

Intelligent Capture for Transcripts – Process Integration

Installation Guide

Version 1.0.x

Compatible with ImageNow versions: 6.6.x to 6.7.x

perceptivesoftware

Written by: Product Documentation, R&D
Date: September 2016

© 2013 Perceptive Software. All rights reserved

CaptureNow, ImageNow, Interact, and WebNow are trademarks of Lexmark International Technology SA, registered in the U.S. and other countries. Perceptive Software is a stand-alone business unit within Lexmark International Technology SA. All other brands and product names mentioned in this document are trademarks or registered trademarks of their respective owners. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or any other media embodiments now known or hereafter to become known, without the prior written permission of Perceptive Software.

Table of Contents

- Perceptive Intelligent Capture for Transcripts - Process Integration solution overview 4**
 - The Transcript Process Integration solution technical architecture..... 4
 - Prerequisites..... 5
 - Active-active server environments 5
 - Overview of the set up process 5
- Download and install the files 6**
- Configure External Message Agent 6**
- Configure ImageNow 6**
 - Create a transcript document type 7
 - Create custom properties (Optional) 7
 - Create and configure an ImageNow workflow process 7
 - Create a capture transcript process with work queues..... 8*
 - Attach the eForm to a work queue..... 9*
 - Assign the iScript to a queue 9*
 - Create routes - optional 9*
 - Incorporate with eForm iScript work queues – optional..... 10*
- Configure the Transcript Process Integration solution 10**
 - Configure the BW_Config.xml file 10
 - Configure Transcript Process Integration to copy extracted data into ImageNow document properties (optional)..... 11
- Appendix B: BW_Config.xml 13**
- Appendix C: Extracted data fields..... 14**
- Appendix D: Troubleshooting 16**
 - Log files 16
- Index 17**

Perceptive Intelligent Capture for Transcripts - Process Integration solution overview

The Perceptive Intelligent Capture for Transcripts - Process Integration solution allows you to integrate Perceptive Intelligent Capture for Transcripts with your workflow processes.

Intelligent Capture and the Perceptive Intelligent Capture for Transcripts project use optical character recognition (OCR) to capture student transcript data from scanned images.

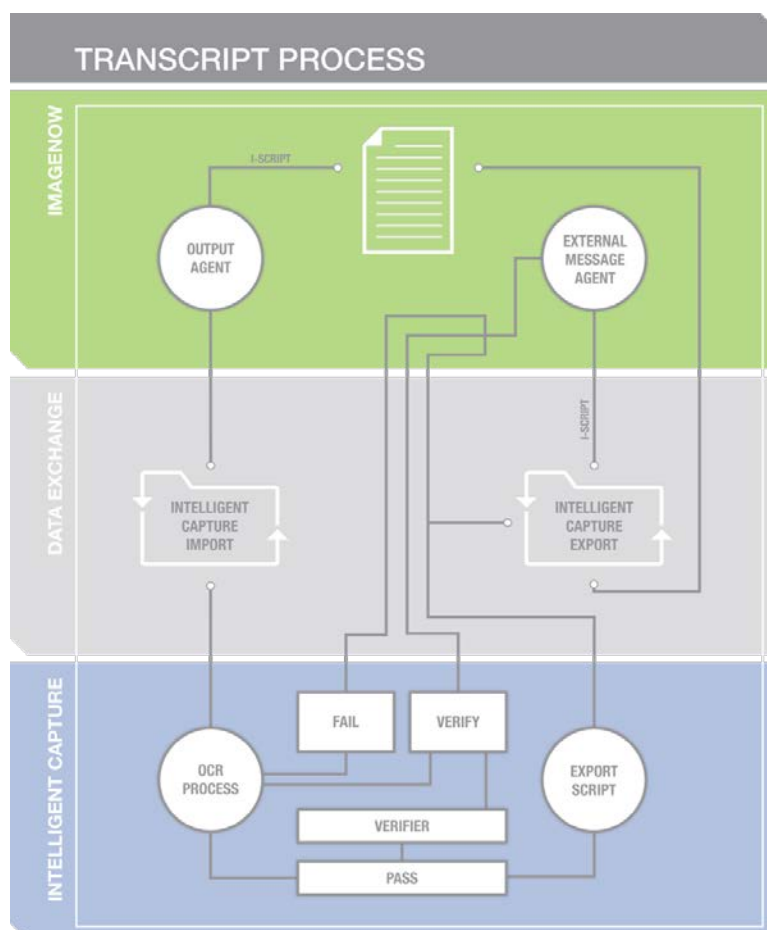
The Perceptive Transcript eForm allows your users to edit captured data or manually enter transcript information. After capture, your users easily review and manage the student data with custom workflows in ImageNow. The Transcript eForm includes an iScript that allows you to export the captured data for use in another process or Student Information System (SIS). For more information on Perceptive Transcript eForm, refer to the *Perceptive Transcript eForm Installation Guide*, available in the Perceptive Software Customer Portal, on the Product Documentation tab.

You may add an optional connector to upload transcript data to your SIS.

The Transcript Process Integration solution technical architecture

The following is an overview of the Intelligent Capture and ImageNow processes involved in transcript data capture.

- Capture a transcript into an ImageNow workflow process.
- Route the transcript to the Send to Intelligent Capture queue, where it triggers an iScript.
- The iScript triggers Output Agent to create a TIF copy of the transcript in the Intelligent Capture import directory.
- Intelligent Capture pulls the TIF from the import directory and extracts the data.
- Intelligent Capture compiles the extracted data as an XML file, then exports it to a defined directory.
- Intelligent Capture writes to an ImageNow database table to indicate the XML file is ready.
- External Message Agent calls an iScript. The iScript populates the Perceptive Transcript eForm with the XML data. The iScript appends the eForm to the original ImageNow transcript document.



- The transcript document routes in the workflow to the success or failure queue.

Prerequisites

Before you install Perceptive Intelligent Capture for Transcripts - Process Integration, you must install and have access to each of the following programs on the target network.

- ImageNow Server and Client, 6.6.x or 6.7.x
Note For an active-active server environment, you must run ImageNow version 6.7.0.2717 or higher.
- Message Agent, 6.6.x or higher
- Output Agent, 6.6.x or higher
- Perceptive Transcript eForm
- Intelligent Capture 5.5.x Service Pack 2
- Perceptive Intelligent Capture for Transcripts 1.2 project
- Internet Explorer, version 8 or higher

Active-active server environments

The Transcript Process Integration solution supports ImageNow instances installed in active-active server environments. An active-active server environment has at least two active instances running at the same time: a primary instance and a secondary instance. Each instance of ImageNow Server runs independently of the other.

For more information about active-active environments, refer to the *ImageNow High Availability Overview Technical Guide* and the *ImageNow Server and Client Installation and Setup Guide*, available in the Perceptive Software Customer Portal, on the Product Documentation tab.

Overview of the set up process

To install and configure the Transcript Process Integration solution, complete the following sections, in order.

- [Download and install the files](#)
- [Configure External Message Agent](#)
- [Configure ImageNow](#)
- [Configure the Transcript Process Integration solution](#)

Download and install the files

The Perceptive Intelligent Capture for Transcripts - Process Integration ZIP includes the files required to integrate Intelligent Capture, ImageNow, and the Transcript eForm. To download and install the Transcript Process Integration solution, review and complete the following steps.

1. To download the ZIP folder and extract the files, complete the following steps.
 1. Go to the Perceptive Software website at www.perceptivesoftware.com and log in to the Customer Portal.
 2. In the **Product Downloads** page, search for the **Intelligent Capture for Transcripts – Process Integration ZIP** file.
 3. Download the file to a temporary directory on your computer.
 4. Extract the contents of the file into a temporary directory.
2. To install the Transcript Process Integration solution iScript files, complete the following steps.
 1. Navigate to `\script` in your temporary directory.
 2. Copy the **BW_TranscriptExportDoc.js** and **BW_TranscriptTransfer.js** files to **[drive:]\inserver6\script**.
 3. Copy the **transcripts** directory to **[drive:]\inserver6\etc**.

Configure External Message Agent

To configure External Message Agent, complete the following steps.

1. Navigate to **[drive:]\inserver6\etc** and open **inserverEM.ini** in a text editor.
Note Run the text editor as an administrator, if required.
2. Add the following section at the end of the file.

```
[TranscriptBrainware]
Transfer=BW_TranscriptTransfer.js
```

3. Save and close **inserverEM.ini**.

Configure ImageNow

To configure ImageNow for Transcript Process Integration, review and complete the following tasks.

- [Create a transcript document type](#)
- [Create custom properties \(Optional\)](#)
- [Create and configure an ImageNow workflow process](#)

Create a transcript document type

The Transcript Process Integration solution requires a specific document type for transcript documents.

Identify the specific document type for transcripts in your ImageNow environment. If none exists, create a new document type, such as **Transcript**.

Notes

- For information on creating document types, refer to “Add a document type” in Management Console Help.
- You will use this document type name when you complete the [Configure BW_Config.xml](#) section. To create a valid BW_Config.xml entry, use only valid xml characters. For more information on characters to avoid, refer to “Reserved characters in XML and forms” in Extended Forms Help.

Create custom properties (Optional)

You can configure Transcript Process Integration to populate an ImageNow index key, document key, or custom property with extracted transcript data automatically. For example, you can configure Transcript Process Integration to populate the ImageNow transcript document Field3 with the student's last name automatically.

To rename index keys or document keys or create custom properties for captured information you want Transcript Process Integration to copy to your ImageNow document, complete the following steps.

1. To rename an index key or document key, choose a field (1-5) for the captured information. Example: rename the **f3** or **Field3** column as **Last Name**.

Note In 6.7.x environments, refer to “Rename a column” in View Designer Help. In 6.6.x environments, refer to “Rename a column” in Workflow Designer Help.

2. To create a custom property and assign it to the transcript document type, refer to “Create a custom property” and “Assign a custom property to a document type” in Management Console Help. For example, **Student Social Security Number**.

Note You will use these key and property names in [Configure Transcript Process Integration to copy extracted data into ImageNow document properties \(optional\)](#). To create a valid BW_Config.xml entry, use only valid xml characters. For more information on characters to avoid, refer to “Reserved characters in XML and forms” in Extended Forms Help.

Create and configure an ImageNow workflow process

The solution iScript sends transcripts to Intelligent Capture for data extraction and returns the extracted values, which users view using the Perceptive Transcript eForm. This process requires a set of workflow queues, an iScript and permissions. It may include routes and may incorporate the Transcript eForm iScript.

The following example represents one method of configuring and using Transcript Process Integration. Evaluate and modify your workflow processes based on your unique needs.

To create a workflow process with the queues necessary for transcript processing, complete the following procedures.

- [Create a capture transcript process with work queues](#)
- [Attach the eForm to a work queue](#)
- [Assign the iScript to a queue](#)

- [Create routes - optional](#)
- [Incorporate with eForm iScript work queues – optional](#)

Create a capture transcript process with work queues

To create a new process, or modify an existing process, for capturing transcripts, complete the following steps.

1. In **Management Console**, complete one of the following steps.
 - Create a new process and click **Modify**.
 - Select an existing process and click **Modify**.
2. In the **ImageNow Workflow Designer** window, create and name the following **Work queues**.

Note You will use these work queue names when you complete the [Configure BW_Config.xml](#) section. To create a valid BW_Config.xml entry, use only valid xml characters. For more information on characters to avoid, refer to “Reserved characters in XML and forms” in Extended Forms Help.

- An incoming documents queue, such as **Begin Transcript Process**
- Optional. A manual transcript entry queue for transcripts that will not be sent to Intelligent Capture, such as **Manual Transcript Entry**
- A send transcripts queue, such as **Send to Intelligent Capture**
- A processing queue to represent the Intelligent Capture data extraction, such as **Intelligent Capture Processing**
- A success queue, such as **Intelligent Capture Success**
- A verification queue, such as **Capture Verification**

Note Intelligent Capture routes documents to this queue when it encounters a problem extracting data from the transcript. You can set an alarm on this queue to notify users when a transcript requires intervention.

- Two failure queues, such as
 - **Intelligent Capture Error**, for errors with mapping values from Intelligent Capture.

Note Intelligent Capture routes documents to this queue when it encounters a problem mapping values from the transcript. You can set an alarm on this queue to notify users when a transcript requires intervention.
 - **General Error**, for other errors within the Intelligent Capture process

Note Intelligent Capture routes documents to this queue when required data is missing. You can set an alarm on this queue to notify users when a transcript requires manual data entry.

Attach the eForm to a work queue

To allow users to view and edit the extracted eForm data in ImageNow, attach the Transcript eForm to the work queues you created in [Create a transcript process with work queues](#).

To attach the Transcript eForm to one or more work queues, complete the following steps.

Note Only owners, managers, and users with the Manage Forms privilege can complete this procedure. A Forms license is required to use forms. If you need a Forms license, contact your Perceptive Software representative.

1. In the **Management Console**, in the left pane, click **Workflow**.
2. On the **Workflow** tab, click the process and click **Modify**.
3. To attach the Perceptive Transcript eForm to a queue in the workflow process, complete the following substeps.
 1. In the **Workflow Designer** dialog box, double-click a work queue, such as **Manual Transcript Entry**.
 2. In the **Queue Properties** dialog box, in the left pane, click **Forms** and click **Add**.
 3. In the **Select Forms** dialog box, under **Available forms**, click the Transcript eForm name, such as **EDU_Transcript**, click **Add**, and then click **OK**.

Note You will use this form name when you complete the [Configure BW_Config.xml](#) section. To create a valid BW_Config.xml entry, use only valid xml characters. For more information on characters to avoid, refer to “Reserved characters in XML and forms” in Extended Forms Help.
 4. In the **Queue Properties** dialog, click **OK**.
4. Optional. To attach the Transcript eForm to additional queues, repeat the previous step.

Assign the iScript to a queue

To assign this iScript to the send transcripts queue, complete the following steps.

1. In **Management Console**, on the **Workflow** tab, open your transcript workflow process.
2. Double-click on the send transcripts queue, such as **Send to Intelligent Capture**.
3. On the **Inbound** tab, create the iScript **BW_TranscriptExportDoc.js**.

Note For more information on attaching a script to work queue, refer to “Create a script” in Workflow Designer Help.

Create routes - optional

Users may correct errors using the Transcript eForm. Then, they can route transcripts to appropriate work queues.

To create routes, complete the following steps.

1. To allow users to correct transcript data extraction errors, create routes from the verification queue to either the manual transcript entry queue or the send transcripts queue.
2. To allow users to correct other errors, create routes from the two failure queues to the success queue.
3. Evaluate and modify your workflow routes based on your unique needs.

Incorporate with eForm iScript work queues – optional

If you set up Transcript eForm export work queues when you installed the Transcript eForm, you may connect that workflow to the capture transcripts workflow you created in [Create a capture transcript process with work queues](#).

Note For more information on the eForm export process, refer to the *Perceptive Transcript eForm Getting Started Guide 6.6.x and 6.7.x*.

To connect the work queues, complete the following steps.

1. Create a route from the capture transcript success queue, such as **Intelligent Capture Success** to the transcript export queue, such as **Export eForm Data**
2. Evaluate and modify your workflow processes based on your unique needs.

Configure the Transcript Process Integration solution

To configure the Transcript Process Integration solution, review and complete the following tasks.

- [Configure the BW_Config.xml file](#)
- [Configure Transcript Process Integration to copy extracted data into ImageNow document properties \(optional\)](#)

Configure the BW_Config.xml file

The BW_Config.xml file determines how transcripts route between Intelligent Capture and ImageNow.

To configure queues and directories used by Intelligent Capture, complete the following steps.

1. Navigate to **[drive:]inserver6\etc\transcripts** and open **BW_Config.xml** with a text editor.
Note Run the text editor as an administrator, if required.
2. Under the `<configuration>` node, update the following settings.
 1. Set `<importdir>` to the export directory defined in your Intelligent Capture project, such as **C:\inserver6\temp\Transcripts\Export**.
 2. Set `<errordir>` to the error directory defined in your Intelligent Capture project.
 3. Set `<erroreformmapping>` to the ImageNow queue you created for Intelligent Capture indexing errors such as, **Intelligent Capture Error**.
 4. Set `<errorqueueexport>` to the ImageNow queue you created for general errors, such as **General Errors**.
 5. Set `<setdocnotes>` to **true** or **false**. If **true**, the script populates the document's **Notes** field in ImageNow with either a success message or an explanation for any processing errors.
 6. To set the status code queue names, complete the following substeps.
 - In the `<statuscode code="800">` element, set `queuename` to the success queue, such as **Intelligent Capture Success**.
 - In the `<statuscode code="550">` element, set `queuename` to the verification queue, such as **Capture Verification**.

- In the `<statusCode code="DEFAULT">` element, set `queueName` to the Intelligent Capture mapping error queue, such as **Intelligent Capture Error**.
 - In the `<statusCode code="825">` element, set `queueName` to the general Intelligent Capture error queue, such as **General Errors**.
3. To configure the `<doctype>` element, complete the following substeps.
 - Set `name` to the document type you created for transcripts, such as **Transcript**.
 - Set `bwimportdir` to the import directory defined by your Intelligent Capture project for document imports, such as, **C:\inserver6\temp\Transcripts\Import**.
 4. To configure the `<worksheet>` element, complete the following substeps.
 - Set `name` to the name of your transcript eForm, such as, **EDU_Transcript**.
 - Set `dataDef` to the location of the eForm worksheet, such as, **C:\inserver6\form\data_definition\EDU_PerceptiveTranscript.xml**.
 5. Save the **BW_Config.xml** file. If you chose not to include additional captured information in [Create a transcript document type and custom properties](#), close the text editor. If you chose to include additional captured information, do not close the text editor and proceed to the next section.

Configure Transcript Process Integration to copy extracted data into ImageNow document properties (optional)

To configure Transcript Process Integration to copy extracted transcript data to index keys, document keys and custom properties, complete the following steps.

Note To review a sample BW_Config.xml file, refer to [Appendix C: BW_Config.xml](#).

1. Open **BW_Config.xml** with a text editor.

Note Run the text editor as an administrator, if required.
2. For every document key, index key or custom property you want to copy, complete the following steps.
 1. Copy the corresponding sample line and paste it immediately following the line `-->` at the end of sample section.
 - To copy custom properties, copy `<customprop
xpath="/transcript/universityInstitutionalRecord/ceeb" cp="InstitutionId"
datatype="STRING" default="" function="" mapping="" />`
 - To copy index keys or document keys, copy `<indexkey
xpath="/transcript/studentRecord/firstName" key="f3" default="" function=""
mapping="" />`

Note Use the indexkey xpath sample for both ImageNow 6.6.x and 6.7.x environments.
 2. Set the `xpath` to the extracted transcript data field you want to copy. For a list of extracted data fields, refer to [Appendix D: Extracted data fields](#).

3. To set the index key, document key or custom property, complete one of the following steps.
 - To use an index key in 6.6 environments, set the `indexkey xpath` to `drawer`, `folder`, `tab`, `f3`, `f4`, `f5`, or `doctype`.
 - To use a document key in 6.7 environments, set the `indexkey xpath` to `drawer`, `field1`, `field2`, `field3`, `field4`, `field5`, or `doctype`.
 - To use a custom property, set the `cp` attribute with the name of a custom property, such as, `"InstitutionID"`.
4. Optional. To set a default value for the eForm field if the extracted transcript value does not exist or is blank, set the `default` attribute with a string value, such as `Not available`.

3. Save and close **BW_Config.xml**.

Examples

- To copy the student's last name to the f3 index key in a 6.6 environment, with a default value of 'missing', use the following.


```
<indexkey xpath="/transcript/studentRecord/lastName" key="f3" default="missing"
function="" mapping="" />
```
- To copy the student's last name to the Field3 document key in a 6.7 environment, with a default value of 'missing', use the following.


```
<indexkey xpath="/transcript/studentRecord/lastName" key="field3"
default="missing" function="" mapping="" />
```
- To copy a the student's social security number to a custom property named Student Social Security Number, with a default value of 'research required', use the following.


```
<customprop xpath="/transcript/studentRecord/ssn" cp="Student Social Security
Number" datatype="STRING" default="research required" function="" mapping="" />
```

Appendix B: BW_Config.xml

This example shows what a BW_Config.xml configuration may look like.

```
<configuration version="Intelligent Capture Transcript 0.1.0.403">
  <importdir>C:\inserver6\temp\Transcripts\Export</importdir>
  <errordir>C:\inserver6\temp\Transcripts\Error</errordir>
  <erroreformmapping>Intelligent Capture Error</erroreformmapping>
  <errorqueueexport>General Errors</errorqueueexport>
  <setdocnotes>true</setdocnotes>
  <statuscode code="800" type="SUCCESS" queue="Intelligent Capture Success" />
  <statuscode code="550" type="VERIFICATION" queue="Capture Verification" />
  <statuscode code="DEFAULT" type="ERROR" queue="Intelligent Capture Error" />
  <statuscode code="825" type="ERROR" queue="General Errors" />

  <doctype name="Transcript" bwimportdir="C:\inserver6\temp\Transcripts\Import">

    <indexkey xpath="/transcript/studentRecord/lastName" key="field3" default="missing"
function="" mapping="" />

    <customprop xpath="/transcript/studentRecord/ssn" cp="Student Social Security Number"
datatype="STRING" default="research required" function="" mapping="" />

    <worksheet name="EDU_transcript"
datadef="C:\inserver6\form\data_definition\EDU_PerceptiveTranscript.xml">

  </configuration>
```

Appendix C: Extracted data fields

Use the following xpaths to copy transcript data into ImageNow index keys, document keys or custom properties. For more information, refer to [Configure Transcript Process Integration to copy extracted data into ImageNow document properties \(optional\)](#).

| Field | xpath |
|---|---|
| Transcript Type | /transcript/type |
| Transcript Issue Date | /transcript/issueDate |
| Student Information | |
| Application Id | /transcript/studentRecord/applicantId |
| Last Name | /transcript/studentRecord/lastName |
| First Name | /transcript/studentRecord/firstName |
| Middle Name | /transcript/studentRecord/middleName |
| Address | /transcript/studentRecord/streetAddress |
| City | /transcript/studentRecord/city |
| State | /transcript/studentRecord/state |
| Zip | /transcript/studentRecord/zip |
| SSN | /transcript/studentRecord/ssn |
| DOB | /transcript/studentRecord/dob |
| Phone | /transcript/studentRecord/phoneNumber |
| SSN | /transcript/studentRecord/ssn |
| Date of Birth | /transcript/studentRecord/dob |
| University Institution Information | |
| Name | /transcript/universityInstitutionalRecord/issuingSchoolName |
| Institution Id | transcript/universityInstitutionalRecord/institutionId |
| Address | /transcript/universityInstitutionalRecord/address |
| City | /transcript/universityInstitutionalRecord/city |
| State | /transcript/universityInstitutionalRecord/state |

| Field | xpath |
|--------------------------------|---|
| Zip | /transcript/universityInstitutionalRecord/zip |
| Phone | /transcript/universityInstitutionalRecord/phoneNumber |
| CEEB | /transcript/universityInstitutionalRecord/ceeb |
| OPEID | /transcript/universityInstitutionalRecord/opeid |
| ACT | /transcript/universityInstitutionalRecord/act |
| FICE | /transcript/universityInstitutionalRecord/fice |
| High School Information | |
| Name | /transcript/highschoolInstitutionalRecord/issuingSchoolName |
| Institution Id | /transcript/highschoolInstitutionalRecord/institutionId |
| Address | /transcript/highschoolInstitutionalRecord/address |
| City | /transcript/highschoolInstitutionalRecord/city |
| State | /transcript/highschoolInstitutionalRecord/state |
| Zip | /transcript/highschoolInstitutionalRecord/zip |
| Phone | /transcript/highschoolInstitutionalRecord/phoneNumber |
| Cumulative GPA | /transcript/highSchoolSummary/cumulativeGPA |
| Class Size | /transcript/highSchoolSummary/classSize |
| Class Rank | /transcript/highSchoolSummary/classRank |
| Class Year | /transcript/highSchoolSummary/classYear |
| Total Credits Earned | /transcript/highSchoolSummary/totalCreditsEarned |
| Weighted GPA | /transcript/highSchoolSummary/weightedGPA |
| Weighted Class Rank | /transcript/highSchoolSummary/weightedClassRank |
| Graduation Date | /transcript/highSchoolSummary/graduationDate |

Appendix D: Troubleshooting

Log files

The following table describes log files stored in the \inserver6\log directory that are associated with The Transcript Process Integration solution.

| Installed Form File | Description |
|-----------------------------------|---|
| BW_TranscriptExportDoc_<date>.log | This log reports status on the export of a scanned document image from ImageNow to Transcript Process Integration. It reports success / failure of export. |
| BW_TranscriptTransfer_<date>.log | This log reports status on the import of a document's xml file from Transcript Process Integration to ImageNow. It reports success / failure of import. |

Index

- active-active server environments, 5
- BW_Config.xml
 - example, 13
- configuring external message agent, 6
- configuring ImageNow, 6
 - creating a transcript document type, 7
 - creating custom properties, 7
- configuring ImageNow workflow process
 - assigning the iScript, 9
 - attaching the eForm, 9
 - creating a capture transcript process, 8
 - creating routes, 9
 - incorporating the eForm iScript work queues, 10
 - overview, 7
- configuring the solution
 - configuring the BW_Config.xml file, 10
 - configuring the solution to copy extracted data to ImageNow, 11
 - overview, 10
- extracted data fields
 - xpaths, 14
- installing, 6
- overview
 - set up process, 5
 - solution, 4
 - technical architecture, 4
- prerequisites, 5
- troubleshooting, 16
 - log files, 16