

Kofax TotalAgility

Features Guide

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Preface

This guide provides an overview of the TotalAgility features.

Introduction to Kofax TotalAgility

Kofax TotalAgility is a Smart Process Application (SPA) platform that transforms and simplifies critical business interactions. Use TotalAgility to design, develop, and deploy continually improving business processes that result in better customer engagement, more effective process execution, and increased business agility.

TotalAgility provides multichannel information capture, business process management and adaptive case management and mobile capabilities in a single, integrated product offering.

TotalAgility supports Business Intelligence (BI) and Analytics, advanced data integration and e-signature capabilities through prebuilt integration to the Kofax Insight, Kapow, SignDoc and Customer Communications Manager products, respectively.

On-Premise Multi-Tenancy

The On-Premise Multi-Tenant version of TotalAgility, which allows Shared Service Centers (SSCs) and Business Process Outsourcers (BPOs) to offer the software/solutions to their customer base (tenants), includes the following:

- Tenant management system (to create and manage tenants)
- Live (production) environment
- Development environment

By leveraging the optional On-Premise Multi-Tenant version of TotalAgility, you can deploy a single instance of the software that serves all tenants, such that each tenant has its own set of data that remains isolated from data that belongs to all other tenants.

Kofax Analytics for TotalAgility

Kofax Analytics for TotalAgility is an extension of Kofax TotalAgility that tracks data as it moves through the workflow to produce Business Intelligence (BI) dashboards. The dashboards help you track data through the workflow; analyze the effectiveness of the processes and resources in real-time; and address business problems.

Data stored within the database displays in standard or custom views that consist of charts, grids, pivot tables, and reports. You can also extract information from the User Tracking tables in your TotalAgility installation and from external databases.

Related documentation

The full documentation set for Kofax TotalAgility is available at the following.

<https://docshield.kofax.com/Portal/Products/KTA/750-4kcae04o43/KTA.htm>

In addition to this guide, the documentation set includes the following items:

- *Kofax TotalAgility Prerequisites Guide*: Provides system requirements for installing TotalAgility, instructions for running the prerequisite utility, and a software checklist for various installation types.
- *Kofax TotalAgility Installation Guide*: Describes how to install and configure TotalAgility.
- *Kofax TotalAgility Integration Server Installation Guide*: Describes how to install Kofax Integration Server and integrate it with other products.
- *Kofax TotalAgility On-Premise Multi-Tenancy Installation Guide*: Describes how to install and configure On- Premise Multi-Tenant system.
- *Kofax TotalAgility Configuration Utility Guide*: Explains how to use the Configuration Utility to update settings across various configuration files for different types of installation and deployment.
- *Kofax TotalAgility Administrator's Guide*: Provides information to the administrator on configuring and maintaining a TotalAgility installation.
- *Kofax TotalAgility Architecture Guide*: Provides an overview of the TotalAgility architecture, covering various deployments for on-premise, on-premise multi-tenancy and Azure environments.
- *Kofax TotalAgility Best Practices Guide*: Describes the best practices you must follow when using TotalAgility to improve performance, cost, maintenance, availability and security.
- *Kofax TotalAgility Migration Guide*: Provides information on TotalAgility upgrades from different versions and post upgrade configuration.
- *Kofax TotalAgility Help*: Provides details about using TotalAgility to design business jobs and cases, assign resources, create forms, integrate with external applications, and more. Access the help from the TotalAgility application by clicking the Help button.
- *Kofax TotalAgility Workspace Help*: Describes how to use the Workspace to manage activities, jobs, and resources. Access the help from the TotalAgility Workspace by clicking the Help button.
- *Kofax TotalAgility On-Premise Multi-Tenant System Help*: Describes how to create and manage tenants using the TotalAgility On-Premise Multi-Tenant system.
- *Kofax TotalAgility Web Capture Control Help* : Provides details on using a Web Capture control in creating multi-page documents, creating a new document in a new folder, deleting pages that have been incorrectly scanned, and more; also, describes the buttons available in a Web Capture control toolbar.
- *Kofax Analytics for TotalAgility Product Features Guide*: Provides an overview of the dashboards that help you track data through the workflow, analyze the effectiveness of the processes and resources, and address business problems.
- *Kofax TotalAgility Tables*: Describes the Kofax TotalAgility tables and fields used by Kofax Analytics for TotalAgility.
- *Migration From Kofax Products Guide*: Provides information about migrating TotalAgility files and Kofax Transformation Modules projects to TotalAgility.

Training

Kofax offers both classroom and computer-based training that will help you make the most of your Kofax TotalAgility solution. Visit the Kofax website at www.kofax.com for complete details about the available training options and schedules.

Get help for Kofax products

Kofax regularly updates the Kofax Support site with the latest information about Kofax products.

To access some resources, you must have a valid Support Agreement with an authorized Kofax Reseller/ Partner or with Kofax directly.

Use the tools that Kofax provides for researching and identifying issues. For example, use the Kofax Support site to search for answers about messages, keywords, and product issues. To access the Kofax Support page, go to www.kofax.com.

The Kofax Support page provides:

- Product information and release news
Click a product family, select a product, and select a version number.
- Downloadable product documentation
Click a product family, select a product, and click **Documentation**.
- Access to product knowledge bases
Click **Knowledge Base**.
- Access to the Kofax Customer Portal (for eligible customers)
Click **Account Management** and log in.

To optimize your use of the portal, go to the Kofax Customer Portal login page and click the link to open the *Guide to the Kofax Support Portal*. This guide describes how to access the support site, what to do before contacting the support team, how to open a new case or view an open case, and what information to collect before opening a case.

- Access to support tools
Click **Tools** and select the tool to use.
- Information about the support commitment for Kofax products
Click **Support Details** and select **Kofax Support Commitment**.

Use these tools to find answers to questions that you have, to learn about new functionality, and to research possible solutions to current issues.

Chapter 1

Imaging

Using TotalAgility, you can drastically reduce your organization's labor-intensive processes by capturing all types of content for automatic classification, extraction, validation and delivery into applications, processes and repositories.

You can capture information at any point in business process and without human intervention, extract, separate, classify, validate and perfect information. For example, after the loan application process starts, a financial institution may request documents, such as Proof of Income and Credit Reports. The information can be captured anytime from any source, including from mobile or tablet devices, and ingested into the loan approval process.

You can classify documents; define scanner or device settings for reuse; and separate and automatically place documents in folders during capture.

You can export images (or both images and text that has been automatically extracted from the images) to a PDF or other file format, define resolution and quality and more. You can identify text and graphics, convert to HTML and XML file formats, and ensure interpretation by assistive software for the visually impaired.

TotalAgility provides a number of capture nodes that can be used as part of process flow definition. Nodes include Scan, Extraction, Classification and Image Processing. Use of these nodes in a process provides an efficient and effective means to manage the capture of inbound documents and information (see [Capture activities](#)).

These nodes help you:

- Scan a single document or a collection of documents.
- Classify documents into specific folders based on document types.
- Extract and store data from the documents.
- Validate, verify and review documents and folders in a process.
- Process images that are imported and images that are scanned from an MFP.
- Export documents and folders to "System of Records", using an export connector. The System of Records could be a database, IBM/FileNet, EMC/Documentation, SharePoint, and so on.
- Transfer documents or folders between two linked TotalAgility servers

Further, TotalAgility can automatically initiate (or restart or awaken from a wait state) a process to which an inbound document is required. A property, Initialize from Scan, enables this automatic process initiation, for example initiating an instance of the "loan approval" process when a loan application document is received.

Further information on capture features is available in different various sections of this Features guide.

Chapter 2

Transformation

Transformation is a technology used to transform data into information. The transformation features act upon raw data and transform it into meaningful information. Transformation of a document includes steps, such as Optical Character Recognition (OCR), Classification, Separation, Extraction, Formatting and Validation.

Kofax TotalAgility Transformation features include advanced tools and utilities to configure, test and benchmark these steps.

Document sets

The Transformation Designer supports document sets to allow handling large groups of documents for training, testing and benchmarking capture functionality.

Classification

Kofax TotalAgility offers classification based on layout, content and rules. Classification is learn-by-example, meaning that sample images are provided to represent individual document types. The software learns to tell classes apart by analyzing these samples. Rules-based classification can be used to augment the learn-by-example classification.

Trainable Document Separation (TDS)

TDS is a classification-based separation technology that examines each page in a document and assigns several classification result options. The page classification results are compared to other surrounding pages and evaluated to determine the most logical way of separating the pages into smaller documents. Like classification, TDS is learn-by-example; all it needs for configuration are sample documents that are correctly separated.

Clustering

The ability to organize documents based on their content is available in Transformation Designer using Clustering. A set of unknown documents is processed, and based on the content or layout, the Clustering feature organizes the documents into groups. Several iterations of clustering are performed, and interaction is required throughout each step of the process. The Clustering feature learns from the

changes and improves the clustering results throughout the process. The result of this process is a set of known documents organized in a hierarchy with the relevant class names. This hierarchy can be used by the project for classification and separation training, benchmarking, and testing.

Extraction from unstructured documents

A learn-by-example locator is available to extract data from documents that have no consistent layout. Use the locator to extract data from unique contracts, correspondence, architectural drawings, or even essays and manuscripts. Any type of data can be extracted, such as numeric and non-numeric data, or even an unknown format extraction works best on natural language text.

Extraction from invoices

Several locators, some of which are learn-by-example, can be used to extract from invoices. Header data, line items and amounts are supported. Line item matching using a purchase order database is possible, as well as line item extraction without a Purchase Order (PO) reference.

Extraction from forms

Special locators for forms allow quick setup of zones on multi-page forms. Background (the pre-printed zones and labels) is automatically removed to allow Optical Character Recognition (OCR) or Intelligent Character Recognition (ICR) get the best possible input. Zones are automatically registered to allow for typical shift, stretch and skew on scanned images.

Extraction – check processing

A2iA technology for handwriting recognition and document management is supported for extracting data from checks.

Database extraction

Using a database table in a fuzzy manner is a powerful tool to extract known data, such as the database record representing the vendor sending an invoice, or the customer sending a letter. You can use this easy-to-configure technology to identify document senders.

Extraction - other

Additional locators allow configuration of extraction for almost any need, including highly customized scripting.

Optical Character Recognition (OCR)

Advanced OCR capabilities are offered in Kofax TotalAgility. OCR serves as a basis for classification and extraction. OCR full text can also be stored to allow indexing and searching documents in repositories. Full page ICR is available and powered by A2iA. Extraction of bar codes is also supported. The following bar codes are supported:

- Codabar
- Code 128
- Code 39
- Code 93
- EAN 8
- EAN 13
- IATA 2 of 5
- Interleaved 2 of 5
- UPC-A
- UPC-E
- Postnet
- Check Code 39
- Check Interleaved 2 of 5
- Check Codabar
- PDF417
- Micro PDF417
- Aztec
- DataMatrix
- QR Code
- Micro QR Code

More than 170 languages are supported for OCR.

Kofax Search and Matching Server (KSMS)

This standalone 64-bit server uses multiple CPUs to quickly perform a fuzzy search within a database. Use KSMS to extract data from documents or look up data entered by an operator.

Chapter 3

Case and business process modeling

TotalAgility lets you create, view, edit and delete processes, cases, case fragments, business rules, simulations templates and skins. You can also manage supporting artifacts, such as variables, milestones, states and resources, and manage translations. You can import and export processes, work allocation rules and languages.

Business Process Modeling Notation (BPMN)

TotalAgility uses BPMN notation for process design. BPMN is business process modeling notation that is readily understandable by both technical developers and business users. It provides a graphical notation that is intuitive to business users yet able to represent complex process semantics. BPMN positions itself as a bridge between process modeling and process implementation.

Start node

A Start node indicates the start of a process flow. In line with BPMN notation, the node can indicate what sort of event may have triggered the flow, that is, started the job.

Activity

An activity is an individual step (service) within a business process, such as getting customer details. An activity in a process map may have various uses, such as:

- A call to a script that runs automatically or requires feedback from a user, such as a form to be filled.
- A call to a third-party software component to automatically send email.
- An ordinary activity that facilitates the passing of output and input variables to other parts of the business process.

Annotations and attachments

Annotations

Use annotations to add extra information to a process or an activity in a process. This information is then readily available to the user implementing the TotalAgility site.

You can position an annotation anywhere in a process map, and directly attach it to an activity or a node.

Attachments

Use attachments to link additional information to a process or activities within a process. For example, for a Procurement process, attach process-related documents, such as an exceptions list, terms and conditions, or an example invoice form.

An attachment can be a Word document, Excel spreadsheet or a PowerPoint presentation. Once an attachment is added to a map, it is available to all users who open that map and select to view the attachment.

End node

An End node indicates the end of a process path or the completion of the job. Use an End node to complete a process, or a particular stage of a process that cannot progress any further.

In line with BPMN, an End node can indicate how the job or paths are completing, that is, Escalation, Error, Message and more.

Pools and lanes

Use pools to visually represent processes and participants related to your organization, and the message flow among them.

A primary pool is a container of a complete process. It essentially contains at least one Start node and one End node.

In addition to a primary pool, the other available BPMN standard pools are:

- White Box Pool: Depicts interactions among participants using collaboration nodes.
- Black Box Pool: An empty pool used only to visually represent participants related to the process.

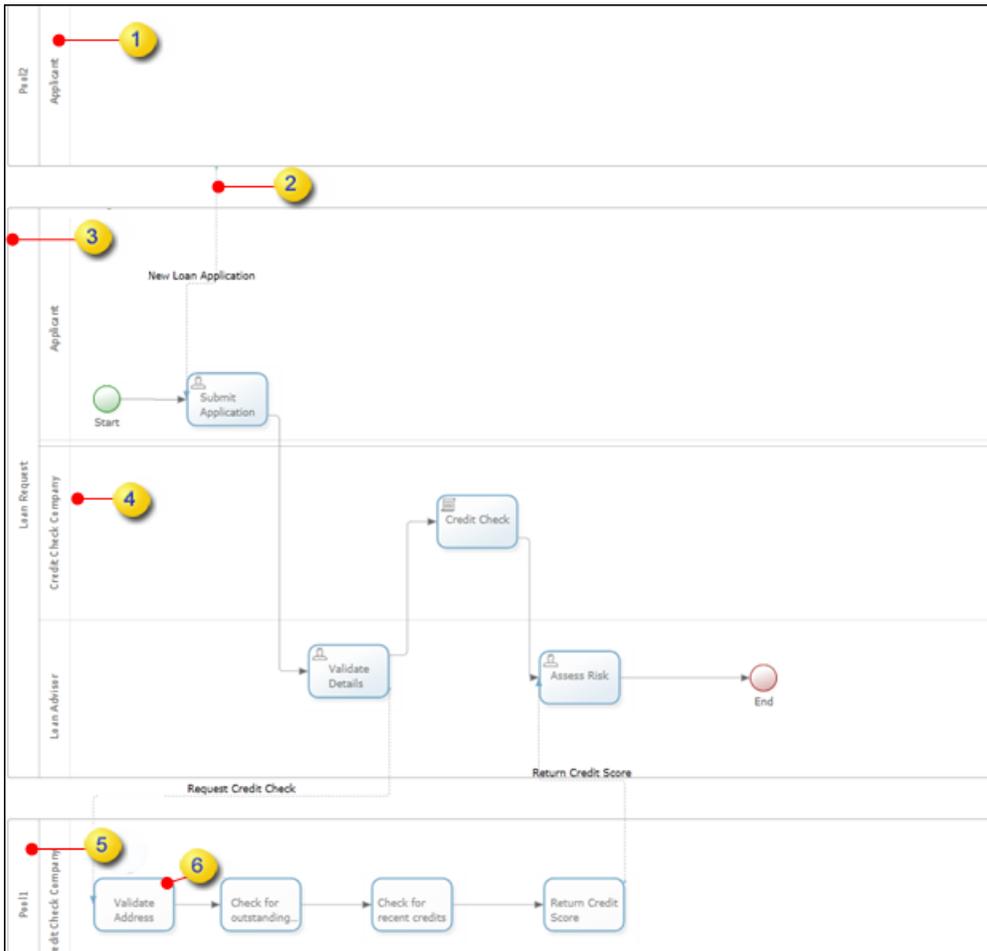
You can include both white box and black box pools in a process, and link them using message flows.

Each map appears in a pool by default. You can add lanes to it.

Note A pool can only display maps horizontally.

A lane is a visual representation of an area in a process. A pool can have multiple lanes; you can place all related activities within different lanes to logically view and understand the process roles and sequence.

The following map displays the different lanes for Credit Check Company and Loan Advisor roles in the Loan Request pool.

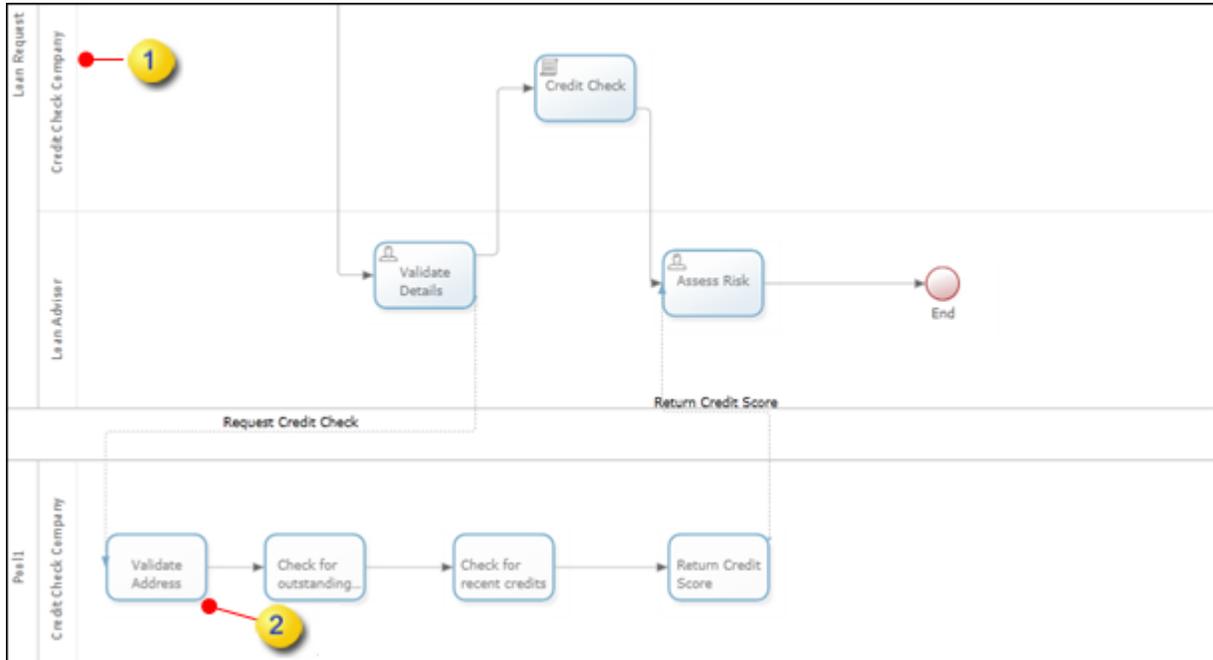


1	Black box pool
2	Message flow
3	Primary pool
4	Lanes
5	White box pool
6	Collaboration activity

Collaboration activity

Use collaboration nodes to model interactions within a white box pool that depicts interactions between participants. The nodes show activities that take place and the flow between them. These nodes (collaboration) are not executed as part of the process; they are for informational use only. You can create message flow between these nodes and the nodes in the primary process to see all the parties involved and the messages sent between them.

For example, in the Loan Request map, the white box pool represents the Credit Check activity. Within the white box pool, collaboration nodes represent activities, such as Validate Address and Check for Outstanding Debts.



1	White box
2	Collaboration activity

Message flows

A message flow is a BPMN standard dotted arc. A message flow is a non-sequential link between pools that represents the communication between different processes and participants with no specific order for the messages. You do not need to fulfill all message flows for each instance of a process.



1	Message Flow
---	--------------

You can add a message flow link between:

- Two nodes in different pools
- A node in a pool to a different pool
- Two pools

Note You cannot use a message flow to link nodes in the same pool.

Manage process maps

Use the information in this section to manage maps.

Layout and Orientation

You can change the direction of a map layout from vertical to horizontal and vice versa as appropriate for your process or target audience. The process is redrawn accordingly.

Rearrange (Auto Draw)

The rearrange feature automatically redraws your process map in an easy-to-read manner.

Gridlines and Snap to Grid

The gridlines assist with the layout of your process. The Snap to Grid feature automatically aligns an activity to the nearest grid.

Auto Placement

The Auto Placement feature automatically places the activity to the nearest grid horizontally and in accordance with the current activity. Activities added to decisions are placed above or below the decision. When the Auto Placement option is turned off, you can drag the activity to the required location.

Zoom

The pan and zoom functionality can help you navigate process maps effectively. You can easily zoom in and out of large process maps.

Process paths

Define process paths using decisions and branching rules.

Decision node

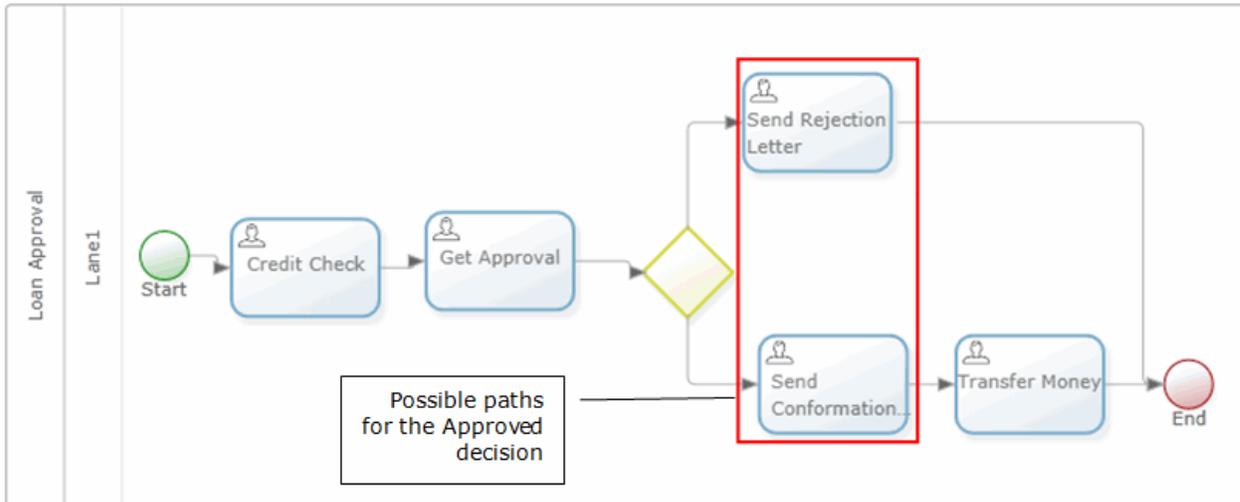
A decision is a point in a process to select the path the business process must follow. The selected path depends on the evaluation of one or more conditions (decision rules).

By default, a Decision node includes:

- One Condition: Condition on which the rule is evaluated.
- True Path: The path of execution when the decision evaluates to true.
- False Path: The path of execution when the decision evaluates to false.

At runtime, the value of the decision variable is passed as an operand/keyword into the process map and may be evaluated against another variable or value.

For example, in the Loan Approval map example, the Send Confirmation Letter and Send Rejection Letter are two possible paths for the Approved decision. The Send Confirmation Letter activity can only take place if the APPROVED condition evaluates to TRUE, at which point the confirmation letter is sent to the customer, and the money is transferred to the customer's credit account.



Branching rules

Branching rules help you model more complex business logic. They are simpler and neater than using numerous decision nodes. Unlike decisions, they are not limited to a maximum of only two mutually exclusive paths.

- Use a decision to model an exclusive choice decision pattern where only one of the two alternative paths is required for the process to continue.
- Use a branching rule to model a multiple choice decision pattern where the flow is "split" into two or more alternative paths.

A branching rule must include the following:

- A condition (business rule) for each path (destination node) that must be met before the destination node can become pending or active. The business rule set for destination nodes determines which destination node is activated. Any of the target destination nodes can potentially be activated, if each business rule evaluates to True; two or more outcomes can be valid.
- A default node to execute at runtime if none of the conditions is met; this stops the process flow from stalling.

Note If you do not specify business rules on the output paths, then all paths are executed normally.

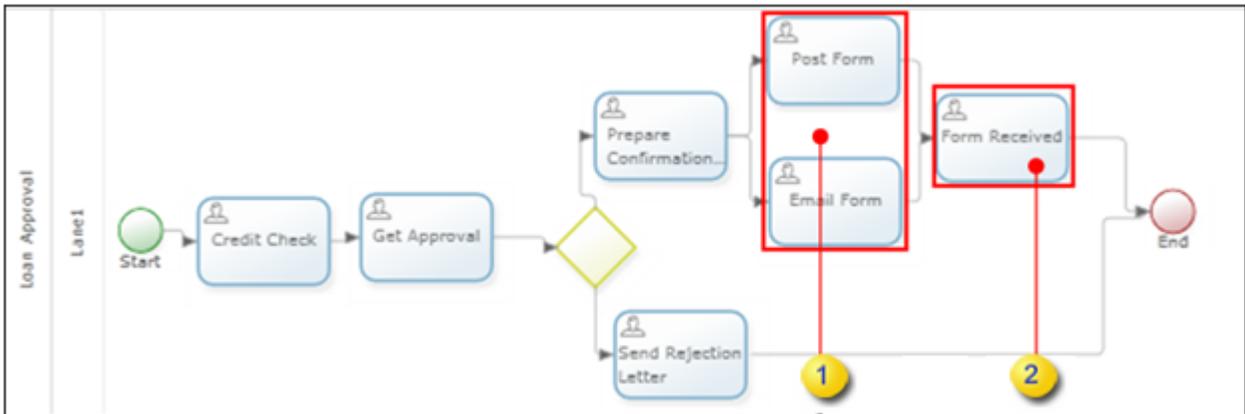
Branching can be either OR (inclusive) or XOR (exclusive):

- **OR Branching:** Allows one or more, or all of the outgoing paths to be taken. The paths are determined by conditions and if none of the conditions is met, the default path is taken.
- **XOR Branching:** Allows only one path to be taken, thus restricting the flow. If multiple true paths exist, the first path is taken based on the alphabetical order of the activity name. If no true paths are determined, the default path is taken. If the conditions of more than one path are satisfied, the first found path becomes active, and others are ignored. XOR is applicable for all process maps.

Dependents

Dependents are nodes (activities and decisions) on which an activity depends for completion. A node may have multiple paths (parallel paths) flowing from, resulting in more than one activity becoming pending when the originating node has completed.

Set dependents if parallel nodes, such as activities must complete before the current activity can become pending. See the following example of the Loan Approval process.



1	Post Form and Email Form activities are the possible dependents.
2	Forms Received is the activity for which dependents are set.

Note You cannot set dependents if there is only one path going into the activity and decision.

Loop

Some activities are always available, such as the Contact Customer in a Loan Application process. You can add a loop for such activities.

Select the activity and drag from the center of the activity to make a loop. The activity gets looped to itself.

Variables

Variables contain the data used to drive the flow of decisions and activities throughout the process. TotalAgility supports the following data types:

- Base data, such as String, Date and Decimal.
- System data whose value is driven by the runtime instance.
- Complex data structure, such as Document, Folder and XML.

Variables are integral to the setup and creation of a business process. A variable is a storage location for values retrieved at runtime. Variables are used to store and transport data from one activity to another. They are also used to determine paths of execution.

A variable can be local to the map for which they are created (process variables), or global ([server variables](#)).

A process (and case) or server variable can be simple (single value) or complex (an array of values).

TotalAgility supports variables of type Bool, Byte, Currency, Date, Decimal, Double, Float, Long, Short String, Nullable Date and Nullable String. TotalAgility also supports the following type of variables.

Checklist

A checklist variable is used to hold checklist information for quality checking and sampling. A single checklist variable can contain several checklist items.

Complex

Use a complex variable to hold tabular or array-based data values, such as a list of product details. Two kinds of complex variables are available: Static Complex and Dynamic Complex.

Static Complex

Static Complex: Static Complex Variables are an array (group) of variables of potentially different data types. Static complex variables keep their cell mappings to process variables throughout the job.

Note A static complex variable can only be created for a process; it cannot be created as a server variable.

Dynamic Complex

Dynamic Complex variables keep their cell mappings to process variables only until they are updated in the job. They are stored against the job and their array size and values can change during the course of the job. They can also be created as a server variable.

At design time, you can create a complex variable with a maximum of 1000 cells, such as 1000 X 1, 500 X 2, or 5 X 200. However, at runtime, no maximum limit is placed on the number of cells.

Note The Process Initialization option is not available when setting up complex server variables.

Variable members can be either dynamic or static. A static value is one that a user can enter but cannot modify.

System

System variables are simple non-editable process variables that give you information, such as who created the job, and the job ID which you typically do not know at design time.

Each System variable holds a value for a specific TotalAgility task, for example, SPP_RES_JOB_Creator holds the User ID of the creator of a job, or the AWF_JOBID holds the ID of the job. This information is only gathered upon job creation.

XML Expression

Use an XML Expression variable to use all or part of the XML document.

To use a part of the document, you must create an XML expression to identify the required section of the document.

XML documents can be represented as tree view nodes, and the XML Path Language (XPath) describes a path through the XML document to select elements that match the path.

Note The XPath is the expression type of the XML expression variable. For example, to select the first number element of the XML document, the XPath is: `//number` or to select all the book nodes under the bookstore element, the XPath is: `xmlDoc.selectNodes("/bookstore/book")`

You can create an XML expression at the server or process level; the process is the same for both.

- An XML expression created at the server level can be shared between business process maps, where the same XML is used but for different purposes.
- An XML expression created at the process level can only be used with the process map for which it is created, that is, local to that process map.

Document

Use Document variable where one document type is required, for example, submitting a proof of address later in the bank application process. Using a Document variable, one instance of a document is added to the repository typically of a known type.

Use document variables to use document instances in a TotalAgility process or business rule. When you create a job on a process that uses a document variable, the runtime instance ID of the document is stored in the document variable.

Use a document variable as a process initialization variable or as an activity input or output variable. You can also use document fields directly as input or output parameters to an activity.

Folder

Use a Folder variable where multiple document types are required, for example, bank application where multiple document types are required to process an application. Using a Folder variable more than one document is added to the repository typically of different types.

Use folder variables to use folder instances in a TotalAgility process or business rule. When you create a job on a process that uses a folder variable, the runtime instance ID of the folder is stored in the folder variable.

Use a folder variable as a process initialization variable or activity input or output variable. You can also use folder fields directly as input or output parameters to an activity.

Initialization variables

An initialization variable is any process variable whose value should be provided when the job is being created; the order of the initialization variables is configurable within the designer.

When creating a job through a process map, variables can be consumed for the initialization variables.

Activity types

TotalAgility supports both manual and automatic activities.

A manual activity is not capture-related, and it is expected to be performed by a person. Data can be passed to and returned from a manual activity. The resources required to perform the activity can be configured and range from a static resource (administrator) to dynamically driven variables that are populated based on rules.

The activities in TotalAgility belong to the following categories:

- [Common](#)
- [Capture](#)
- [Microsoft](#)
- [CMIS](#)
- [HP TRIM](#)
- [Script](#)
- [Other](#)

Common activities

Common activities include both manual as well as automatic activities.

This group includes the following activities:

- **Ordinary:** When you add an activity to a process map, it is an Ordinary activity by default. You can change the type of the activity and configure the activity as needed.
- [Embedded Process](#)
- [.NET](#)
- [Web Service](#)
- [Create New Job](#)
- [Create Subjob](#)
- [Data Access](#)
- [Synchronization](#)
- [Loop](#)
- [Expression](#)
- [Business Rule](#)
- [Email](#)
- [Kapow](#)
- [Document State](#)
- [Document Received](#)
- [Evaluate Document Set](#)
- [Add Document Type](#)
- [SignDoc](#)
- [CCM Compose](#)
- [CCM Distribute](#)
- [CCM Pack](#)

.NET activity

A .NET activity permits you to configure a call to a .NET assembly to perform some custom operation typically used for integration, data manipulation and so on. TotalAgility interrogates the assembly to show the available classes exposed by the assembly. On selection of the class, the methods and their parameter lists are displayed. You can map data to and from the .NET call back into variables defined

within the process. .NET assemblies can be added independently of the maps and held either as a reference to a location on disk or placed within the TotalAgility store.

Note .NET activity types can only be used if the Microsoft .NET Framework is installed on the TotalAgility server.

Web Service activity

A Web Service activity permits you to configure a call to a web service (SOAP, SOAP WCF or Restful). A web service is typically used for integration, data manipulation and the rest performed by services that reside on a remote server. For SOAP or SOAP WCF, TotalAgility interrogates the service and shows the available classes exposed by the service. On selection of the class, the methods and their parameter lists are displayed. You can map data to and from the service call back into variables defined within the process.

For RESTful services, the input and output messages can be constructed.

Web Services can be added independently of the process maps in which they are consumed.

Embedded process

Embedding a process with another process is a form of adding activities and attributes (variables, roles, states, milestones) and the rest to the parent job. Use an embedded process if you need to add these attributes to a running job rather than perform a discreet operation in the case of a subjob.

Note A subjob cannot be searched or viewed independently from the parent job.

Note

- You can include a synchronous embedded process within an asynchronous map. But you cannot include an asynchronous embedded process in a synchronous map.
- If a parent map is synchronous, the synchronous embedded process is performed synchronously.
- If a parent map is asynchronous, the synchronous or asynchronous embedded process is performed asynchronously.

Create New Job activity

Use the automatic Create New Job (CNJ) activity to create a new job that can run independently of the job that created it. You can create a job of type case, job or associated job and map data from the existing job into the job to be created. A Create New Job activity is typically used to span a job that will run in parallel to the parent job (cross-selling opportunity) with potentially no inter-job communication (although it can be achieved if desired).

For example, take a typical Homeowner Insurance process. Once you capture all customer details, through the main Homeowner Insurance process, you could add a CNJ activity into the main process to spawn a completely separate process called Selling Car Insurance. Although you will pass customer details into the CNJ activity, it is an independent process.

Note You must ensure that any required initialization parameters are added to the map that is used to create a new job.

Create Subjob activity

A subjob is an entirely self-contained process, which can be invoked by the parent process.

A Subjob activity is typically used when processes have been decomposed for reusability and readability purposes. For example, in a Banking process, the main purpose of a Credit Check subjob is to complete a credit check and return a customer's credit rating. The main map does not care how the subjob is actually implemented, as long as the credit rating result is relayed back to the main process so a bank clerk can continue to process the loan application. The Credit Check subjob could potentially be reused in a number of key business processes, such as loan applications, credit card applications, and mortgage loans.

The difference between a Subjob and Create New Job activities is that the path in the parent, launching the job waits until the subjob returns, thus permitting data to not only be passed to the subjob, but also returned from it.

The difference between a Subjob activity and an embedded process is that none of the variables, milestones and the rest of the subjob are added to, or inherited from, the parent.

Note

- You can include a synchronous create subjob process within an asynchronous map. But you cannot include an asynchronous create subjob process in a synchronous map.
- If the parent map is synchronous, the synchronous create subjob process is performed synchronously.
- If the parent map is asynchronous, the synchronous or asynchronous create subjob process is performed asynchronously.

Synchronization activity

Use the automatic Synchronization activity to converge and diverge multiple paths of the process, permitting the designer to control the logic of the process.

If merging paths must complete before the synchronization activity can complete, then dependents should be configured. .

Data Access activity

Use a Data Access (DAS) activity to permit the process to interact with a database. You can access tables, views and stored procedures, construct queries within the Designer, and map data from the process onto the query.

A DAS activity is typically used for direct integration with a third-party database without the need to write any code.

Loop activity

Use a Loop activity to control the extraction of data from an array. This activity lets you take a row at a time from the array and pass it through your process before looping back to get the next row. For example, to send an email to a list of resources, you would perform a database query to return the list. To process each resource, use the loop node to iterate through each resource on the list or until the end of the data.

Expression activity

Use an expression activity to permit the user to perform operations on data. These can be single arithmetic operations, such as add, multiply, subtract, or string manipulation such as Trim, Uppercase, and Date functions such as add months, or get today's date.

An expression node reduces the amount of custom .NET code or scripting needed by providing the most commonly used functions used for data manipulation.

Business Rule activity

Use a business rule activity to invoke a business rule defined within TotalAgility. A user consumes the log, maps the input using variables, and returns the result back into variables.

A business rule permits users to decompose complex logic into reusable rules, access to which is provided by this node.

You can also view and modify a previously selected business rule directly from the Business Rule activity. When the map is released, any changes to the rule are automatically applied to the process.

Email activity

Use an email activity to permit the design to send an email. It can build up the recipients from using resources within TotalAgility or variable text. You can declare Subject, Attachments and the rest, and dynamically create the Body of the email.

Kapow activity

Use a Kapow activity to choose a Kapow robot to be invoked by selecting the appropriate robot from projects with the Kapow Server. Select the appropriate robot and map variables to its inputs and outputs. Kapow robots are used for integration into third-party products.

Document Received activity

Use the Document Received activity to add one or more documents with their status (Received, Waiting, Validated, Verified, Rejected, or Accepted) to the document set at runtime.

Document State activity

Use the Document State activity to update the state of document(s) in a document set at runtime.

Evaluate Document Set activity

Use the Evaluate Document Set activity to evaluate rules against document types at runtime and update the document set accordingly.

Add Document Type activity

Use the Add Document Type activity to add mandatory documents within the process that are dependent on certain conditions (document rules) to the document set at runtime.

SignDoc activity

Use the SignDoc activity to define a signing package to get the documents digitally signed. To define a signing package, you need the SignDoc server to use, the documents to be signed or reviewed and the recipients and their email addresses to sign or review the documents. Additionally, you can specify a name for the signing package.

When a SignDoc server is added to TotalAgility, all the available templates within the selected SignDoc server become available for defining a signing package. When you define a signing package, you can either create a new template or use the existing template from SignDoc. A template consists of documents and signers required for digital signature. Once the signing package is created, SignDoc sends an email to the signer address specified in the configuration along with the link to the documents to be signed. For the signing ceremony, TotalAgility uses the generic names specified for the signer or reviewer during template creation. You can customize the generic names to display names so that the documents are sent with the display name. For example, configure Consultant for Doctor or manager's actual name for Manager. Once the signing ceremony is complete, SignDoc sends a notification to TotalAgility to complete the SignDoc activity.

CCM Compose activity

Use the CCM Compose activity to automatically generate and distribute communication documents to the end user as a part of the process flow. These documents are based on the templates defined in the Customer Communication Manager (CCM). The template type can be a document template or a set of templates available within the document pack. You can add additional documents to a document pack if the document pack contains Import Slots (as defined in CCM). These documents become part of the pack and can be reviewed or distributed along with the rest of the contents of the document pack.

The CCM Compose activity allows you to compose documents, or compose and distribute.

The supported distribution mechanisms are print, email, portal, SignDoc or output management.

Output management allows you to distribute each document pack based on the centralized rules that can be configured in the CCM Rules engine. These rules can be due to legal requirements, corporate policies or customer preference.

For example, if you are sending an insurance policy in Netherlands, and according to the legal requirement the policy needs to be delivered to the customer, then the Portal could be a possible delivery channel for any document pack that contains a policy, and those would have to be delivered through e-mail or print.

Note As the CCM Rules engine is available in CCM 5.1.1, we recommend that you use CCM 5.1.1 if you wish to distribute using output management in TotalAgility.

See [Configure a CCM Compose activity](#).

CCM Distribute activity

Use a CCM Distribute activity to distribute documents through print, email, portal, SignDoc or output management at a later date from when the documents were created in CCM.

When distributing via SignDoc you don't pass in details of the signers as part of the configuration, instead the signature lines are defined in the CCM template using fields from the backbone, and at runtime the data held in that field (in the backbone) determines the name and email address of the person who needs to perform the signing ceremony.

The 'Output Management' mechanism allows you to distribute each document pack based on the centralized rules that can be configured in the CCM Rules engine. These rules can be due to legal requirements, corporate policies or customer preference.

For example, if you are sending an insurance policy in Netherlands, and according to the legal requirement the policy needs to be delivered to the customer, then the Portal could be a possible delivery channel for any document pack that contains a policy, and those would have to be delivered through e-mail or print.

Note

- Distribution is not supported for a cloud deployment of CCM.
- As the CCM Rules engine is available in CCM 5.1.1, we recommend that you use CCM 5.1.1 and higher if you wish to distribute using output management in TotalAgility.

CCM Pack activity

Use a CCM Pack activity to extract documents from a CCM pack.

See [Configure a CCM Pack activity](#).

Capture activities

This group includes the following activities:

- [Extraction](#)
- [Classification](#)
- [Scan](#)
- [Validation](#)
- [Verification](#)
- [Document Review](#)
- [PDF Generation](#)
- [Image Processing](#)
- [Composite](#)

- [Delete](#)
- [Export](#)
- [Transfer](#)
- [Document Conversion](#)
- [Image Quality Analysis](#)

Extraction activity

Use the automatic Extraction activity to extract and store data from the documents.

This activity is automatically executed at runtime, if the Transformation Server is installed on your system. See the *Kofax TotalAgility Installation Guide*.

If the process fails when you run this activity, the job is suspended and the job note is updated with a message describing the reason for suspension.

Classification activity

Use the automatic Classification activity to classify documents into specific folders based on document types. You can use this activity in a process to create a record at runtime in the Job History or View Job in TotalAgility. Classification activities include a separation profile property.

This activity is automatically executed at runtime if the Transformation Server is installed on your system. See the *Kofax TotalAgility Installation Guide*.

If the process fails at runtime, the job is suspended and the job note is updated with a message describing the reason for suspension.

Scan activity

Use the Scan activity to scan a single document or a collection of documents. Documents acquired using the Scan activity are added to the repository in the TotalAgility Workspace.

Note

- If multiple scan activities in a process refer to the same document or folder variable, the original version of the extraction group is reused. The version remains the same throughout the lifetime of the job, even if the extraction group is changed after the job is created.

Validation activity

Use the manual Validation activity to validate documents and folders within a process.

Verification Activity

Use the manual Verification activity to verify the documents and folders in a process.

Document Review activity

Use the manual Document Review activity to review the documents and folders in a process.

PDF Generation activity

Use the automatic PDF Generation activity to create a PDF from a document or from all documents in a folder.

A PDF Generation activity creates a PDF from a document using the settings defined in a [PDF generation profile](#). In addition, the activity allows you to configure how certain meta data fields in the generated PDF are populated either from a document field or from a fixed value defined in the configuration of the PDF Generation activity. If you chose "Document", the PDF meta data field is populated with the value of a document field. This works only if the document is classified. If the document is not classified, no meta data fields will be written, and only a PDF with no meta data fields is created.

Note This activity is automatically executed at runtime if the Transformation Server is installed on your system. See the *TotalAgility Installation Guide*.

Image Processing activity

Use the automatic Image Processing activity to process images that are imported and images that are scanned from an MFP.

If a process has an Image Processing activity, it is applied to all documents that the job gets created for irrespective of the way selected for creating the job (MFP, Web Scan, Scan Create New Job, Upload, Import, Mobile and the rest). For example, if you scan 10 documents or upload them or import them upon job creation, all of them are processed by an Image Processing activity if there is one in the job's process.

To process images that are scanned from an MFP, you must add the Image Processing activity to the map. If this activity is the first activity in a process that is started by a Device Create New Job form, you must set the precondition for this activity to `[SCANNED] > 0`.

The Image Processing activity uses Transformation Server to convert documents and images into TIFF images and apply image enhancement filters. The following formats can be converted:

- BMP
- GIF
- HTML
- JPG
- Microsoft Word in .docx (Word 2007 or later) and .doc (prior to Word 2007) format
- Microsoft Excel in .xlsx and .xls format (versions Excel 97 through Excel 2010)
- PNG
- RTF
- TXT

The Image Processing activity uses eVRS settings or image enhancement settings and parameters, such as Paper Size, Resolution, Color Mode in the [Scan/VRS profile](#) for normalization. The activity has two tasks: converting documents of all formats to tiff and normalizing all tiffs so that the resulting document is tiff and has the desired size, resolution and color depth.

Advanced eVRS settings take preference over the image enhancement settings. For example, if you enable Auto Rotate in the Image Enhancement section, but add an Advanced eVRS settings string that

does not enable Auto Rotate, Auto Rotate is disabled because the presence of the string causes eVRS to ignore the image enhancement setting.

Note The Blank Page Deletion setting is an exception. The eVRS string can only enable Blank Page Detection, but if you have to delete a blank page, you must enable the Delete Blank Page setting.

Multi-page documents and TIFF files are split into separate files for each page.

Document files (Word, Excel, HTML, RTF, and TXT) are identified automatically according to their MIME type. If the MIME type is not set or cannot be recognized, the file is treated as an unknown format. If the process fails at runtime, the job is suspended and the job note is updated with a message describing the reason for suspension.

The Image Processing activity creates a record in Job History or View Job in the TotalAgility Workspace at runtime. Where applicable, the text from the source file is saved as OCR data. Multi-page documents are stored as document objects, and image files are stored at the page level. The original files are stored with the document source.

Delete activity

Use the automatic Delete activity to delete a document or a folder at runtime. Configure this activity to mark the deleted documents as complete and define whether to suspend a job if the deletion fails.

Note This activity is automatically executed at runtime if the Transformation Server is installed in your system. See *TotalAgility Installation Guide*.

Export activity

Use the automatic Export activity to export documents and folders to "System of Records", using an export connector. The System of Records could be a database, IBM/FileNet, EMC/Documentation, SharePoint, and so on. You can configure this activity to mark the exported documents as complete.

You need to set up an export connector to export the document types associated with the process map. At runtime, when the export activity is executed, the documents in the process map are exported to the back-end system.

Note

- The on-premise TotalAgility supports the Export activity; the TotalAgility in an Azure environment does not.
- You must associate one or more export connectors with the process and document types. See *TotalAgility Export Connector Help*.

Composite activity

Use the automatic Composite activity to perform one or more capture actions as a single activity in a process. Using the Composite activity instead of corresponding standalone activities improves the performance of a process in the Transformation Server.

Note Use standalone activities only in a non-linear process map, or if you need other activities inside a chain of the composed steps.

Transfer activity

Use the Transfer activity to transfer documents or folders between two linked TotalAgility servers.

- Creating a job on a process and executing the Transfer activity results in the following:
 - Moves the document or folder and associated metadata from the current server to the target server and places them at the root of the target server.
 - Deletes the document or folder and associated metadata from the source server.
 - Transfers all documents and subfolders to the target server if moving a folder.
 - Does not decrement the volume count on the target server.
 - Does not create the Extraction or Classification groups on the target server. You must import them manually.
- When executing the Transfer activity, the transfer fails if:
 - The link to the target server was removed.
 - The user credentials supplied for the target server are incorrect.
 - The folder or document is locked by another user on current server.
- If a job fails, restarting the job ignores all items that were moved before the job failed. It will only move the items that were not previously moved.
- When importing or exporting a process that uses a Transfer activity, the name of the link between the servers is also exported or imported. If a link with the same name exists on the target server, the Transfer activity uses that link. Otherwise, the target server displays the message "Unknown" in the activity configuration, and the job is suspended.

Document Conversion activity

Use the Document Conversion activity to apply all the document conversion / normalization parameters configured in the document conversion profile to any document independent of the source of import.

See [Document conversion profiles](#).

Note

- Use the Document Conversion activity for document conversion and the Image Processing activity for eVRS image processing.
- The Document Conversion activity does not support TIFF to PDF conversion; instead, use the PDF Generation activity.
- The document conversion is supported in synchronous and asynchronous maps.
- If you use Microsoft Office applications for document conversion in the Message Connector, conversion process can only run on one system at a time and the conversions of documents cannot be done in parallel.

Image Quality Analysis activity

Use the Image Quality Analysis activity to analyze the quality of an image without the need to process or update the page image. This activity determines if the image has any issues such as glare, shadow, focus and blur that may impact extraction results. Once the analysis is complete, the information can be used later in your business process.

Note The image quality analysis is only supported on a page level image. To analyze the quality of source level documents such as PDFs, you must convert the documents to individual TIFF images.

TotalAgility only supports the image quality analysis for use with images of small documents such as ID cards or passports, taken with a phone camera device. It does not support image quality analysis for images of larger documents or for non-mobile images.

See [Configure Image Quality Analysis activity](#)

Microsoft activities

Microsoft activities provide the ability to integrate with key Microsoft products, such as SharePoint, Dynamics CRM and Exchange.

This group includes the following activities:

- [SharePoint Create site](#)
- [SharePoint Create folder](#)
- [SharePoint Add Item](#)
- [SharePoint Delete Item](#)
- [SharePoint Uploader](#)
- [SharePoint Move Item](#)
- [SharePoint Get Document](#)
- [Dynamics CRM](#)
- [Exchange Server Get Attachments](#)

TotalAgility in an Azure environment does not support the following Microsoft activities:

- Dynamics CRM
- Exchange Server Get Attachments
- All SharePoint activities except the SharePoint AddItem and SharePoint Uploader activities

SharePoint Add Item activity

Use the automatic SharePoint Add Item activity to add a document to a SharePoint library, to subfolders in a SharePoint library, or to the root of a SharePoint list. Lists in SharePoint include communications lists, tracking lists, and custom lists.

You can add documents to local and online SharePoint sites as needed.

If a document is checked out, use this activity to check the document in to SharePoint.

You can also declare that a document is a record, which adds the document to the record center.

Note The options of checking in a document, declaring a document to be a record, and overwriting documents are only available for a local SharePoint site and not for an online SharePoint site.

Configure TotalAgility to retrieve the item identifier from SharePoint and add the identifier to a variable. When the job finishes, use the information from the variable to identify and select the item you need.

The SharePoint Add Item activity differs from a SharePoint Uploader activity as described in the table.

SharePoint Add Item	SharePoint Uploader
Uploads a document to any of the following SharePoint locations: <ul style="list-style-type: none"> • Root of a list. • Any library in SharePoint. • Any subfolders available in a SharePoint library; uploads a document only to a document library in SharePoint. 	Uploads a document only to a document library in SharePoint.
Supports item metadata.	Does not support item metadata.

SharePoint Create Folder activity

Use the automatic SharePoint Create Folder activity to create a new folder in a SharePoint integration site. You can provide a static value or use a TotalAgility variable to specify the folder location and name.

Configure TotalAgility to retrieve the folder identifier from SharePoint and add the identifier to a variable. When the job finishes, use the information from the variable to identify and select the folder you need.

SharePoint Create Site activity

Use the automatic SharePoint Create Site activity to create a new site in a SharePoint integration site.

Applying a default or custom template defines the look and feel of the new site.

The custom template provided by TotalAgility includes a team calendar, contacts list, document folders, job list, work queue and announcements for a document-centric Case site.

If you have a SharePoint Create Site activity in a Case map, and apply the Kofax Case template for the new SharePoint site, you can access the shared Calendar and Address Book directly from TotalAgility.

While creating a new site, you can allow the default navigation appear on the site page. The permissions specified for the parent site are automatically applied for the new site.

Configure TotalAgility to retrieve the site identifier from SharePoint and add the identifier to a variable. When the job finishes, use the information from the variable to identify and select the site you need.

SharePoint Delete Item activity

Use the automatic SharePoint Delete Item activity to delete an item from a SharePoint library, SharePoint library subfolder, or the root of a SharePoint list. Lists in SharePoint include communications lists, tracking lists, and custom lists.

If multiple items with the same name exist, all matching items are deleted. Except for the Survey and Discussion Board, you can delete all other items.

SharePoint Get Document activity

Use the automatic SharePoint Get Document activity to copy or check out a document from a SharePoint site to your local computer.

SharePoint Move Item activity

Use the SharePoint Move Item activity to move an item from one location on a SharePoint site to another on the same site.

You can also update the metadata of a moved document, and declare the document to be a record, which adds the document to the Record Center.

SharePoint Uploader activity

Use the automatic SharePoint Uploader activity to upload a document to a document library in SharePoint. You can upload documents to both local and online SharePoint sites.

Provide a static value or a TotalAgility variable to specify the TotalAgility Web Service and target document URL, and the file path for the source document.

You can also specify the content type of the uploaded document. This helps you organize, search and retrieve all documents of a particular content type at runtime.

Dynamics CRM activity

Use the Dynamics CRM activity to create a new entity instance, retrieve the required information from an entity instance and update and delete an entity instance for a CRM business unit directly from TotalAgility.

You can assign valid GUID values for CRM lookup and numeric values for picklist fields in the Dynamics CRM activity.

You can assign a Dynamic Complex variable to support retrieval/assignment of values for Party list fields in the Dynamics CRM activity.

For example, an entity instance called Person consists of Name as a string field and Nationality as a picklist field with the following values.

Name	Jack
Nationality	1: Irish 2: American

When you create an entity instance by passing `Name`, `1` and retrieve the entity instance details from Dynamics CRM, the following information is retrieved: `Jack`, `Irish`.

Exchange Server Get Attachments activity

Use the Exchange Server Get Attachments node to automatically retrieve all the files attached to your email and route them to a specific destination. This node allows you to track and maintain all attachments in one location.

CMIS activities

CMIS nodes are used to interact with a CMIS compliant EDMS. This means that this standard integration can be used without having to write specific adapters. See [CMIS](#) for more information.

This group includes the following activities:

- [CMIS Get Document](#)
- [CMIS Add Document](#)
- [CMIS Update Document](#)
- [CMIS Create Folder](#)
- [CMIS Check In Document](#)
- [CMIS Cancel Checkout Document](#)
- [CMIS Find Document](#)

CMIS Add Document activity

Use the CMIS Add Document activity to add a document to the repository of a CMIS-compliant site. Add documents to the library, subfolders in a library, or the root of a list. You can also specify the metadata for a newly uploaded document.

CMIS Cancel Checkout Document activity

Use the automatic CMIS Cancel Checkout Document activity to undo modifications to a document that was checked out of a CMIS-compliant site.

Undoing a check out discards the changes and restores the document to the state it was in before being checked out.

CMIS Check In Document activity

Use the automatic CMIS Check In Document Activity to check in documents to a repository in a CMIS site. You can also update the properties of a checked in document, if required.

CMIS Create Folder activity

Use the automatic CMIS Create Folder activity to create folders in a repository on a CMIS-compliant site.

CMIS Find Document activity

Use the automatic CMIS Find Document activity to search for documents in a repository using the document metadata as the search criteria. When the job is executed, the activity returns all the documents matching the search criteria.

Note The CMIS Find Document activity only works if the Discovery Service is configured on the CMIS compliant site.

CMIS Get Document activity

Use the automatic CMIS Get Document activity to copy or check out a document from a CMIS-compliant site.

Specify a document using the document name or unique identifier.

CMIS Update Document activity

Use the automatic CMIS Update Document activity to update the properties of a document.

HP TRIM activities

TRIM activities provide the ability to integrate with HP TRIM System.

This group includes the following activities:

- [TRIM Create Folder](#)
- [TRIM Add Document](#)
- [TRIM Get Document](#)

TRIM Add Document activity

Use the TRIM Add Document activity to add a document to a selected TRIM system. If a document is checked out, use the TRIM Add Document activity to check in the document.

If the TRIM system has multiple folders and documents with the same name, use a unique TRIM record number or a variable containing the TRIM Uniform Resource Identifier (URI) to ensure that you select the folder and document that you need.

TRIM Create Folder Activity

Use the TRIM Create Folder activity to create a folder in a selected TRIM system.

Use the defined default value for the location, a location relative to the default, or another location. Once you create a folder, use it to manage documents within the folder.

TRIM Get Document activity

Use the TRIM Get Document activity to download or check out a document from a TRIM system to your computer.

If the TRIM system contains multiple folders and documents with the same name, specify the unique TRIM record number or consume a variable containing the TRIM Uniform Resource Identifier (URI) to access the folder or document you need.

Note The TRIM ID is the unique record number of a folder or document in the TRIM system. A Folder or Document URI is the unique value of a folder or a document and is captured using a TotalAgility process variable.

Script activities

Script activities are used whenever expression, .NET and Web Services are not appropriate. They remain in the product for legacy reasons. We hope that the newer features of the product help to reduce the need for any custom code. However, for these provide the mechanisms to write code within the process.

This group includes the following activities:

- [Script](#)
- [.NET Script](#) (C# and VB.NET)

Script activity

Use the automatic Script activity to perform certain actions, such as:

- Generating email content
- Sending an email
- Looking up data in a database
- Creating a letter in a word processor
- Looping a sequence of activities in a process
- Saving user details to a text file

A script is a series of instructions that can be executed consecutively in a given language.

.NET Script activity

Use the .NET Script activities to write .NET scripts. The TotalAgility Designer allows you to create two types of .NET Script activities: VB.NET and C#.

Important When configuring the script, you can manually enter the variables, such as ("[Firstname]") or drag and drop the variables into the script. When you drag and drop the variable, the variable appears as [Firstname]. Dragging the variable is only a shortcut to inserting the variable ID without the need of manually typing it. For the script to be valid, you must insert the quotes around it. Example: "[Firstname]."

TotalAgility can validate and run a script without requiring the script developer to build and deploy .NET assemblies. The .NET compliance of TotalAgility reduces development time and increases the ease of deployment.

The following is an example of a VB .NET script:

```
Imports System Imports Agility.Server.Scripting.ScriptAssembly
Namespace MyNamespace
Public Class Class1
```

```
<StartMethodAttribute()> Public Sub Method1(ByVal sp As ScriptParameters)
    '
    ' TODO: Add start method code here
    '
    Dim FirstName
    Dim LastName
    FirstName = sp.InputVariables("FirstName")
    LastName = sp.InputVariables("LastName")
    sp.OutputVariables("Fullname") = FirstName + LastName
End Sub
End Class
End Namespace
```

In this sample VB .NET script, `FirstName` and `LastName` are input variables. The value of these variables is used to construct the value of the `FullName` variable, which is an output variable.

Note The script only works if `FirstName` and `LastName` are set as input variables, and `FullName` is set as an output variable.

The following is an example of a C# script:

```
using System;
using Agility.Server.Scripting.ScriptAssembly;
namespace MyNamespace
{
    public class Class1
    {
        public Class1()
        {
        }
        [StartMethodAttribute()]
        public void Method1(ScriptParameters sp)
        {
            string firstName = sp.InputVariables["firstname"].ToString();
            string surname = sp.InputVariables["surname"].ToString();
            sp.OutputVariables["fullname"] = firstName + " " + surname ;
        }
    }
}
```

Other activities

This group includes the following activities:

- [XML](#)
- [Resource Info](#)
- [Job Owner](#)
- [Job Variable](#)
- [Sleep](#)
- [Supporting Info](#)
- [RESTful Service](#)
- [Document Creation](#)
- [Ready For Review](#)

XML activity

Use the XML activity to construct or modify an XML document without using third-party components.

Using an XML activity, you can:

- Add, modify or delete an attribute in an XML document, or add a new XML string to the document.
- Avoid typing lengthy code and element name conflicts by defining namespace bindings.
- Validate the XML by using the XSD schema.

Resource Info activity

Use the Resource Info activity to extract information, such as name, email address, or supervisor ID, about a specific resource rather than use the .NET method on the SDK.

The resource information is obtained specifying the resource identifier. The resource identifier can be a resource ID, resource or role name, or an email address.

Job Owner activity

Use the Job Owner activity to set the current owner of the running job. Based on some rules or decisions, the owner of the job may vary.

The job owner owns the jobs regardless of who performs or completes the tasks. This ensures visibility to assigned jobs at all times. For example, as the team leader (TL) is responsible for all jobs the team completes, assigning the TL as the owner of the jobs means that the TL can view and track progress of the team as required.

A job owner can be an individual or a group resource. However, only one resource can be the job owner at one time.

A job owner can be a static or dynamic resource. If the job owner is a dynamic resource, the real job owner can be assigned at runtime.

Only a job owner or the supervisor of the job owner can change the owner of the job at runtime.

Job Variable activity

Use the Job Variable activity to extract information from a running job and return their values into variables defined within the current job. It is commonly used in exception maps which are reused across multiple jobs.

For example, in a Housing Benefit Claims system, you can launch a Job Overrun exception process map if it takes more than two hours to process a particular Housing Benefit application form. The Job Overrun exception map would extract data, such as who is processing the claim and other details from the Claim Housing Benefit job.

The Job Variable activity reduces development time, which would otherwise involve the following steps:

- Calling the API `getjobvariablevalues`.
- Setting up a complex variable to pass data into `getjobvariablevalues`.

- Extracting and passing values from the complex variable into the process variables for subsequent processing.

Sleep activity

The Sleep activity (automatic) is used to delay a job for a specific period of time.

At runtime, the sleep activity makes the job wait for the specified amount of time. For example, in an event map, which is triggered when a COM call fails to send an email, you can configure the Sleep activity to set the job to sleep for 60 seconds before attempting to send the email again.

The duration of a Sleep activity is short with a maximum of 60 minutes.

Supporting Info activity

Use the Supporting Info activity to generate contextual information that may help a user track job progress.

For example, in a process handling insurance claims, use a Supporting Info activity to provide information containing the customer name, insurance type, and claim amount to the user.

You can:

- Update the supporting information directly by calling `JobService.UpdateJobCustomerData`.
- Display the supporting information for a job to the user by calling any of the `TakeActivity` APIs.
- Display the supporting information on the work queue of the user by calling the `GetWorkQueue` API.
- Add multiple Supporting Info nodes to a process to allow updating the contextual information as the job progresses.

RESTful Service activity

Use the RESTful Service activity to integrate TotalAgility with external applications. The RESTful Service activity can integrate with external applications through the RESTful web service references.

Note TotalAgility supports only simple types of RESTful web services, which should not be used with complex data structures.

TotalAgility does not support specifying any custom headers to be passed to a RESTful Service activity.

RESTful web services typically map the four main HTTP methods to the operations they perform: Post, Get, Put and Delete.

The web service only sends the basic HTTP verbs – GET, PUT, POST, and DELETE – to the server and expects JSON or XML as response.

For example, `http://service.com/emp/123`

XML format:

```
<Emp>
  <Name>ABC</Name>
  <Id>321</Id>
  <Email>abc@domain.com</Email>
```

```
</Emp>      <Org>Kofax</Org>
```

JSON format:

```
{  "Name": "ABC",  "Id": "321",  "Email": "abc@doamin.com",  "Org": "Kofax"}
```

Document Creation activity

Use the automatic Document Creation activity to create different document types, such as a Microsoft Word document or an HTML file (web page), in a process map. For a document, you can specify the template to use and the placeholders to populate.

Note Only Microsoft Word templates (.dotx) can be used to create a new document.

In Microsoft Word, fields are used as placeholders for data that might change in a document and for creating form letters and labels in mail merge documents. Merge fields let you customize the content of individual documents.

For example, to create a letter, you may define a letter template with the following placeholders:

- <Date>
- <Recipient's Address> (may include addressee's name, street address or post office box, city, province, postal/zip code or country)
- <Salutation>
- <Subject>
- <Body>
- <Complimentary Close>
- <Signature Block>

The Document Creation activity also takes into account carriage returns passed into a document and adjusts the other text accordingly. For example, <<Address>> could be multiline.

Within TotalAgility, you can generate a document that contains a table where a row is populated for each line item passed to it. This helps control the formatting of the data passed into the placeholders and creates documents in which tables are automatically populated with dynamic data.

Use placeholders to populate a table in a document with dynamic data. Position each placeholder in the row and column where you want to populate the data. For example, to populate the Loan Application table from Row 2 Column 1, position the placeholder there. See the table.

Loan ID	Loan Amount	Loan Duration	Applicant	Address	Contact Number
«Details»					

The placeholder placed in the table shall populate the table with the data in the mapped variable.

Once the table is populated, any text outside the table shifts accordingly.

Loan ID	Loan Amount	Loan Duration	Applicant	Address	Contact Number
101	15000	5 years	Mark	Derry	7412545612
102	30000	10 Years	Peter	Hyderabad	6455456542
103	50000	12 Years	Srinivas	London	9878455612
104	2000	1 Year	Charles	Belfast	7418529631
105	1000000	20 Years	Reddy	Derry	7456123891

The placeholder placed in the table shall populate the table with the data in the mapped variable.

Note During design, you might not know the number of rows (records) required in a table. To address the issue, add rows dynamically by passing the input data through dynamic complex variables to a table.

You can create an HTML page based on a Word template and save the output to a variable, for use across the Designer.

For example, you can map the output variable to the body of an Email node, so that whenever a new HTML page is created based on the selected template, an email is sent to the relevant users.

Ready for Review activity

Use the Ready for Review activity to set the checklist state as ready for review. At runtime, the current state of the checklist is displayed in read-only mode and the next column is displayed in an editable mode.

For example, in a Document Review process:

1. Resource A completes a checklist as part of the Write activity.
2. The state of the checklist is set to Ready for /Review by a Ready for Review node.
3. The checklist is available as part of Review activity, which in turn can be completed by Resource B.
4. The checklist is displayed in two columns (as the state is Ready for Review): the first displays the original values (as set in the Write activity) and is read-only; the second column is editable.



Activity input and output

Define input and output variables for an activity.

You cannot add the same variable more than once as input and output. However, you can add the same variable as both input and output. When using an entity variable to an activity as input or output, either set an entire entity or an individual attribute as input or output variable.

You can use both process and server variables as input (NOT output) to Classification, Extraction and Composite activities for use in the Kofax Transformation Designer (KTD) script. However, you can only use simple variable types and cannot use Document, Folder, Entity, Checklist, XML, XML Expression and Complex variables. Therefore any document or folder variables configured for these activities are not available for use as input variables. The String input variable for Scan profile name on Composite activity is also not available for use.

Input variables for capture activities become available in Transformation Designer script. For example, if you consume an input variable called "test", you can access this variable in the Transformation Designer script as:

```

pXDoc.Fields(1).Text =
pXDoc.ParentFolder.XValues.ItemByName("KTA.InputVariable.test").Value
  
```

You can consume the following document set properties as input or output to an activity.

System properties	
Number of Documents	Number of documents available in the document set.
Documents	Document ID, Name (specified in document set for the Document Type), Source (source defined when you add a document to document set), Document Type ID, Document Type Name, Document State, Document State Description, Date Received.
Documents Summary	Document Type, Source (source defined when you add a document to document set), State Description and Date Received.
Required Document Summary	A list of document type names and description provided in the document set.
Received Document Summary	The description of document type names and the rule comments (if any rule is applied).
Document type	
Number of Documents	Number of documents in a document type.

Status	Status of the document type.
Status Description	Description of the document type status.
Comment	Document type rule comments (if a rule is applied for a document type).

You can set the document set properties as input (not output) in the following nodes:

- Decision
- Email activity
- Loop activity
- Web Service activity
- .NET activity
- Activity preconditions
- Ordinary activity
- Manual Capture activities

Service Level Agreement

Service Level Agreement (SLA) is the visual representation of a threshold status or job and activity state on a job list or work queue.

You can specify fully configurable SLA indicators for any job or activity allowing process participants to rapidly see when processes are at risk of exceeding targets, and allowing them to take corrective action if necessary.

TotalAgility supports a maximum of five statuses, which are defined at the server level. Three statuses—Red, Amber and Green—are available by default, with the option to include Black and Purple. The status titles, such as Red, Amber or Green are configurable.

By default, the status changes prior to the target duration. To change the status after the target duration, a Post option is available.

Example: To define the SLA status indicator for an activity to turn Red from Amber

Configure the following settings for the process:

1. Expected Duration = 2 hours
2. Amber threshold = 1 hour
3. Red threshold = 30 minutes (Post)

If the activity starts at 12:00:00 AM and the expected finish time is 2:00:00 PM:

- Up to 1:00:00 PM, the SLA status indicator appears Green on the work queue. This means that the activity is pending and the current time is outside the Amber threshold.
- When the time is 1:00:01 PM (less than 1 hour from the expected finish time), the SLA status indicator turns Amber. This means that the activity is still pending and due to be completed; the current time is within the defined Amber threshold.

- When the time is 2:30:01 PM (30 minutes after the expected finish time), the SLA status indicator turns Red. This means that the activity is overdue. If the current time is within the defined Red threshold or exceeds the expected duration, the SLA status of the job remains Red.

Time and cost

You can define the expected duration, cost and budget of a process.

Expected Duration

The duration that specifies how long a process is expected to take. The duration can be static (in days, hours and minutes), dynamic (a date variable) or a milestone.

Expected Cost

Overall expected cost of performing a job.

Budget

The amount of money allocated to a process (mainly case fragments). A budget helps managers track and monitor key business processes to determine whether the process is under or over budget. Budget and Expected Cost are different. For example, a typical Appeals case process is made up of several case fragments, such as Register an Appeal, Medical Examination, or Convene Court Hearing. A budget is usually associated with the overall case fragments and is the summation of the expected cost of each case fragment.

Similarly, you can define the time and cost for an activity.

Target Duration

The duration that specifies how long the user can take to complete the activity. It helps to gauge productivity. For example, if the expected duration of an activity is 5 minutes, the user must spend no more than 5 minutes on the activity. A user who spends 10 minutes instead of 5 has a 50% productivity rating.

Target Due Date

The activity due date using a target duration, variable, or a milestone. If you use a variable or a milestone to calculate the target due date for an activity, you can also specify the lead time.

Note Lead time is the time period when the user may take the activity. For example, if set to 2 days, the user can take the activity any time during the 2 days.

Expected Cost

The overall expected cost on completion of an activity.

Fixed Cost

The cost of an activity irrespective of the length (duration).

Map milestones

A milestone signifies the completion of a major activity or a set of related activities. Use milestones to mark major events, such as important dates or deadlines in a business process. For example, use a milestone to mark a product delivery date.

Recording of a milestone target date starts once the job starts. The milestone's target date automatically changes if you reschedule the associated activity. For example, in an Employee Hiring business process, if the Employee Start Date and 3-Month Review Date are two milestones and if the employee's start date changes, the 3-month review date also changes.

After defining milestones at the process level:

- Add milestones for a map or activity to track job progress. Set interim milestones to track if you are behind schedule for the interim target date and take corrective action while you still have time to recover. For example, add a milestone for the entire Deliver Training Course process or set interim milestones for the Basic and Advanced course.
- Use milestones to schedule a process or activities and calculate the due dates. For example, schedule the Security Check task to appear on the HR Manager's work list four weeks after the Employee Hire Date milestone date.
- Schedule activities forward or backwards from a milestone. For example, schedule the Set New Employee Machine task to appear on Network Services work list two days before (- 2 days) the Employee Start Date milestone date.
- Set the milestone to achieve when an activity becomes pending or is completed. For example, set the Candidate Selection Complete milestone to achieve as soon as the HR Manager takes and completes the Select Final Candidate Based on Interview Results task.
- Reschedule or change a milestone target due date. The system automatically updates the activities (that are not pending) with due dates linked to that milestone. For example, if you shift the Interviews Completed milestone date, the due dates of linked activities, such as Shortlist Candidates and Book Interview Room, shift automatically.
- Set milestones relative to each other when one milestone depends on another milestone. For example, make the Training Materials Completed milestone date relative to the Deliver Training Course milestone date. If you reschedule the Training Course, all linked milestones dates are rescheduled automatically.
- Link milestones to process states. For example, the Hiring process include a series of states from Pre-interview > Interview > Selection > Hired.

Note State refers to the status of a job at a particular point in time. A percentage complete is usually assigned to each state so that you can monitor the progress of a job. For example, a parcel can go through a series of states from New (0 %) > Dispatched (70%)> Confirmed (100%).

You can set a milestone to be static, dynamic or relative to other milestones:

- A static milestone has target duration in number of days, hours, minutes and seconds, or relative to when a job is created. For example, set the "Interviews Complete" milestone to reach 24 days after the "Hiring" job starts.
- A dynamic milestone has the target duration as date variable that contains the duration value.

Important You can use the Kofax TotalAgility Workspace to change the milestone dates at runtime. If you change a milestone variable value, the milestone is NOT updated automatically; you must use the UpdateJobMilestone API to update the milestone.

- When you set the target duration relative to another milestone, at runtime, if you update a milestone, all milestones relative to it are also updated. For example, if the "Deliver Training Course" milestone is relative to the "Training Materials Completed" milestone, and if you change the "Training Materials Completed" date, the "Deliver Training Course" milestone is rescheduled automatically.

You can set the milestone to reach after (for example, three days later than) or before (for example, three days earlier than) the due date of the selected milestone by setting the positive or negative offset. If the value is 0, the milestone will be achieved when the relative milestone is achieved.

Map states

States are the changes through which a process can pass from inception to completion. Use states to monitor the status or percentage complete of a particular job. For example, a parcel order can go through a series of definable states, such as ORDER CONFIRMED > PACKED > DISPATCHED > IN TRANSIT > DELIVERED.

You can associate actions with a state, which initiates when the state of a job changes. This happens when a state is associated with an activity, and hence the state of the job changes when the activity becomes pending. Or when the state of a job is changed at any time during the lifetime of the job, for example, a user can change the state when viewing job properties or the state can be changed by using an API on the SDK.

You can associate a state with one or all of the following actions: Restart, Event, and New Job.

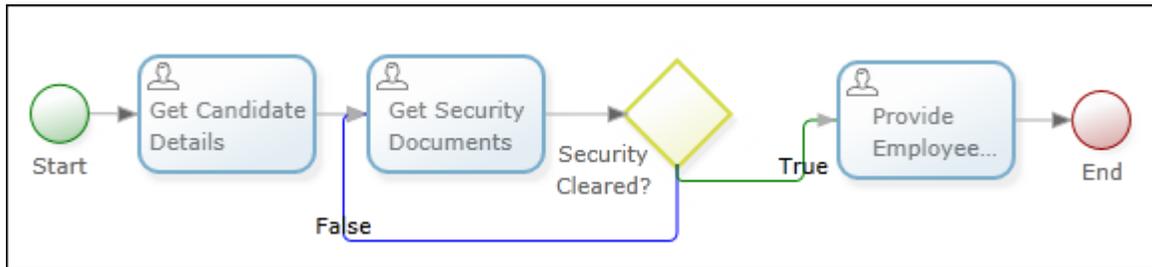
Restart action

Use the Restart action to bypass certain activities and restart the job at a different point in the process when the job reaches a specific state.

For example, in an Employee On-boarding process, define the following states of a job:

- New Employee (0%)
- Security Clearance Approved (50%)
- Employee On-boarding Complete (100%)

If the new employee is not given security clearance, the job would roll back or restart at the initial point in the process.



You can also restart a job at an activity within an embedded process when a job state changes.

Note Use the ChangeJobState API to apply the Restart action.

Event action

Use the Event action to associate a business event with a state such that the event action takes place when the state of a job changes and the activity completes.

For example, to have up-to-date real-time reporting, define business events, such as New Customer Accounts, Approved Mortgage Loans in a Banking process, and then use states to record approved mortgage loans.

Use the State event identifier when raising events. The State event identifier identifies and records the state event.

To monitor and extract the information from specific fields of an event, map the event parameters to process variables.

New Job action

Use the New Job action to associate a process with a state. Set the state so that when the state of a job changes, the system spawns the process to perform a certain action. The associated process is completely independent of the main process. The new jobs can be run automatically, depending on requirements.

For example, in a Goods Delivery process, when the state of a parcel order changes from IN TRANSIT to DELIVERED, the system can launch an independent process called Send Customer Invoice.

Process events

With TotalAgility you can model both external and internal (inter-process) synchronization points.

TotalAgility monitors for specific business events and responds by completing an activity that has been in a "wait state" for that particular business event.

You can record when real events raised against a job have occurred, which subsequently determines when a task that is in a wait state can continue or be completed.

TotalAgility can handle both types of events:

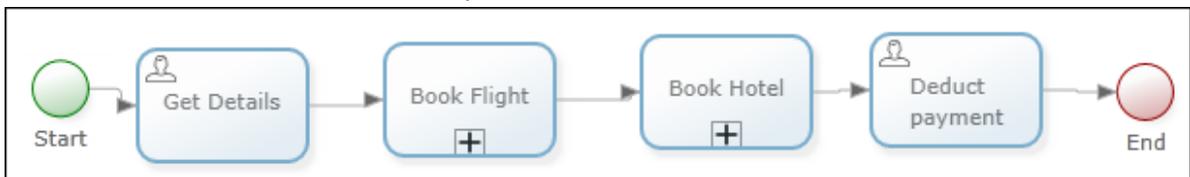
- External: Events that occur outside of TotalAgility and apply 80% of the time. For example, processing the car insurance application can continue once the loan agreement is signed.

Note Use the TotalAgility API methods to record external events.

- Internal (inter-process): Events that occur between different process maps within TotalAgility.

Raising a process event involves the following procedures:

1. Creating a process event.
2. Setting up preconditions for the activity within a process map. The activity will take on the Awaiting Events status. The activity can only become pending once the associated process event is executed and the precondition is satisfied.
3. Recording process events when an activity becomes pending or is completed. For example, in an online Arrange Travel process, the Deduct Payment activity waits for event status on the main process map. The Deduct Payment activity cannot become pending until both the Flight Confirmation and Hotel Confirmation events are completed.



Note TotalAgility provides APIs to record external events, such as a file being added to a document management system.

Process notes

Use process notes to insert comments related to your process. For example, you can use a note to suggest a process improvement.

Once a note is added, you can view it in the TotalAgility Designer, or indicate whether an action has been taken for the note. The note details give the date and name of the person who took action.

You can only add process notes in the TotalAgility Workspace. See TotalAgility Workspace help.

Note Process notes are created and updated independently of process versions.

Document set

A document set is a group of related documents that can be managed either individually or as a single entity. You can specify in your process whether to use a document set.

Note TotalAgility only supports a document set in parent processes, case fragments and cases; it does not support processes that contain a document set as a subjob or embedded process.

Using a document set, you can do the following:

- Define the type of document.
- Restrict certain document types from display.
- Configure basic or advanced rules for a document set so that a process can only continue once certain criteria are met. Configuring document set rules gives complete visibility to the status of the documents required to complete a process. You can halt the process if the required documents are not received. For example, halt the process at a stage until document 1 of type A and 2 of type B are received.
- Specify which documents are involved in a process and provide the number of documents, document type, whether required or optional, and dynamic rules on metadata, such as paystubs for the last three months.
- Specify the process on which a job is started at runtime when a document of the selected document type is uploaded.
- Configure exceptions to raise at the specified interval when the document date elapses.

Note The Update Document Set user rights are required to update the runtime status for a document rule.

TotalAgility provides document set control used to display the following:

- Document set at runtime.
- Summary of document types in the selected mode. The summary is displayed based on the mode of operation (Customer or Case Worker) selected at design time.

Roles

Many organizations assign work to a role, such as a Project Manager, rather than directly to a named individual.

Using roles rather than naming individuals gives you more flexibility in that you may not know the name of the person who will perform a task, although you may know the role required.

In Kofax TotalAgility, you can assign work to one of the following:

- An individual, such as John Smith.
- A role, such as Finance Manager.
- An organizational group, such as Finance.
- An unknown resource, where you use a variable and the system identifies the resource at runtime.
- Someone previously involved in the process, such as the job creator or the person who performed a previous activity.

When designing a process, you can define a number of roles that are specific to that business process.

You cannot use groups or other roles as role members. But an individual can belong to more than one role. Changing the members allocated to a role in one business process does not affect any other business processes in the system even if they have the same role name.

A role can be fixed or floating.

Note The changes to static roles affect all existing and new jobs, whereas the changes to floating roles only affect new jobs.

Once a role is created, assign a role to an activity.

If the activity is an embedded process, it uses the role from the parent map (if the role already exists).

If the activity is a subjob, it uses the role created for the subjob and not from the parent map.

Types of roles

TotalAgility supports fixed and floating roles.

Fixed roles

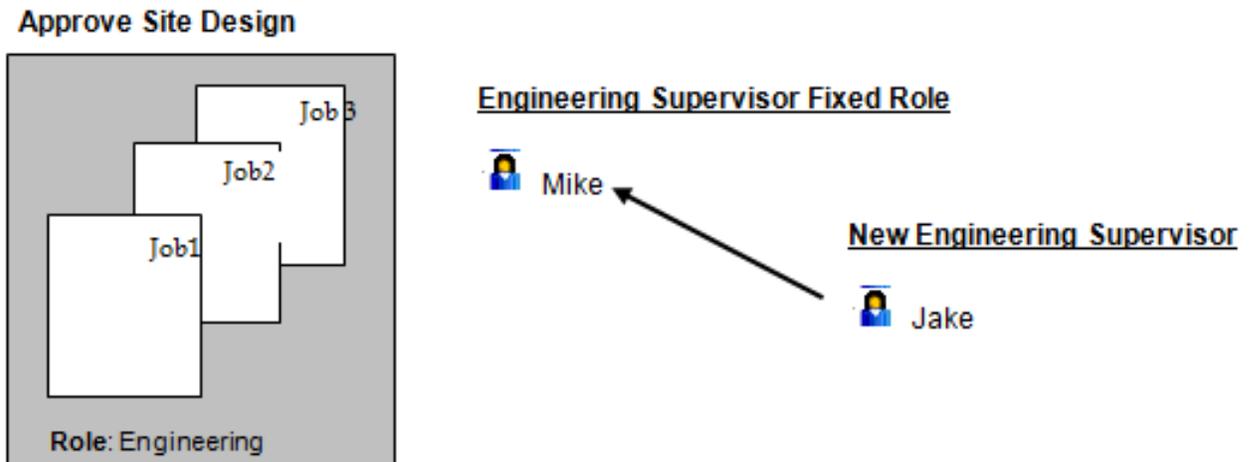
Fixed roles are the roles where role members are not likely to change in the immediate future. For example, a company usually has only one Finance Director; an organization may have five Executive Engineering Supervisors.

Use fixed roles:

- When the number of members for the roles is not likely to change. A fixed role can have multiple members but cannot have a group or another role as a member.
- When a task within a process will be performed by a known set of role members (case workers) who are not likely to change, and you know who they are.

During design, any changes made to a fixed role impacts all new and existing jobs created from any version of that process.

For example, in the following illustration, Jake joins the Engineering Supervisor fixed role. He will immediately see all activities assigned to this role in all live jobs for the Approve Site Design process.



Floating roles

Floating roles are the roles where the role members are added or updated depending on the task or job.

Floating roles are job-specific and allocated on a per job basis at runtime. For example, a new legal case may need to be assigned to a specific type of case worker. A drug case or a homicide case would require case workers who specialize in these fields. The case worker assigned depends on the actual job instance. You could use a web page to let a user populate the case worker role member dynamically at runtime or change role members at any time.

Use a floating role when the changes to the role members impact only a specific job that is based on a specific process.

Roles defined at the case level are automatically available to any fragments associated with the case. A change at the case level filters through to all activities in related fragments. In addition, you can also define a role at the case fragment level.

Assign work

You can assign resources to an activity at design time or runtime:

- Assign resources at design time if you know in advance which resource group or person can perform the job. For example, to hire personnel, select HR.
- Assign resources at runtime to make the decision at the time of taking the activity. For example, select a resource with a specific skill level to complete a complex job.

You can also assign roles to an activity along with groups, individuals, or variables.

You can choose to manually allocate resources, that is define which resources and roles should work on a particular activity. Allocating resources manually gives you the flexibility to assign more efficient resources to activities of high importance to better balance the work.

You can also allocate resources at runtime, depending on their skills and availability. Allocating resources dynamically has the following advantages:

- Provides more flexibility to your business processes, as opposed to using design-time static resources. Static resource allocation only works in the ideal working environment where each activity is assigned to a specific person who is always available.
- Helps you model real-life work allocation. In real life, jobs can only be assigned to the right user (with the right skills) who are available at a given time.

You can assign resources dynamically with or without applying rules or using a previous resource. You can also update activity resource information.

Advanced rules for work assignment

Apply rules if resource requirements for an activity are complex. For example, apply rules if more than one resource is required to review and approve a document. By applying rules, you can group the reviews as a single activity with multiple resources, rather than separate activities with different resources.

You can also apply rules to an entire business process, and not just a single activity. Assign rules to a Create Subjob activity; a subjob is created for each resource assigned to this activity.

Note You cannot apply rules if resources are assigned manually.

TotalAgility provides the following rules for completing an activity:

Activity Access

Use the Activity Access option to specify if single or multiple users should work on the activity, and the order in which they must complete the activity. This rule has the following options:

- **Concurrent** (the default setting): Permits the specified resources to complete the activity in any order or at the same time. For example, with Invoice Approval, concurrent access is allowed, and everyone can approve or reject at the same time. Capture activities do not support the concurrent activity access.
- **Single**: Permits the required resources to complete the activity in any order, but only one resource can complete the activity at one time. For example, a legal document can be officially reviewed and updated by only one person at one point in time.
- **Sequential**: Permits the selected resources to complete the activity in the order specified. Sequential assignment ensures people do not work on activities unless they are first taken or reviewed by people lower in the organizational hierarchy. For example, a junior manager must approve the loan application before it passes to the senior manager for final sign off.

Note In a Create Subjob activity that uses rules, resources must complete the subjobs using either sequential or concurrent activity assignment. Non-concurrent activity access is not available.

You can specify how many resources have to perform the current activity, and expand group resources and treat each member of the group as an individual resource required to complete the activity.

Exclude Resources

Use this option to exclude a resource from completing the activity. For example, you can assign the Expenses Approval activity to everyone in the Finance group, except for the person (job creator) who submitted the expenses claim.

Exit Condition

Use exit conditions to ensure that people do not work on activities that are already rejected.

You can set up an exit condition for an activity, which is complete when either the exit condition is met or all the resource settings are complete. For example, if two resources must approve a loan but either one can reject it, the settings require both resources to complete the activity. But the exit condition is set so that the activity can be completed if either resource rejects the loan.

Communicate with resources

Communicate with resources using the following features:

- [Activity notification](#)
- [Resource notes](#)
- [Alert tasks](#)

Activity notifications

Use the Activity Notifications property to notify a resource through email that work is ready in an activity pending in the queue. The activity notification can be set for a process as well as an activity.

- When set for a process, any manual activities added thereafter inherit the settings.
- When set for an activity, the settings apply only to that activity.

You can create the content of the email, such as subject and body. You can also embed a URL in the email to take the user directly to the work. For example, set an email notification on the Validate Loan Form activity that alerts a Banking Officer to check the details on a loan application. A URL embedded within the email launches the relevant web page or job with the customer's details so the officer can approve or reject the loan application.

Note Activity notification only works if the SYSTEM Process Email Activity process map is installed. See [System maps](#).

Resource notes

Resource Notes allow you to send a note directly to another resource.

A full API set is available to read notes sent to you by other resources, create new notes and delete read notes.

This feature is available in the Resource Mailbox in TotalAgility Workspace. When you log onto the TotalAgility Workspace, you can view all messages in your inbox and reply or send new messages to other resources.

You can effectively communicate within the Workspace itself, without using any Mail servers. For example, use this feature to direct a resource to take up a priority case. You can then quickly post a note to the relevant user from within the TotalAgility Workspace. You can also view any unread notes.

A Pending Notes icon appears on the header of your TotalAgility Workspace to indicate pending unread notes.

Alert task

An alert task appears on the work queue of the resource to notify them of any impending escalations. You can create an alert task for a milestone, process or an activity.

Triggers

Triggers are user-defined conditions that can automatically initiate a response and help you better manage your business processes. For example, set up a budget trigger to execute when 90% of the budget for a process has been used and to inform you in advance if a business process is about to go over budget.

Use triggers to avoid violations:

- **Budget triggers:** To avoid cost violations.
- **Job duration triggers** and **Activity due-date triggers:** To avoid target duration breach.
- **Milestone triggers:** To avoid deadline violations.

You can associate multiple triggers for a job or an activity. For example, in the Personnel Hiring process, set two triggers in the Schedule Interview milestone:

- Trigger 1 to execute 2 days before the target milestone date so you can ensure all pre-interview tasks are completed.
- Trigger 2 to execute 2 days after the target deadline has passed, to remind you to send out offer or rejection letters.

Budget triggers

The business process budgeting or costing shows how resources relate to processes. It helps management benchmark and focus on becoming more competitive and cost-effective over time.

The budget **triggers** help you monitor and deal with a business process that is about to go over budget. You can configure budget triggers to take action when the budget spent runs outside its normal business tolerance; when the expected cost of a completed job is under or over the estimated target budget.

The budget triggers are typically used for business processes that use resource costing; the budget spent is calculated based on resource costs, fixed costs, and actual time spent on tasks.

Example: To illustrate when a trigger is executed for the specified tolerance, budget and job cost

The Budget columns display the budget set at design time.

The Cost So Far column displays the accumulated cost of a job created on a map with tolerance and budget.

Budget (Set at design time)	Cost So Far (Accumulated cost of a job created on a map with tolerance and budget)	Target Budget Tolerance (%)	Trigger Fired
£300	>=30	10%	Yes. The trigger is executed as soon as the cost is recorded as £30 against that job.
£500	>=450	90%	Yes. The trigger is executed as the cost against the job reached £450, that is, 90% of £500.
£300	140	50%	No. A trigger is not yet executed because the cost so far is only £140, and has not reached the £150 mark (50% of £300).
£1000	1090	110%	No. A trigger is not yet executed because the cost has not yet reached £1100 (110% of 1000).
£100	>=120	120%	Yes. The trigger is executed as the cost has reached £120 (120% of 100).

Duration triggers

The duration [triggers](#) include:

- Job Duration Triggers
- Activity Due Date Triggers

Job duration triggers

A job duration trigger for a process is set up to execute when the set time period in relation to the expected job due date has passed. The Job Duration triggers help to monitor the progress of a business process and ensure timely escalations.

Triggers are only executed for an active job; they are not executed if the job is on hold or completed. See the following table for an example.

Job Due Date	Job Escalation Date	Job Status	Current Date	Trigger Fired? Yes/No
12.00.00 26.06.2013	12.00.00 26.06.2013	Job Alive	12.00.00 26.06.2013	Yes
12.00.00 26.06.2013	12.00.00 26.06.2013	Job Complete	12.00.00 26.06.2013	No
12.00.00 26.06.2013	06.00.00 27.06.2013	Job Alive	06.00.00 27.06.2013	Yes

Activity due date triggers

An activity trigger is set up against an activity due date.

For example, you may need an alert 2 days before an activity due date if no resource is picking up and completing the activity (which means the business process is not progressing as it should). There could be numerous reasons for an activity becoming overdue, the assigned resource may be overloaded with work or may be sick. Timely escalation helps in taking actions in time.

There could be numerous reasons for an activity becoming overdue, the assigned resource may be overloaded with work or may be sick. Timely escalation helps in taking actions in time.

An activity trigger is executed when the time period relative to the activity due date has past and as soon as the activity becomes pending or is taken. However, you can set the activity trigger to execute before the activity due date is reached. A trigger cannot execute for an activity that is either complete or on hold.

For example, you may need an alert 2 days before an activity due date if no resource is picking up and completing the activity (which means the business process is not progressing as it should).

For example, create the following triggers against the Notify Customer activity in a Loan Request process map.

Activity	Due Date	Target Firing Date	Escalation Process
Notify Customer	12.00.00 28.09.2012	+ 2 days	Loan Application
Notify Customer	12.00.00 28.09.2012	0 day	Loan Application
Notify Customer	12.00.00 28.09.2012	- 1 day	Loan Application

- If the Notify Customer activity becomes pending at 12.00.00 26.09.2006, the trigger executes on the following dates.

A	27.00.2006 at 12.00.00 - when the trigger firing target duration is -1 day
B	28.09.2006 at 12.00.00 - when the trigger firing target duration is 0 day
C	30.09.2006 at 12.00.00 - when the trigger firing target duration is +2 days

- If the activity is completed after the first trigger is executed, or after 27.00.2006 at 12.00.00, triggers B and C are not executed.

Milestone triggers

Use milestone [triggers](#) to take an action close to a target date. For example, if a project deadline cannot be met, use a milestone trigger to automatically alert (email) the project manager who can address the issue by assigning more resources to the project or adjusting the due date.

You can define milestone triggers for a process to be executed before or after the milestone due date is reached, or define it to be executed when the milestone due date is met.

Example: To create a milestone trigger

Create a milestone in a Sample process map with the following information.

Milestone Name	Target Date	Trigger Firing Target
Milestone 1	2 days from the time the job is started.	+1 day 0 day -1 day

Create a job on the Sample map at T0 = 12 o'clock on 26.09.2016.

As the milestone target date is 2 days from the date the job was created, the target date will be 12 o'clock on 28.09.2016 (the business calendar is off).

- If the milestone is not achieved, a trigger is executed on the following dates:
 1. 12 o'clock on 27.09.2016 - for a trigger execution target of - 1 day
 2. 12 o'clock on 28.09.2016 - for a trigger execution target of 0 day
 3. 12 o'clock on 29.09.2016 - for a trigger execution target of + 1 day
- If the milestone is achieved, for example, on 18.00.00 27.09.2016 (6 hrs after the 1st trigger is executed), only the first trigger is executed on 12.00.00 27.09.2016 because at this time, the milestone was not achieved. The second and third triggers are not executed, because the milestone was achieved before the second and third trigger execution target dates.

The actual trigger execution date also depends on the monitor interval time. For example, if the monitor is configured to check every hour, and the last time the monitor checked the system was 12.20 and the trigger execution date falls on 12.30, the actual trigger is executed at 01.20 (the next time the monitor checks the system).

Preconditions

A precondition is a rule that must be met before an activity can become pending (manual activities) or progress (automatic activities). A precondition is the last step to be evaluated before the node becomes pending; dependents and others are determined first. An activity with a precondition is a "waiting" activity.

For example, in the Loan Application process, set a precondition on the Transfer Money activity (for transferring a loan amount into the applicant's account) to allow the activity to become pending only after the Signed_Loan_Agreement event is raised and recorded.

Once the signed agreement is scanned into a third-party Document Management System, this event precondition is met and the Transfer Money task can become pending. In this scenario, you would use relevant API methods to let TotalAgility know that an external event has fired.

Important When a precondition is set for an activity, the activity goes into an AwaitingEvents status. This is similar to the Pending status except that the activity does not appear on anyone's work queue and no activity notification is sent. Everything else is done based on the activity becoming pending. For example, milestones are updated if set up.

Preconditions can be defined using process events or a document set. Preconditions can be satisfied by raising internal or external events, or once the rules pertaining to the document set have evaluated. Once the precondition is satisfied, the activity automatically moves on.

A precondition is only available for activities; they are not available for decisions or embedded maps.

During the lifetime of a job you can reevaluate preconditions to reevaluate any activities in a job that are in an Awaiting Events status. For example, you may reevaluate a precondition when you have manually changed the precondition value after a job has started, and you need all activities in a job reevaluated against the new precondition value.

Predictive models

Predictive modeling is the process by which a model is created to predict the likelihood of an outcome. For example, the success of a sale may depend on certain factors, such as the value of a sale or a product type. Using a predictive model, you can analyze data from within a process and use the insight to prioritize tasks and make decisions to achieve the optimal outcome for your business.

For example, in an insurance company a process is dedicated to selling insurance. From previous experience, the company knows the success rate is higher when younger males are targeted. To increase the chances of meeting the sales target before the end of quarter, the company defines a model to calculate a score that helps prioritize where the insurance can be sold successfully.

To define the model, use data within the process; select variables and define a value, operator, and weight for each. Alternatively, use a range of values and corresponding operators that the variable values must match.

Perform the following steps to create a predictive model:

1. Define the data and the corresponding weighting and the scoring system (score rule).
2. Indicate when to evaluate the score during a process.
3. Access the predictive score for a job within the process itself using the APIs.

Example: To illustrate the use of a predictive model

1. Define three process variables: Score (Long), Gender (String) and Age (Long).
2. Create a model based on Gender and Age, to calculate score when the age falls between 25 and 30 years.
3. Define value/range and weight for the variables as given in the following table.

Note You can add variables multiple times and give a different weight depending on the value or range.

Process Variable	Value/Range	Weight
Gender	Male	2
Gender	Female	1
Age	Less Than 25	4
Age	Greater Than 25 and Less Than or Equal To 30	3
Age	Greater Than 30 and Less Than or Equal To 50	1

4. Define the scoring system by creating a score rule as: $\text{Score} = \text{Gender} + (\text{Age} * 2)$

Thus the score for a male, aged 26 is 8 and the score for a female, aged 18 is 10.

This resulting score can be used in decision logic and work allocation rules to direct high-scoring insurance requests to the right reviewers, thus increasing potential revenue to the company.

Resource related properties of a process

The resource related properties of a process include:

- Process Owner
- Default Resource
- Maintenance Access
- Functional Access

Process owner

A process owner is the owner of jobs created on a process. You can specify a process owner at design time. A process owner is a static resource, which can be an individual resource or a group. Only one resource can be a process owner at a time.

If you specify a process owner during process design, the owner of the job is set to that resource. Otherwise, the owner defaults to the resource that created the job.

The job owner can be used to dynamically assign resources to activities. You can also search for jobs belonging to that owner.

For example, in many organizations resources have responsibility for jobs regardless of who, among them, performs or completes the work; the job owner functionality can give the owner resource visibility of jobs they are interested in.

The job owner can be changed at any time during the lifetime of a job by the current owner or the supervisor of the owner.

Default resources

Specify default resources so that you do not have to add resources to each activity separately. Whenever a new activity is added to a process, the default resources are automatically added to that activity. The default resources can be individual resources, groups, roles or a combination of all.

Maintenance access

A resource with maintenance access permissions for a process map can add or delete resources or change the access rights of resources to maintain the system. You can only assign maintenance access to one resource or group. The Maintenance Access includes the following access types:

- **Full Control:** Users with this access type can modify the process, and also set and modify access permissions for other users. By default, the Everyone group has Full Control.
- **Read Write:** Users with this access type can modify the process, but cannot change access permissions.
- **Read:** Users with this access type can only view the process; they cannot modify the process or set and change access permissions for other users.

Functional access

A resource with functional access permissions can add or delete users or change the access rights of resources to work on the system. You can only assign maintenance access to one resource or group.

Note The functional access types are saved per process version. Reverting to a previous version of a map will also revert the access settings. At runtime, the functional access settings for the latest version apply to all jobs of that process.

The Functional Access includes the following access types:

- **Create:** Users with this access type can create a job.
- **Suspend:** Users with this access type can suspend a job. For example, assign the Suspend permission to a Supervisor resource.
- **Terminate:** Users with this access type can terminate a job. For example, assign the Terminate permission only to the resource who created the job.
- **Restart:** Users with this access type can restart a job.
- **Update Document Set:** Users with this access type can specify permission to Everyone (Default), an individual resource or a group of resource to update the status of the document in relation to the document set at runtime.
- **Place On Hold:** Users with this access type can place a job on hold. For example, a supervisor may need to put a job on hold in situations where a subordinate resource has to work on a high priority task or is unavailable for a period of time. Any user can reactivate a job that has been placed on hold.
- **Customize:** Users with this access type can create custom maps on the current map. For example, unexpected events may occur during the life cycle of a job that require adding and removing activities, or other process changes while the job is still active. The selected users can dynamically create a new custom map on the current map to include the changes. The System creates a new map version and the active live job automatically uses the new map.
- **View Job Details:** Users with this access type can view job properties.
- **Change Scan/VRS Profile:** Users with this access type can change Scan or VRS profiles.
- **Change Separation Settings:** Users with this access type can change separation settings and assign permissions to a resource or a group of resources to modify the separation settings.

Advanced properties of a process

This section describes advance properties of a process.

Allocation algorithm

Algorithm options for allocating work to resources include the following:

- **First Found:** Offers the activity to the first available resource (checking those who are first in the waiting state).
- **Cost:** Checks each available resource and offers the activity to the resource with the lowest cost.
- **Skill:** Checks each available resource and offers the activity to the resource with the highest skill level.

- **Speed:** Checks each available resource and offers the activity to the resource with the highest productivity rating (based upon the actual work compared to the expected work).

Thread pools

See [Thread pools](#).

Maximum loop count

The number of times an activity can be executed in a synchronous job or business rule. Helps in preventing high workload on the TotalAgility server.

Process active periods

Time frame (Active From and Active Until) to restrict the process to be active for a specific duration. The process active period (active from/active to) allows you to manage when processes are available for creation. Jobs can only be created on active processes. If you set the process active period, the process expires as soon as the active period is over. For example, a garment retailer decides to implement a discount scheme for Christmas and creates a process map that begins at the start of the season and expires at the end the season.

Note By default, a process remains active.

Include in analytics

Allow the data related to jobs for a process to be picked up by Kofax Analytics for TotalAgility (KAFTA) reporting. Also records the documents and page counts for the process activities in TotalAgility to be used by KAFTA reporting.

Track variable changes

Tracks variable changes.

Record history

Records history of data, such as an activity taken and completed.

Case completion

In practice, several associated jobs may be running as part of a case. When a case is completed, it impacts the associated jobs. You can configure a case to define the flow of associated jobs on case completion; for example, kick off a separate business process to invoke a formal closing procedure.

You can configure a case to either terminate or to leave all associated cases (jobs) running upon case completion. For example, if a court decides that compensation must be paid to all case plaintiffs on completion of a legal case, then the legal case can be configured to keep the jobs alive so that arranging payments can be kicked off for each of the plaintiffs. If the jobs are terminated, plaintiffs are not paid.

Note All associated jobs must be completed before the case completion event is executed.

When a case is terminated, all jobs associated with the case are also terminated.

Virtual folders

A case is often manual, heavily paper-driven, and plagued by poor visibility. Imagine the amount of paperwork associated with a court case that spans three years. Virtual case folders provide a way of managing all case-related documentation, such as emails, meeting notes, court documents, and correspondence.

A virtual folder, also called a case folder, can store references to the case documents without storing the actual documents. It can contain references to any number of diverse case items, such as Microsoft Word documents, Adobe PDF Files, HTML links, and to objects in external repositories, irrespective of where the data is stored.

Using the virtual folders, the information to process a particular customer's case, or project, is readily accessible and available to all case workers. You can also tailor access to the various case documents using an individual's roles and privileges.

TotalAgility provides virtual folder APIs. You can use these APIs to manipulate virtual folders at runtime; to add, update or delete a document within a virtual folder or search for a case document using the index data fields defined for a virtual folder. Index data fields are references to items, such as a document, web page or image.

Note Only case maps support virtual folders; business process maps do not.

Exceptions

The system raises exceptions when particular situations arise within the running of a process. For example, an exception is raised if the system is unable to connect to a remote server to download important data, or if no resource is available to pick up a particular job.

You can handle an exception by assigning a process map as an escalation process. For example, configure an Insurance Premium Policy process to automatically send an email if the customers do not submit their insurance premiums by the due date.

TotalAgility provides a number of predefined exception handling processes that can address unexpected events without manual intervention or process termination. You can use these processes in your map to address potential issues.

TotalAgility provides predefined exception-handling codes. Each exception code is a placeholder for a particular type of exception (process map). These exception handlers can address unexpected events, such as throughput, capacity and workload changes without manual intervention or process termination. You can use these processes in your map to address potential issues.

Some of the most frequently used examples:

- EXP0013—Activity Due: Triggers whenever an activity due date is passed.

- EXP0005—Job Duration Overrun: Triggers whenever a user takes longer than expected to complete a job.

You must create the process map to run whenever the exception code is called. For example, the exception code EXP0001 is called whenever a resource has been inactive for an excessive period of time.

The maps associated with predefined exception codes belong to the following categories.

Workload Exception Maps

These maps can handle business exceptions, such as costing or timing that run outside normal business tolerance, such as job duration overrun or activity overdue.

System Fail Exception Maps

These maps run when some element of the system process fails. For example, they might run if a connection cannot be made to a remote server to download information, or if a script object fails to execute.

Note You must assign variables as initialization parameters to track the source of an exception.

Associations

A process map, variable, or a milestone may be used within a process or by a number of process maps. For example, in a map, a variable may be used as an initialization parameter or as a dynamic expected finish time for a job. In an activity, it may be used as a dynamic resource variable or as an output parameter. Similarly, in a map, a milestone may be used in expected duration or as a relative milestone, and in an activity in the target due date or as an available or completed milestone. If you change or update any of these items for one process map, it may impact several others.

View an association to find out:

- Variables being used in a map or an activity.
- Processes being used in a current process.
- Processes that use the current process.
- Milestones being used in a map or an activity.

Associations provide visibility across the entire process map, helping you to manage and maintain your process maps more efficiently.

You can only view associations for a saved or released map.

Cases

A case is a complex workflow that can require user interaction and contain decision points, embedded processes, and fragments. A case can involve several complex processes running across a number of departments and using multiple sources of information.

For example, processing an Appeals case could consist of a wide range of documents or forms and numerous processes, such as Registering an Appeal, Setting Up a Tribunal Session, Checking Medical

Records, and Clearance of an Appeal. These business processes may run independently of one another, yet be related to the one case (Appeals).

A case process can contain a base case process used to support the overall case, as well as several normal processes or fragments, all of which are linked for collecting and sharing case-specific information.

Note A normal process and a fragment can be associated with a case, gaining access to all case-specific data, such as milestones and roles.

You can set up and use the following for a case map:

- Milestones or key target dates, such as a hearing date within 14 days of the initial registration date of an Appeal case.
- Roles (resources) to complete activities within a process, such as Appeals Officer or Legal Representative in the Appeals case fragment.
- Variables to store information specific to a case. This information is then readily accessible and available to all fragments including the normal business processes associated with a case.

Note You can use milestones and roles for a normal business processes without using the Case Management functionality. See Manage Map Milestones, and Manage Roles.

Some key similarities and differences exist between a normal process and a case:

- The runtime instantiation of a case is a case fragment, which is similar to the relationship between a job and a normal business process.
- A normal business process (which is based on a Process map) runs through a set of steps in a specific, fixed order from start to finish.

A case has a base process that gives a general flow to what must be achieved but does not necessarily execute in a logical start to finish fashion. It is tied to the case information through a case ID and not a process map.

- A fragment can be kicked off at any point in the lifetime of a case; therefore, it is not tied to a specific starting point in the process or to a process map.

Case fragments

A case fragment is a sub-process that is initiated and used within a case process and cannot be used by other processes or cases. For example, a patient is represented as a case process and the diagnosis is considered as a case fragment. The diagnosis case fragment is completed if the patient takes the tests but the case process is completed when the patient is discharged from the hospital.

- A case fragment is similar to a process in that it has all of the attributes of a normal process, such as nodes, data, SLAs, and resources. However, a fragment is dependent on the case in which it is created and cannot be reused by other processes or cases.
- A case fragment inherits the properties of the case from which it is called.
- A case fragment has direct access to elements of the case definition, such as variables and milestones.

Document processes

You can generate a design document for a process map. The document details all the information input during design, such as resources, activities and associated parameters.

You can generate a design document for a particular version of a process map.

Business rules

Business Rules can be used to build complex business logic without programming and automate and optimize business decisions. For example, a store offers the following discounts:

- 5% for purchases between £100 and £1000
- 10% for all purchases above £1000

You can use the following logic to calculate the amount to pay after discount:

```
IF Amount >=100 and <=1000 THEN Discount =5%
IF Amount > 1000 THEN Discount = 10%
Else Discount = 0%
Amount to Pay = Amount - (Amount/ 100) X Discount
Return Amount to Pay
```

A business rule is a diagrammatic representation of a rule and enables you to use all of the back-end integration capabilities of TotalAgility to retrieve data from external sources to use within the rule, and to update data repositories. A business rule also enables you to use the decision and multi-branching rules logic of a process map to create the rule and determine the output values.

A business rule includes the following elements:

- Inputs
- Rule Conditions
- Output

Simulations

Simulations provide the business analyst with a tool to analyze process performance and assess the impact of design changes before live deployment. You can view the simulator output or impact analysis results in TotalAgility Designer.

Skins

Business Process Outsourcing enables organizations and Shared Service Centers that have several core processes to have many views of the same process typically for different products and customers. This can be achieved by using skins.

For example, an Insurance company has a core process for providing insurance quotes to customers. They then outsource this process to different smaller companies. Instead of copying the core process for each company, they can set the core process as a template and then create skins for each company; any changes to the core process are automatically applied to each skin for a customer.

Templates and skins

A template is a process of which you create different variants or *skins*.

Note The skins created for a template always use the latest version of the template.

The process flow always follows that of the template but within a skin you can override properties of the process, the variables and the activities.

The functionality in a skin can be changed by using embedded process activities in the template, and then overriding the process embedded in the skin.

You can use the Update PI property of the template map to automatically update the PI (Process Intelligence) database with all the job data for a skin, such as expected cost and expected duration.

Rules

Within a skin, a rule must be defined using the process data that determines the circumstances in which a skin is invoked.

When a job is created on a template, the rules for each skin are evaluated until a match is found. The matching skin is then invoked for the job.

During the lifetime of a job, the skin can be reevaluated. For example, when the data changes. This could potentially invoke a different skin, or revert the job back to the main template so no skin rule is satisfied.

System processes

A number of fully customizable system processes are installed with TotalAgility to support features in the product.

Note On upgrading TotalAgility, you must manually import the SYSTEM maps.

The following SYSTEM maps are available for TotalAgility on-premise.

SYSTEM Process Email Activity

Use this map to process email notifications when activities are pending. The server variable "SYSTEM_EMAIL_FROM" is imported into the system with this map. Update the default value with the email address of the user who sends the email notifications in your organization.

Use the email node to specify whether to send an email to all usable resources when an activity becomes pending. Define the structure of the email including the subject, content, and a URL for an ASP page that takes and completes the pending activity.

Note Ensure that you generate this ASP page. Place this ASP page in the following folder C:\Inetpub\wwwroot.

SYSTEM Check for Completed Delegations

Use this map to remove redundant work delegation rules after their end date has passed. A scheduled job is run on this map each night at one minute past midnight to check for and delete redundant delegations.

SYSTEM Perform Auto Work Allocation

Use this map to allocate AwaitingAllocation activities for the current day to appropriate resources with AutoWorkAllocation debits.

SYSTEM Reset Quantity Counts

Use this map to reset all checking and sampling counts to zero.

SYSTEM Job Duration Overrun

This is a sample exception map.

SYSTEM Activity Overdue

This is a sample exception map.

SYSTEM Active Directory Synchronization

Use this map to synchronize the Active Directory (AD) resources with TotalAgility. This map synchronizes organizational units and their associated groups and users within the Active Directory; it does not synchronize any containers, objects, or users outside of an organizational unit.

Note TotalAgility Integration server does not support Active Directory Synchronization system process.

SYSTEM Reset Password

Use this map to send an email to the user email address to reset password.

Save and release processes

Once you complete the design of your process map, you can save or release it. You can only start a job based on a saved process map, if you have a development license.

- Saving the map saves map changes and creates a minor version of the map, such as Get Customer Details v0.01.
- Releasing the map saves and releases the map, and creates a major version of the map, such as Get Customer Details v1.0. You can only use a released map in production.

You can control the release of a process using the OnRelease event. To handle the release, you can:

- Create a new process, such as Approve Loan Application Release process.
- Add activities to the event handling map to take whatever steps are required before the map can be released, such as notifying someone or getting approval.
- The event handling map must release the map after the release business logic is completed.

Note Use an API call to the ReleaseProcess method available in ProcessService SDK.

Revert and delete processes

You can revert a process map to a previous version and also delete processes.

Revert processes

Revert a process map to create a new version of the map based on an earlier version. All the items including variables, activities, resources, properties, and skin rules of the selected version are available in the newer version. For example, in a management scenario, as part of the company's project plan, you might have altered the organization's hierarchical structure, resource managerial levels, their categories and also the process map design. Then saved and released to create a new version of the map and immediately put it to use. However, after few days of implementation, management analyses the performance and opts to revert to the previous resource hierarchy and process flow. You might then want to pick the earlier map version and replace the current version.

Delete processes

You can delete latest or specific versions of processes. When you delete specific versions of the process, the selected version and all the previous versions are deleted. For example, if you delete version 3, then version 1 and version 2 of the process are also deleted.

Business monitoring

Changing business conditions make it important to recognize trends and patterns in your business performance for proactive and informed decision-making. In TotalAgility, you can use events, targets, and alerts to track key business performance indicators.

Events

Business events are key events that business users monitor and manage, for example, case open, sale made, sale lost, and claim settled. A process, form or a business rule can initiate these events.

Targets

A business uses events to monitor performance against targets. For example, you define a sales event that records the name of the salesperson and the total sale amount. When the salesperson completes a sale, the system fires the event.

Each salesperson in a team could have different quarterly targets. You can create a business target for each salesperson, based on the Sales event, and monitor the event every quarter.

TotalAgility can monitor targets and automatically initiate business processes if thresholds are missed.

Alerts

You can define business alerts to notify the system when the sum or occurrence of an event reaches a specific value. The alerts are business processes that can be as simple as an email interaction, or as complex as a change to operational parameters.

Chapter 4

Model the user interface

TotalAgility lets you model forms that provide the user interface to support your processes. You can manually create forms, build forms based on business processes and preview forms.

You can also create mobile and tablet versions of forms and make forms touch enhanced.

Generate forms automatically

Create forms automatically to include TotalAgility functionality without the need to design them. These forms contain the appropriate controls and actions to support your solution.

Forms available to generate include the following.

Create New Job form

Controls are added for all initialization parameters and the Create New Job event is configured.

Take Activity form

Type-specific controls are added for input and output parameters for the activity along with the Take activity, Complete and Cancel activity events.

Multiview form

A multiview form enables users to view different forms without navigating away from the primary form. A multiview form works like a container that shows other related forms within it. A user can switch between the pages of a multiview form using a navigation menu. Switching between pages preserves the state of the page. When a user navigates back to a page using the menu item, the page appears exactly as the user left it.

Multiview Activity form

A multiview activity form allows you to display a primary form and navigate to other forms while maintaining context. Use this form to build forms for multiple activities and to display those forms with additional content using a navigation menu.

Work Queue form

A custom work queue form with the display detail or work type specified.

Entity form

Type-specific controls are added for entity attributes with actions to enable the creation or modification of an entity instance.

Logon form

A custom logon form generated automatically without creating an external web page that you then redirect to your site. This form can use Windows Authentication, Federated Security or manual logon.

A logon form using Windows authentication or Federated Security uses the ID of the user who is logged on for authentication. A logon form that uses manual logon requires the user to enter a username and password (optional).

Folder form

A folder form is a customized view of a folder. Using a Folder form, you can generate Scan, Validation, Verification, and Document Review forms for a folder type. A folder type can have more than one form. However, a folder type can have only one of each form type.

Document form

A document form is a customized view of a document. Using a Document form, you can generate Scan, Validation, Verification and Document Review forms for a document type. A Document Type can have more than one form. However, a Document Type can have only one of each form type.

Scan Create New Job form

A Scan Create New Job form not only creates the job but also enable documents to be scanned and associated with the job.

Device Create New Job form

A Device create new job form provides all the capabilities of the scan create new job form only for use on a mobile device or MFP.

Generate MFP forms automatically

Automatically generated forms quickly deliver product screens. The following MFP forms can be accessed only from Lexmark MFP devices. Only Tablet version (default) of the forms can be created.

Work Queue form

A custom work queue form with the display detail or work type specified. This form displays only the MFP-friendly activities.

Scan Take Activity form

The Scan Take activity form allows to add type-specific controls for input and output parameters for the activity along with the Take activity, Complete and Cancel activity events. This form can only be generated for MFP-friendly Scan activities.

Scan Create New Job form

A Scan Create New Job form allows to scan documents and create jobs on MFP-friendly Scan activities.

Manually create forms

Create forms manually if you want full control over the layout and functionality to be included within it.

Creating a form manually gives you more flexibility over the resulting windows compared to those created automatically.

To save time and effort, plan your form design before creating the form. Before adding controls to a new and blank form, insert a table framework. In the framework, include rows and columns for organizing and arranging form content. Include controls, sections of a form, logos, and other types of graphics.

Desktop, tablet and phone forms

You can create a desktop, phone or tablet version of a form with the additional option of making the phone or tablet touch enabled so that the user experience can be customized to suit each device.

One of these form modes can be set as the primary form which results in displaying the form as the default form if there is no corresponding form for the device you are using.

Form controls

Users can enter information into a form by typing into text boxes, selecting items from a list, selecting check box options and performing other actions. The objects with which users interact are called "controls".

Some controls, such as buttons, allow you to execute an event that performs an action. For example, clicking a button at the bottom of a form can save the input information to a database.

In some controls (on all forms), the input element's name is not populated and using methods that rely on the underlying DOM may cause issues. In such cases, you must use Ext APIs, such as Ext.getCmp() to access the controls. For example:

```
var myCheckBox = Ext.getCmp('checkbox1'); "
```

TotalAgility form controls belong to the following categories:

- [Basic controls](#)
- [Advanced controls](#)

Each form control has the following features:

- **Basic properties**, such as name, width, margin, and state. Configure the basic properties in the **Properties** panel.

Note If a form variable has the same name as a form control, the control name takes precedence.

- **Extended properties**, such as security tokens, job case IDs, and refresh intervals. To configure extended properties, on the **Properties** bar, click **Settings** .

Basic controls

The following table lists the basic controls.

<ul style="list-style-type: none">• Column• Row• Cell• Label• Text Box• Button• Table• Drop-Down List• Check Box	<ul style="list-style-type: none">• Radio Button List• Calendar• Tabs• Hyperlink• Image• Horizontal Rule• List• Chart
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Column

Use columns to divide the form vertically into equal parts. For example, if you add one column, the form is divided into two equal parts; if you add two columns, the form is divided into three equal parts.

Row

Add rows to horizontally divide the form into panels.

Cell

Add cells to create sections in a form.

Label

Use a Label control to add descriptive text to a form.

Text Box

Use a Text Box control to create a text field where a user can enter information on the form. Also use a text box to display information, such as the result of a formula or the current date.

Button

Use Button controls to allow users to perform actions, such as submitting a form, querying a database or approving a loan.

Button controls have a predefined set of events that can be invoked when a user clicks a button.

Table

Use a Table control to organize and arrange information or data into rows and columns.

Drop-Down Lists

Use a drop-down list to ensure that the data entered is valid and to help the user complete a form with the responses that the designer intended.

A drop-down list contains a set of predefined (and usually common) options that can be static (hard-coded), retrieved from a table that is bound through a data connection to a table in a database, retrieved from a lookup or redirected from another form.

Check Box

Use check box control to select a particular option from a number of independent choices.

Radio Button List

Use a Radio Button List control to present multiple options that are mutually exclusive and from which the user must select only one. For example, in the Marital Status radio button list, if the Married radio button is selected, the Single, Divorced and Widowed radio buttons are cleared.

Calendar

Use a Calendar control to help users enter correct and valid dates.

Tab

Use a Tab control to group related information on a form. You can configure multiple tab controls on a form and have multiple tabs in each Tab control. Saving an individual tab control saves all tab details.

To manage the data displayed on a tab, use the OnTabLoad event for a tab in a Tab control. The OnTabLoad event ensures that the data displayed on the tab at runtime is the data entered in other controls for that tab. The event also optimizes the performance of form loading, because the events are only triggered when the user clicks the relevant tab.

Note The events are triggered only once when the user clicks a tab for the first time and not on subsequent clicks. However, events on the first tab of a Tab control are triggered when a form loads because the first tab is loaded and displayed along with the form.

Hyperlink

Use a Hyperlink control to provide a link to a URL on a form. For example, a form displaying information about a list of products can include hyperlinks to other web pages displaying more information about those products. Hyperlink controls can point to any web server on the intranet or Internet.

Image

Enhance the look and feel of your forms by adding icons and images to a form or to buttons on a form. See Adding a Button Control to a Form.

TotalAgility supports the following image types:

- BMP
- GIF
- ICO
- JPG
- PNG

Horizontal Rules

Use a Horizontal Rule control to enhance the look and feel of a form and denote a change of context. Using Horizontal rules, you can draw lines across the screen to separate sections of a page.

List

Use a List control to show a list of items with swipe options on a phone and tablet. You can add multiple List controls and display them side by side by adding them to multiple columns of a form. A List control is only available for a touch-enhanced Phone or Tablet form; it is not available for a desktop form.

Chart

Use a Chart control to add charts to a form, and create a visual representation of data returned from a query. The chart displays a count of items grouped by fields and a total count of items.

Advanced controls

The following table lists the advanced controls:

<ul style="list-style-type: none"> • Case Health • Embedded Page • Entity Instance • File Upload • Language Selector • Mobile Capture • Mobile Barcode Capture • Process Viewer • Work Queue • JobList • Checklist • Summary 	<ul style="list-style-type: none"> • Resource Tree • Web Capture • Document Viewer • Thumbnail Viewer • Document Set • Job Action Button • Activity Action Button • Create New Associated Job • Customer Communication • Workload • Mini Viewer • Custom Action Button • Toolbar
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Note A phone or tablet form with the Touch Enhanced property only supports the Embedded Page and File Upload controls.

Case Health control

The Case Health control displays the key details of a case and illustrates the overall case status and case progress. You can use a Case Health control to view the status of other processes. To do so, pass the jobID for a normal process or fragment into the case health control. When you set the Case/Job ID, at runtime the current state of the selected case or job appears as shown in the image below.

The screenshot displays a user interface for a case management system. At the top left, a yellow banner indicates '27 Seconds Remaining' with a timer icon. Below this is a 'Progress' section with a 30% progress indicator. To the right, there are two summary panels: 'PROPERTIES' and 'STATUS'. The 'PROPERTIES' panel lists details like Case Ref (TotalAgility Demo), Case Type (case1), Created On (Friday, December 15, 2017 8:26:28 PM), Case Owner (Kiran.Karka), and Created By (Kiran.Karka). The 'STATUS' panel shows Expected Finish (Friday, December 15, 2017 8:26:58), Open For (0d 0h 0m 3s), Time Spent (0d 0h 0m 0s), State (S1), and Status (Active). Below these panels, there are radio buttons for 'Assigned to Me' (selected) and 'All'. A 'Refresh' button is also present. The main area contains a table with the following data:

Activity Name	Process	Act...	Due Date	Assigned To	Activity SLA
Activity 1	case1	1	12/15/2017 8:26:29 PM	Everyone	●

At the bottom, there is a navigation bar with a page number '1' and navigation icons.

Embedded Page control

Using the Embedded Page control, you can embed an external web page (through a URL) or an existing form. At runtime, when the site is loaded, the embedded web page is automatically opened, enabling you to view multiple pages at the same time.

Entity Instance control

Use an entity instance control to create entity instances on a form without having to add individual controls for each attribute.

For example, define a Staff entity that holds information about each employee in your company. In a central Human Resources site, use the entity instance control to create a form that the Human Resource manager can use to enter new employee details.

File Upload control

Use the File Upload control to browse and upload single or multiple files to the document repository or a specified location in the TotalAgility server.

Note By default, the maximum file size that you can upload is 2GB. To change the maximum file size, edit the web.config file.

Language Selector control

Use the Language Selector control to control the language in which to display the form.

Note A form can have only one Language Selector control. If a form has multiple Language Selector controls, unexpected behavior occurs and the selected language is not set at runtime.

Mobile Capture control

Use a Mobile Capture Control to capture an image. Using this control, you can capture an image to:

- Add it to an existing document.
- Create a new document in a new folder.
- Create a new document in an existing folder or subfolder.

Mobile Bar Code Capture control

Use a Mobile Bar Code capture control to capture a bar code and make the value available for use within a job. You can only add one instance of the control to a form. When a bar code is detected in the camera viewfinder, the bar code value property of the control is populated and an event is raised. You can then use the value as needed, for example, to pass into a CompleteActivity call.

This control is only available for a phone or a tablet form, which is not touch enhanced. It only works when viewed on a phone device in conjunction with the Mobile SDK. You cannot use this control without the SDK. For example, when you view the form by browsing on standard browser, the controls do not work.

Note The event will only fire if a bar code is found.

Process Viewer control

The Process viewer (also called the "Job Viewer") control serves two purposes:

- Displays the runtime view of the progress of a job (a live instance of a process) highlighting the path taken and the status of the various nodes.
- Displays the design of a process version outside of the standard design environment.

Note If no version number is supplied, the latest version of the process appears.

Work Queue control

Use a Work Queue control to provide a user with a means of selecting and completing work. The control can be configured to either show a predefined query or enable the user to select and modify what query is used to populate the list.

JobList control

Use a JobList control to allow a user to view, search and perform operations on jobs in TotalAgility. Configure the control to show a predefined query or enable the user to select and modify the query used to populate the list.

You can use a JobList control within forms to display jobs with associated information. The properties and metadata to display are configurable as are the actions to perform. The JobList control has an exposed

RowSelected event, enabling the form designer to take additional job-related actions based on the selected jobs.

When one or more jobs are selected, the SelectedJob/SelectedJobs, and SelectedCase/SelectedCases properties are populated accordingly. To provide multi-select capabilities, ensure the Multi-Select property is set to Yes on the control.

In the following example, select the Loan Application case to display the corresponding Case Summary. You can also view Notifications and open links to other associated pages, such as Work Queue.

The screenshot shows the Kofax TotalAgility Workspace interface. At the top, there's a navigation bar with 'To do', 'Jobs', 'Work Allocation', 'resources', 'administration', and 'reporting & monitoring' menus. The main content area is divided into several sections:

- Cases:** A table with columns 'Priority', 'Process', 'Status', 'Due', and 'Action'. The first row, '1 Loan Application', is selected and circled in red.
- Case Summary - Loan Application:** A panel showing details for the selected case, including 'Status: Active', 'Open For: 3 days 5 hours', 'Time Spent: 2 days 1 hour', 'Linked Cases: 2', 'Milestones: 3', and 'Notes: 4'. This title is circled in red.
- Notifications:** A section with two red warning icons and text: 'Credit Card A Dispute Job suspended contact the Administrator' and 'Credit Card B Dispute Job suspended contact the Administrator'. This title is circled in red.
- Quick Links:** A section with four links: 'Work Queue', 'Reassign', 'Manual Work Allocation', and 'Contact Administrator'. This title is circled in red.

A user can perform tasks on a single job by selecting an action on the job row; or perform tasks on multiple jobs or cases at once by selecting an action in the table header.

The following table lists the tasks that can be performed on jobs or cases using a JobList control.

Action Name	Description	Single / Multiple Jobs or Cases
View Job	View the job properties for the selected job	Single job
Add Note	Add a note to a job	Single job
Activate	Activate jobs	Multiple jobs and cases
Suspend	Suspend jobs	Multiple jobs and cases
Terminate	Terminate jobs	Multiple jobs and cases
Recover	Recover jobs	Multiple jobs and cases
On-hold	Place the job on hold	Multiple jobs and cases

Action Name	Description	Single / Multiple Jobs or Cases
Change Owner	Change the owner of a job	Multiple jobs and cases
Change State	Change the state of a job	Single job
Re-evaluate Skin	Re-evaluate skins in jobs	Multiple jobs and cases
Re-evaluate Score	Re-evaluate scores in jobs	Multiple jobs and cases
Re-evaluate Preconditions	Re-evaluate preconditions in jobs	Multiple jobs and cases

Checklist control

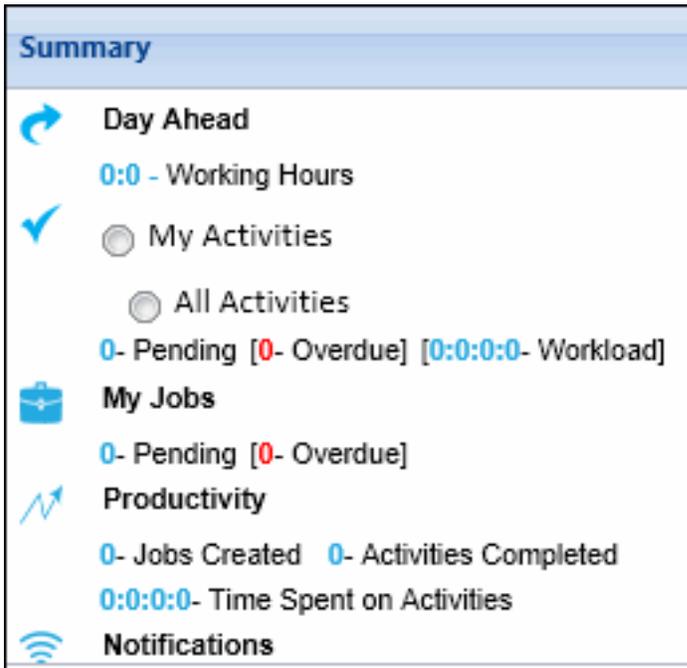
Use a Checklist control to display a list of items to guide inexperienced users through each step in a task. Use the control in conjunction with sampling and checking for quality purposes.

Summary control

The Summary control provides an overview of the day ahead for a resource.

Use this control to display the following details:

- A summary of planned hours: Working hours based on a calendar or work pattern, and any debits and credits for today.
- Activity status: All pending and overdue activities or the pending and overdue activities for yourself, and the workload.
- Jobs: All pending and overdue jobs for which you are the owner.
- Achievement so far: Number of jobs created and activities completed, and the time spent on activities.
- Notifications: Number of alerts and any unread resource notes.



Resource Tree control

Use the Resource Tree control to enable resource selection.

Web Capture control

Use a Web Capture control to:

- Create multi-page documents.
- Create a new document in a new folder.
- Create a new document in an existing folder or subfolder.
- Scan and view a document. Use the document ID to view the document.
- Specify the type of a newly created document or folder.
- Add new pages to an existing document.

Note The control lets you add new pages to an existing document but does not let you replace the document.

- View all the pages of a newly created or existing document.
- Delete pages that have been incorrectly scanned.
- Selectively hide specific buttons at design time and only display the selected ones at runtime.
- Undock the image or document viewer from the main form and display in a separate browser window so that it can be viewed on a second monitor.
- Permanently alter the image, so that you are able to remove sensitive information that should not reside in your database.

Note The Web Capture control does not support capture on a phone or tablet device.

Thumbnail Viewer control

Use the Thumbnail Viewer control to display the thumbnails for the documents that are loaded in the Web Capture control. When you navigate to a page in the Web Capture control, the corresponding page is highlighted in the thumbnail viewer and the control also displays the difference between a selected and currently viewed page.

Document Set control

Use the Document Set control to allow an administrator or customer to have appropriate views and perform operations on the document types and associated documents within the document set. The Document Set control displays the document set at runtime with details of the document types and the documents received.

Job Action control

A Job Action control provides a predefined set of actions that can be performed on a job or case.

The Job Action control is displayed as a button with an associated drop-down menu. Each menu item represents an action you can perform. The list of actions to display is configurable.

No events are available on this control. Therefore, you cannot directly associate it with actions.

Note A Job Action control only applies to desktop forms.

Activity Action control

The Activity Action control provides a predefined set of actions that can be performed on an activity.

The Activity Action control is displayed as a button with an associated drop-down menu. Each menu item represents an action you can perform.

Create New Associated Job control

Use Create New Associated Job control to provide a list of processes relevant to the current job (fragments and associated processes) that can be invoked to initiate an associated job.

Customer Communication control

Use the Customer Communication control to interactively generate documents in CCM through a TotalAgility form. In order to include any previously collected data, you should initialize the control with the data backbone variable from your process. For example, you can add a manual activity to a process with Data Backbone variable as the input or retrieve the backbone variable using the GetJobVariable API in a standard form.

A Customer Communication control has the following modes of operation:

- **Compose:** Create a document based on the selected template from a document pack, document template or a template from a letterbook (the end user selects the template at runtime).
- **Re-Run:** This mode displays the control in a rerun mode. You can modify the previous selections and the documents in the pack is updated on rerun.
- **Review:** Displays the control in read-only mode to allow reviewing generated documents.

Workload control

Use a Workload control to view the results of a system query. The query helps you to view the workload for automatic and manual tasks so that you can take actions to avoid delay in processing the tasks and improve performance.

When you view the Workload control at runtime, only system queries are displayed in the Queries panel. The list of queries is displayed based on the selected query.

Composite control

A composite control is automatically added to a capture form when it is generated. A capture form is generated based on one or more capture activities of the process map.

Combo Box control

Use Capture Combo Box to allow the user to select from a predefined set of alternatives. Using a Capture Combo Box ensures that the data entered is valid.

See [Properties of a Combo Box](#).

Mini Viewer control

Display a mini-viewer control for a capture control field on a Document form to quickly view a portion of the image related to the field. When you show a mini-viewer to the Document form, an additional control is added to the selected capture control field.

Note the following for the mini-viewer control:

- It is only available for a Document form.
- It is available for all capture controls except the capture Table control.

[Add a Mini Viewer Control to a form](#).

Custom Action Button control

Use the Custom Action Button control to create a button that provides a drop-down list of options or an image list of options. This button can be used on a form or within a table on a form. Each option can perform action configured against it. The Custom Action Button control is available for a desktop, phone and tablet (non touch).

Tip For touch, use the existing [Show Action Menu action](#).

See [General properties of a Custom Action Button control](#) and [Add an Action List to a table column](#).

Toolbar control

Use the Toolbar control to group buttons in one control. This control is available for the desktop, phone and tablet forms. You can define the buttons in a hierarchy, separators and spacers that appear on the toolbar. Each button can have both text and image, or only text, or only image.

See [Properties of a Toolbar button](#) and [Configure items for a Toolbar control](#).

Form initialization

An initialization variable is any process variable for which a value should be provided when the job is being created; the order of the initialization variables is configurable within the Designer.

Create New Job forms provide appropriate controls for the initialization variables and the corresponding Create New Job event.

When creating a job through a process map, variables can be consumed for the initialization variables.

Form events and actions

A form and each control on a form have a predefined list of events into which you can consume actions, allowing the designer to react to a user action.

For example, you can retrieve a list of states or counties based on the selected country, or save an order when the Submit button is clicked.

Add actions to a form or control

Actions describe different ways to initiate an event. For example, you can base a customer credit score check on two different actions:

- DB Query action that reads customer details from a database
- .NET Method action that calculates the appropriate score

You can configure multiple actions that execute upon an event firing on a form or form control, such as a form load, button click, or selection of a table row.

For example, in a Loan Application form, you can create DB Query, Web Service, and Redirect actions on the Credit Check button so that when the button is clicked, they are executed in sequence:

- Retrieve customer details (DB Query action)
- Get credit score for customer (Web Service action)
- Take the user to the next relevant form (Redirect action)

Note If an action fails, a message appears and no further actions are called. For example, if the Logon fails the user is not redirected to the Work Queue page.

The following table outlines the actions you can add to a form or form control in TotalAgility.

Action	Purpose
.NET Method	Call an API for performing actions, such as creating a new job.
Add Row	Add a row to a table.
Apply Form Variant	Apply the latest version of the form variant; the state and label text defined when creating the variant is reflected at runtime.
Apply Validation	Validate the available controls on the desktop, phone and tablet forms.
Begin Condition	Begin the conditional action.
Business Rule	Use a predefined business rule.
Alternative Extraction Search	When added to a document validation form, performs an alternative extraction search in a validation activity.
Calculation Rule	Calculate a field value.
Change Stack Order	Change the stack order value or remove or move an element towards the bottom of the stack.
Clear	Clear the specified form variables and fields.
Clear Selection	Clear the selections of a table or drop-down list.
Close	Close the currently opened form or pop-up window.
Composite	Include multiple actions for use on multiple controls.
Create Entity Instance	Create entity instances on a form at runtime.
DB Query	Access a database to view, insert, update, or delete records.
Delete Row	Delete a row from a table in a form.
Display Rule	Invoke a form's display rules and automatically change display states, based on what the user enters into the form.
Else Condition	Make form actions more flexible and easier to read. At runtime, all the actions within the Else condition are executed if the Begin condition is not met.
End Condition	End the conditional action.
File Upload	Upload a file on a form at runtime.
Find Entity	Search for entity instances within a form based on the specified search criteria.
Fuzzy Search	Find strings that closely (but not exactly) match a pattern in a "fuzzy" database, which is a single table or view exported from a relational database.
Get Entity Attributes	Retrieve the required entity instance attribute values to the controls on a form.
Hide Action Menu	Conceal a menu when a touch-enabled Phone or Tablet form is opened on a touch-enabled device.
JavaScript	Give access to the Document Object Model (DOM).
Kapow	Execute a Kapow Robot from within a form.
Print	Download and print the document on a MFP device.
Scan	Scan a document on a MFP device.
Scan Settings	View and modify the scan settings on MFP devices.

Action	Purpose
Redirect	Redirect to another form or a pop-up window.
Refresh Capture Form action	Refresh the capture forms (Scan, Verification, Validation and Document review) and capture take activity forms to prevent the job with invalid fields being completed.
Refresh Page Rendition	Refresh page renditions on a form and accordingly enables or disables rendition buttons at runtime.
Reset Form Variables	Reset the data of one or more form variables.
RESTful Service	Integrate the form with external applications.
Same Page	Retrieve the required data on the same page.
Set Device	Switch the form factor (Desktop, Phone or Tablet) between a desktop, phone or tablet form.
Set Entity Attributes	Update the required entity instance attribute values using the controls on a form.
Set Focus	Set the focus on a form control.
Set Language from Job	Set the form language to the language of the job when the page loads.
Show Message	Alert or prompt a user or request confirmation from a user.
Show Action Menu	Display an action menu from the list of multiple action menus for a touch-enabled Phone or Tablet form.
Show Navigation	Select the site navigation or consume a menu for a touch-enabled Phone or Tablet form.
Update Control	Apply the current values of properties to the control and cause the control to reload and refresh the results list.
Update Row	Update a row in a table.
Web Capture	Save the pages that are scanned or uploaded using a Web Capture control.
Web Service	Call a web service to perform a certain action.

Note The Scan action is available by default for the MFP Scan Create New Job and MFP Scan Take Activity forms.

Events and actions supported by form and basic controls

Form/ Form Controls	Event Supported	Actions Supported
Form	Loaded, BeforeRender, AfterRender	All
Column	None	None
Row	None	None
Cell	None	None
Label	None	None
Text Box	TextChanged	All
Button	Clicked	All
Table	RowSelected, RowDeleted, RowDeselected	All

Form/ Form Controls	Event Supported	Actions Supported
Drop-down List	SelectionChanged	All
Check Box	CheckChanged	All
Radio Button List	RadioButtonSelectionChanged	All
Calendar	DateChanged	All
Tabs	OnTabLoad	All
Hyperlink	None	None
Image	None	None
Horizontal Rule	None	None
Chart	None	Display Rule

Note When a form fails to load, an error lists the reason for failure, such as the name of the event that failed to trigger upon form load.

Events and actions supported by advanced controls

Form/ Form Controls	Events Supported	Actions Supported
Case Health	None	None
Embedded Page	None	None
Entity Instance	None	None
File Upload	UploadComplete	All
Language Selector	None	None
Process Viewer	None	None
Work Queue	None	None
JobList	RowSelected	All
Checklist	None	None
Summary	None	None
Resource Tree	OnChange	All
Web Capture	<ul style="list-style-type: none"> • OnDocumentSaveComplete • IngestionStarted • IngestionCompleted • ControlUndocked • ControlDocked 	All
Thumbnail Viewer	None	None
Document Set	DocumentSelected	All
Job Action Button	None	None
Activity Action Button	None	None

Form/ Form Controls	Events Supported	Actions Supported
Create New Associated Jobs	None	None
Customer Communication	OnCompleted	All

Note When a form fails to load, an error lists the reason for failure, such as the name of the event that failed to trigger upon form load.

Events and actions supported by the capture forms and composite controls

When you generate the capture forms (Document, Folder, Scan Create New Job, Scan - New Activity, Validation, Verification, Document Review, or Device Create New Job), a set of predefined events and actions is associated with the form by default. For example, a validation form has OnValidationFormLoaded event with takependingactivity and validationcontrolloadbatchaction actions. The validation control has the predefined events such as OnAddPage, OnDeletePages and OnMovePage. You can add other actions such as Redirect or .NET Method to a capture form or a composite control.

Events and actions supported by the tablet and phone forms

The following tables state the events and actions supported for basic and advanced controls on a tablet and phone forms.

Basic controls

Events and actions supported for basic controls on a tablet and phone forms.

Form/ Form Controls	Events Supported	Actions Supported
Phone Form and Tablet Form	Loaded BeforeRender AfterRender	All
TouchLabel	None	None
TouchTextBox	TextChanged TouchStart TouchMove TouchEnd	All
TouchButton	Tap TouchStart TouchMove TouchEnd	All
TouchTable	RowSelected TouchStart TouchMove TouchEnd	All

Form/ Form Controls	Events Supported	Actions Supported
TouchDrop-down List	SelectionChanged TouchStart TouchMove TouchEnd	All
TouchCheck Box	CheckChanged TouchStart TouchMove TouchEnd	All
TouchImage	None	None
TouchHyperlink	None	None
TouchTab	OnTabLoad TouchStart TouchMove TouchEnd	All
TouchHorizontal Rule	None	None
TouchCalendar	DateChanged TouchStart TouchMove TouchEnd	All
TouchRadio Button	RadioButtonSelectionChanged TouchStart TouchMove TouchEnd	All
TouchCells	None	None
TouchList	OnTouchListSelectRow OnTouchMenuButton1Click OnTouchMenuButton2Click OnTouchSwipeButton1Click OnTouchSwipeButton2Click ItemTouchStart ItemTouchMove ItemTouchEnd	All

Advanced controls

Events and actions supported for advanced controls on a tablet and phone forms.

Form/ Form Controls	Events Supported	Actions Supported
TouchEmbedded Page	TouchStart TouchMove TouchEnd	All

Form/ Form Controls	Events Supported	Actions Supported
TouchFileUpload	TouchStart TouchMove TouchEnd	All
TouchMobileCapture	OnImageCaptured OnImageProcessed OnImageUploaded TouchStart TouchMove TouchEnd	All
TouchMobileBarcodeCapture	OnBarcodeCaptured TouchStart TouchMove TouchEnd	All

Events and actions supported by a MFP form

The following tables state the events and actions supported for basic and advanced controls on MFP forms.

Basic controls

Events and actions supported for basic controls on an MFP form.

Form/ Form Controls	Events Supported	Actions Supported
MFP Form	OnFormLoaded StartButtonPressed PauseButtonPressed ClearButtonPressed TipsButtonPressed ScanComplete ScanFailed	All
TouchLabel	None	None
TouchTextBox	TextChanged TouchStart TouchMove TouchEnd	All
TouchButton	Tap TouchStart TouchMove TouchEnd	All

Form/ Form Controls	Events Supported	Actions Supported
TouchTable	RowSelected TouchStart TouchMove TouchEnd	All
TouchDrop-down List	SelectionChanged TouchStart TouchMove TouchEnd	All
TouchCheck Box	CheckChanged TouchStart TouchMove TouchEnd	All
TouchImage	None	None
TouchHyperlink	None	None
TouchTab	OnTabLoad TouchStart TouchMove TouchEnd	All
TouchHorizontal Rule	None	None
TouchCalendar	DateChanged TouchStart TouchMove TouchEnd	All
TouchRadio Button	RadioButtonSelectionChanged TouchStart TouchMove TouchEnd	All
TouchCells	None	None
TouchList	OnTouchListSelectRow OnTouchMenuButton1Click OnTouchMenuButton2Click OnTouchSwipeButton1Click OnTouchSwipeButton2Click TouchStart TouchMove TouchEnd	All

Advanced controls

Events and actions supported for advanced controls on an MFP form.

Form/ Form Controls	Events Supported	Actions Supported
TouchEmbedded Page	TouchStart TouchMove TouchEnd	All
TouchFileUpload	TouchStart TouchMove TouchEnd	All
TouchMobileCapture	OnImageCaptured OnImageProcessed OnImageUploaded TouchStart TouchMove TouchEnd	All
TouchMobileBarcodeCapture	OnBarcodeCaptured TouchStart TouchMove TouchEnd	All

Events and actions supported by the Capture Client controls

The capture controls used in the capture activities expose events that correspond to the toolbar buttons, context menus, and hotkeys. Example: The OnDeletePages event is fired to delete the selected pages. Most of the events are pre-populated with actions to perform the intended operation and are available in multiple capture controls. Access to these events is based on the assigned capture permissions. You can customize these events in the TotalAgility Form Designer.

The following table describes the events available for capture controls, when they are fired and the action they perform.

Event	Capture Control	Fired	Action
OnDeletePages	All controls except the Verification control.	On selecting one or more pages, and selecting the Delete Page action using the toolbar, page context menu or a hotkey.	Deletes the selected pages.
OnMovePage	All controls except the Verification control.	On moving one or more pages using a drag-and-drop operation or a hotkey.	Moves the selected pages.
OnRotatePage	All controls except the Verification control.	On selecting one or more pages and selecting a Rotate Page action using the toolbar, page context menu or a hotkey.	Rotates the selected pages.
OnChangeDocumentType	All controls except the Verification control.	On changing the document type for a document and pressing the ENTER key.	None
OnCreateDocument	All controls except the Verification control.	Never	None

Event	Capture Control	Fired	Action
OnSelectDocument	All	When the selected document changes.	None
OnSelectFolder	All	When the selected folder changes. (Example: When a folder is selected in the Navigator.)	None
OnDeleteDocument	All controls except the Verification control.	On selecting a single document, and selecting the Delete action using the toolbar, document context menu, or a hotkey.	Deletes the selected document.
OnDeleteDocuments	All controls except the Verification control.	On selecting multiple documents, and selecting the Delete action using the toolbar, document context menu, or a hotkey.	Deletes the selected documents.
OnRejectDocuments	All	On selecting multiple documents and selecting the Reject action using the toolbar, document context menu, or a hotkey.	Rejects the selected documents.
OnUnRejectDocuments	All	On selecting multiple documents, and selecting the Unreject action using the toolbar, document context menu, or a hotkey.	Un-rejects the selected documents.
OnMergeDocument	All controls except the Verification control.	On selecting a single document and selecting the Merge to Previous Document action using the document context menu, or a hotkey.	Merges the selected document to the previous documents.
OnMergeDocuments	All controls except the Verification control.	On selecting multiple documents and selecting the Merge selected documents action using the document context menu, or a hotkey.	Merges the selected documents.
OnSplitDocument	All controls except the Verification control.	On selecting a single page and selecting the Split Document action using the page context menu or a hotkey.	Splits the document at the selected page.
OnMoveDocument	All controls except the Verification control.	On selecting a single document and moving the document using the drag-and-drop operation or a hotkey.	Moves the selected document.
OnCreateFolder	All controls except the Verification control.	On selecting a folder and selecting the Create Folder action from the folder context menu, or a hotkey.	Creates a new child folder.

Event	Capture Control	Fired	Action
OnDeleteFolder	All controls except the Verification control.	On selecting a folder and selecting the Create Folder action from the folder context menu, or a hotkey.	Deletes the selected folder.
OnMergeFolder	All controls except the Verification control.	Never	Not supported.
OnSplitFolder	All controls except the Verification control.	Never	Not supported.
OnMoveFolder	All controls except the Verification control.	On selecting a folder and moving the folder using the drag-and-drop operation.	Moves the selected folder to a new location.
OnSaveFieldChanges	All controls except the Verification control.	On modifying the fields of a document or folder, and navigating to a different document or folder.	Saves if any fields are changed.
OnCaptureCancelActivity	All controls except the Verification control.	On selecting the Cancel activity action using the toolbar or a hotkey.	Saves any changes, and cancels the activity.
OnCaptureCompleteActivity	All controls except the Verification control.	On selecting the Complete activity action using the toolbar, or a hotkey.	Saves any changes and completes the activity.
OnCaptureOpenActivity	All controls except the Verification control.	Never	None
OnCaptureCompleteAndTakeNextActivity	All controls except the Verification control.	On selecting the Complete and Take Next activity action using the toolbar, or a hotkey.	Saves any changes, completes the activity and takes the next activity from the work queue.
OnCaptureSaveActivity	All controls except the Verification control.	Never	None
OnSwapFrontAndBackSides	All controls except the Verification control.	On selecting a duplex page and then selecting the Swap Front and Back Sides operation using the page context menu, or a hotkey.	Swaps the front and back sides of the selected duplex pages.
OnRejectPages	All	On selecting one or more pages and selecting the Reject action using the toolbar, the page context menu, or a hotkey.	Rejects the selected pages.
OnUnrejectPages	All	On selecting one or more pages and selecting the Unreject action using the toolbar, the page context menu, or a hotkey.	Un-rejects the selected pages.
OnCreateNewJob	Scan Control in a Scan Create New Job form.	On selecting the Create New Job action using the toolbar, or a hotkey.	Creates a new job.

Event	Capture Control	Fired	Action
OnConfirmDocumentType	Document Review Control	On selecting a document and selecting the Confirm Document Type action using the toolbar, or a hotkey.	Confirms the document type for the selected document.
OnOverrideDocument Problem	Document Review Control	On selecting a document and selecting the Override Problem action using the toolbar, or a hotkey.	Overrides the problem for the selected document and makes the document valid in document review.
OnRestoreDocument Problem	Document Review Control	On selecting a document and selecting the Restore Problem action using the toolbar, or a hotkey.	Restores the problem for the selected document.
OnOverrideFolder Problem	Document Review Control	On selecting a folder and selecting the Restore Problem action using the toolbar, or a hotkey.	Overrides the problem for the selected folder and makes the folder valid in Document Review.
OnRestoreFolder Problem	Document Review Control	On selecting a folder and selecting the Restore Problem action using the toolbar, or a hotkey.	Restores the folder problem.

Capture field events

Event	Fired	Action
Choice Field		
SelectionChanged	When you change a field and shift the focus from it.	None
OnFieldConfirmed	When you select a field and then select the Confirm Field action by pressing the ENTER key on keyboard.	Confirm the selected field.
FieldForcedValid	When you select a field and then select the Force Field Valid action by pressing the CTRL+ENTER key.	Force the selected field to be valid.
OnComboBoxDropDown	When you focus the Choice field and expand the choice list.	None
Text Field		
TextChanged	When you change a field and shift the focus from it.	None
OnFieldConfirmed	When you select a field and then select the Confirm Field action by pressing the ENTER key.	Confirm the selected field.
FieldForcedValid	When you select a field and then select the Force Field Valid action by pressing the CTRL+ENTER key.	Force the selected field to be valid.

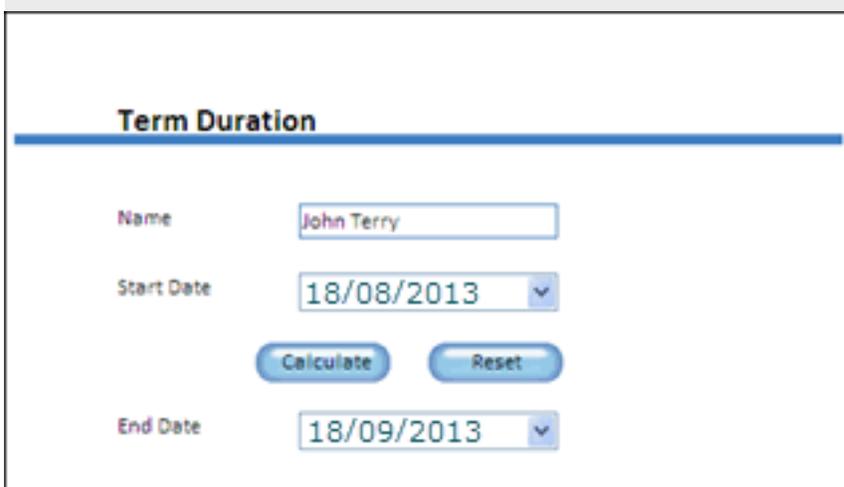
Event	Fired	Action
Boolean		
CheckChanged	When you change a field and shift the focus from it.	None
OnFieldConfirmed	When you select a field and select the Confirm Field action by pressing the ENTER key.	Confirm the selected field
FieldForcedValid	When you select a field and then select the Force Field Valid action using the toolbar or the CTRL+ENTER key.	Force the selected field to be valid.
Table		
OnTableCellConfirmed	When you select the table cell and select the Confirm Field action by pressing the ENTER key.	Confirm the selected table cell.
OnTableCellForcedValid	When you select a field and select the Force Field Valid action using the toolbar or the CTRL+ENTER key.	Force the selected table cell to be valid.
OnTableForcedValid	When you select a table and select the Force Field Valid action using the toolbar or the CTRL+ENTER key.	Force the selected table to be valid.
OnTableRowAdded	When you select the Add Row action from a table toolbar.	Add a new last row to the table.
OnTableRowInserted	When you select a Insert Row action from a table toolbar.	Insert a row in the table before the currently selected cell or row. If there is no selected cell or row, the new row is added to the end of the table.
OnTableRowDeleted	When you select a Table Row select the Delete Row action from a table toolbar.	Delete the selected table rows.
OnInterpolateTable	When you select a Table Row and select the interpolate table action from a table toolbar.	Perform interpolation using the selected row as the template for finding additional rows.
OnTableCellComboBoxDropDown	When you focus the Table cell in a choice column and then expand the choice list.	None
OnTablePopulatedRowInserted	When you add a row to a table in a form using the Add Row action.	Insert a row populated with data into the table.
OnTablePopulatedRowsInserted	When you add a row to a table in a form using the Add Row action.	Execute a .NET action to insert multiple rows into the table.
RowSelected	When you select a table row or any cell in that row.	None

Form variables

Form variables hold data at the form level for use wherever required within the form, such as within actions. This eliminates the need to create hidden fields on the form to hold data. Once created, use form variables in the same way that you use fields and global variables.

Example: Form variables

To calculate the end date of a term based on the start date and the term duration, create a form variable that holds the value of the duration (in this case, one month). Configure an event on the button to add the start date and the duration and display the result.



The screenshot shows a web form titled "Term Duration" with a blue header bar. Below the header, there are three input fields and two buttons. The "Name" field contains "John Terry". The "Start Date" field is a date picker showing "18/08/2013". The "End Date" field is a date picker showing "18/09/2013". Between the "Start Date" and "End Date" fields are two buttons: "Calculate" and "Reset".

Deploy forms

Once you finish designing your form, save or release it.

- Saving a form saves the changes to the form with a minor version.
- Releasing a form makes the form ready for production and viewable at runtime, updating it to a major version.

Once a form is released, use the following URL to access the form at runtime:

```
http://[servername]/TotalAgility/Forms/<formname>.form
```

If a site is used, use the following URL:

```
http://[servername]/TotalAgility/Forms/<sitename>/<formname>.form
```

Associate a form with an activity

A Form can be associated with an activity through the Associated File Path property on an activity. This is automatically populated when a Take Activity form is generated or can be populated manually.

When users take an activity, they are redirected to the form specified in the Associated File Path property. If the property is blank, the users are redirected to the generic Take Activity form.

Sites

Use a site to define a collection of settings, such as horizontal and vertical navigation, theme, header form and default form that determine the makeup of a solution.

The same form can be used in multiple sites, but the look and feel changes based on the theme, header and menus associated with the site.

Themes

A theme is a set of design elements and color schemes that define the visual layout of forms. Themes provide a consistent and professional look and feel to your forms.

Once a theme is associated with a site, it is automatically applied to all existing forms within the site, and to any new forms added to the site.

You can select a predefined style for your theme and the new look is applied easily to all forms using that theme.

You can also configure themes for form controls. Any settings for the controls at the form level override the site-level settings in the following order: control-specific styles, font/background overrides, and style sheet used in a theme.

Global variables

You can define frequently used variables as global variables for use across several forms. For example, if you need to frequently interact with the TotalAgility database, you can create a global variable with DSN=TotalAgility, as its value. The same variable can be used in different forms to interact with the TotalAgility database.

Whenever you change the value of the variable, the change is applied across all forms that use the variable. If you provide a value to a global variable, that value is used as the default value, which you can change at runtime.

You can include a global variable in the .resx file used for translation.

Note The .resx file format stores information as XML entries, which specify objects and strings inside XML tags.

TotalAgility provides the following default global variables:

- Case reference: Case reference
- Job identifier: Job ID
- Process identifier: Process ID
- Process version: Process version
- Resource ID of currently logged-on user
- Name of currently logged-on user
- Session ID of currently logged-on user

Images

TotalAgility forms can use images with relevant paths, images referenced through URLs and images in the Customer Asset store.

Images can be displayed in the image control, an image button, menu item or as part of a table column.

Security tokens

Site designers face the challenge of ensuring that information remains secure against threats from both inside and outside an organization. Security breaches can result in the loss of business opportunities, expensive lawsuits, and even bankruptcy. Therefore, it is imperative that you safeguard the integrity of your data against any violations.

Security tokens associated with security role and resources enable form designers to control the security of information by restricting access to relevant areas of an application and hide information that users are not authorized to see. For example, access to a section containing salary details could be restricted to the Finance team. This protects confidential information from unauthorized access.

Within the Workspace, administrators can create security roles and associate tokens and users with the security roles, thus delivering flexibility in how security is managed.

Navigation menus

Use navigation menus to define how users navigate a site, to go from one form to another. You can add multilevel navigation capabilities to your site. The navigation menu acts as a roadmap with clearly marked destinations and suggested routes that direct users from one form to another.

You can add customizable vertical and horizontal navigation bars to your site and allow or deny access to menu items.

Note A vertical navigation bar can only be positioned at the left side of forms.

When you change a navigation item, such as a top level menu option or menu title, the changes are automatically applied across all forms using the defined navigation layout.

You can specify whether to include horizontal and vertical navigation menus on individual forms, as some forms, such as logon forms and pop-up windows do not require them.

A menu item can redirect to a form in TotalAgility or to a URL. The target can be loaded in the same window, a new window or a popup.

Note The style for a menu depends on the menu style configured in theme.

Translations

TotalAgility adheres to the Internationalization (i18n) and Localization (l10n) standards, which define the parameters for adapting computer software to different languages and regions.

The Translations functionality available within TotalAgility enables you to create a full multi-lingual solution for the user. You can provide or import translations for multiple languages for artifacts within the solution.

Process details, such as activity names within a work queue are displayed extensively throughout solutions; therefore, process artifacts, such as activity name, SLA description, work types, page renditions and categories are also available for translation.

In TotalAgility, you can define the languages that your process supports for translating items so that you can serve target markets without language and regional restrictions. You can select from the list of languages supported by TotalAgility.

Note You can select up to 215 languages for translation.

You can also export and import languages. Use APIs in the Job Manager component to get or set the language of a particular job.

- Use UpdateJobLanguage to pass in the job identifier and language code to set the language for the job.
- Use GetJobLanguage to pass in the job identifier to return the language for the job.

Customer assets

You can upload "assets" such as images, style sheets, document templates, custom pages and .NET assemblies without having to keep files on the disk and access them using a public URL.

The assets are stored within TotalAgility and as such can be consumed during form and process design.

Chapter 5

Workspace

Kofax TotalAgility Workspace is a web application that allows users to interact with activity lists, cases and processes; manage work and resources; and administer other data elements.

You can customize or extend the TotalAgility Workspace according to your business requirements.

Create work

Create jobs, cases and fragments

Within the Workspace a generic form is available to allow creation of a job, case or fragment. This form also displays any initialization parameters defined on the selected process.

For a case or case fragment, the case reference must be supplied.

As an alternative, a form specific to the process can be created in the Forms Designer (using the Build forms feature). This allows you to provide a tailored user interface for creating jobs for a particular process.

Job or case properties

When a job has been created it is possible to see the properties of this job. The properties form displays all artifacts related to the job in question. This includes the general properties, milestones, states, variables, notes, events, roles, and documents.

Find jobs or cases

You can search for jobs based on criteria, such as Priority, Due Date and Creator using the Show Query option in Workspace.

Manage work

Work queues

You can view the list of tasks assigned to you and all tasks assigned to the group (team) to which you belong. This helps you focus on the tasks or projects that require your attention, especially if you work in multiple areas at one time.

Queries panel

See [Job and work queue queries](#).

Take and complete activities

Activities can be taken and completed by a resource to which the activity has been assigned directly to them or to a group that they are a member of. By taking an activity, the output parameter values can be updated and applied when the activity is completed. The workflow proceeds to the next activity in the process.

Delegate work

To handle sick time or vacations, use the Delegation feature to allocate new activities from one resource to another, for a specified time period.

Delegating an activity differs from reassigning an activity. When delegating, the activities appear on the work queue for both resources.

Reassign work

To change the assignment of an activity from one resource to another, you can reassign the activity. This results in the activity no longer appearing on the original resource's work queue.

Manual work allocation

You can manually allocate work in two ways:

- **Activity Centric:** Based on the importance of an activity, select the best resource to work on it.
- **Resource Centric:** Based on the importance of a resource and to optimize resource utilization, select the best activity to allocate to a resource.

Reset taken activities

This screen allows an administrator to reset activities taken by other resources to pending.

When an activity is taken by a resource but not completed, then the activity remains taken until one of the following actions occurs:

- The user cancels, saves or completes the activity.
- The activity is reset to pending.
- The user logs out of all active sessions.
- The user logs in (and there are no other active sessions).
- Session timeout occurs.

Modify live jobs and activities

In Workspace, you can view and change the properties of jobs that are Live, Suspended, or On Hold, which gives you the flexibility to respond to process changes as they happen.

You can also modify job activities that are in a pending state, members of floating roles assigned to a job, and the static resources, roles and groups assigned to each live activity in a job.

To modify jobs, you must have the correct access privileges.

Note You can only modify the activity members when workflow rules are not used for an activity at design time.

Place jobs on hold

Placing a job on hold delays processing for a specified period of time (up to 52 weeks). When a job is placed on hold, it means no activities are available on any work queues and no event processing is done for the specified hold time. When the hold time is completed, the job automatically moves to the active status and the activities become pending. Alternatively, you can Activate the job and therefore remove it from the hold status.

For example, you may want to place a job on hold if someone is off sick or on leave for a couple of weeks and you would rather place that job on hold than re-assign or delegate it.

Business calendar

The global business calendar enables you to set working or non-working days and working hours across all resources. Each resource can also have a personal calendar derived from the global calendar.

When the business calendar is turned on, these working or non-working days are taken into account when calculating due dates, SLAs and more within the system.

Manage your system

Logged on Users

You can view a list of users currently logged on to the TotalAgility Workspace and log off selected users.

Audit Log

Audit Logs are useful for tracking information pertaining to and resulting from the execution of a business process or system function. This information helps you pinpoint and analyze the cause of a change, who made the change, and when the change was made. You can view all audit logs or filter them by date range and audit log type.

Upgrade Jobs

You can upgrade live jobs that are not complete or terminated to the latest released version of the job process map. This feature lets an organization make changes to live jobs without terminating or restarting them. The changes go into effect immediately.

Upgrading a job adds new items, such as variables, floating roles, work type fields and milestones to the selected jobs. The upgrade does not overwrite or delete any existing job data.

Remove Finished Jobs

You can remove all finished jobs or those within the specified time range, allowing database space to be freed.

Performance Statistics

You can view performance statistics for a process and its activities over a specified time period or number of jobs. These statistics can be used to determine how cost- or time-effective a process or an activity is and if you need to make adjustments to improve it. As a result of this analysis, you can change some key operational items within the process and its activities.

View the following performance statistics for a process:

- A text description of the range, which is either a timeframe or number.
- A count of jobs that are being evaluated based on the selected range. For example, if you select last month as the date range, the statistics display the number of jobs covered during last month. However, if you select a number of jobs, for example, the last 1000, but only 50 jobs are available, the statistics display 50 as the jobs analyzed.
- The percentage and number of jobs completed within the specified duration.
- The percentage and number of jobs completed within budget.
- The average duration of jobs.
- The average cost of jobs.

Note The monitor service must be running to correctly record and display cost overruns when you view process performance.

Chapter 6

Resources in TotalAgility

A resource is a person or a group of people who work in an organization. In TotalAgility, you can create resources (individual workers) and resource groups, and add external resources to your system. You can have subgroups within groups. When a task is assigned to a group, any resource from that group or group subgroups can perform the task. For example, a financial company has three worker groups: Financial Analysts, Business Analysts, and Cost Analysts. Each group has expert resources. If you add the Business Analysts group and Cost Analysts group to the Financial Analysts group, any task assigned to the Financial Analysts group is available to members of the Business Analysts group and Cost Analysts group.

You must define resources, which are integral to setting up and creating business processes, before creating process maps.

Worker resource

A worker resource in TotalAgility is a person who is responsible for creating or completing work or performing administrative or supervisory tasks. Each worker must have a unique identity that allows authentication within the system.

Group resources

A group is a collection of one or more workers. A group can contain other groups. A worker can belong to many groups.

When an activity is assigned to a group, it can be taken by any resource in that group or subgroups within that group.

TotalAgility provides the following default groups:

- **Administrators:** The members of this group have full control to the system.
- **Designers:** The members of this group have access to TotalAgility Designer and Transformation Designer.
- **Device Users:** The members of this group have access to MFP devices.
- **Everyone:** A special group within TotalAgility. All worker resources created in TotalAgility through resource configuration are automatically added to this group.
- **Insight Admin:** The members of this group can perform administrative tasks on Insight from TotalAgility.
- **Insight Users:** The members of this group can use Insight from TotalAgility.

- **Process Intelligence**

Note The installation user is automatically added to Administrator, Designers, Device Users and Everyone groups.

External resources

In some instances, you may add an external resource who joins the organization for a limited period to complete specialized activities. For example, you need an external solicitor on a temporary basis to verify the receipt of documentation.

External resources have limited access: they can only view their work queue, and take and complete the relevant activities listed on their work queue.

External resources can be assigned work directly or by means of role membership. They do not belong to the Everyone group.

Email address

You can assign an email address to each resource. A system setting is available to force uniqueness of email addresses.

Password

You can assign a password to a worker or external resource. The password is stored as an encrypted value.

Personas

Use personas to divide your target audience into individual groups of people. Each persona is distinct, based on individual interests and needs.

When you associate a resource with a persona, the resource is directed to a target landing page that offers content specific to that persona.

Resource extensions

You can extend information held in TotalAgility for all workers or groups by defining metadata at the system level. When you configure a worker or group, you can manage the values for that supplementary information, such as, resource address, date of birth, job title etc.

Working group

A resource can belong to many groups, but you can assign a working group to a resource to keep the focus on all activities related to that group.

Supervisors

A resource with managerial rights can become the supervisor for other resources, or a group of resources.

You can create a hierarchy of supervisors by assigning a managerial level 1 through 10, with 1 being the highest.

Security levels

Use security levels to control which resources can work on which activities. Security levels range from 1 to 10, with 1 being the highest level of security. The default security level of a resource is 10.

You can assign a security level to an activity, and only resources with a security level equal to or greater than that level can perform the activity.

Skill levels

Use skill levels to assign work to resources where the work must be performed by someone with a specific skill level. Skill levels range from 1 to 10, with 1 being the highest skill level. The default skill level of a resource is 10.

You can assign a skill level to an activity, and only resources with a skill level equal to or greater than that level can perform the activity.

Variable and fixed costs

A fixed cost is a one-off cost regardless of the time spent, whereas a variable cost has a rate per time period calculated based on the time spent. For example, a service engineer has a call-out charge of \$50 (a fixed cost) and charges an additional \$10 per hour (variable cost). Three hours work would cost \$80.

Variable and fixed costs can be accumulated and recorded based on the time spent working by that resource.

Variable costs can use days, hours, minutes and/or seconds as the unit of measure.

Active period

An active period is the duration for which a resource is active. You can assign start or end dates to each worker or external resource in TotalAgility, which grant access to the system without having to remove the resource.

An active user is one with no start date or a start date equal to or less than current date; also, an active user has no end date or an end date greater than current date. Inactive users cannot logon to TotalAgility.

Defining the active period is particularly useful for external users, as they may only be active for the duration of a case or for short periods of time. The active period also indicates when a worker started and or left the company.

Working category

A resource has access to many categories. Setting the working category allows the user to focus on all activities related to that category. The working category appears when a resource performs an action, such as opening a map or creating a job on a process in the TotalAgility Workspace or Designer.

Active Directory Synchronization

See [System processes](#).

Chapter 7

System data

You can create System data, such as lookups, entities, work types, folders, queries and server variables.

Lookups

A lookup is a list of static data items defined at the server level that can be used across all forms or processes. Use lookups to display content in different languages and reuse a lookup within entities across processes or forms.

By default, the system creates a lookup in the language of your system. You can create or translate a lookup in a different language.

Note The language selected for a lookup at design time must also be available at the site level; otherwise, the lookup will not display at runtime.

See [Manage Translations](#).

Entities

Entities let you group data for a business object in one container with a unique identifier. For example, an employee entity can have a unique Employee ID to store name, address, telephone numbers, salary, account number and other such employee information.

You can store the information related to an entity as attributes. Entity attributes are fields that define entity properties. An entity must have a minimum of one key attribute. For example, an Employee entity can have Employee ID, Name, Address, Phone number and Date of Birth as attributes where the employee ID is the unique identifier field, and name and date of birth are other key fields.

When you configure external calls with actions such as DB Query, mapping the attributes to relevant fields helps you to trigger the relevant action in the external database for an entity instance action.

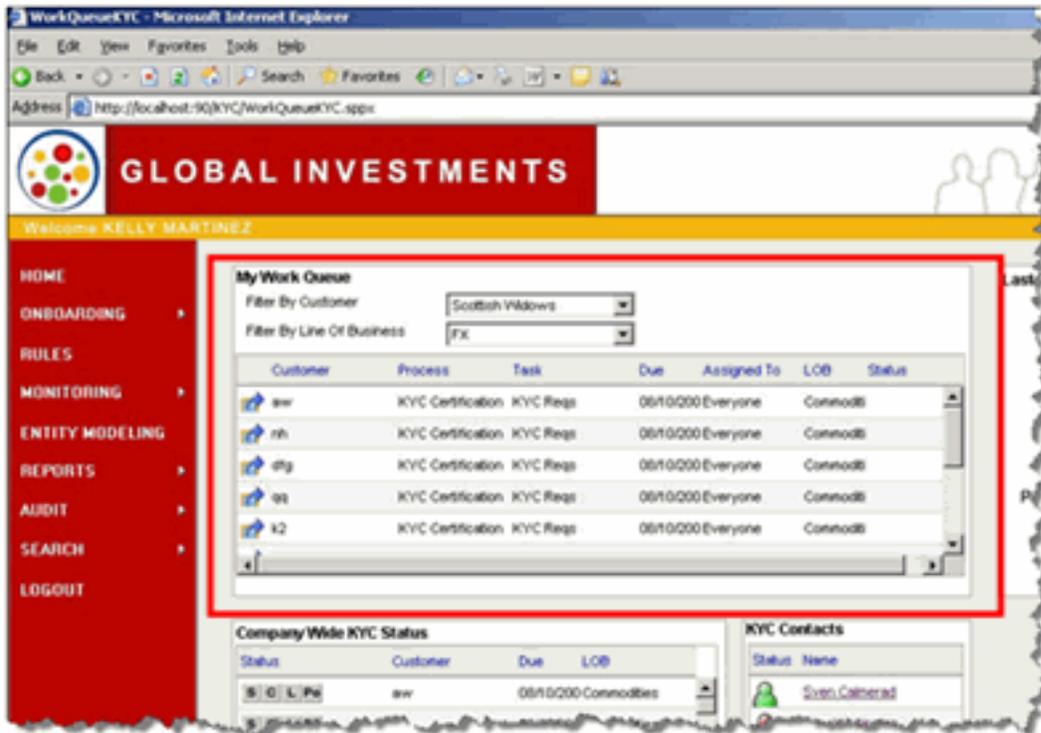
Use an entity as you would a template or blueprint for various types of objects used in a business process. You can use entities as input to processes, and store entities as output from processes. You can also use entities in a form.

When you import or export a process or a form, the entities used are also imported or exported.

Work types

Work types help in controlling the appearance and behavior of fields on a work queue form.

The following image displays the work queue of a user, where the tasks can be taken and completed.



By default, process maps use a standard work type, which appears on a work queue window and consists of standard fields for a job or task. Available fields include the following:

- **Take Activity Button**
- **Name**
- **Description**
- **Due Date**
- **Priority**
- **Job ID**
- **Version**
- **Process**
- **Resource**
- **Job SLA Status**
- **Job State**
- **Activity SLA Status**

You can create work types under any category for which you have Full Control or Read/Write access. You can create a copy of a work type, associate the work type with a process map, and view all the process maps associated with a work type.

Work types are synchronized to the process maps with which they are associated. When you modify a work type, the changes apply to all maps that use it.

You can customize a work queue by creating work types with custom fields. Customizing a work type reduces overall development time, because the programmer can render the work type on a web page or form.

Each custom work type can contain up to 30 additional fields (variable names), which can display variable values obtained from within TotalAgility or from an external system, such as SUPPLIER_NAME, DOC_ID, DOCUMENT_NAME and INVOICE_NO.

Note At runtime, only 100 characters are stored as the value of the field.

The GetWorkQueue2 API returns the custom fields in the work type, and lets you sort, prioritize, and filter work queue tasks.

Queries

The Job and Work Queue queries help you search for required jobs and activities.

The System queries help you to view the workload for automatic and manual tasks so that you can take actions to avoid delay in processing the tasks and improve performance. You can also view the completed work performed in the system to help you analyze and identify the areas of concern.

Manage the display of the columns in the Results table at runtime by selecting columns and sorting them in the order of appearance. You can also share queries with specific users or groups. You can define a custom sort order using the columns available in Work Queue, JobList and System queries and specify the direction for each field as ascending or descending.

When you view the query in a JobList, Work Queue or Workload control, the total number of items matching the query are displayed. The count of items are displayed in brackets beside the title above the table.

- The count is the total number of items regardless of the retrieval limit specified in the query.
- The count is the distinct number of activities in the system. For example, if an activity is assigned to a group you are a member of, and directly to you, the activity is shown twice in your work queue but it is still only one distinct activity.

Folders

Classify and process documents by defining a folder type. For example, Human Resources can create a Human Resources folder in which to create different folder types for Recruitment, Skill Set, Salary Revision, and so on.

A default folder type is available within TotalAgility. All custom folder types automatically inherit fields from the default folder type.

Extraction groups

An extraction group includes one or more document types. Use document types to classify and process documents.

A default document type is available within the extraction group. All document types are created within the default document type.

You can associate an image with a document type. This helps in selecting the image to be used while performing overlay.

When you export or import a process, the image associated with the document type is also exported or imported.

You can create a parent document type and add one or more field groups to it. You can also add document types and field groups within a document type.

A document type inherits all the field groups from the parent document type.

Server variables

Server variables are global; they can be used by any business process or case fragment. Server variables can only have one value at any given time.

After you change the value of a server variable, the processes use the value as it is; at the time of use there is no change to the process.

For example, if the location of company templates is kept in a server variable and the location changes, you can change the variable value and the change would be reflected across all processes that use the variable. If the location is defined at the process map level, as a process variable, the location would need to be changed on all processes individually.

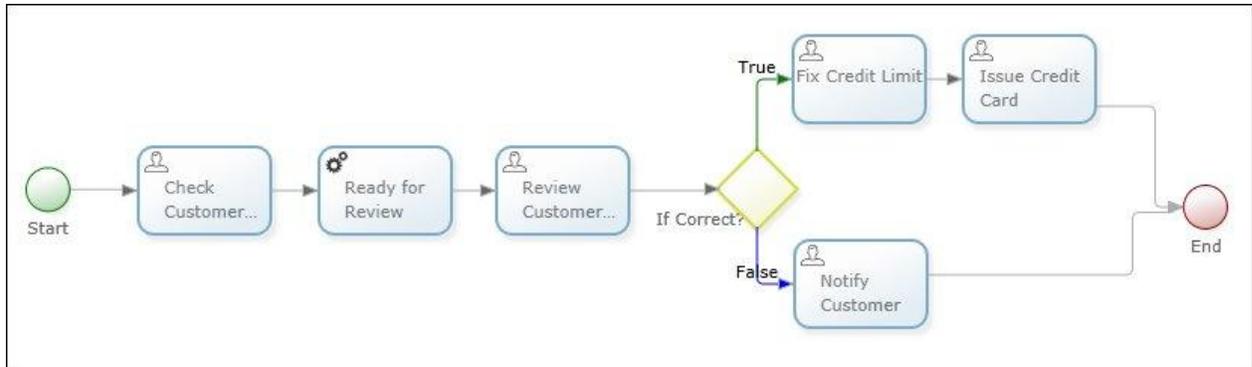
Checklists

Checklists can guide inexperienced users through each step in a process. Use the output from checklists to display the stage of the job.

For example, a customer applies for a credit card online, and provides a name, address, employer name, and yearly income. The bank verifies the details and determines the credit limit. The bank can use a verification checklist to track the process:

- In the Check Customer Details activity, the checklist is an output variable and the Bank Clerk checks the details and completes the checklist. TotalAgility sets the state of the job as ready for review and the job passes to the Review Customer Details activity.

- In the Review Customer Details activity, the Bank Manager reviews the details. For this activity, the checklist is set as input and output variable. At this stage, the checklist appears in two columns; the first column completed by the Bank Clerk is read-only. The second column is editable and is completed by the Bank Manager.
- After the Bank Manager completes the checklist, if the details are approved, the job passes to the Fix Credit Limit activity. If the details are not correct, the job passes to the Notify Customer activity.
- Finally, in the Issue Credit Card activity, the bank issues the credit card.



Creating a checklist involves:

1. Creating checklist items
2. Creating checklist templates that can group one or more checklist items

Note You can configure a checklist at the server level as part of an activity within a process.

Use the ReadyForReview node to enable a checklist for review.

A checklist has three states that determine whether the checklist is editable, and whether the checklist includes a second column of data:

- **Read Only:** The checklist is only set as an input to an activity.
- **Read / Write:** The editable checklist is an output of an activity.
- **Review:** A Ready For Review node marked the checklist for review. The first column in the checklist is read-only. The second column is editable.

At runtime, you can enter comments against any of the responses defined for the checklist, and can select one response to apply against all questions at once.

Before you progress an activity, you can query a checklist to determine if all items are complete.

Field formatters

Use Field formatters to force the contents of extracted fields into a predefined format for consistency. For example, an amount may contain decimals and commas, for example, 1,500.00. Use the Amount formatter to reformat amounts to numeric values (1500).

You can associate a formatter with document or folder type fields, including table columns.

You can apply either single field formatter (Date, Percentage, Amount or Business Rule) or multiple field formatter (Business Rule) to a field.

TotalAgility supports the following formatter types:

- Amount: Configures settings related to monetary amounts and currency.
- Date: Configures date formats.
- Percentage: Configures percentage formats.
- Business Rule: Performs special formatting based on a business rule. A business rule can also be used to do dependent formatting whereby the format of a field depends on the value of another field.

TotalAgility provides two default formatters:

- DefaultDateFormatter: Contains basic date formatting, such as the date order and date output format.
- DefaultAmountFormatter: Contains the default currency and typical decimal symbol formatting.

Classification groups

A classification group is a group of extraction groups. You can define a classification group and classify documents accordingly.

You can include a single extraction group in many classification groups.

This section describes:

- [Add a classification group](#)
- [Assign maintenance access](#)

Document templates

Use this option to upload document templates to TotalAgility. You can consume a document template in a Document Creation activity in a process.

Currency codes

Currency codes are used to format text boxes within forms. You can associate a currency code with a text box to mask the symbol and format in which the data is entered at runtime. This ensures the mask for data entry corresponds to the browser locale. For example, the format to enter Euros in Germany is different from entering the value when in Ireland.

The following currency codes are available out of the box:

- Euro €
- Pound Sterling £
- Dollar \$

Document variants

You may have one generic document type, such as Invoice, however some of the fields may not apply to all types of invoices. For example, Company A does not include a discount field in their invoice whereas Company B always includes the discount with a specific value.

You can create variants against a document type and specify the fields to ignore. Thus, you can have one generic document and present it differently depending on the variant in use.

When this document type is used within a scan, validation, verification or a document review form, the fields configured to be ignored do not display and are considered valid for the lifetime of this document.

To support multi-stage validation, you can create an activity variant for a document variant to show and hide fields. This enables multiple resources to validate a document in stages with the visible fields considered valid for the activity but possibly invalid for the document.

The Document Variant option is only available when you generate a Scan Create New Job or Scan - Take Activity form. Variants are not available on the file upload or any other capture controls, documents captured this way can be updated to apply a variant using the SDK.

When you apply a validation rule, all hidden fields are considered valid, and if you configure multi-field validation rule and some of the required fields are hidden, the multi-field rule is not executed.

When you take an activity or create a new job using Scan, the variant is applied to the document at the point of creation, the variant version will be set to the latest active version. If the variant does not exist at that point, the document will be stamped with the variant but the version will be set to 0, the only way to update this and apply the variant is to re-classify the document.

You can copy a variant within a document type or from a parent document type to a child without the need to recreate the entire variant manually to make small adjustments.

Field validators

Define the field validators globally and reuse them on specific fields so that you do not have to define the validators multiple times. You can use the global field validators at the field level of document types and folder types.

Chapter 8

System options

You can define the system settings to configure exceptions, thread pools, license servers and resource extensions; add categories; schedule jobs; define access permissions; manage Scan/VRS, Separation and PDF Generation profiles; and search for locked business processes and forms.

Settings

The system settings belong to the following categories:

- [General](#)
- [Forms](#)
- [Work process](#)
- [Thread pools](#)
- [Exceptions](#)
- [Scripting](#)
- [Resource extensions](#)
- [Email](#)
- [License Servers](#)
- [License statistics](#)
- [Retention policy](#)
- [Account settings](#)
- [Node colors](#)

General

Session ID

Displays the default session ID and allows to generate a new session ID. See [Change the system session ID](#).

Limited User Session ID

Displays the default limited session ID and allows to generate a new limited session ID.

Security Key

Displays the default key that protects sensitive data between client and server so that variable values stored on the client machine are encrypted when viewed.

PI Job Category

Displays the category in the Job table of the PI database:

- **Process:** The category to which the process belongs.
- **Job Owner:** The category to which the job owner belongs.

Allow Multiple Logon

Allows multiple logons using the same session. For example, you can logon to both TotalAgility and TotalAgility Workspace, or use multiple browser Windows in the same session to logon to TotalAgility Workspace.

Password Format

A format that all passwords must adhere to. The password format can be a regular expression or an inline value.

Password Hashing Algorithm

Used to verify the integrity of passwords. It includes two settings:

- SHA-1: cryptographic hash algorithm (default setting for upgrades).
- Scrypt: password-based key derivation function (default setting for clean installation).

If you change the password hashing algorithm, all existing user passwords become invalid on saving the changes. Therefore, you must specify the default password, and also specify if the password must be updated for all users or only for the current user.

- **Default Password:** Specify the default password. Once you save the settings, passwords for resources get updated to the default password.
- **Update Password:** Specify if the password must be updated for all users or only for the current user:
 - **All Users:** Updates all the users with the new password. The users can logon once with that password, but are forced to change their password on next successful logon.
 - **Current Users Only:** Updates only your own (current user) password. If you select to update password for the current user only, ensure that existing users passwords are changed manually, otherwise they cannot log on with their old passwords.

Allow Duplicate Email Addresses

Allows sending the same email to multiple resources with the same email address.

Note

- On saving the settings, you must restart the IIS and Core Worker service.
- When you upgrade from any other supported versions prior to 7.2.0, the Allow Duplicate Email Addresses option is set to Yes by default.
- The email address of the external resource must be unique regardless of the system settings. If the Allow Duplicate Email Addresses option is set to No, and you create or edit (worker, group, external resource) or import a resource which does not have a unique email ID, a message is displayed.
- If there are multiple resources with the same email address, and you use LogonWithEmailAddress API using an email address that is a duplicate, the API fails as you could log on the wrong resource.
- If there are multiple worker/external resources with the same email address, and you use other APIs to get resource details using email address as the identifier, the APIs fail.

Allow Multilingual Processes

Allows opening the form in the correct locale when the browser is set to a different language.

Disable Logon without Password

A message appears when an unauthorized user invokes any of the Logon SDK methods to acquire the session ID. This setting is not available for Azure and on-premise multi-tenancy environments.

User Sessions

- **Session Timeout:** The timeframe in hours and minutes after which the system automatically invalidates a user session. The session timeout occurs when this period exceeds the user's last active date.
- **Batch Session Timeout:** The timeframe in hours and minutes after which the batch times out. This interval is specifically used when performing capture-related work, such as, scanning and creating jobs, performing a Scan or Validation activity and others.

A "batch" is a temporary storage for all the documents/folder data changes you made when working in the capture form. If this times out, you will lose all your changes and may have to start from scratch. You will have to launch the Scan Create New Job form again or take the Scan activity or Validation activity again.

The batch can timeout independently from the session timeout. It basically indicates how long the user has to complete the capture activity. If the batch times out when performing an activity, you can still cancel the taken activity and take it again from the work queue.

- **Timeout Warning Period:** The period of time before which a warning is displayed to inform that the user session is going to time out. (Default: 5 minutes)
- **Session Timeout Form:** A TotalAgility form that informs you that the user session has timed out and provides a link for you to log in again.

Database

- **Write to Audit Log:** Maintains an audit log in the database.
- **Archive Finished Jobs:** When a job completes (either through natural completion or through termination) it can be archived, automatically or manually, with job details from the live tables to the finished tables to improve performance.(Default: Automatic)
 - **Automatic:** A periodic system task archives the job details from the live to finished tables.
 - **Manual:** Archives the finished jobs when you click the "Move Finished Jobs" link, otherwise the jobs remain in the live jobs table.

Available Space Notification Limit

Sets a threshold value, the amount of available free space for the database. Also allows a corresponding business process to create once the amount of available free space in the database is less than or equal to the specified limit. For example, if your database is 150 GB and the available space notification limit is set to 20 GB, the process could send an email to the concerned person when the database is ≥ 130 GB. (Default: 10 GB, Maximum: 50GB)

Document Storage Notification Limit

Sets a threshold value for the document storage and a corresponding business process to create once the amount of available free space in Azure storage is less than or equal to the specified limit. (Default: 10 GB, Maximum: 2TB)

Note The Available Space Notification Limit and Document Storage Notification Limit settings only apply to TotalAgility in an Azure environment.

Reporting

- **Run Daily From and Run Daily To:** The time to run daily report so that the Reporting Server handles the system task (extract/transform/load) for tenant every ten minutes and transforms data from staging to warehouse.

For on-premise multi-tenancy and Azure environments, the system tasks are created per tenant basis with ten minutes interval between the tasks for one tenant. Each task is handled separately and appropriate pair of staging/warehouse databases are processed with one pair per one system task.

- **Data Retention Time:** The number of days after which all the data associated with the field is deleted. (Default: Five days)
- **Document Retention Time:** The number of days after which all the data associated with the document is deleted. (Default: 3650 days (Ten years))

Transformation Server

Reject Document On Exceptions: Allows you to set whether the system should reject the document or page on exceptions. If set to No (default), the system suspends the activity on exception.

Core Worker

Auto Activity Reset Limit: Allows you to define the maximum number of attempts to reset an automatic activity. (Default: Five)

Capture Data Clean-up Task Execution

Capture Data Operation Time Limit: Allows you to set the operation time limit for deleting the child capture data. (Default: 00 Hrs: 00 Mins)

Note Too large intervals between clean-up runs can lead to excessive database growth which causes increased task execution time and high load on the server. Too often clean-up task executions can lead to not optimal resources usage. Configure the operation time limit based on the data growth rate so that it can maintain a balance between manageable data growth and the server load.

Forms

Base Image URL

Location other than the default location from where the system picks up the images.

Image Refresh Duration

An interval to refresh a downloaded image from the database. (Default: 120 minutes)

Note Images and custom pages are stored as assets within TotalAgility and can be used in forms. When you load a form that uses a custom image or page for the first time, the item is downloaded from the database. On subsequent visits, when a form is requested that uses an image or page from the database, the forms server checks if the image or page has already been downloaded and verifies if the last modified date is greater than the current datetime plus the duration. If yes, the latest image or page is downloaded from the database refreshing the image.

Any updated image or page is then shown on a form until the duration has passed.

Custom Page Refresh Duration

An interval to refresh a downloaded page from the database. (Default: 120 minutes)

Use Form Cache, Use Document Form Cache and Use Folder Form Cache

By default, the cache settings are on and the forms are cached on the client side browser for faster loading performance. Only the most frequently accessed forms are stored in each cache. When the form is reloaded, it is retrieved from the cache and the content is refreshed.

Note On upgrading TotalAgility, the form caching retains the original setting configured in the previous version. However, we recommend that you enable caching of forms if the same forms are going to be used repeatedly. This improves performance.

The cache size determines the maximum number of each form type to be cached on the client side browser. As the cache size increase, more memory is used on the client machine. When the number of forms exceeds the maximum number, the least requested form is removed from the cache to add the latest.

Note

- Use Form Cache: Only applies to Desktop forms.
- Use Document Form Cache and Use Folder Cache:
 - Improves performance when navigating to a document or folder with a type that has already been visited during the session.
 - Improves performance when changing a document or folder type to one that has already been visited during the session.

Preserve OCR Data on Rotate

Enables rotating a page without losing OCR data and field data associated with the page.

Width Mode

Set the width mode for a form as **Percentage** (default) or **Fixed**. When you create a new form or form template, or automatically generate a form, the width mode of the form defaults to this system setting.

The custom forms in TotalAgility Workspace are also displayed in percentage or fixed width mode according to this setting. If you change this setting from fixed to percentage or vice-versa, you must delete the deployed forms and restart the IIS to reflect the changes in the Workspace custom forms.

Note After you upgrade TotalAgility, the default width mode of the form is set to "Fixed".

Take Activity Form

Contains the following options.

Allow Save

Displays the Save button at runtime when you take the activity. You can use the Save button to save the activity changes to your work queue at runtime.

Allow Complete and Next

Displays the Complete and Next button at runtime when you take the activity. You can use this button to complete the current activity and take the next activity from your work queue.

Note The Allow Save and Allow Complete and Next options are only available for the generic take activity forms that are system generated.

End of Activity Behavior when Valid

Sets a global default end of activity behavior for all users without requiring each user to manually set the defaults. You can set these options each for **Document Review**, **Validation** and **Verification** activities.

Show Activity Settings

Show or hide the Activity Settings dialog box button on the form.

End of Activity

Contains the following three options.

- **Keep the activity open (requires the activity to be completed).**
- **Prompt me before automatically completing the activity.**
- **Automatically complete the activity without prompting me.**

Scan Forms - File Upload

Disables the file upload settings in the TotalAgility Designer to avoid the need to manually modify the Web configuration file (Web.config).

Maximum Binary Chunk Size

Determines the maximum size when a single page of an image or imported file is sent to the server from the scan form.

If the page is smaller than the chunk size, the complete page is sent; otherwise, the page is split into chunks. (Default: 10240 Kilobytes)

Maximum Number of Upload Requests

Sets the number of concurrent upload requests.

The chunked image upload is slower than whole image upload with the same number of concurrent upload requests. Increasing the number of upload requests increases performance. (Default: 2, Minimum: 1 and Maximum: 2147483647)

Note You can configure the Maximum Binary Chunk Size and Maximum Number of Upload Requests settings on a per tenant basis.

Set Kofax VRS Elite Profile from Scan/VRS Profile Name

By default, sets the VRS Elite profile based on the assigned TotalAgility Scan/VRS Profile in the Scan Client, so that you need not rely on scan operators to select the correct VRS Elite Profile. This setting only applies to Scan Create New Job and Scan activity forms and does not apply to Web Capture forms.

Note

- When you create a TotalAgility Scan/VRS profile with some name on the server and create Kofax VRS Elite profile with the same name on client machine, and configure the Scan Client to work with created Scan/VRS profile, specific VRS Elite scanner profile loads automatically. That is, when the operator begins using the Scan Client scan with VRS Elite scan source and selects the Scan/VRS profile with matching name, Kofax VRS Elite will use corresponding VRS Elite profile during scan. The connection between the profiles are only names. The settings from the Kofax Scan/VRS profile are not applied to VRS Elite profiles.
- When you upgrade from previous versions of TotalAgility 7.4.0.1, this setting is No by default.
- If corresponding VRS Profile does not exist or there is an error selecting this profile, the Scan Client ignores this and continues scanning without setting VRS Elite profile.
If VRS Elite profile was already selected, this profile remains selected even if you select another Scan/VRS profile which does not have a corresponding VRS Elite profile.

Work process

Automatic Assignment

Automatically assigns resources using the allocation algorithm.

Use Business Calendar

Calculates all job durations and due dates based on the business calendar which is selected separately for each scheduled job.

Restrict Job Access

Restricts resources from accessing job properties, viewing associated milestones, variables, states, roles, history and map details.

When you apply the Restrict Job Access setting, the job is not visible in job search results. However, users can still create and restart jobs, view the work type, and take and complete activities.

Note Restarting the job is only possible by using the RestartJob API. See the SDK documentation for more information.

To allow access to job properties and other associated details for some resources, you must set up the Resources property of each process for functional and maintenance access.

The Restrict Job Access setting applies to live and archived jobs.

Skill Level

Allows you to set skill level for your subordinates for processes to which they have access:

- **Server:** Considers the default skill levels of a resource. Skill levels are set at the time of creating a resource.
- **Process:** Considers the skill level set at the process level. Use the Skill Level property of an activity.
- **Not Used:** Considers resource with any skill level to take jobs.

Allocation Algorithm

Allows you to find the right resource for a task and automatically assign the task to that resource:

- **First Found:** Offers the activity to the first available resource. The system checks resources in the waiting state first.
- **Cost:** Offers the activity to the least expensive available resource.
- **Skill:** Offers the activity to the available resource with the highest skill level.
- **Speed:** Offers the activity to the available resource with the highest productivity rating.

Number of Active SLA Statuses

Enables you to define a number for active SLA statuses, up to a maximum of five (Default: three SLA statuses: green, amber, and red).

Maximum Loop Count

Enables you to define the number of times an activity can be executed in a synchronous job or business rule to prevent continuous looping. If the loop count reaches the defined limit, the synchronous job is suspended at runtime. (Default: 1000)

Note You can set the maximum loop count at system level or process level. The loop count set at process level takes precedence over the system setting. See [Configure the advanced properties of a process](#).

Resource Idle

Determines how long the system should allow a resource to be idle before raising an event. For example, two hours after a resource declines an activity, an event can be raised to re-offer the same activity to the resource.

Automatic Refresh (Minutes)

Interval between each refresh of a client work queue.

Rows (Paging)

The maximum number of activity rows to retrieve at a time. For example, if 1000 activities exist, you can retrieve only 500 rows in a work queue.

Enable Work Queue Custom Sorting

Enables sorting of columns in a Work Queue query.

Enable Workload Custom Sorting

Enables sorting of columns in a System query.

Enable JobList Custom Sorting

Enables sorting of columns in a JobList query.

Thread pools

Thread pools (TP) automate activities (including sleep) by threads in that pool. Each thread in a pool controls a separate automatic activity. Thread pools can also be associated with synchronous maps.

TotalAgility provides default thread pool for capture and non-capture automatic activities.

The default thread pool contains 16 threads; this means that TotalAgility can execute 16 automatic activities at once. Additional activities queue up on the thread pool queue (TPQ) and execute on a first-

come, first-served basis. You cannot modify the name or delete the default thread pools, however, you can change their other settings, and also create multiple thread pools.

Multiple thread pools offer the following advantages:

- Lets you put long-running activities onto a separate thread pool. This prevents long-running activities from delaying other short-running activities. For example, with two thread pools, the short running activities on thread pool 1 do not wait for completion of the long-running activities on thread pool 2.
- Control the number of concurrent calls, reduce the site size and minimize potential performance delays. This is useful where an automatic activity uses a third-party object method licensed for a limited number of concurrent calls. For example, an email server may only be able to handle 10 concurrent calls at one time. You could set up a thread pool with 10 threads to efficiently handle the processing of these automatic email activities.

Once thread pools are created, you can use these thread pools in a process.

Exceptions

See [Exceptions](#).

Scripting

A script is a series of instructions that can be executed in a given language.

In TotalAgility, you can associate VBSCRIPT, C# and VB .NET scripts with an activity. Once the activity becomes active the associated script is executed.

Note VBSCRIPT is not supported in on-premise multi-tenancy environment.

Resource extension

You can extend information held in TotalAgility for all workers or groups by defining metadata at the system level. When you configure a worker or group, you can manage the values held for that supplementary information.

Email

You can configure email settings for the system to allow the email activity in a process to work at runtime. The email can only be sent if the configured details are appropriate.

For compatibility with previous versions of TotalAgility, a server variable called SPP_SMTP_SERVER is available in the System Category. This variable holds the name of the SMTP server. If a value is provided in this variable and no email settings have been defined within the System Settings then the SMTP server name in the variable is used when sending an email. If the email system settings are defined, then those details take preference.

License Servers

You can view the license servers associated with your system and configure additional license servers as backup.

Note The License Servers option is only available in on-premise TotalAgility; it is not available in the Azure environment.

License statistics

TotalAgility displays the primary license server details and the backup server details (if installed). You can set thresholds of a primary server so that you are able to take corrective actions before running out of volume. If the primary server license fails to connect, the system automatically uses the backup server license.

If your primary or backup license is about to expire, you can reactivate the license.

Retention policy

To optimize the database size, configure the retention policy for the items in the system so that the item is automatically removed from the database, once the retention period is over. Retention policy defines the retention period and the number of versions to retain for certain items. .

You can optionally retain a number of major versions of the following items:

- Forms
- Processes (including skins)

Note A process version cannot be deleted if there is any job based on it (live or finished).

- Business Rules
- Classification Groups

Note When a classification group is removed, the project needs to be removed from Kofax Transformation Designer.

- Extraction Groups

Note When an Extraction Group is removed, the project needs to be removed from Transformation Designer. There is no need to perform a check on existing documents. The Extraction group can be removed even if there are documents that reference it.

Retention period

The retention period is the number of days, months or years for which an item can be retained. Once the retention period is over, the item is automatically removed from the database. You can define the retention period for the following:

- Internal users where the end date is greater than the retention period.
- External users where the end date is greater than the retention period.
- Audit log entries where the date logged is greater than the retention period.
- Documents where the LastAccessedAt date is greater than the retention period.
- CCM packs where the created date is greater than the retention period.

You can configure the retention period for a specific process. The retention period defined at the process level takes precedence over the system settings. .

Note The retention period for a job is defined at the process level. See [Configure the retention period for a process](#).

Retention policy system task

The Retention Policy system task handles deleting items from the database . By default, this system task runs once a week (minimum: 1 hour). If you want to review the items marked for deletion, the system task can be scheduled to run less frequently. On the contrary, if you want to delete the items without viewing them, the system task can be scheduled to run more frequently.

Note By default, the Retention Policy system task deletes the first 1000 jobs and documents that are ready for deletion. For example, if there are 1500 jobs and 2000 documents ready for deletion, when the Retention Policy task executes the first time, only 1000 jobs and documents are deleted. When the Retention Policy task executes the second time, the remaining 500 jobs and 1000 documents are deleted.

For example, if the retention policy system task runs weekly (on a Sunday) and a job is to be retained for 1 week:

- Job is completed on Monday (1st)
- The earliest the job can be deleted is Monday (8th)
- Retention Policy task runs on Sunday (7th). As the job is not ready to be deleted, it will remain in the system.
- Retention Policy task next runs on the following Sunday (14th). The job will now be deleted.

Depending on the frequency of the retention policy task in relation to the retention policy of the item, something to be retained for 1 week may actually take nearly 2 weeks to be deleted.

If you set the Retention Policy for a month, the system task deletes the items regardless of number of days in a month. For example:

- System task executes on March 29, YYYY 17:00. If this is not a leap year, all jobs (based on Process ABC) completed and terminated before February 28, YYYY 17:00 are deleted.
- System task executes on March 29, YYYY 17:00. If this is a leap year, all jobs (based on Process ABC) completed and terminated before February 29, YYYY 17:00 are deleted.

Account settings

Use the Account Settings feature to configure the system to do the following.

Reset Password Notification Process

You can reset the password when a user forgets the password and requests a reset. You can also force all users to change the password on the next logon due to a security breach or change in the password format.

Multifactor Authentication

Multifactor authentication (MFA) is a security approach to verify the legitimacy of a user that requires more than one of the following independent authentication factors :

1. Knowledge factor: Something only the user knows, such as the password or security question answers.
 2. Possession factor: Something only the user has, such as an email with a passcode or a user-specific cookie on a client computer or device.
 3. Inherence factor: Something unique to the user, such as fingerprints or eye recognition.
- After presentation, each factor must be validated by the other party for authentication to occur.

Multifactor Authentication for Internal and External Users

You can enable multifactor authentication independently for internal and external Resources. Kofax TotalAgility supports the following authentication features for both internal and external resources.

- Passcode: Users logging on for the first time are requested to enter a passcode. Passcode is sent to the user through an email and has a limited validity period. On entering the active password, a cookie is added to user's system and logon proceeds. For subsequent logon, system checks for the valid cookie. If it does not exist, user must go through the passcode verification again.
- Password format: To increase security, a regular expression can be supplied to ensure that any passwords added for resources must adhere to a specific format. This is an optional setting. See [General settings](#).

Account Lockout Policy

An account is locked if unsuccessful logon attempt threshold is exceeded. The account lockout policy disables a user account if the user enters an incorrect password a specified number of times within a specified time. The lockout prevents attackers from guessing users' passwords, and decreases the likelihood of successful attacks on your network. You can define an account lockout duration, which determines the number of minutes an account remains locked out before automatically becoming unlocked. Alternatively, an administrator can manually lock and unlock accounts.

If you logon with invalid password then access will be denied and the unsuccessful attempt are recorded.

To unlock an account:

- Wait until the account lockout duration has passed and then logon with correct password.
- Get the password from administrator.

Logon State Associated Form

Define a form to associate with a logon state to help the form designer know which form to display next.

Note You can turn on/off each of the preceding features for a group within the internal resources or for external resources through system settings.

Node colors

You can set the standard colors for various activity types within the process for ease in identifying the activity type.

By default, the following colors are available for manual, automatic, integration and miscellaneous activities.

Activity	Activity type	Default color
Manual	General (Ordinary activities)	#FF7AADCC
	Capture (Scan, Validation, Verification, and Document Review)	#FF7AADCC
Automatic	General (Create New Job, Create Sub Job, Data Access, Sync, Expression, Script, Document Set, Embedded process, Loop, XML, Resource Info, Job Owner, Job Variable, Sleep, Supporting Info, Restful Service, Document Creation, Ready for Review, and Business Rule)	#FF78BE83
	Capture (Extraction, Classification, PDF Generation, Image Processing, Composite, Delete, Export, Transfer, Document Conversion, and Image Quality Analysis)	#FF78BE83
	.NET	#FF78BE83
	Web Services	#FF78BE83
Integration	Microsoft	#FFB897CE
	Kapow	#FFB897CE
	SignDoc	#FFB897CE
	CCM	#FFB897CE
	CMIS	#FFB897CE
	HP Trim	#FFB897CE
Miscellaneous	Other (Embedded Process)	#FFC19D42

Categories

Use categories to group related items (from resources to processes) in TotalAgility and provide a means to restrict or provide access.

You can track different types of items that are related but stored in different folders. For example, associate all business processes along with any resources used in the Finance department with the Finance category.

Schedule work

You can schedule one or more jobs to run at a specific time period or intervals. For example, lengthy jobs should be scheduled outside of working hours.

TotalAgility provides the following job schedules:

1. SYSTEM - AUTO WORK ALLOC: Performs work allocation automatically.
2. SYSTEM - DELEGATION: Checks for completed delegation.
3. SYSTEM - Reset Sampling: Resets quantity counts.

Lock and unlock

The Lock and Unlock options enhance control and configurability for items in the TotalAgility Designer. Use the Lock option to restrict other resources from modifying items. Conversely, use the Unlock option to allow others to work on items.

You can track items according to their locked status and the resource that locked or unlocked the item. You can search for a combination of items, for example, search for all the forms and processes locked by a resource.

You can set the access permissions for a resource that can search for locked items.

Protected items search

The protected items are not available to view within the Designer, therefore it is not possible to know if these items are in use within a process, form or business rule. For example, you may be prevented to delete an item that is in use within a process.

Use the Protected Items Search to search for the protected items, view the associations for these items to identify where all an item is being used, and delete an item directly from TotalAgility.

Regular expressions

Use regular expressions in text format validation form fields, document fields, and password formats.

TotalAgility provides a number of predefined regular expressions. However, you can define your own regular expressions to use in forms and validators.

Job clear down

The Job Clear Down is permission-based capability available to remove live and finished jobs from the database. This is typically used in production or test environments to remove test jobs.

The Job Clear Down option is only available if you have the appropriate permissions and the system is running a development license.

System tasks

System tasks are routine tasks that TotalAgility performs. You cannot create a new system task or delete a system task. You can modify the interval in which to execute a system task and deactivate a task, if needed. You must have necessary permissions to configure system tasks. TotalAgility performs the following routine tasks:

- **Archive Jobs:** Moves archive jobs from live to archive database.
- **Capture Data Clean-up:** Removes the child capture data orphaned during the high level delete where particular object is removed from the database and all child data is left untouched. Deleting the pending capture data in chunks grouped by object types helps to reduce the delete operation time and minimize the chances to encounter deadlocks across several tables. This significantly improves delete performance. (Default: 0 Days 24 Hours 0 Minutes)
- **Create Exceptions:** Creates jobs on a configured exception map. Also creates jobs or alert tasks configured on triggers at the process level.

Note You can configure exceptions at the server or process level.

- **Create Jobs:** Creates jobs configured on business events.
- **Device Management Cleanup:** Cleans up device-related data, such as expired device and old scan history records. The default schedule to run this task to clean-up the scan history is every one hour.
- **Evaluate Jobs:** Core Worker service evaluates jobs on job creation and activity completion.
- **Export:** Performs Export activities to export documents to specified Kofax Export Connectors.
- **Ingest:** Ingests documents from various sources (Email, Fax, FOIP, File) and creates the specified business processes.
- **Job Scheduling:** Scheduler creates a job on the configured map.
- **KM FtpFetch:** Retrieves jobs submitted to the configured FTP server from Konica Minolta devices.
- **License Threshold Monitoring Interval:** Determines how often to check for license threshold exceptions and raise an alert (Default: 1 minute). Once the threshold is met and the interval has passed, the exception is raised.
- **Monitoring:** Monitors database at a set time interval and executes multiple checks, for example, whether to fire an exception or trigger.
- **Online Learning:** Runs automatic Online Learning on the documents marked for online learning during validation.
- **Perform Auto Activities:** Executes automatic activities at a set time.
- **Process Activities:** Performs auto work allocation based on the algorithm selected.

- **Process Capture Timeouts:** Cleans up data for expired document capture sessions in the TotalAgility Workspace.
- **Process Session Timeouts:** Forces user logoff on session timeout.
- **Process State Actions:** Executes action configured on states (Restart\CNJ).
- **Retention Policy:** Marks items for deletion for which the retention period and number of versions have exceeded the defined limit, and then deletes those items. This task executes once every seven days by default; you can set the minimum Interval to one hour. If the item that the system task tries to delete is not deleted, the item is recorded in the Retention Policy Failures table. Failures are cleared automatically when the system task executes the next time. See [Retention policy system task](#).

Note The Retention Policy system task is CPU intensive and should be ideally scheduled during non-working hours.

- **Transformation Server Execution:** Performs the following automatic capture activities: Extraction, Classification, PDF Generation, Image Processing and Composite.
- **Xerox FtpFetch:** Retrieves jobs submitted to the configured FTP server from Xerox devices.

Devices

You can maintain Kofax TotalAgility device application settings for multi-function peripherals (MFPs) and mobile devices. Settings include device registration, application download and deployment, device profiles and other advanced settings.

To configure TotalAgility to work with phone devices, see *Manage Devices in TotalAgility help*.

Scan/VRS profiles

Use Scan/VRS profiles to store common scanner, normalization, binarization, conversion and image perfection settings for reuse. You can also configure advanced eVRS settings to further enhance the image quality, which includes cropping, de-skewing, de-speckling, advanced binarization and more.

Note Kofax eVRS is an image enhancement tool that is used to enhance the quality of images.

TotalAgility provides a default Scan/VRS profile. You can edit the default profile or create additional profiles. You can associate a Scan/VRS profile with a capture-enabled process or use it in scan interfaces, on phone devices, in upload scenarios and more.

Additional information on how Scan/VRS profiles and Web Capture service interact with VRS Elite:

When scanning from a VRS Elite Twain-On-Top source, image processing is disabled in TotalAgility, as VRS Elite handles it. Therefore, image processing must be configured through VRS Elite. VRS Elite then performs image processing before passing the image to TotalAgility.

If a Scan/VRS profile is configured, the same name is used to auto-select a VRS Elite profile. See System Settings module > Configure the settings for the system > Forms for additional information.

Document conversion profiles

A Document Conversion Profile contains conversion settings for converting the incoming documents. User can create a document conversion profile by configuring the required conversion settings for specific type of incoming documents. The document conversion activity consumes this document conversion profile for document conversion. This enables the user to create one document conversion profile and reuse this in various process maps. Also, multiple document conversion profiles can be created to cater different incoming documents types.

Additionally, the Adobe PDF Library SDK smoothing and rendering flags are used for improving the JPEG quality of PDF to TIFF conversion. These flags eliminate black lines introduced to certain PDF types during document conversion.

Note

- If you select Microsoft Office for document conversion in Message Connector, only one instance of conversion process can run on one system at a time.
- For some PDF documents, when the expected output TIFF format is 200x200 DPI color or 200x200 DPI Grayscale, no combination of the flags can eliminate black lines.
- For TIFF to PDF document conversion, use [PDF Generation activity](#).
- You cannot add a Document Conversion activity in a Composite activity.

Separation profiles

Use Separation profiles to separate and automatically place documents in folders during scanning. You can separate documents based on bar codes, patch codes, and number of sheets.

You can create, modify, delete, export and import separation profiles. You cannot delete a separation profile if it is in use.

PDF generation profiles

PDF generation profiles are used when generating PDF documents.

You can export images or both text and images to a PDF file, make the output PDF files PDF/A-compliant; define resolution and JPEG quality; and more. You can add PDF tags to identify text and graphics, convert to HTML and XML file formats, and ensure interpretation by assistive software for the visually impaired.

Configurable keys

Customize the hotkeys associated with commands within the Capture Client control to use both single and double key sequences suited to customer preferences; you cannot delete a command or modify the name of a command. However, you can customize the hotkeys for a command to increase flexibility.

Note When you customize the hotkey for a command, you must restart the IIS Application Pool for the changes to take effect.

If you assign the non ASCII characters as hotkeys for a command for foreign languages, at runtime, the hotkeys do not invoke appropriate command when using the Firefox browser. This is because the browser cannot detect the language setting of the keyboard, which is different than the language setting of the browser. Example: The ß symbol on a German keyboard corresponds to the "minus" key on an English keyboard.

The hotkeys apply to actions for all form types: Scan, Validation, Verification and Document Review.

TotalAgility supports single key and double key:

- Single Key: CTRL /ALT/SHIFT (Combination) + Key. For example, CTRL+ALT+S.
- Double Key: CTRL /ALT/SHIFT(Combination) + Key then CTRL /SHIFT/ALT (Combination) + Key. For example, CTRL+T then SHIFT+S.

Note TotalAgility does not support a browser defined hotkey, such as CTRL+C which is the default command for copying.

Federated security

Authentication is a process to verify the identity of the users and system processes. TotalAgility uses the federated security system or claim-based identity for authentication.

Federated Security System is an arrangement for managing identities and access to resources that span companies or security domains. It avoids identity duplication and security administration at multiple locations. It provides an easy way of managing identities and providing them with access to information and services in a trusted manner. In a federated system, a group of organizations share identity attributes based on mutual trust and agreed-upon standards, facilitating authentication from other members of the federation and granting appropriate access to online resources.

Claims based identity or federated authentication is a much more flexible solution for authentication in TotalAgility Azure and on-premise. TotalAgility can leave the authentication to be done by a trusted third party identity provider and only deal with the claims returned for the authenticated user.

Claims contain multiple statements the authenticated user or organization makes about itself or another subject. For example, a statement can be about a name, group, buying preference, ethnicity, privilege, association or capability. Claim tokens are signed to verify they have been issued by the correct identity provider.

TotalAgility uses Web Services Federation Language (WS-Federation) and Security Assertion Markup Language (SAML) protocols that allow users that have already logged in to one site to access another site without logging in again. Single sign-on (SSO) is a subset of federated security system in which a user's single authentication ticket or a claim token is verified across multiple IT systems or even organizations.

An identity provider provides a Security Token Service. Examples of identity providers include:

- On-Premise: Windows Server Active Directory with AD FS 2.0 (supports SAML 2.0 and other tokens formats)

- Public Cloud: Windows Azure Active Directory
- One Login

A security token service authenticates a user and returns claims token. To better understand the concept of security token service, consider the analogy of a nightclub with a doorman. The doorman wants to prevent under-age patrons from entry. To facilitate this, he requests a patron to present a driver's license, health insurance card or other identification (the token) that has been issued by a trusted third party (the security token service), such as the provincial or state vehicle license department, health department or insurance company. The nightclub is thus alleviated of the responsibility of determining the patron's age. It only has to trust the issuing authority (and of course make its own judgment of the authenticity of the token presented).

By completing these two steps, the nightclub authenticates the patron to be of legal drinking age.

Similarly, the nightclub may have a membership system, and certain members may be regular or VIP. The doorman might ask for another token, the membership card, which might make another claim; that the member is a VIP. In this case, the trusted issuing authority of the token would probably be the club itself. If the membership card makes the claim that the patron is a VIP, then the club can react accordingly, translating the authenticated VIP membership claim to permission, such as the patron being permitted to sit in the exclusive lounge area and be served free drinks.

A federation provider provides a security token service that trusts other security token services (also known as a Resource security token service). A federation provider can perform claims transformation on the token received from the trusted security token service.

Examples of federation provider include:

- On-Premise: Windows Server Active Directory with AD FS 2.0
- Public Cloud: Windows Azure Active Directory, Windows Azure Active Directory Access Control.

The reply URL specified in the Federated Provider that is being used with TotalAgility should be as follows: `https://[host]/TotalAgility/FederatedLogin.aspx`. This is how the Federated Provider knows where to find TotalAgility so that it can return after authentication is completed.

In a load balanced environment, TotalAgility cannot correctly read the passed token from AD FS consistently as the load balanced servers have unique machineKey identifiers by default. To configure TotalAgility with AD FS in a load balanced environment, you must generate the machinekey and propagate it to all servers.

An application that relies on claims is a relying party application, also known as "claims aware application" and "claims-based application", for example, TotalAgility. Web applications and Web services can both be relying parties. A relying party application consumes the tokens issued by a security token service and extracts the claims from tokens to use them for identity related tasks.

In TotalAgility, you can also define user claim rules to indicate which user groups are mapped to the TotalAgility worker group, category and working category after they have been successfully authenticated by the provider.

Note Once a user is automatically added to TotalAgility after the logon to the authentication provider, any further logons will not update any settings.

You can define a set of mappings to determine how an existing user in TotalAgility is found when logon is performed after the user is successfully authenticated by the authentication provider.

Page renditions

Use the Page Renditions feature to save multiple versions of an image in TotalAgility. You can keep the original image intact and create a binarized version of the image to transform to improve performance. For example, in medical claims, it helps to display the overlaid version of the image and the original image to the user simultaneously.

You can associate multiple images with a single page and provide a way to quickly switch among these images. The Scan, Validation, Verification and Document Review forms support the multiple page image renditions.

You can configure page renditions for a capture-enabled process and for the Scan, Image Processing, Export, Validation, Verification, Document Review and Composite activities.

Capture groups

TotalAgility provides synchronous classification and extraction capabilities that reduce response time and improve performance by storing and processing documents data in memory. A user has the option to persist this data into the document repository after classification and extraction.

TotalAgility supports real time transformation and optimizes performance by:

- Supporting a configuration mode in Transformation Server that does not poll for pending capture activities and is only used for synchronous processing.
- Allowing Transformation Server to preload specific Transformation projects.
- Bypassing folder and document structure validation rules.

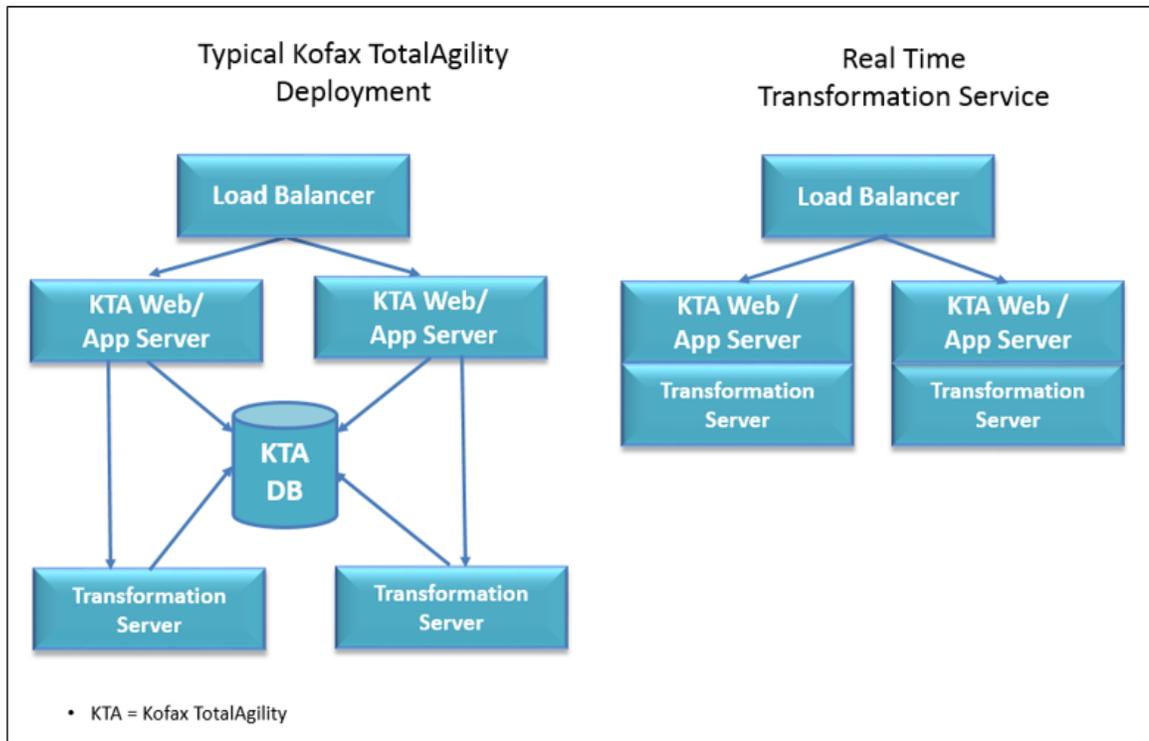
To use real time transformation, you must select the **Real Time Transformation Service** mode during the TotalAgility installation.

In the TotalAgility Designer, preload specific Transformation projects.

The Real Time Transformation Service is supported by two TotalAgility SDK APIs: `CreateJobSyncWithDocuments` and `CreateJobSyncWithDocument`. Refer to the [SDK documentation](#) for more information on these APIs.

When using TotalAgility for real time transformation, you must do the following:

1. Set up a separate set of dedicated WebApplication servers for processing. These servers are only used for real time transformation and can point to an existing TotalAgility deployment database as illustrated in the following figure.



2. Install a separate load balancer to route requests to dedicated synchronous processing TotalAgility WebApplication servers.
3. Install a Transformation Server instance on each TotalAgility application server used for real time transformation synchronous processing.

Note All requests for `CreateJobSyncWithDocuments` will call the Transformation Server residing on the TotalAgility Application server (the localhost).

4. Optionally, if you wish to modify the default port for the Transformation Server, do the following:
 - a. Configure the port for the Transformation Server service in the Transformation Server app config file as:


```
<add baseAddress="net.tcp://localhost:9001/TransformationServerExternalService"/>
```
 - b. Specify the same port in the TotalAgility Web server Web.config as:


```
<add key="TSExternalServicePortForSyncProcessing" value="9001"/>
```

Reporting tags

You can add a reporting tag to a process. This enables Kofax Analytics For TotalAgility to apply a custom filter on a report.

Access permissions

In TotalAgility, you can manage access permissions to grant privileges and restrict resource access to TotalAgility Designer, Transformation Designer, different areas of TotalAgility, capture actions and devices.

You can assign permission to one or more resources to permit or restrict access to the following:

- Different areas of TotalAgility, such as processes, business rules, resources
- Each capture action within a capture composite control
- Designer
- Transformation Designer
- Devices

Note

- By default, the Admin user group is assigned full control access to all domains. If the user is not a part of the Admin user group, you should explicitly assign access permissions to the user.
 - If you deny permission to any group a user belongs to, the user is prevented from having access to that permission. This is true even if the user is given the permission in a different group. For example, if you have full access from one group that you are a member of, and read-only access from another, then you can only read, not write.
-

Chapter 9

Packages

A package typically implements a Kofax TotalAgility solution for an industry vertical. A package can include the items related to processes, forms, DLLs, resources, data, business monitoring, and system. Additionally, you can include a package within a package and also add miscellaneous files to a package. Every time you save a package, a new version is created. Versioning helps a solution designer in tracking changes to the package. You can move a package from one TotalAgility deployment to another together with its constituents and quickly deploy it without much user intervention.

You can manage a package in the following ways:

- Automatically add all or selected associated items related to processes, forms and categories to a package. The items that already exist in the package are overwritten.
- Select the items to exclude from the package. On saving the package, the package data is saved in the TotalAgility database.
- Search for the items that have been modified since a specific date or time, or between certain periods so you can quickly add all or individual items to the package.
- Upgrade from one version to another by importing a package. The non-versioned items, such as, checklist, lookups, Scan/VRS Profiles, PDF Profiles, custom pages, localization strings, personas, formatters and others get overwritten if they already exist on the target system.
- Compare a package with the system package or with other packages to view the items that have changed between versions. The items which are different in the selected packages are highlighted.
- Create a copy of a package.
- Open, modify and delete an existing package.
- Add miscellaneous files such as installation guide or other items that may be useful for using the package.
- Assign access permissions to one or more resources to grant access to the package. Resources with at least Read permissions can access a package.
- Export a package for reuse.
- Import entire package or the selected items to TotalAgility.
- Create different deployment configurations for a package to allow the user to define different values for a global variable, server variable, web service integration, device settings (Kofax Front Office Server settings), transformation settings and export connector settings based on different types of deployment targets, such as test and production environments. During import it allows user to overwrite the values based on the selected deployment type when exporting the package.
- Protect all or certain items (supported item types listed below) of a package to prevent other users from viewing or modifying them when they are imported into another machine. On upgrading TotalAgility, the system treats all items within the existing packages as unprotected.

Chapter 10

Integrate with other systems

TotalAgility can access web services to connect to third-party software applications, connect to relational databases, and use external assembly components within a .NET activity or action.

You can define settings to integrate TotalAgility with external applications and services, such as Microsoft SharePoint, Microsoft Dynamics AX, HP TRIM, and CMIS.

Databases

You can define connection strings within TotalAgility to connect with relational databases. Using these connection strings, you can point to a database and complete operations, such as Select, Add, Update and Delete.

Web services

TotalAgility can access web services to connect to the third-party software applications, regardless of how each web service is implemented. For example, TotalAgility can integrate with a web service that automatically validates a credit card number or retrieves delivery information from a transportation company for a dispatched order.

When defining a Web Service reference, you can specify custom headers so that when the corresponding Web Service or Restful node is executed, the custom header is passed to the Third party web service.

.NET assemblies

.NET assemblies enable you to use external assembly components within a .NET activity or action.

TotalAgility provides a number of assembly paths out of the box, under the TotalAgility SDK. You can use the custom build assemblies that might reference other assemblies.

Microsoft SharePoint

Integrating TotalAgility with SharePoint increases the efficiency of business processes and improves team productivity. You can easily create, publish, and access information. For example, you can upload

a document to a document library, add an item to a custom list, or automatically start a job when a document is uploaded to a specific document library.

You can perform various actions in a SharePoint system directly from TotalAgility, and you can configure TotalAgility to respond to events that occur within SharePoint.

Microsoft Dynamics CRM

The TotalAgility provides comprehensive out-of-the-box integration to the Microsoft Dynamics CRM.

Integration of TotalAgility with CRM helps end users to efficiently manage CRM activities, such as creating, retrieving and updating various business unit entities.

You can configure TotalAgility to respond to events that occur within Dynamics CRM.

Microsoft Dynamics AX

TotalAgility provides out-of-the-box integration with Microsoft Dynamics AX. You can configure TotalAgility to respond to events that occur within Dynamics AX.

CMIS

Different organizations use different Enterprise Content Management (ECM) systems to suit their requirements and budgets. Each ECM system has its own design and architecture, standards, and method of interacting with other systems. Therefore, it is often difficult to build a single tool that interacts with the various ECMs using a common interface.

The Content Management Interoperability Services (CMIS) is a standard that provides interoperability between ECM systems. CMIS is designed to be layered on top of existing Content Management systems and the related programmatic interfaces. CMIS defines a generic universal set of capabilities provided by a Content Management system and a set of services for working with those capabilities.

Use the TotalAgility CMIS integration capabilities to integrate with any third-party document management product that supports CMIS standards, for example, SharePoint. This enables you to use a common interface to configure multiple CMIS-compliant systems and to manage different document management products from within TotalAgility.

HP TRIM

TotalAgility provides comprehensive out-of-the-box integration to the HP TRIM system.

Integrating TotalAgility with TRIM helps users to efficiently manage electronic documents and records throughout the entire life cycle of a document—from creation to destruction.

Microsoft Exchange

TotalAgility provides out-of-the-box integration to Microsoft Exchange, enabling you to link your mail server to TotalAgility. This allows you to handle tasks and jobs (such as "take and complete a job") directly from your Inbox, without having to access a separate application.

Microsoft Outlook

Microsoft Outlook is seamlessly integrated with TotalAgility, enabling you to directly view, complete, save and cancel TotalAgility tasks from Outlook.

Once Outlook is integrated with TotalAgility, a TotalAgility menu is displayed in the Outlook menu bar, allowing you to configure TotalAgility-related actions.

Microsoft Visio

Use the TotalAgility integration with Microsoft Visio to convert Microsoft Visio business process and flowchart drawings into TotalAgility importable XML files.

Import settings

You can configure TotalAgility to receive documents through POP3, IMAP and Exchange Web Services. Each external system has configuration settings that create TotalAgility processes when messages with attached business documents are received.

Active import sources or passive import connection settings are supported.

Active import sources

The active import sources run as services within TotalAgility to accept messages sent from external systems. Only one import source type can be configured for each import connection. Active import sources include:

- Simple Mail Transfer Protocol (SMTP)
- Fax Over Internet Protocol (FoIP)

When you configure the import connector for email, you can create a document directly using the email body. The mime type of the resulting document is determined by the email format (text, RTF, HTML):

- If the email body is formatted as text, you can perform classification or extraction on that document. After performing image processing on the document, you can view the document in any of the Capture Client activities.

- If the email body is formatted as RTF, provide customization to convert the RTF document to a supported format prior to submitting to a capture activity.
- If the email body is formatted as HTML, after performing image processing on the document, you can perform classification or extraction on the document or view the document in any of the Capture Client activities.

Passive import sources

Passive import sources are polled by TotalAgility to retrieve messages. One or more import connections can be configured with a Message Connector. Each import connection contains settings for the Message Connector and one or more import sources.

Passive import sources settings include:

- Post Office Protocol (POP3)
- Internet Message Access Protocol (IMAP)
- Exchange Web Services (EWS)
- Fax
- File

See the following table for metadata available for all import sources.

Metadata	IMAP/EWS/POP3/ SMTP	External Fax Server/FOIP	File
Archive Folder	Path to store the archived messages.	Path to store the archived messages.	Path to store the archived messages.
Error information	The description of the error in case of a partially or not imported file.	The description of the error in case of a partially or not imported file.	The description of the error in case of a partially or not imported file.
Error Level	The status of an imported file; 0=imported, 1=partially imported and 2=not imported.	The status of an imported file; 0=imported, 1=partially imported and 2=not imported.	The status of an imported file; 0=imported, 1=partially imported and 2=not imported.
Fax Extension		The fax extension to which the fax has been originally sent.	
Fax User		The fax user to which the fax has been originally sent.	
File Path			Folder path of the file.
File Name			File name
From, To, Bcc and CC	Components of an email.		Components of an EML or MSG file.
From Fax Number		The fax number from which the fax has been sent.	

Metadata	IMAP/EWS/POP3/ SMTP	External Fax Server/FOIP	File
Message Import Folder	Folder or the sub folder name from where the messages are polled. For example, if the polled folder is "Inbox" and sub folder is "sub1", then this field contains "Inbox/sub1".		
Import Source Address	The mail box name configured in Kofax TotalAgility. For example, the final routed email address for SMTP email.	The fax number configured in Kofax TotalAgility. For example, the extension number for FOIP.	The watch folder name configured in Kofax TotalAgility.
Import Source Type	EMAIL	FAX	FOLDER
Import Source Recipients	The comma delimited list of To and CC recipients.	Original fax number.	The watch folder name configured in Kofax TotalAgility.
Input Source Type	The type of input source. For email, it is POP3, IMAP, SMTP, or EWS.	The type of input source. For fax, it is BISCO, RightFax or KCS.	The type of input source. For file import, it is folder.
Message Attachment List	The file names of the message attachments delimited by ';'.		The file names of the documents delimited by ';'.
Message Correlation	The correlation information of the message (for internal use).	The correlation information of the message (for internal use).	The correlation information of the message (for internal use).
Message Delivery Priority	The priority of the message. Reserved for future use. Set to static value 1.	The priority of the message. Reserved for future use. Set to static value 1.	The priority of the message. Reserved for future use. Set to static value 1.
Message Delivery Type	The delivery type of the message. Reserved for future use. Set to static string TO.	The delivery type of the message. Reserved for future use. Set to static string TO.	The delivery type of the message. Reserved for future use. Set to static string TO.
Message General File Name		The file name of the document. For fax server, this returns the server internal file name of the fax message.	
Message ID	The unique ID assigned by the Message Connector to a message on arrival.	The unique ID assigned by the Message Connector to a message on arrival.	The unique ID assigned by the Message Connector to a message on arrival.
Message Original Recipients		Contains a list of the original recipients as specified by the fax originator.	

Metadata	IMAP/EWS/POP3/ SMTP	External Fax Server/FOIP	File
Message Originator Name	The full name of the message originator. For SMTP/POP3/EWS/IMAP, it is the originator's display name (mime-header/from/mailbox/displayname).	The full name of the message originator. For faxes, this is the TSI.	The full name of the message originator. For SMTP/POP3/EWS, it is the originator's display name (mime-header/from/mailbox/displayname).
Message Originator Number	The originator email (mime-header/from/mailbox/address) for POP3/SMTP/EWS mail.	The fax number of the originator (caller ID).	The watch folder name configured in Kofax TotalAgility including the file name.
Message Originator Service	EMAIL	FAX	FOLDER
Message Owner Reference	The mime-header or message ID of emails.	The server-specific message ID.	The mime-header or message ID of EML or MSG files.
Message Reception Caller Id		The fax number of the sending fax machine.	
Message Importing Error	If the message is rejected by Kofax TotalAgility, it contains the error message.	If the message is rejected by Kofax TotalAgility, it contains the error message.	If the message is rejected by Kofax TotalAgility, it contains the error message.
Message Reception Time Created	The time when message was retrieved by the Message Connector.	The time when the fax server received the message.	The time when message was retrieved by the Message Connector.
Message Reception Time Received	The send time of the email.	The start time of fax reception.	The send time of the email extracted from EML or MSG file.
Message Recipient Name	The full name of the message recipient. For POP3, this is the mailbox display name.	The full name of the message recipient.	The full name of the message recipient in EML or MSG file.
Message Recipient Service	The service name of the recipient. For email import, it is "EMAIL".	The service name of the recipient. For fax import, it is "FAX".	The service name of the recipient. For file import, it is "FOLDER".
Message Routing Number	<ul style="list-style-type: none"> SMTP: Active email recipient. POP3/IMAP/EWS: Mailbox user name. 	The extension or called party number.	Full path of the imported file.
Message Suspected Duplication	Reserved for future use. Set to static value 0.	Reserved for future use. Set to static value 0.	Reserved for future use. Set to static value 0.
Pages		The number of fax pages in the message.	

Metadata	IMAP/EWS/POP3/ SMTP	External Fax Server/FOIP	File
Time Created Note If you are currently using this field, we recommend to use the Message Reception Time Created field.	The date and time when the message was retrieved.	The time when the fax server received the message.	
Time Posted Note If you are currently using this field, we recommend to use the Message Reception Time Received field.	The date and time information of an incoming message. If the message does not contain date and time information, Kofax TotalAgility uses the current date and time.		
XML DATA			The root XML document, that is, the complete XML document that has been recognized as an XML type (usually the first XML document in the email or the first XML document in the folder or the XML document that has been used as trigger file).
Subject	Subject of an email.		Subject of an EML or MSG file.

Kapow

Kapow Katalyst is a platform for application integration and process automation. It can integrate applications that were not built to be connected, and automate processes across such heterogeneous systems; cloud/SaaS applications with premise systems, legacy systems with modern web applications or back office systems with partner websites.

Within the Kapow product suite, the user can define robots. A robot is an automated workflow designed to accomplish a task involving a data source, such as a website, or an Excel document, or a database.

After you integrate TotalAgility with Kapow, you can execute a Kapow robot from within a process or a form.

Insight

You can integrate TotalAgility with Insight 5.x to define and deliver reports, dashboards and business analysis on demand.

For TotalAgility Azure, install Insight for each tenant and using SSL. For more information, see *Kofax Analytics for TotalAgility Administrators Guide*.

Link servers

You can define a two-way link between two separate TotalAgility installations (on-premise, on-premise multi-tenancy or Azure) and move documents between the linked servers to facilitate high-speed remote scanning.

Note the following:

- Linked servers can consist of a combination of on-premise, on-premise multi-tenancy and Azure. However, on-premise multi-tenancy to Azure and vice versa is not supported.
- In a distributed environment (separate Application and Web server), the current and/or Target URLs must reference the Application server.
- In an on-premise multi-tenant and Azure environments, the current and/or target URLs must reference the tenant.
 - In an on-premise multi-tenant: <tenant_name>.<AppServerFQDN>/TotalAgility
 - In Azure: <tenant_name>.<AzureServerFQDN>

SignDoc

SignDoc provides solutions for digital capture, management and verification of signatures to accelerate business processes, eliminate errors and protect documents against manipulation.

Integrating TotalAgility with SignDoc simplifies information intensive customer interactions to ensure a fully digital, streamlined and secure experience.

CCM

Kofax CCM (Customer Communication Manager) allows you to define, create, manage and distribute customer communication documents.

By integrating TotalAgility with the CCM product, you can do the following:

- Leverage templates defined in CCM and invoke document creation from TotalAgility.
- Create documents on-demand (through a process) or interactively (through a form)
- Pull data from disparate systems using TotalAgility and pass to CCM to generate documents.

- Review or re-generate documents before distribution.
- Distribute documents as part of the composition step or at a later date.
- Distribute documents for eSigning using SignDoc.