Functional Design Document
FDD Modification

CM001: Document handling – Text modules

Customer
WÜRTH PHOENIX Trade+

Project
Implementation WÜRTH PHOENIX Trade+ on Dynamics 365 for F&O

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1 Revision & Signoff Sheet

Definitions, Abbreviations

Definition	Abbreviation	Description
Dynamics 365 for Finance and Operations	D365 F&O	

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3 Executive Summary

With D365 F&O it is possible to create attachments to several tables. These attachments can be of several types, which can be individually parametrized.

It is required to implement a functionality to save standard texts as so-called text modules, so that they can always be inserted into attached documents of several tables.

A second request is a copy functionality for attached documents. It should be possible to choose which type of documents should be copied from which source table to which destination table.

For example it could be very useful to copy an attachment regarding a special sales offer form the item to a sales order, however it will make no sense to copy attached documents concerning the purchase to the sales order.
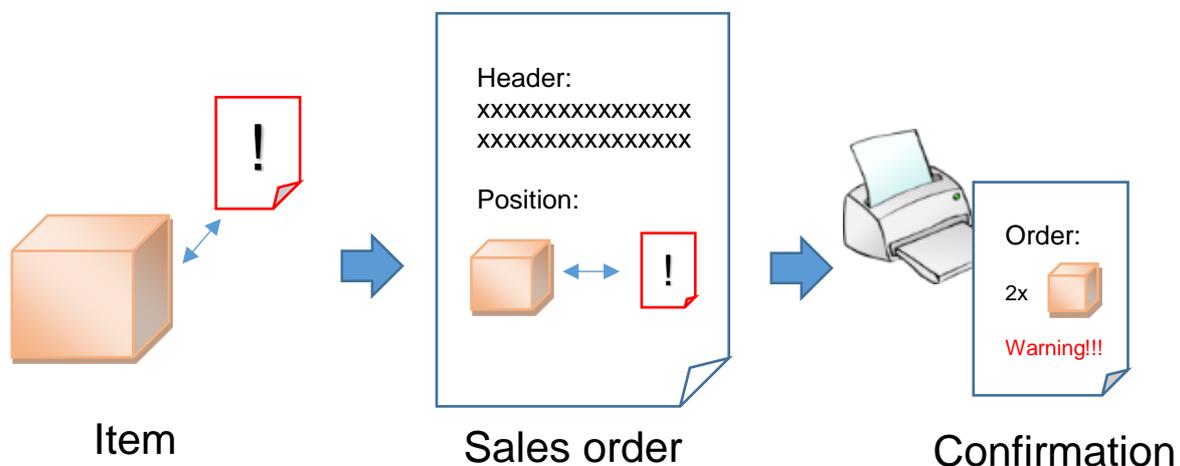

Figure 1: Copy document process

In order to provide a certain clarity and to improve the usability of the document handling form, this modification allows restricting the usage of document types on various tables.

4 Justification

4.1 Standard Microsoft Dynamics

- Starting from Dynamics AX2012 R3 it was possible to copy documents from item and from the customer to the sales order. It is not possible to copy from or to other tables or restrict the copy functionality to a certain document type.
- Actually, there is no functionality to create and save standard texts in D365 F&O, which can be attached to several different documents.
- With Dynamics AX2012 R3 it was possible to set several different document types which can be used as attachments. In the document handling form, when creating a new attachment, the full list of all document types is displayed. This list of document types can be long and can contain document types, which are not supposed to be used on the currently selected table. So for D365 F&O a new functionality will allow to restrict document types to defined tables.

4.2 Purpose of the modification

The modification aim to improve the document handling inside D365 F&O. It should be possible to save and use standard texts for printed forms and to copy attachments from master data tables to transaction data tables.

It should also be possible to decide for each document type, on which table it can be used. Consequently, the number of displayed document types on the document handling form is reduced to a smaller number and the usability of the form is increasing.

4.3 Expected benefits

Improved document (attachment) handling regarding
- flexibility
- process velocity
- efficiency

The usability of the document handling form on the various tables is increasing. Document types, which are not supposed to be used on a specific table, are not displayed.

4.4 Exclusions

The modifications described by this document focus on attachments on master data and transaction data tables. They do not involve form notes or scripts.

4.5 Assumptions

The modifications contained in this document are based on enhancements for the document management that are already implemented by Trade+.

5 Modification description

5.1 Process flow

The following chapters describe the modifications to the standard process flow of D365 F&O.

5.1.1 Text modules

With this modification, it is possible to save and lodge standard texts in the system, which can easily be inserted into attached documents. A new form (**Text modules** – described in chapter **5.2.1 Text modules form**) is created to offer the possibility to save standard texts and classify them into the different document types of the **Note** – type group. In the two fields "Valid from" (TextModuleWPC.ValidFrom) and "Valid to" (TextModuleWPC.ValidTo) it is possible to set a validity period for the text module.

These text modules can be used for warning codes, legal requirements, customer or item specific texts and codes, vacancy notifications or additional information.

In the document handling form it is possible to insert the text modules in a current document of type group **Note**. By clicking the **text module** - dropdown button in the action pane, it is possible to select a text module from a list and insert the text into the currently selected document.

It is also possible to translate the text modules into different languages, by using the standard D365 F&O translation operation in the text module form. In the document handling form the user can choose which language the text module has to have when it is inserted into a note.

If the current date is not in the validity period set by the two fields "Valid from" and "Valid to" the text module will not be displayed in the list of the available text modules.

5.1.2 Copy rules for documents

With this modification, it is possible to set rules, which handle the copy functionality of attached documents between two tables. We decide to limit the available copy rules in order to handle just a predefined set of combinations. In case a new combination is needed it has to be analyzed and developed.
To use this functionality the **Use copy functionality** parameter in the **document management parameters** form (found under Organization administration >> Setup >> Document management >> document management parameters) has to be set to **Trade+**.

By clicking the new Copy rule button in the Active document table form a new form coy rules pops up. There it is possible to select which document type or which document group type is copied from the actually selected table to a destination table. The destination table can be chosen from a drop down list, where some predefined tables are listed. The lookup shows three columns (based on the CopyRuleCombinationTableWPC), **table ID**, **table name** and **table description** where table name and table description are only view fields and only the table id field saves a value.

The allowed table combinations are set in the new table CopyRuleCombinationTableWPC described in chapter 5.3.3. It is prefilled with the combinations listed in the table shown in the same chapter.
If the user or the system creates a new position in these predefined tables (destination tables) the system checks if there are one or more copy rules set for the table and copies the documents, considering the those rules, from the source table to the destination table.

The copy rules combinations table (CopyRuleCombinationTableWPC) can only be modified by a developer and not by the user itself, because it also needs some modifications of the init function of the added table. Therefore, the available combinations requested in the system are listed in the chapter 5.3.3.

It is suggested to create the CopyRuleCombinationTableWPC table in order to make it easier to implement new copy rules when requested.

The form is accessible via:
Organization administration >> Setup >> Document management >> Active document tables >> copy rules
Following Example should show how the Trade+ copy functionality works:

In the CopyRuleCombinationTableWPC table a line exists with the source table id 175 (= InventTable) and the destination table id 262 (= ProdTable).

The user now creates a copy rule in the copy rule form linked to the InventTable:

Destination table ID:	**262**
Name:	**ProdTable**
Label:	**Production orders**
Type group:	**Note**
Document type:	**Item note**

The item **Iron Screw 6mm** in the InventTable has two notes attached, note A and note B. Note A is of type **Item note** however note B is of type **packing information**.

The user now creates a **production order** for the **Iron Screw 6mm**.

By launching the init function of the production order table (ProdTable) the system checks if there is a combination in the CopyRuleCombinationTableWPC between the InventTable (as source) and the ProdTable (as destination table).
Now it checks if in the CopyRuleTableWPC there is a copy rule set for the InventTable as source table and the
ProdTable as destination table. It finds an entry with Type group Note and document type Item note.
Afterwards the system searches the InventTable for documents of type group "Note" and type "Item note". It finds one document and copies it from the InventTable to the ProdTable.

After the creation process has finished, the user finds note A attached to the production order. Note B has not been copied because even if there is a valid combination between the two tables, there is no copy rule for notes of type packing information set for the tables InventTable and ProdTable.

5.1.3   Document restriction for D365 F&O

Because in D365 F&O the standard restriction available in previous versions process does not exist, the Trade+ document restriction process has to be redesigned:
On the *Document type,* a new parameter called "*Restrict document"* is introduced. By default it is set to "*No*", by activating it a button "Allowed tables" in the action pane of the form will be enabled. Pressing the button a new form opens. On the new form there is a grid where it is possible to create a record with each table from D365 F&O. The table names will be saved together with the document type id from which the form was opened in the table DocuTypeAllowedTablesWPC.

When creating an attachment for any table, the system will check first if the Restrict document parameter of the document types is set to Yes or No. If it is set to No the system will show the document type in the dropdown and will allow the creation of the attachment with that document type. If instead the Restrict document parameter is set to Yes the system will check if in the DocuTypeAllowedTablesWPC there is a record with the document type and the table where the attachment should be created. If this record exists, the system will show the document type in the drop down and will allow the user to create an attachment of this type. If not the document type will not be displayed and the manual creation of an attachment of that document type will be prohibited.

The document restriction will not have any influence on the copy rules. The copy rules functionality will still be able to copy an attachment to a table where that particular document type is not allowed for manual creation.

5.2 Modifications to Forms

The new and enhanced functions are part of the forms described in the following chapters.

5.2.1 Document management parameters form

In the Document management parameters form under General new fields have been added:
- The first field is an enum field called **Use copy functionality** with the two options: (0) *Standard* and (1) *Trade+*. If Standard is chosen the standard copy functionality of D365 F&O is active, if Trade+ is selected the modified Trade+ document copy functionality is active.
- The second field is called **Restrict document type** and is also an enum field. It has the options (0) *Standard* and (1) *Trade+*.
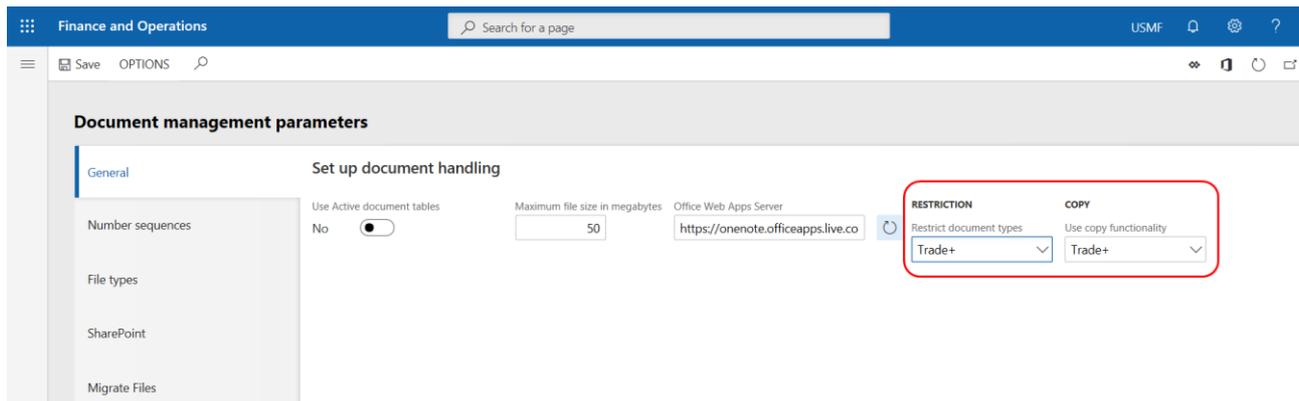

Figure 2: Document management parameters

5.2.2 Text modules form

A new form called "Text modules" is added. The form is divided into two parts, a grid container on the left and a detail container on the right.

5.2.2.1 Grid Container

The grid container on the left side of the form lists all text modules (TextModuleWPC). The first column shows the **Name** (TextModuleWPC.Name) of the text module, the second shows the **Description** (TextModuleWPC.Description) and the third one shows the **Text module ID** (TextModuleWPC.TextModuleId). By setting the curser on one of the lines, the related information appears in the right **Detail information section**.

5.2.2.2 Detail Container

The right section of the form is the **Detail container**. It is divided by two fast tabs: **General** and **Text module**.

The first field group of the General fast tab has no title and contains general information. First field is the **Text module ID** (TextModuleWPC.TextModuleId)**.** Once set the field is grayed out and cannot be modified anymore.

Second field underneath the first one is the **Name** field (TextModuleWPC.Name). It shows the name of the text module which will also be displayed in several modules which are related with the text module table. The Name field can always be modified.

Underneath there is the **Description** field (TextModuleWPC.Description) which contains a short description of the text module.

The last field in this field group is the **Document type** field (TextModuleWPC.DocumentType). It is a dropdown field where it is possible to select the document type of the text module.

The second field group of the General fast tab has the title **Create**. The two fields underneath **Created by** (TextModuleWPC.CreatedBy) and **Created date and time** (TextModuleWPC.CreatedDateTime) are automatically created fields, which cannot be modified. The fields show by whom the text module was created and at which date and time.

The next field group is similar to the previous one and is called **Change**. It has two fields called **Changed by** (TextModuleWPC.ChangedBy) and **Change date and time** (TextModuleWPC.ChangedDateTime). They are also automatically created and cannot be modified manually. The fields show who did the last changes on the text module and at which date and time this was.
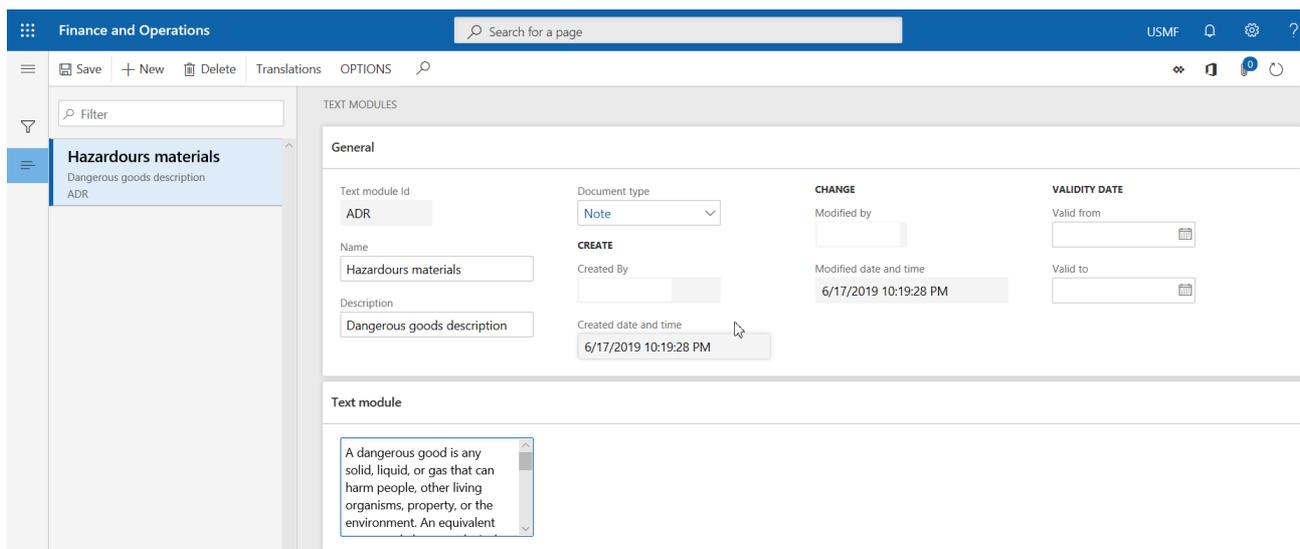
The last field group in this fast tab is called **Validity date** and contains two fields, **Valid from** (TextModuleWPC.ValidFrom) and **Valid to** (TextModuleWPC.ValidTo). These two fields are date field and set a period in which the text module is active. The system has to check if the "Valid from" date is older than the "Valid to" date and if the values inserted into the fields are dates, if not the system has to show an error message. If only the "Valid from" date is set, the text module is valid from the set date but has no expiry date. If only the "Valid to" date is set, the text module is valid to the set date. If no period is set, the text module is always active and has no expiry date.

The second fast tab is the **Text module** fast tab. It contains one text field (TextModuleWPC.Note), where the text of the text module can be inserted and saved.

5.2.2.3 Action Pane

In the action pane there are three buttons divided into two sections: A **New** and a **Delete** button in the first section and a **Translation** button in the second section. The New button creates a new text module, the Delete button deletes an existing text module. A click on the Translation button opens the standard D365 F&O translation table.

Underneath the **Text module** form is shown as it looks like.
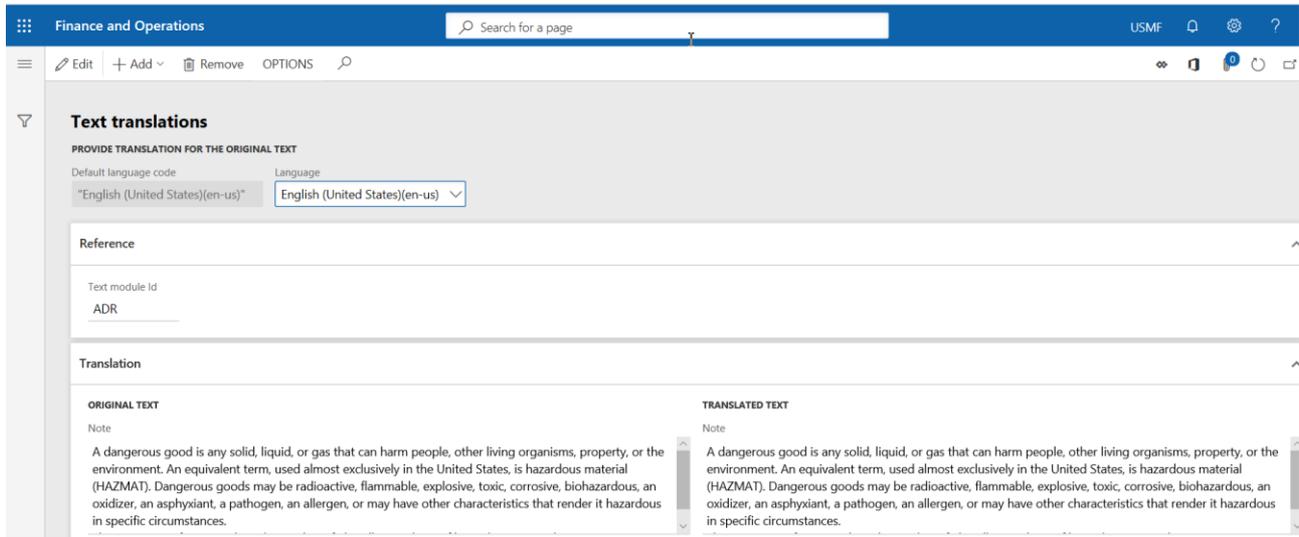

Figure 3: Text modules form

Figure 4: Transaltions

5.2.3   Document handling form

In the action pane of the document handling form a new dropdown button **Text modules** is inserted. The button is located in the **ButtonGroup** action pane tab.

By default the button is set as disabled, only if the document type group ((DocuType).TypeGroup) of the document type ((DocuRef).TypeId) of the selected line is "Note" the button becomes enabled.

By clicking the button, the text module dropdown expands and the user is able to select any text module, which has the same document type as the attached document ((DocuRef).TypeId == (TextModuleWPC).DocumentType).

The dropdown window is divided into three parts, an upper part a middle part and a lower part. The upper part contains a grid table with three columns.

- Column 1 is called **Mark** and has flag fields underneath;
- Column 2 is the **Name** (view TextModuleWPC.Name) column and shows the name of all text modules;
- Column 3 is the **Description** (view TextModuleWPC.Description) column

The middle part underneath the grid table contains a title called "Text module" and two fields. The first field is a dropdown field and is labeled "Language". It shows all the languages the selected text module is translated in, which are the same as shown in the **LanguageComboBox** in the "Text translation" form found under **Organization administration >> Setup >> Document management >> Text modules >> Translations**.

If a new translation in a different language is added to one of the text modules, the language should also been shown in the "Language" dropdown field described above. The same applies for translation languages, which are deleted from the text module. These languages should not be shown in the "Language" dropdown field anymore.

Underneath there is a large text field (view TextModuleWPC.Note). It shows the actual text of the selected text note in the language selected in the "Language" field above. The text field is not editable and the content changes with the selected row in the upper part.

The lower part of the dropdown window contains two buttons, an OK button and a Cancel button. By clicking the OK button, the text module will be inserted into the text field ((DocuRef).Notes) of the selected position and the dropdown window will collapse. If this text field is not empty, an error message (Error 1) will be thrown and the text module will not be inserted. It is only possible to select one text module per document. Multi selection is not supported.

By clicking the Cancel button or anywhere else then the dropdown window, the dropdown will collapse without doing nothing.

Once a text note is inserted, the DocuRef.Notes field gets disabled and grayed out. This is a security reason so that no one changes the text module unintentionally. However if the text module has to be modified the user has to select the **Edit text module** flag in the upper part of the form. By selecting the flag the DocuRef.Notes

text field becomes editable again. Changes in this field affect only the current document, not the text module. To change a text module you have to open the **Text module** form.

Error 1

Language	Error message
EN-US	(DocuRef).Notes is not empty – No text inserted. To insert a text module delete the text in the actual document or create a new one.
DE	(DocuRef).Notes ist nicht leer – Es wurde kein Text eingefügt. Um einen Textbaustein einzufügen, löschen Sie bitte den Text im aktuellen Dokument oder erstellen Sie ein neues.
IT	(DocuRef).Notes non è vuoto – Non è stato inserito nessun testo. Per inserire un elemento di testo cancella il testo del attuale documento o crea uno nuovo.

The screenshot below shows the new "Language" dropdown field. The system language in this screenshot is EN-US.
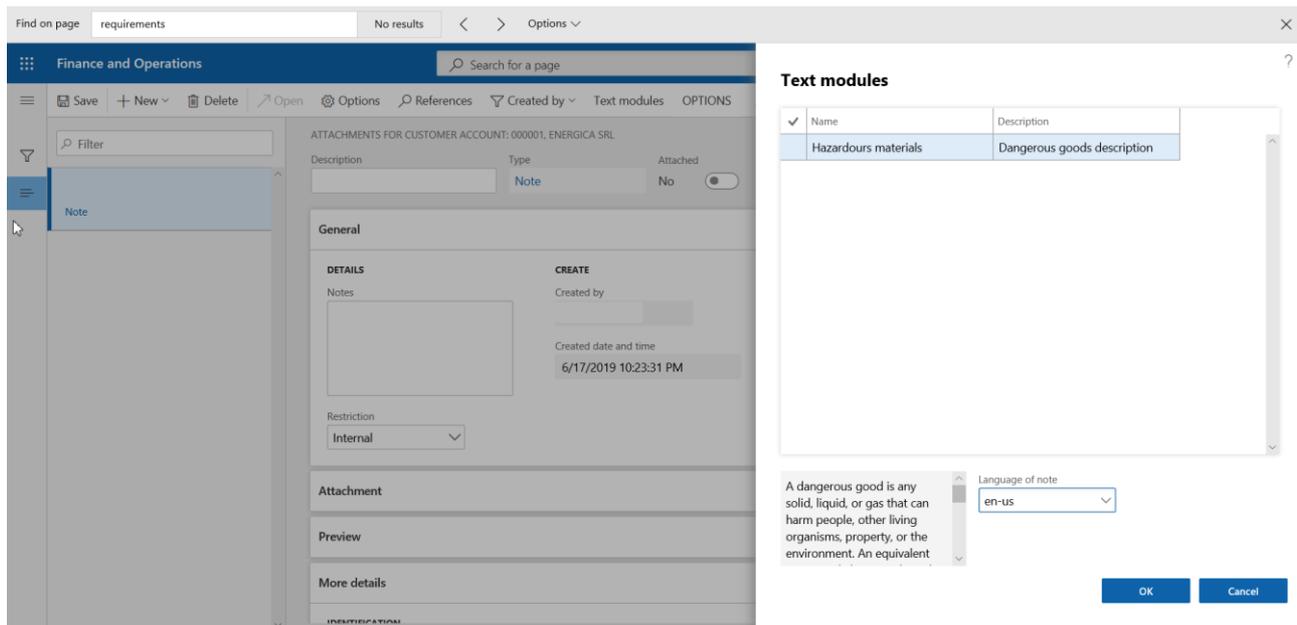

Figure 5: Text modules on document handling form

If in the document management parameters the field *Restrict document type* is set to *Trade+*, the dropdown of the button *New* in the action pane shows only the active options. If an option is disabled it will not only be grayed out like in standard D365 F&O but not even been shown.

5.2.4　Active document tables form

If the **Use copy functionality** field in the **Document management parameters** form is set to *Trade+* a new button, labeled **Copy rules,** will be displayed in the action pane of the **Active document tables** form. By default the button will be disabled. Only if the **reference table id** ((DocuTableEnabled).tableEnabledId) of the selected table has an entry in the copyRuleCombinationWPC.sourceTableId field the button will be enabled. By clicking the button the new Copy rules form (chapter 5.2.5) pops up.
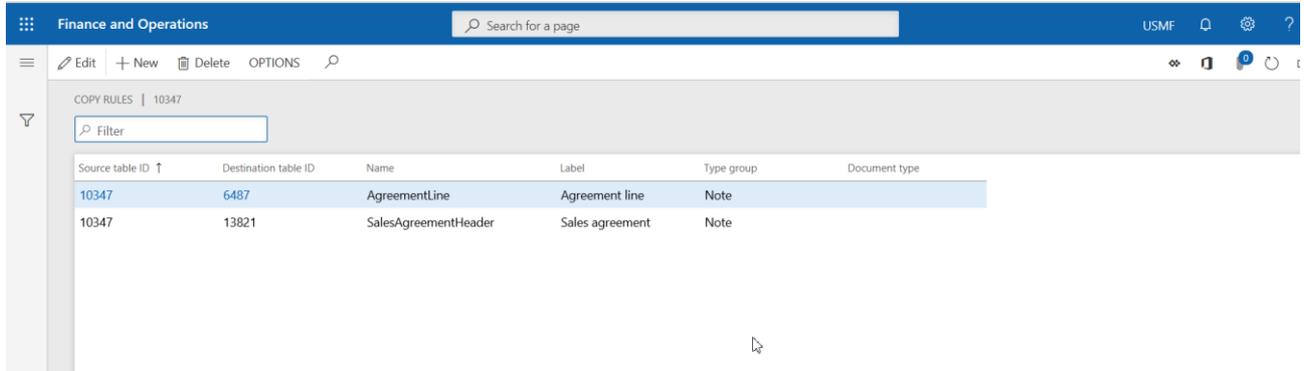
5.2.5　Copy rules

The Copy rules form contains two buttons in the action pain and a grid in the body. The two buttons in the action pane are the Add and the Remove buttons. By clicking them now lines in the grid will be created or removed.
The grid underneath contains 5 columns:

- **Destination table ID:** this field is a drop down field. The lookup shows three columns **Table ID, Name** and **Label.** The **Destination table ID** field shows only the destination table ids related to the selected table id in the **Active document tables** form. The relations are set in the new **CopyRuleCombinationTableWPC**. The two other columns (Name and Label) contain only display fields, which show the name and the label connected to the Table ID.
- **Name**: Display field, which shows the name of the destination table.
- **Label:** Display field, which shows the label of the destination table.
- **Type group (TypeGroup):** Drop down field which shows all the document type groups ((DocuType).TypeGroup). This field has to be filled before the Document type field (Type).
- **Document type (Type):** Drop down field, which shows all the document types of the selected Document type group in the **Type group** field.

If the Document type (Type) field remains empty, all types of the document group will be included in the copy rule.


Figure 6: Copy rules table

5.2.6　Document types

A new Yes / No parameter called *Restrict document* is added to the *General* fast tab of the Document types form. It is set to "No" by default.
On the action pane there is a new button called *Allowed tables*. This button is only active if the parameter of the selected document type is set to "Yes". By clicking the button a new form opens called Allowed tables.
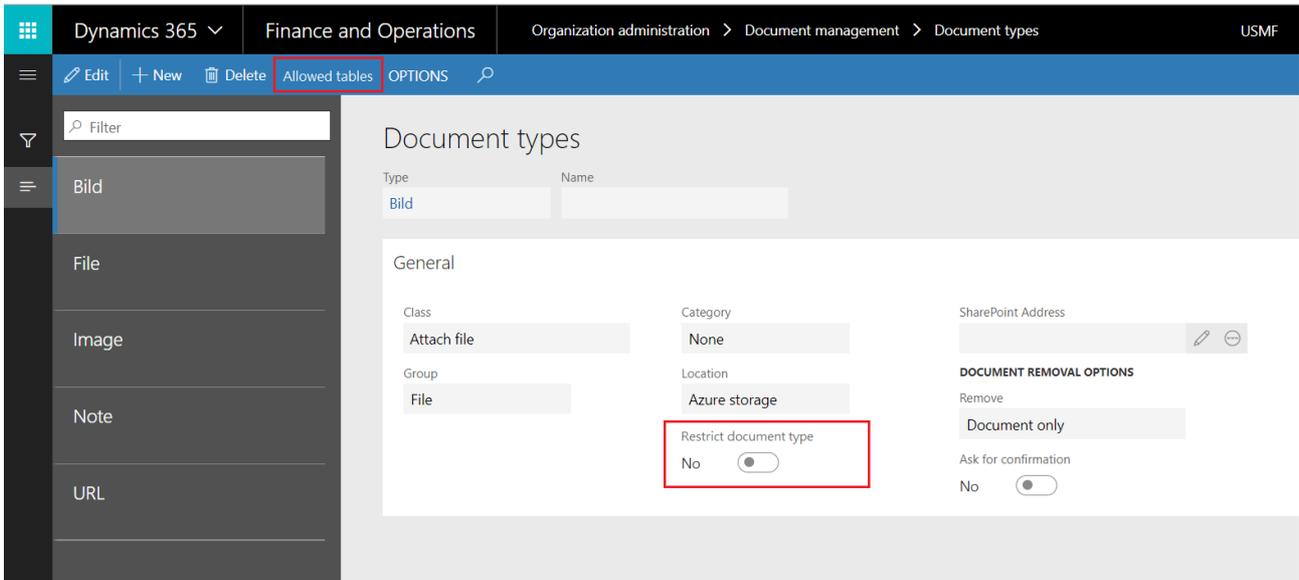
5.2.7 Allowed tables

On the action pane of the **Allowed tables** form there are the tree standard fields "Edit", "New" and "Delete". The main part of the form contains of the header the standard filter field and a gird. The grid contains of two columns one called **Table name** and the second **Table label.** The **Table name** is a lookup field, showing all available tables. The **Table label** field is a display method, which shows the label of the selected **Table name**.
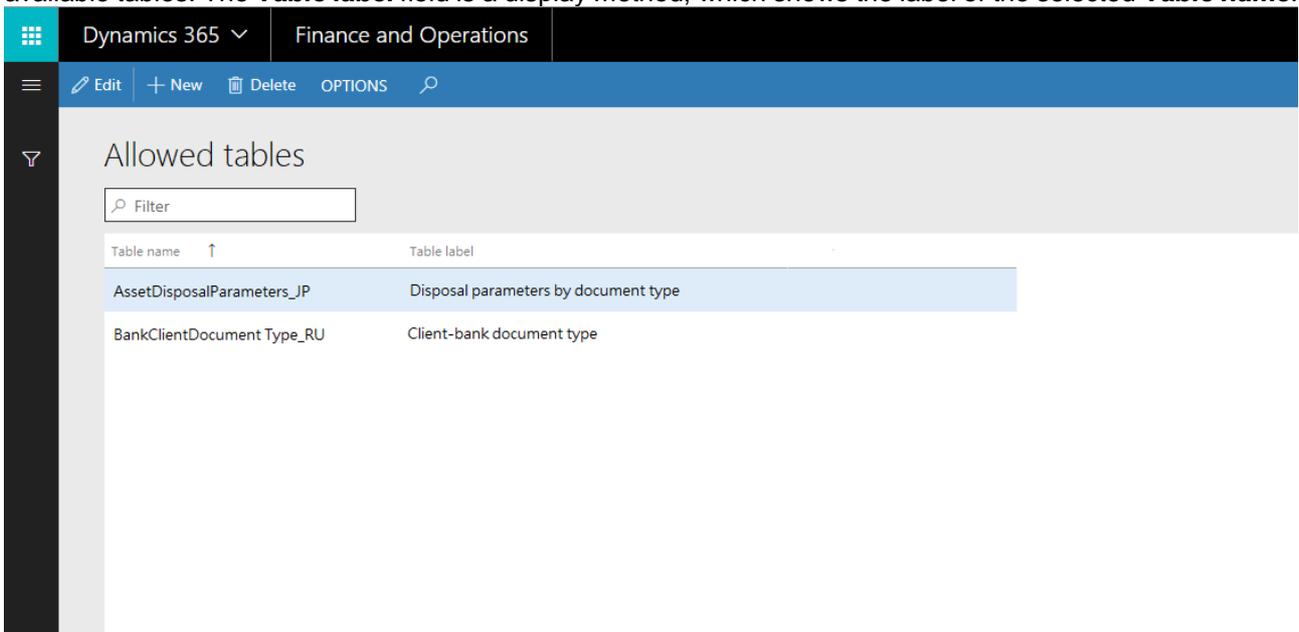
6 Security

The new entry points can be attached to the standard privileges "DocumentHandlingEssentials" and "DocumentHandlingMaintain", with respect to the corresponding access level.

6.1 Menu Item <DocuAllowedTableWPC>

A new menu item will be created to define the allowed tables for restricted document types.

6.1.1 New privileges

Privilege (AOT Name)	Label	Description (Optional)
DocuAllowedTableMaintainWPC	EN-US: Maintain allowed tables DE: Erlaubte Tabellen verwalten IT: Gestione tabelle consentite	EN-US: Maintain allowed tables for document restrictions DE: Erlaubte Tabellen für Dokumentenrestriktionen verwalten IT: Gestione tabelle consentite per restrizione documenti

6.1.2 New duties (Duties)

We will use existing duties.

6.1.3 Role mapping

Access Level	Privilege	Duty	Role
Delete	DocuAllowedTableMaintainWPC	SysServerSettingsMaintain	