Extracted entities are stored in the PDF rendition as bookmarks. Some plug-ins have settings that you can customize and those plug-ins are described below.

Some plug-ins permit you to strip-out or replace special characters that may appear in a file.

Text Plug-In

The text plug-in defines how InSight Rendering formats each page and lays out the document text when it creates a rendition of a text file. The options you set determine the look of the published document because text files contain no formatting information for printing.

InSight Rendering uses the values you supply for paper size, paper orientation, margins, and font size along with the ESPS ASCII font dimensions to calculate how many text characters can fit on a line and how many lines can fit on a page. If the calculated values are greater than your selections for the maximum number of characters per line and lines per page, InSight Rendering displays an error message. You must then modify the appropriate settings until you find a combination that will fit on a page.

You can also specify text characters that you want replaced or removed from the document text. It is recommended, however, that you do not replace or strip-out control codes (or escape sequences), since these will change the format of the document text.

Setting Text Transformation Options

To set text transformation options:

1. From the **Character Encoding** list, choose a character encoding preference.

   You may select **Auto Detect**, but if you know the text documents use ANSI or JIS character sets, then that encoding can be specified in the drop down list to ensure proper interpretation by the plug-in.

   This setting enables the text plug-in to interpret the characters in the document by employing the proper encoding scheme.
2. Under **Process**, select a process method.
3. From the **Paper Size** list, choose the paper size for the rendition.
4. From the **Orientation** list, choose the page orientation.
5. In the appropriate fields, enter the left, right, top, and bottom margins (in inches).

   Use decimals for fractional sizes.
6. From the **Font** list, choose a font character set.
7. From the **Font Size** list, choose a font size.
8. Set the maximum number of characters for a line in **Max. Characters/Line.**
9. Set the maximum number of lines for a page in **Max. Lines/Page**.
10. If you want to remap any special characters, click **Special Char**.
11. Click **OK**.

Text Option Interaction

Many text plug-in rendering transformation options interact with each other. A change in one setting can cause a conflict with other settings. For example, assume you want to have 100 characters per line and 85 lines per page on US Letter paper with one-half inch margins. Under these conditions, you could not use a 9-point font size because it only produces 93 characters per line and 80 lines per page. To resolve this conflict you could either select another Font Size, smaller Char Count values, or smaller page margins. You could also change the paper size or orientation, but this might not solve the problem entirely. Changing the paper size provides more length but reduces the available width. Changing the orientation provides more width but reduces the available length.

You can avoid many conflicts by using any process methods. A process method adjusts other rendering options to match one or more option values deemed critical to properly processing a text file.

The following process methods are available:

- **Fit Char Count To Font Size** increases the Char Count values to accommodate the selected Font Size. If this does not create a conflict, the selected Font Size is used.
- **Fit Font Size To Char Count** reduces the Font Size to accommodate the selected Char Count values. If this does not create a conflict, the selected Font Size is used.

When you use a process method, you enter the appropriate paper and font values. Remember to leave room in the page margins for any headers and footers.

Microsoft Powerpoint Plug-In

The Microsoft PowerPoint plug-in processes Microsoft PowerPoint presentation slides into PDF pages. Each slide is placed on an individual page. The slide background, title, body text and images are included in the rendition. You can define how to format each slide on a page.

To set PowerPoint transformation options:

1. Do any of the following:
   - To print a slide's text, images and notes in black and white, check **Black & White**.
   - To enlarge text and images proportionally to fit the width of the printable area, check **Scale To Fit**.
   - To print a border around the slide's contents, check **Frame Slides**.
   - To print any associated notes below a slide's contents, check**Print Notes**.
   - To print the handout for a slide show, check **Handouts**, then choose a value from **Slides per page**.
2. Click **OK**.

Microsoft Powerpoint Plug-In Options

The Microsoft PowerPoint plug-in can extract the title of each slide in a PowerPoint presentation to make bookmarks for the rendition. You can specify a list of characters (using character codes) to be replaced or removed from all slide titles.

Microsoft Project Plug-In

The Microsoft Project plug-in processes project information, such as tasks, resources, costs, and progress, that is created and stored in a Microsoft Project file. The plug-in generates a PDF file containing the project information.

Microsoft Project stores the project information in views. The view format that you select in InSight Rendering determines how the project information appears in the rendered PDF file. You can select one or more views and apply some Microsoft Project print options to the views.

The plug-in does not process information in any Microsoft Project report format.

For more information on the view formats and printing options, see your Microsoft Project documentation.

Microsoft Project Plug-In Options

To set Microsoft Project transformation options:

1. To turn off the printing of headers and footers, check **Hide Headers and Footers**.

   This option applies only to Microsoft Project 95 files.
2. To scale the text to fit the information on one page width, check **One Page Wide**.
3. To begin a new page at each page break inserted into the file, check **Manual Page Breaks**.
4. Under **Time Scale**, select the range of dates to include in the rendition.

If you selected **Dates From**, enter the starting and ending dates.

5. Under **Views**, check one or more view formats for the rendition.
6. Click **OK**.

Microsoft Word Plug-In

Microsoft Word Transformation Options

With the Microsoft Word transformation options feature, you can do the following:

- Suppress headers and footers
- Update field codes
- Preserve Word Web links
- Set the link color for Web links and any rendered links in a source document
- Preserve internal cross-references
- Preserve table of contents, table of figures, and table of tables links
- Preserve cross-document links
- Preserve the Word font formatting
- Add line numbers to every printed page of a rendition
- Set conditions for the line numbering format
- Obtain access to protected documents that you want to render
- Provide the password for opening or modifying a document or template
- Disallow A4/letter paper resizing
- Preserve endnote and footnote links

Special conditions apply to some of these settings. External document links must be absolute paths. Links are broken if the target document is moved. External document links are supported only for file system documents. Graphics or drawing objects, such as lines, are not suppressed during rendering. If text is highlighted in a header or footer, the highlight is not suppressed during rendering.

Internal Microsoft Word links are preserved using the Page Layout view. This view ensures that all links are targeted to the proper page. Whenever the view is changed, Microsoft Word might automatically process any field codes in the document. At times, the link targets are not properly defined and the links in the rendition do not jump to the proper destination. If you want to preserve any links or cross-references in a Microsoft Word document, select the **Update Field Codes** option. Selecting this option ensures that the field codes are updated before the rendition is created.

Font formatting in the source document is retained when the **Preserve Word Font Formatting** check box is selected. This overrides the link color set on the **Microsoft Word Transformation Options** dialog box. If this option is not selected, the source document link color is replaced with the setting from the **Microsoft Word Transformation Options** dialog box.

Font formatting of the preserved cross-references in the source document is retained when the **Preserve Word Font Formatting** is selected. This overrides the link color set on the **Microsoft Word Transformation Options** dialog box. If this option is not selected, the source document link color is replaced with the setting from the **Microsoft Word Transformation Options** dialog box. Some cross-reference font formatting, such as underlines and strikethroughs, are removed during link color replacement. Use the **Preserve Word Font Formatting** option if you want to preserve the cross-reference links from the document and want the text to appear exactly as it appears in the source document.

For more information about Word hyperlinks and line numbering, see your Microsoft Word documentation.

Microsoft Word Plug-In Options

To set Microsoft Word transformation options:

1. To turn off the printing of headers, check **Suppress Headers**.
2. To turn off the printing of footers, check **Suppress Footers**.
3. To update all field codes in the document, check **Update Field Codes**.
4. Under **Word Internal Links**, do any of the following:
   - To include Web hyperlinks in the rendition, check **Preserve Word Web Links.**
   - To include cross-reference links in the rendition, check **Preserve Internal XRefs.**
   - To include table of contents, table of figures, and table of tables links in the rendition, check **Preserve TOC Links.**
   - To include links to external documents in the rendition, check **Preserve Cross Document Links.**
   - To include endnotes and footnotes in the rendition, check **Preserve Endnote and Footnote Links**.
   - To include Microsoft Word font formatting, check **Preserve Word Font Formatting.**
   - To specify the color of all preserved links, use the **Link Color** list to choose the color.
5. To add line numbers on all pages, check **Add Line Numbering**, and then do the following:
   a) To set the number for the first line, enter or choose a number in the **Start at** box.
   b) To set the distance from the text that line numbers are placed, enter or choose a number (in inches) in the **From text** box.
   Auto uses Microsoft Word's default setting.
   c) To specify how the line numbers increment, type or choose a number in the **Count by** box.
   d) Select how line numbers are applied by selecting **Restart each page**, **Restart each section**, or **Continuous**.
6. To enable InSight Rendering to render documents that are protected (encrypted) in Microsoft Word, click **Stop protection** and, if making the documents unprotected requires a password, type the password in the **Protection password** box.

   Note: Passwords in Word are cases-sensitive.
7. If opening the documents you are rendering requires a password, type the password in the **Open document password** box.

   Note: This enables InSight Rendering to open the documents if all of them require the same password.
8. If modifying the documents you are rendering requires a password, type the password in the **Modify document password** box.

   Note: This enables InSight Rendering to create bookmarks, links, line numbers, and headers and footers from styles in the documents if all the documents require the same password. This does not enable anyone to modify the documents.
9. If opening the templates that the documents you are rendering use requires a password, type the password in the **Open template password** box.

   Note: This enables InSight Rendering to open the templates if all of them require the same password.
10. If modifying the templates that the documents you are rendering use requires a password, type the password in the **Modify template password** box.

    Note: This enables InSight Rendering to create bookmarks, links, line numbers, and headers and footers from styles in the templates if all of templates require the same password. This does not enable anyone to modify the templates.
11. To prevent resizing, check **Disallow A4/Letter paper resizing**. If the document to be rendered has preserved internal links, make sure that the default is not overridden. That would allow a resized rendition, in which the active links do not align with the original document.
12. Click **OK**.

Note: When rendering a read-only Word document (Windows read-only property), the Word plug-in fails when any of the following transformation options are selected: **Suppress Headers**, **Suppress Footers**, **Preserve Word Web Links**, or **Add Line Numbering**.

Microsoft Word Plug-In Table Setup

To set table of contents, table of figures, or table of tables options:

1. Click the **Table of Contents**, **Table of Figures**, or **Table of Tables** option label to the right of the option check box that you already selected.
2. Click **Options**.
3. Do any of the following:
    - To separate multiple sets of extracts, select the **Precede Extracts With** check box, and type a label in the box. This text is used as a heading for each set of extracts produced by extraction.
    - To extract using heading styles, select the **Use Heading Styles** check box. In the **Show levels up to** box, type or select the number of levels that InSight Rendering gathers.
    - To extract using table entry fields, select the **Use Table Entry Fields** check box. In the **Type identifier for Table Entry Fields** box, type one or more table entry field codes to be extracted. If you type more than one code, type a semicolon (;) between the codes.
4. Click **OK**.

Microsoft Word Extraction Options

The Microsoft Word plug-in can also extract entities from document text by using either the styles in a document template or an auto-generated table of contents.

If you use document templates, you can specify a list of styles that the plug-in uses to identify document entities to extract and turn into bookmarks. For each style, specify a hierarchical level that describes how a bookmark is related to other bookmarks. You can use the styles, for example, for documents in a compound document outline. You can select a level number or one of two special level assignments:

- Subordinate is one level below the previous extract assigned a level number.
- Same is at the same level as the previous extract assigned a level number.

You can change the characters in the extracted bookmark title by using a template and selecting characters to be replaced in the title or removed from it.

When extracting using document templates, you can also specify a secondary method to be used if a document template is not in the list. You can choose to either skip extracting, use another template from the list, or extract using **Heading Styles** or **Table Entry Fields**. If you use an auto-generated table of contents, figures or tables, you can extract those entities marked as either Heading styles (Heading 1, Heading 2, Heading 3 and so on) or **Table Entry Fields**.

Auto-generated tables of figures or tables extract any text created by using the Word Insert Caption function. You can specify the identifiers to be used when extracting using **Table Entry Fields**. Each identifier is usually a single character between A and Z. In InSight Rendering, you can specify more than one identifier, and the table of contents generated contains all entities marked by **Table Entry Fields** with the designated identifiers. The table of contents entries are then extracted and turned into bookmarks.

You can use any combination of these extraction options. The final set of bookmarks contains all the entities extracted from each method in the order you specified. To distinguish between multiple sets of extracts gathered by different methods, specify the text to precede each set of extracts.

The bookmarks created in the PDF output for the extracted entities resolve to the top of the page on which the target extracts reside.

Microsoft Word Extraction Options Process

To set Microsoft Word extraction options:

1. Under **Extraction By**, select the check box for each method that you want to use to identify entities to be turned into bookmarks:
   - **Template Styles**
   - **Table of Contents**
   - **Table of Figures**
   - **Table of Tables**
2. If you selected the check box for more than one method, specify the order of extraction as follows:
   a) To move a method up one position, select the option label, and then click the **UP ARROW**.
   b) To move a method down one position, select the option label, and then click the **DOWN ARROW**.
3. Set the options for each method.
4. To control the case of the bookmarks, set the **Apply case of extracted text** option:

   If this option is selected:

   - If the extracted text style or any part of the extracted text has the **All caps** or **Small caps** font setting, the bookmark is in uppercase.
   - Otherwise, the bookmark is in the same case as the extracted text.

   If **Apply case of extracted text** is cleared and the extracted text was entered in mixed case:

   - If the extracted text or the paragraph containing it has the **All caps** font setting, the bookmark is in uppercase.
   - If the extracted text has a custom style with an **All caps** font setting, but neither the extracted text nor the paragraph containing it has the **All caps** font setting, the bookmark is in mixed case.
   - If the extracted text has the **Small caps** font setting, the bookmark is in mixed case.
5. Click **OK**.

Microsoft Word Template Styles Extraction Options

To set template styles extraction options:

1. Select the **Template Styles** check box label to the right of the **Template Styles** check box that you already selected.
2. Click **Options**.
3. Under **Microsoft Word List of Templates** area, define the templates that you want to use to extract entities from document text.
4. To add a template, click **Add**, click a template, and click **Open.**
5. To add a style to the style list for a template, click a template, and click **Modify**.
   a) Under **List of Styles**, click a style, and click the RIGHT ARROW.
   b) In the **Level** list, click a hierarchical level.
   c) To remap characters, click **Special Char**.
   d) Click **OK**.
6. To remove a style from the style list for a template, click a template, and click **Modify**.
   a) Under **Extract Following Styles**, click a style, and click the LEFT ARROW.
   b) Click **OK**.
7. To remove a template, click the template and click **Delete.**

8. To specify the label that separates one set of extracts from another, select the **Precede Extracts With** check box, and type a label in the box.
9. Under **If Template Not Found**, select the action taken if a template listed under **Microsoft Word List of Templates** is not found.
   a) To specify that no action is taken to replace the extraction using that template, click **Skip**.
10. To specify that another template listed under **Microsoft Word List of Templates** is used to perform an extraction, click **Use**, and select the template from the list box.
11. To specify that the table of contents is used to perform an extraction, click **Table of Contents**, click **Options**, and set the necessary options.
12. Click **OK**.

Microsoft Excel Plug-In

The Microsoft Excel plug-in processes Microsoft Excel spreadsheets into PDF pages.

To set Microsoft Excel transformation options:

1. Under **Page Setup**, do the following:
   a) Set the **Fit to** properties by entering a number in the **page(s) wide by** box and a number in the **tall** box.
   b) To fill the paper width and use as many pages as necessary, enter **1** in the **pages(s) wide by** box and leave the **tall** box blank.
   c) Set a different paper size, if needed.
   d) Set a different page orientation, if needed.
2. Under **Print What**, do one of the following:
   - To print all sheets in the workbook, select **Entire Workbook**.
   - To print each of the selected sheets, select **Active Sheet(s)**.
3. Under **Links**, do any of the following:
   - To keep the hyperlinks from your Microsoft Excel documents in the PDF renditions generated by InSight Rendering, select **Preserve Links**.
   - To use the font formatting used in Microsoft Excel documents, select **Preserve Excel Font Formatting**.
4. Click **OK**.

Microsoft Visio Plug-In

The Microsoft Visio plug-in processes a Visio source document into a PDF file containing Visio diagrams.

You can specify the size and orientation of the pages on which the diagrams are rendered and the size of the rendered diagrams.

To set Visio transformation options:

1. In the **Paper layout** area, to specify the size and orientation of the pages on which the diagrams are rendered, select **Apply custom paper size** and do the following:
   a) Select the page size.
   b) Select the **Portrait** or **Landscape** page orientation.
   c) To specify the pages to which you want to apply the paper layout that you define, click **Apply to all pages** or **Apply to active page**.
2. In the **Print zoom** area, to adjust the size of the diagrams, select **Apply custom zoom** and do any of the following:

- To make the diagrams proportionally fit one entire page, select **Fit to content**.
- To increase or reduce diagram size by a specific percentage, select **Adjust to** and type or select the percentage.
- To specify the number of printed sheets (tiles) in the width and in the length of a diagram, select **Fit to**. Then, in the **sheet(s) across** box, type the number of sheets in the width, and in the **sheet(s) down** box, type the number of sheets in the length.
- InSight Rendering might not render a diagram with the number of sheets (tiles) in the width or length that you specify. For example, if you specify two sheets across and two sheets down, InSight Rendering might render the diagram with two sheets across but only one sheet down.

If you set the number of sheets in the width or length of a Visio diagram to 2 but Visio prints a diagram on one page, the link hot spots in the rendered diagram can be misaligned.

3. To specify the pages to which you want to apply the print zoom values that you define, click **Apply to all pages** or **Apply to active page**.
4. In the **Print what** area, to specify how much of a document to render, select **Entire document** or **Active page only**.
5. To render diagrams with the links that a source document contains, select **Preserve links**.
6. Click **OK**.

Imaging and TIFFX Plug-Ins

The Imaging and TIFFX plug-ins convert scanned TIFF image files into PDF. The option settings describe the page layout and how the image is scaled and positioned in the PDF rendition. You can specify the paper size, orientation and margins of the PDF rendition's page. It is recommended that the paper settings match the intended output paper size for your publication.

The TIFFX plug-in incorrectly transforms 16 bit color TIFF files. To avoid this issue, Black Ice, the creator of the TIFFX plug-in, instructs users to convert any 16 bit images to 24 bit images before transforming the document with the TIFFX plug-in. Also, indexed palette `.gif` images less than 8 bit must be converted to 8 bit to be successfully rendered.

To set the Imaging plug-in or TIFFX plug-in rendering options:

1. Under **Orientation**, select a paper orientation.
2. In the **Scale** drop down list, choose one of the following:
   - **Scale to Width** to scale the image proportionally to fit the width of the page
   - **Scale to Page** to stretch the image to fill the page
   - **Use Image DPI** to render the image with the original image size, which the dots per inch (DPI) for the image specifies
3. Use the **Paper Size** drop down list to select a paper size.
4. Under **Print Option**, use the check boxes to center the image horizontally and/or vertically.
5. Under **Page Setup**, type the desired page margins (in inches) in the appropriate boxes.
   Use decimals for fractional sizes.
6. Click **OK**.

Remapping Special Characters

You can translate (remap) special characters that may appear in a file, such as Greek characters or scientific symbols, with the plug-ins that allow remapping. The plug-ins that allow for character remapping can handle octal, hexadecimal and decimal character codes. You build a library of commonly used special characters and assign another character to replace the special character in the rendition. You can also strip-out any character so that it will not appear in the rendition.

For example, to replace any tab found in a document extract's title with a space, type the control code for a tab (\t) in the Special Character box and then type the character code for a space from the appropriate font character set in the Replacement Character box. When the plug-in extracts the entities, it replaces all tabs with a space in the extract titles.

Special characters defined in a plug-in affect either the text of a document's pages in the rendition or the bookmark labels in a rendition. Only the ASCII plug-in provides the ability to select which font character set to use (ESPS ASCII, ESPS ANSI, or Courier); all other plug-ins use the ESPS ANSI character set.

The *Font character sets* topic list the decimal character codes for the fonts available in InSight Rendering. When entering special characters, typing the character code number designates it as a decimal character code. For other character codes, use the following code prefixes before the character code number:

- \ Control Codes
- 0x Hexadecimal

To re-map special characters:

1. From a plug-in, click **Special Char** to view the screen shown above.
2. To add a character to the list:, do the following.
   a) In the **Special Characters** box, enter the code for the character you want to replace or not print.
   b) In the **Replacement Character** box, enter a code for the character you want to print, or type a zero (0) to strip-out the character
   c) Click **Add**.
3. To remove a character from the list, select a character code in the list and then click **Remove**.
4. Click **OK**.

Font Character Sets

This topic contains a listing of the common decimal codes for characters found in each of the fonts used for rending transformation and extraction. You can use these lists when designating characters to be stripped out or replaced in a plug-in.

You should note that the Courier and ESPS ANSI fonts contain the standard ANSI character set. The ESPS font contains the standard ANSI character set, with the exception of codes 177 through 185; these have been replaced with superior numbers (one through nine). The ESPS Ascii font contains the standard ASCII character set. When rendering or extracting, you should use the same font set that was used to create the document since character mapping can vary between fonts. InSight Rendering uses the ESPS ANSI font for special character replacement in all plug-ins. You can choose which font to use in the ASCII plug-in.

For special language or graphical characters beyond the standard ANSI (Latin 1) code page, see your system administrator for a list of the codes specific to the ANSI code page(s) used in your organization.

In the following font character sets, those values that have an empty box displayed are not supported. A blank represents a space (the character produced by the spacebar on your keyboard). The code number precedes the actual printed character in the font character sets. You should use the code number in the Special Characters dialog box.

For example, to replace a capital "I" with a lowercase "i" using the Courier font, you should type 73 in the Special Character box and type 105 in the Replacement Character box.

To identify special printer controls, you can use the following control codes (escape sequence codes):

This code	Matches this control character
\\	Backslash
\b	Backspace
\r	Carriage Return
\"	Double Quote
\f	Form Feed
\n	Newline
\'	Single quote
\t	Tab
\v	Vertical Tab

Control codes identify printer commands used to format the text in a document. Though you can replace or strip-out these codes in the Special Characters dialog box, be careful when stripping out or replacing these codes. The control codes behave differently in different file formats. For example, consider the carriage return and newline control codes. In source documents created with word processing programs, a carriage return ends a line and goes to the beginning of the next line. You can replace a carriage return with a space to bring two lines together into one line.

However, in an ASCII file a carriage return only returns to the beginning of the same line. It is used to overstrike a line, which results in a bolding effect on the text. Used in combination with a newline code, the carriage return makes the printer essentially end the line and start at the beginning of the next line. Stripping out or replacing these control codes from an ASCII file is not recommended because the result will not reflect the proper format of the document text.

ESPS Font

0	□	37	%	74	J	111	o	148	”	185	^{9}	222	Þ
1	□	38	&	75	K	112	p	149	•	186	°	223	ß
2	□	39	'	76	L	113	q	150	–	187	»	224	à
3	□	40	(	77	M	114	r	151	—	188	¼	225	á
4	□	41	)	78	N	115	s	152	˜	189	½	226	â
5	□	42	*	79	O	116	t	153	™	190	¾	227	ã
6	□	43	+	80	P	117	u	154	š	191	¿	228	ä
7	□	44	,	81	Q	118	v	155	›	192	À	229	å
8	□	45	-	82	R	119	w	156	œ	193	^{6}	230	æ
9	□	46	.	83	S	120	x	157	□	194	^{4}	231	ç
10	□	47	/	84	T	121	y	158	□	195	Ã	232	è
11	□	48	0	85	U	122	z	159	Ÿ	196	Ä	233	é
12	□	49	1	86	V	123	{	160		197	Å	234	ê
13	□	50	2	87	W	124	|	161	¡	198	Æ	235	ë
14	□	51	3	88	X	125	}	162	¢	199	Ç	236	ì
15	□	52	4	89	Y	126	~	163	£	200	^{8}	237	í
16	□	53	5	90	Z	127	□	164	¤	201	É	238	î
17	□	54	6	91	[	128	□	165	¥	202	^{5}	239	ï
18	□	55	7	92	\	129	□	166	¦	203	^{7}	240	ð
19	□	56	8	93	]	130	‚	167	§	204	Ì	241	ñ
20	□	57	9	94	^	131	ƒ	168	¨	205	^{9}	242	ò
21	□	58	:	95	_	132	„	169	©	206	Î	243	ó
22	□	59	;	96	`	133	…	170	ª	207	Ï	244	ô
23	□	60	<	97	a	134	†	171	«	208	Ð	245	õ
24	□	61	=	98	b	135	‡	172	¬	209	Ñ	246	ö
25	□	62	>	99	c	136	ˆ	173	-	210	Ò	247	÷
26	□	63	?	100	d	137	‰	174	®	211	Ó	248	ø
27	□	64	@	101	e	138	Š	175	¯	212	Ô	249	ù
28	□	65	A	102	f	139	‹	176	°	213	Õ	250	ú
29	□	66	B	103	g	140	Œ	177	^{1}	214	Ö	251	û
30	□	67	C	104	h	141	□	178	^{2}	215	×	252	ü
31	□	68	D	105	i	142	□	179	^{3}	216	Ø	253	ý
32		69	E	106	j	143	□	180	^{4}	217	Ù	254	þ
33	!	70	F	107	k	144	□	181	^{5}	218	Ú	255	ÿ
34	"	71	G	108	l	145	‘	182	^{6}	219	Û		
35	#	72	H	109	m	146	’	183	^{7}	220	Ü		
36	$	73	I	110	n	147	“	184	^{8}	221	Ý		

ESPS ASCII Font

0	□	37	%	74	J	111	o	148	”	185	9	222	Þ
1	□	38	&	75	K	112	p	149	•	186	°	223	ß
2	□	39	'	76	L	113	q	150	–	187	»	224	à
3	□	40	(	77	M	114	r	151	—	188	¼	225	á
4	□	41	)	78	N	115	s	152	˜	189	½	226	â
5	□	42	*	79	O	116	t	153	™	190	¾	227	ã
6	□	43	+	80	P	117	u	154	š	191	¿	228	ä
7	□	44	,	81	Q	118	v	155	›	192	À	229	å
8	□	45	-	82	R	119	w	156	œ	193	6	230	æ
9	□	46	.	83	S	120	x	157	□	194	4	231	ç
10	□	47	/	84	T	121	y	158	□	195	Ã	232	è
11	□	48	0	85	U	122	z	159	Ÿ	196	Ä	233	é
12	□	49	1	86	V	123	{	160		197	Å	234	ê
13	□	50	2	87	W	124	|	161	¡	198	Æ	235	ë
14	□	51	3	88	X	125	}	162	¢	199	Ç	236	ì
15	□	52	4	89	Y	126	~	163	£	200	8	237	í
16	□	53	5	90	Z	127	□	164	¤	201	É	238	î
17	□	54	6	91	[	128	□	165	¥	202	5	239	ï
18	□	55	7	92	\	129	□	166	¦	203	7	240	ð
19	□	56	8	93	]	130	‚	167	§	204	Ì	241	ñ
20	□	57	9	94	^	131	ƒ	168	¨	205	9	242	ò
21	□	58	:	95	_	132	„	169	©	206	Î	243	ó
22	□	59	;	96	`	133	…	170	ª	207	Ï	244	ô
23	□	60	<	97	a	134	†	171	«	208	Ð	245	õ
24	□	61	=	98	b	135	‡	172	¬	209	Ñ	246	ö
25	□	62	>	99	c	136	ˆ	173	-	210	Ò	247	÷
26	□	63	?	100	d	137	‰	174	®	211	Ó	248	ø
27	□	64	@	101	e	138	Š	175	¯	212	Ô	249	ù
28	□	65	A	102	f	139	‹	176	°	213	Õ	250	ú
29	□	66	B	103	g	140	Œ	177	1	214	Ö	251	û
30	□	67	C	104	h	141	□	178	2	215	×	252	ü
31	□	68	D	105	i	142	□	179	3	216	Ø	253	ý
32		69	E	106	j	143	□	180	4	217	Ù	254	þ
33	!	70	F	107	k	144	□	181	5	218	Ú	255	ÿ
34	"	71	G	108	l	145	‘	182	6	219	Û		
35	#	72	H	109	m	146	’	183	7	220	Ü		
36	$	73	I	110	n	147	“	184	8	221	Ý		

ESPS ANSI Font

0		36	$	73	I	110	n	147	ô	184	╕	221	▌
1	☺	37	%	74	J	111	o	148	ö	185	╣	222	▐
2	☻	38	&	75	K	112	p	149	ò	186	║	223	▀
3	♥	39	'	76	L	113	q	150	û	187	╗	224	α
4	♦	40	(	77	M	114	r	151	ù	188	╝	225	ß
5	♣	41	)	78	N	115	s	152	ÿ	189	╜	226	Γ
6	♠	42	*	79	O	116	t	153	Ö	190	╛	227	π
7	•	43	+	80	P	117	u	154	Ü	191	┐	228	Σ
8	◘	44	,	81	Q	118	v	155	¢	192	└	229	σ
9	○	45	-	82	R	119	w	156	£	193	┴	230	µ
10	◙	46	.	83	S	120	x	157	¥	194	┬	231	τ
11	♂	47	/	84	T	121	y	158	₧	195	├	232	Φ
12	♀	48	0	85	U	122	z	159	ƒ	196	─	233	Θ
13	♪	49	1	86	V	123	{	160	á	197	┼	234	Ω
14	♫	50	2	87	W	124	¦	161	í	198	╞	235	δ
15	★	51	3	88	X	125	}	162	ó	199	╟	236	∞
16	►	52	4	89	Y	126	~	163	ú	200	╚	237	ø
17	◄	53	5	90	Z	127	•	164	ñ	201	╔	238	ε
18	↕	54	6	91	[	128	Ç	165	Ñ	202	╩	239	∩
19	‼	55	7	92	\	129	ü	166	ª	203	╦	240	≡
20	¶	56	8	93	]	130	é	167	º	204	╠	241	±
21	§	57	9	94	^	131	â	168	¿	205	═	242	≥
22	▬	58	:	95	_	132	ä	169	⌐	206	╬	243	≤
23	↨	59	;	96	`	133	à	170	¬	207	╧	244	⌠
24	↑	60	<	97	a	134	å	171	½	208	╨	245	⌡
25	↓	61	=	98	b	135	ç	172	¼	209	╤	246	÷
26	→	62	>	99	c	136	ê	173	¡	210	╥	247	≈
27	←	63	?	100	d	137	ë	174	«	211	╙	248	°
28	∟	64	@	101	e	138	è	175	»	212	╘	249	•
29	↔	65	A	102	f	139	ï	176	░	213	╒	250	·
30	▲	66	B	103	g	140	î	177	▒	214	╓	251	√
31	▼	67	C	104	h	141	ì	178	▓	215	╫	252	ⁿ
32		68	D	105	i	142	Ä	179	│	216	╪	253	²
33	!	69	E	106	j	143	Å	180	┤	217	┘	254	■
34	"	70	F	107	k	144	É	181	╡	218	┌	255	□
35	#	71	G	108	l	145	æ	182	╢	219	█		
		72	H	109	m	146	Æ	183	╖	220	▄		

Courier Font

0	□	37	%	74	J	111	o	148	”	185	¹	222	Þ
1	□	38	&	75	K	112	p	149	•	186	º	223	ß
2	□	39	'	76	L	113	q	150	–	187	»	224	à
3	□	40	(	77	M	114	r	151	—	188	¼	225	á
4	□	41	)	78	N	115	s	152	˜	189	½	226	â
5	□	42	*	79	O	116	t	153	™	190	¾	227	ã
6	□	43	+	80	P	117	u	154	š	191	¿	228	ä
7	□	44	,	81	Q	118	v	155	›	192	À	229	å
8	□	45	-	82	R	119	w	156	œ	193	Á	230	æ
9	□	46	.	83	S	120	x	157	□	194	Â	231	ç
10	□	47	/	84	T	121	y	158	□	195	Ã	232	è
11	□	48	0	85	U	122	z	159	Ÿ	196	Ä	233	é
12	□	49	1	86	V	123	{	160		197	Å	234	ê
13	□	50	2	87	W	124	|	161	¡	198	Æ	235	ë
14	□	51	3	88	X	125	}	162	¢	199	Ç	236	ì
15	□	52	4	89	Y	126	~	163	£	200	È	237	í
16	□	53	5	90	Z	127	□	164	¤	201	É	238	î
17	□	54	6	91	[	128	□	165	¥	202	Ê	239	ï
18	□	55	7	92	\	129	□	166	¦	203	Ë	240	ð
19	□	56	8	93	]	130	‚	167	§	204	Ì	241	ñ
20	□	57	9	94	^	131	ƒ	168	¨	205	Í	242	ò
21	□	58	:	95	_	132	„	169	©	206	Î	243	ó
22	□	59	;	96	`	133	…	170	ª	207	Ï	244	ô
23	□	60	<	97	a	134	†	171	«	208	Ð	245	õ
24	□	61	=	98	b	135	‡	172	¬	209	Ñ	246	ö
25	□	62	>	99	c	136	ˆ	173	-	210	Ò	247	÷
26	□	63	?	100	d	137	‰	174	®	211	Ó	248	ø
27	□	64	@	101	e	138	Š	175	¯	212	Ô	249	ù
28	□	65	A	102	f	139	‹	176	°	213	Õ	250	ú
29	□	66	B	103	g	140	Œ	177	±	214	Ö	251	û
30	□	67	C	104	h	141	□	178	²	215	×	252	ü
31	□	68	D	105	i	142	□	179	³	216	Ø	253	ý
32		69	E	106	j	143	□	180	´	217	Ù	254	þ
33	!	70	F	107	k	144	□	181	µ	218	Ú	255	ÿ
34	"	71	G	108	l	145	‘	182	¶	219	Û		
35	#	72	H	109	m	146	’	183	·	220	Ü		
36	$	73	I	110	n	147	“	184	¸	221	Ý		

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