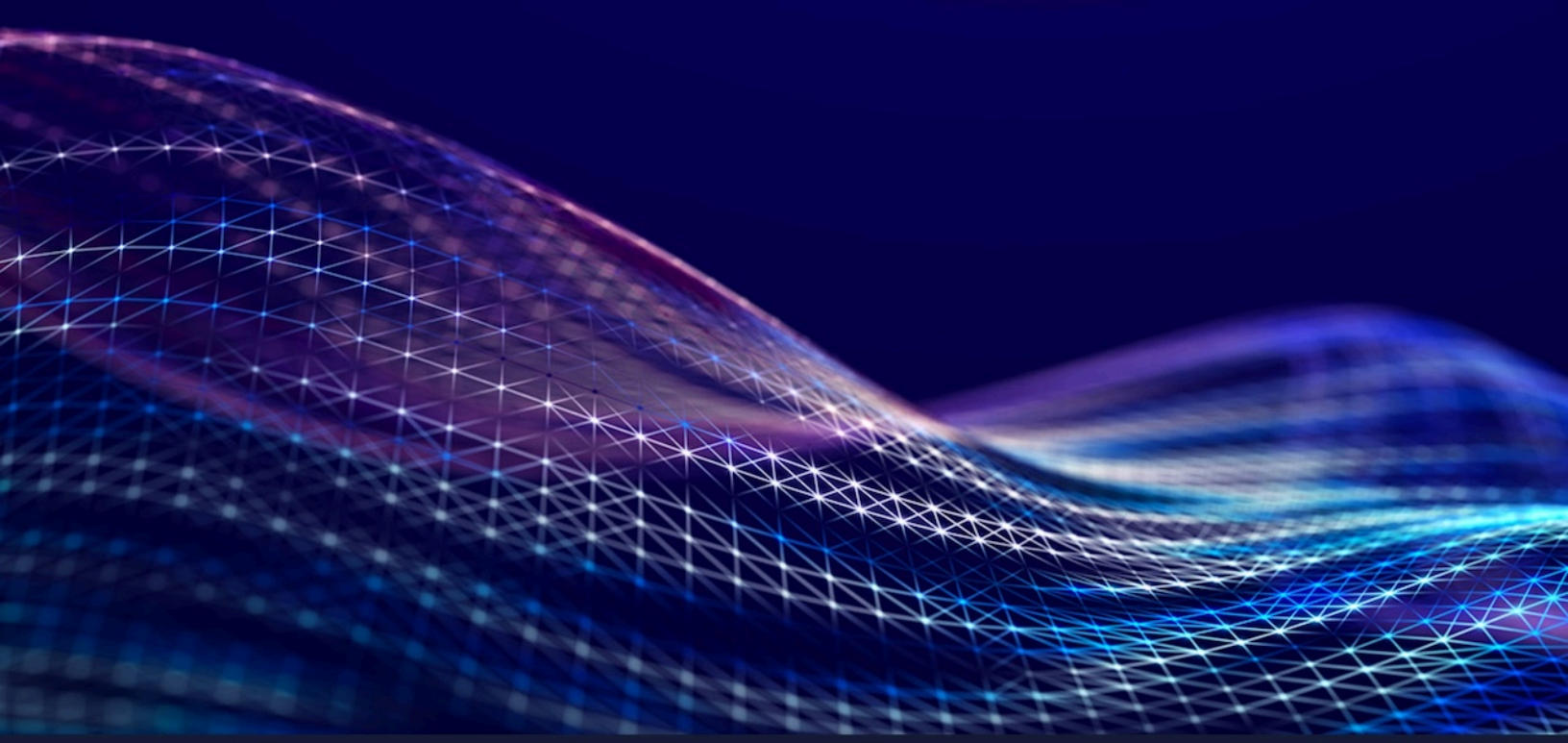

Tungsten AP Agility
Passing Fields to Extraction
Best Practices Guide

Version: 2025.1

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TUNGSTEN AUTOMATION

Table of Contents

Preface

This guide describes the recommended best practices that you should follow while using Tungsten AP Agility and working with subclasses to improve extraction performance.

Related documentation

The full product document set for Tungsten AP Agility is available here:

https://docshield.tungstenautomation.com/Portal/Products/APAgility/2025.1-j1u9a8a63z/APAgility.htm

The product document set for Tungsten TotalAgility is available for the following supported versions:

- 7.9.0
- 7.10.0
- 7.11.0
- 8.0.0
- 8.1.0

Select the documentation link for the Tungsten TotalAgility version that you are currently using.

If you select the incorrect link, it is possible that some features documented are not in your installed version.

In addition to this guide, the AP Agility document set includes the following items:

Tungsten AP Agility Release Notes

This guide contains late-breaking product information that may not be included in other Tungsten AP Agility documentation. Release notes are also available for each of your installed Tungsten Automation applications.

Tungsten AP Agility Installation Guide

This guide provides instructions for installing Tungsten AP Agility and integrating it with Tungsten TotalAgility.

For more information about installing Tungsten TotalAgility refer to *Tungsten TotalAgility Installation Guide*

Tungsten AP Agility On-Premise Multi-Tenant Installation Guide

This guide provides information about installing the on-premise components you may needed to get Tungsten AP Agility to work in a multi-tenant TotalAgility environment or a Tungsten Automation hosted TotalAgility Azure environment.

Tungsten AP Agility Configuration Help

This help provides detailed information on how to configure Tungsten AP Agility for your environment.

Tungsten AP Agility PIX Correction activity Help

This help provides detailed information about how to navigate through the PIX Correction activity. It also includes details about how to use the PIX Correction activity when processing documents with Tungsten AP Agility Invoice Processing.

Tungsten AP Agility Scan activity Help

This help provides information on how to scan documents for Tungsten AP Agility Invoice Processing.

Tungsten AP Agility Line Pairing Correction activity

This help provides use cases and examples for correcting a document that fails line pairing during Invoice Processing.

Tungsten AP Agility Validation activity Help

This help provides information about validating a document in Tungsten AP Agility Invoice Processing.

Additional documentation about validating documents is available in the *Tungsten TotalAgility Validation activity Help*.

Tungsten AP Agility Error Handling Help

This helps provides information on how to handle documents that end up in an error state during Invoice Processing.

Tungsten AP Agility AP Workflow Help

This help provides information about how to use the various activities that are part ofs the AP Agility AP Workflow. This includes general information that is relevant for all activities as well as specific information related to the Approval activity, the Coding activity, the Exception activity, the Line Pairing Exception activity, the Hold activity, and the Comment Request activity.

Analytics for AP Agility Installation Guide

This guide provides information about installing Analytics for AP Agility and integrating it with Tungsten AP Agility.

Analytics for AP Agility Help

This help provides detailed information on how to generate and interpret the various reports that are available in Analytics for AP Agility .

Training

Tungsten Automation offers both on-demand and instructor-led training to help you make the most of your product. To learn more about training courses and schedules, visit the Tungsten Automation Learning Cloud.

Getting help with Tungsten Automation products

The Tungsten Automation Knowledge Portal repository contains articles that are updated on a regular basis to keep you informed about Tungsten Automation products. We encourage you to use the Knowledge Portal to obtain answers to your product questions.

To access the Tungsten Automation Knowledge Portal, go to https://knowledge.tungstenautomation.com/.

The Tungsten Automation Knowledge Portal is optimized for use with Google Chrome, Mozilla Firefox, or Microsoft Edge.

The Tungsten Automation Knowledge Portal provides:

- Powerful search capabilities to help you quickly locate the information you need.
  Type your search terms or phrase into the **Search** box, and then click the search icon.
- Product information, configuration details and documentation, including release news.
  To locate articles, go to the Knowledge Portal home page and select the applicable Solution Family for your product, or click the View All Products button.

From the Knowledge Portal home page, you can:

- Access the Tungsten Automation Community (for all customers).
  On the Resources menu, click the **Community** link.
- Access the Tungsten Automation Customer Portal (for eligible customers).
  Go to the Support Portal Information page and click **Log in to the Customer Portal**.
- Access the Tungsten Automation Partner Portal (for eligible partners).
  Go to the Support Portal Information page and click **Log in to the Partner Portal**.
- Access Tungsten Automation support commitments, lifecycle policies, electronic fulfillment details, and self-service tools.
  Go to the Support Details page and select the appropriate article.

Chapter 1

Overview

The information in this guide provides the best practices for passing field values directly to the extraction process.

Chapter 2

Passing field values

It is possible to pass values to Tungsten AP Agility invoice extraction. These values are then treated as confident and are assigned to the corresponding fields, regardless of what the locators extract.

For example, pass values for document data that is retrieved from the Chinese Golden Tax System, which is a central service that suppliers must submit key data for tax invoices. Here, AP Agility pulls these values from the GTS and passes them to extraction. This means that AP Agility does not rely on generic field extraction for these fields.

Up to the extraction process, the field data is stored in a `XValues.ConfidentData` text extension that contains information in JSON format. The information in the text extensions is parsed during extraction and assigned to fields.

You can also use this approach to pass in field values from custom sources. The text extension with document data may be written in *IP Custom Before Extraction* or any other up-front process.

Field value format

The `XValue.ConfidentData` must contain a string in JSON formation with the following properties.

Name	Type	Description
Fields	Dictionary<String,String>	Field values.
StorageFields	Dictionary<String,String>	XValues / text extensions.
LineItems	List<LineItem>	Line items - properties *(Optional - AP Agility uses only what it finds.)*
FieldCandidates	Dictionary<String,List<String>>	Candidates / alternatives for fields.
FieldPositions	Dictionary<String,BoundingBox>	Positions assigned to fields for highlighting. Can be skipped if not available.
VendorName	String	Vendor name.
VendorAddress	String	Vendor address.
CompanyName	String	Company / recipient name.
CompanyAddress	String	Company / recipient address.
DefaultPosition	String	Default position assigned to field values, and expects page, top, left, height, and width as comma-separated values.

The BoundingBox entries have the following properties.

Name	Type	Description
PageIndex	Integer	Page index, 0 as first page.
Top	Integer	Top position.
Left	Integer	Left position.
Right	Integer	Right position.
Bottom	Integer	Bottom position.

Name	Type	Description
Index	Integer	Line index, optional, makes content more readable.
Fields	Dictionary<String,String>	Column values.

Regular fields

You can pass data with field values, field candidates, and field positions.

Field values

You can submit field values via the `Fields` property of the `XValue.ConfidentData` function. The data type is a dictionary using strings as keys and values.

The following is a simple example that passes values for the InvoiceDate and InvoiceNumber:

```
{
     "Fields": {
           "InvoiceNumber": "INV00001",
           "InvoiceDate": "2022-12-12"
     }
}
```

Field candidates

You can submit field candidates via the `FieldCandidates` property of the `XValue.ConfidentData` function. The data type is a dictionary with the field name as key and a list of strings as values.

There is rarely a need to pass candidates or alternatives for fields that have a value assigned. There is however, one exception: Line pairing also looks at other candidates for the PONumber because the field can contain only one PO number. This means that for invoices that have multiple POs, further PO number can be submitted as candidates for the PONumber using the following example:

```
{
 "Fields": {
  "PONumber": "4500000010"
 },
 "FieldCandidates": {
  "PONumber": [
   "4500000011",
```

```
   "4500000012"
  ]
 }
}
```

Field positions

It is not mandatory to have field positions for fields but it can help validation users understand where a value originates. If you know the coordinates of a field on an image it is possible to submit that via the `FieldPositions` property of the `XValue.ConfidentData` function.

For example:

```
{
 "Fields": {
  "PONumber": "4500000010"
 },
 "FieldPositions": {
  "PONumber": {
   "PageIndex": 0,
   "Top": 300,
   "Left": 200,
   "Right": 300,
   "Bottom": 350
  }
 }
}
```

If no position information is submitted, extraction tries to find a good candidate for the submitted value using generic extraction. For example, if "198.45" is submitted for the Total and generic extraction finds a good candidate with the same value, the position of the Total field found by generic extraction is used.

Also, it is possible to submit a default position that is used if no position was submitted or found by generic extraction. AP Agility uses this approach during regular extraction when confident data is retrieved from QR codes and bar codes. The position from the QR or bar codes are used as default so that the user has some information about where the field originates.

Vendor ID and company code

The VendorID and CompanyCode fields are special because they contain IDs from the ERP system that the sender of an invoice probably does not know. These IDs are rarely printed on an invoice. The default approach for extracting these fields is to search addresses on a document. This always comes with some risk of a false hit.

If we know the vendor name and address, or the company name and address, it is possible to tweak the search results or even launch a new search that contains only the values required, to produce better search results.

For example, AP Agility receives the following information:

```
{
 "VendorName": "Gold Star Products",
 "VendorAddress": "Main Street 1234, 54321 Big City"
}
```

First, we try to find a corresponding entry in the results of the vendor search. If no results are found, a new search is triggered with only these value.

Line items

You can submit line items via the `LineItems` property in the `XValue.ConfidentData` function. The data type is an array of line items that contain column values in the `Fields` property.

For example:

```
{
 "LineItems": [
  {
   "Index": 0,
   "Fields": {
    "Description": "Stuff 1",
    "Quantity": "10",
    "Unit Price": "5.00",
    "Total": "50.00"
   }
  },
  {
   "Index": 1,
   "Fields": {
    "Description": "Stuff 2",
    "Quantity": "10",
    "Unit Price": "8.00",
    "Total": "80.00"
   }
  }
 ]
}
```

XValues

XValues are simple key-value pairs that may be attached to a document. In a TotalAgility document they are available as text extensions, using "`XValue.`" as a prefix. These values are not displayed nor are they validated. However, you can access them through the process.

You can submit XValues using the `StorageFields` property as follows:

```
{
 "StorageFields": {
  "Key1": "X",
  "Key2": "Y"
 }
}
```

If you access a document using the `CaptureDocumentService`, use "XValue.Key1" as the name for the text extension to retrieve the value for Key1.

Storing document data via SDK

If you are using the *IP Custom Before Extraction* process to resolve field data, then you can use a .NET action to invoice the `CaptureDocumentService` to save the JSON value to the document.

For example,