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Service Document

S826 – LNA – Import assets

0. GENERAL

0.1. Table of contents

0.2. Version history

Date	Version	Author	Modification description
01/07/2015	0.1	Nickolas Heirbaut	Initial version (BLI 124242)
13/08/2015	0.2	Nickolas Heirbaut	Update documentation after DEV

0.3. Related service documents

Service nr.	Name	Version	Description
S709	Create and manage ERTs	N/A	Describes how ERTs are created and managed within UMAX.
S266	Create meter and register	N/A	Describes how meters are created and managed within UMAX.

0.4. Appendix

Nr.	Name	Version	Description
001	IDD001 - Integration design - UMAX-Cityworks - Assets	1.8	Solution Design
002	IMD001 - Integration mapping - UMAX-Cityworks - Assets	1.1	Mapping Document

0.5. Approval and signature

Function	Name	Date	Signature
Business Key-User			
Business Project Manager			
Project Manager			
Functional Consultant			

1. INTRODUCTION

1.1. Management Summary

The functionality provided in this document enables a lightweight import of meters or ERTs into the UMAX asset inventory using a defined file format (CSV).

The imported assets are expected to be maintained by an external inventory management system. UMAX only uses the import assets to perform validations on the unique identifiers (e.g. serial number) of the asset when being issued or installed.

The import functionality is limited in such a way that it only imports fields relevant to create the asset and to keep a reference to the external inventory management system (e.g. using a unique of the external system). In order to import assets with all of its attributes known in UMAX, consider using the IMAC framework.

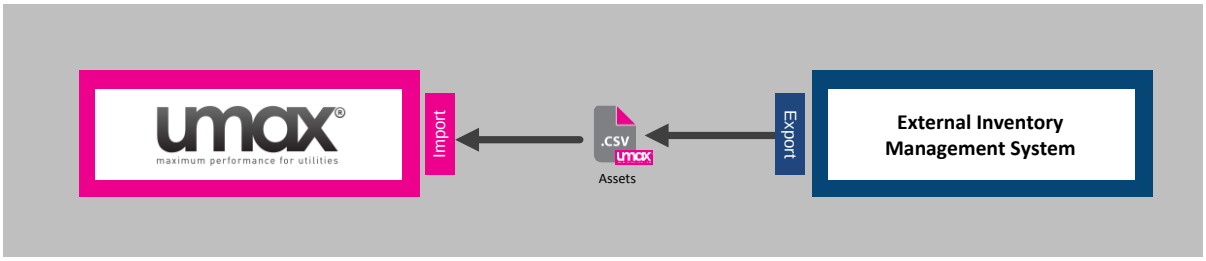
This document describes:

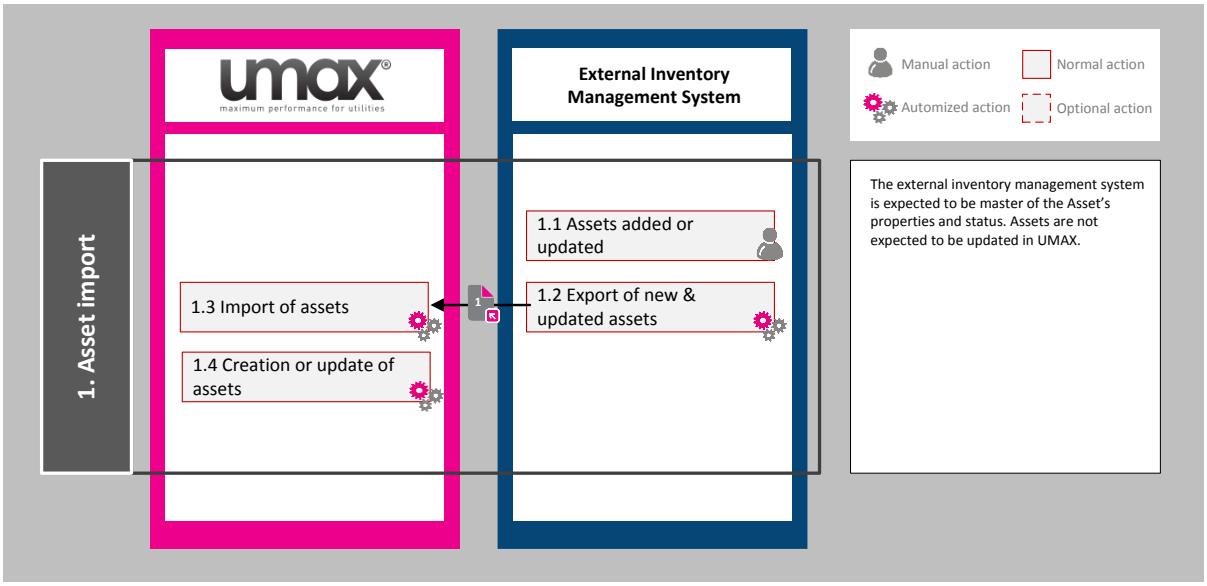
- The generic file format that is expected by UMAX to allow the user to import assets
- The validation and processing logic of the import functionality

1.2. Preconditions and assumptions

Nr.	Description
001	This FDE describes a generic file format and solution to import assets in UMAX. The mapping of other file lay-outs is not part of this functional design and needs to be generated by means of interfacing or other project-specific development/mapping.
002	The external inventory management system is considered the master of the asset, i.e. assets are only expected to be updated in the external system, not in UMAX.
003	Only the creation or update of meters and ERTs is currently supported
004	Creation of an error file containing the failed records is out-of-scope

1.3. Process overview





1.4. Conceptual data model

2. SERVICE DESCRIPTION

2.1. INPUT

2.1.1. Triggers

The import functionality is executed by means of a user action or batch job in UMAX. A CSV file that corresponds to the defined file format (see 2.1.2.1) must be available in the import folder.

2.1.2. Suppliers

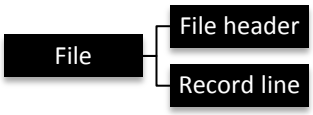
2.1.2.1. File specifications

2.1.2.1.1. Design conventions

1) Each record will be contained on one line of the file, terminated by **a carriage return and line feed pair**, with each field separated by a **semicolon**.
2) The first record in the CSV file will contain a **column name header** in each of the fields.
3) There is **no semicolon following the final field** in the record.
4) In case field values have embedded commas, embedded double-quote characters, intentional leading/trailing space characters, or other reserved characters, fields will always be enclosed within double-quote characters, whether necessary or not.
5) Leading and trailing spaces or tabs adjacent to semicolon (not within double-quotes) will be trimmed.
6) Any embedded double-quote characters must be represented by a pair of double-quote characters.
7) Single-record design

2.1.2.1.2. File structure

The first record in the CSV file is the file header and contains the names of the fields for informational purposes. This record is always included. Subsequent records are processed as record lines.



2.1.2.1.3. File header

The import file must contain a header which describes the names of the fields in the import file for informational purposes. The names to be used in the file header are describes in the specification of the record lines (see 2.1.2.1.4), but they are not validated. The file header is mandatory.

2.1.2.1.4. Record line

Position	Field name	Description		
1	Asset ID	Unique identifier of the asset object. Used as key to lookup the asset (priority 1).		
		Mandatory	Type	Possible values/example
		No	Str(12)	AID001356
2	Installation ID	Unique identifier of the installation object. Used as key to lookup the asset (priority 2)		
		Mandatory	Type	Possible values/example
		No	Str(12)	M000228
3	Installation object	Object type of the installation object.		
		Mandatory	Type	Possible values/example
		Yes	Str(10)	Meter, ERT
3	Installation object type	Unique internal identifier for the installation type (allowed values depends on the installation object)		
		Mandatory	Type	Possible values/example
		Yes	Str(30)	1.5 HPT Ecoder 25 wire
4	External ID type 1	The key of the first external ID. Used to lookup the asset (priority 3). Required when providing field *External ID value 1*		
		Mandatory	Type	Possible values/example
		No	Str(20)	Serial Number
5	External ID value 1	The value of the first external ID. Used as key to lookup the asset (priority 3)		
		Mandatory	Type	Possible values/example
		No	Str(30)	W140407
4	External ID type 2	The key of the second external ID. Used to lookup the asset (priority 4). Required when providing field *External ID value 2*		
		Mandatory	Type	Possible values/example
		No	Str(20)	Material ID
5	External ID value2	The value of the second external ID. Used as key to lookup the asset (priority 4)		
		Mandatory	Type	Possible values/example
		No	Str(30)	60MNIC2

2.1.2.1.5. File encoding

UTF-8, including BOM

2.1.2.1.6. Example

Consider the following input example:

CityworksStoreroomImportExample.csv

The values are mapped to the fields as follows:

#	Field	Value
1	Asset ID	AST000000015
2	Installation ID	INS000000001
3	Installation object	Meter
5	Installation object type	1.5 HPT Ecoder 25 wire
4	External ID type 1	Material ID
5	External ID value 1	60MNIC2
6	External ID type 2	Serial Number
7	External ID value 2	W140408

2.1.3. Configuration / Setup

2.1.3.1. External ID type

Menu: Installations and assets > Setup > Asset setup > External identification types

2.1.3.2. Meter type

Menu: Installations and assets > Setup > Meter and register > Meter types

2.1.3.3. ERT type

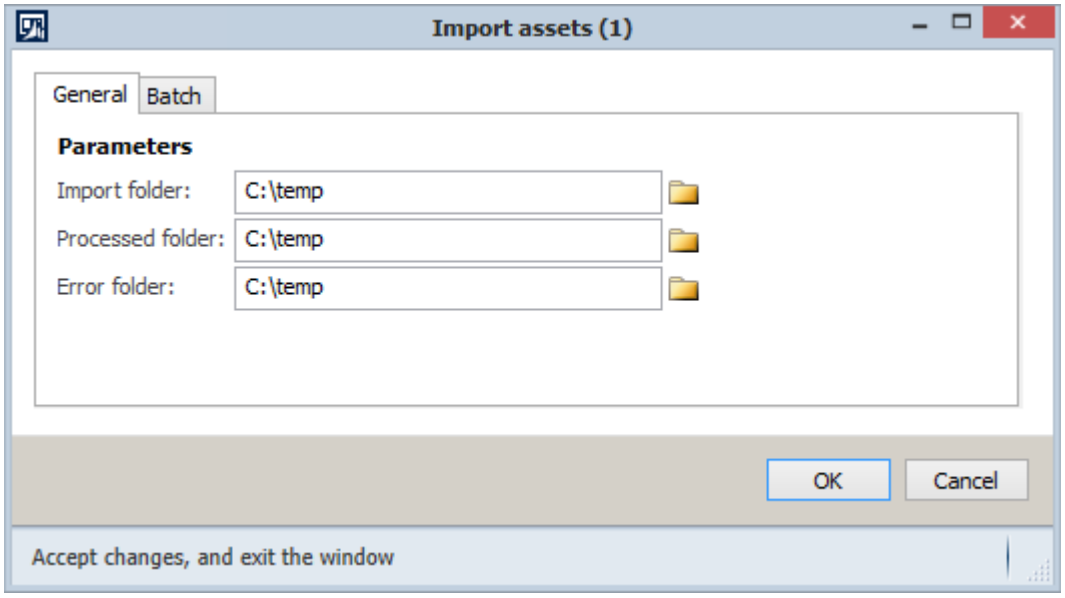
Menu: Installations and assets > Setup > ERTs >ERT types

2.2. PROCESSING

2.2.1. Batch job

The import functionality is executed by means of a user action or batch job in UMAX. A CSV file that corresponds to the file format described in 2.1.2.1 must be available in a predefined import folder.

Menu: Installations and assets > Periodic > Assets import > Import assets



The user selects the following directories:

Directory	Description
Import folder	Folder location that contains the files to be imported with this job Mandatory
Error folder	Folder location where the files in the import folder are moved when the import job fails Optional
Processed folder	Folder location where the files in the import folder are moved when the import job succeeds Mandatory

2.2.1.1. Filename

Any file that is provided in the import folder location with extension '*.CSV' is processed by the import job. Files with other file extensions are ignored and not imported.

2.2.1.2. Transactional processing

Each file is processed as a single transaction. If the file structure of a file does not comply with the specifications, an error is generated by the system (see 2.2.2.1). UMAX continues with the import of the next available file. At the end of processing the file, any generated error is shown either in an info log or in the batch history log, depending on the trigger.

Within a file, each record line is processed as a single transaction as well. If one of the record lines does not comply with the specifications, an error is generated by the system (see 2.2.2.2). UMAX continues with the import of the next record lines. At the end of processing, generated errors are shown either in an info log or in the batch history log, depending on the trigger.

When the file structure validation fails, the entire import job fails and no records are processed.

2.2.1.3. Ordered processing

Files are processed in chronological order based on the file timestamp. The file with the oldest timestamp is processed first, the file with the most recent timestamp as last.

2.2.2. Validation

The format and the content of the file & lines must be according to the specifications. The validations that are performed during the import are described below.

2.2.2.1. File structure

2.2.2.1.1. Number of fields

The file header must contain a total of 8 fields.

Action taken when validation fails:

- Import file is moved to the error folder location
- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the file stops immediately

Type	Infolog		
	Incorrect number of fields in the header (Expected: %expected_number%; actual: %actual_number%) *NL: Ongeldig aantal velden in de header (Verwacht: %expected_number%; werkelijk: %actual_number%)*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid file structure*

2.2.2.1.2. Minimum one record line

At least one record line must be available in the import file.

Action taken when validation fails:

- Import file is moved to the error folder location
- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the file stops immediately

Type	Infolog		
	Import file does not contain record lines *NL: Import bestand bevat geen record lijnen*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid file structure*

2.2.2.2. Record line

2.2.2.2.1. Number of fields

Each record line must contain a total of 8 fields.

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record %record_position%: Number of fields is not correct *NL: Record %record_position%: Aantal velden is niet correct*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.2. Data type

Each field must match the data type provided in the file specification. Validation is executed for any data type except for fields of data type String.

- For field *Installation object type*, the value must match one of the values provided in enumeration IUS_AST_AssetInstObjType.

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position %]: Value [%field_value%] in field [%field_name%] on position [%field_position%] does not match the expected data type [%field_datatype%] *NL: Record [%record_position%]: Waarde [%field_value%] in het veld [%field_name%] op positie [%field_position%] komt niet overeen met het verwachte data type [%field_datatype%]*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.3. Length of the fields

The maximum length of each field is defined in the file specification.

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog

	Record [%record_position%]: Value [%field_value%] in field [%field_name%] on position [%field_position%] exceeds the maximum field length of [%field_length%] characters. *NL: Record [%record_position%]: Waarde [%field_value%] in het veld [%field_name%] op positie [%field_position%] overschrijdt de maximum veldlengte van [%field_length%] karakters.*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.4. Mandatory fields

The mandatory fields in the input file must have a value (not empty).

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position%]: Field [%field_name%] on position [%field_position%] is mandatory but doesn't contain a value. *NL: Record [%record_position%]: Veld [%field_name%] op positie [%field_position%] is verplicht maar bevat geen waarde*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.5. Reference fields

The fields that refer to a setup or transactional table and which are non-empty must have a value that exists in this setup or transactional table.

This applies for the following fields:

- External ID type 1
- External ID type 2

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position %]: Value [%field_value%] in field [%field_name%] on position [%field_position%] is invalid. *NL: Record [%record_position%]: Waarde [%field_value%] in het veld [%field_name%] op positie [%field_position%] is ongeldig.*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.6. Mandatory fields for External ID value 2

When a value is provided for the field *External ID value 2*, the field *External ID type 2* must contain a value as well.

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position%]: Field [External ID type 2] on position [7] is mandatory in combination with field [External ID value 2] on position [8], but doesn't contain a value. *NL: Record [%record_position%]: Veld [External ID type 2] op positie [7] is verplicht in combinatie met veld [External ID value 2] op positie [8], maar bevat geen waarde.*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.7. External ID type must be different

When a value is provided for both the field *External ID type 1* and *External ID type 2*, the values cannot be identical (i.e. importing twice the same external ID)

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position%]: The value in field [External ID type 1] on position [5] must be different from the value in field [External ID type 2] on position [7] *NL: Record [%record_position%]: The waarde in het veld [External ID type 1] op positie [5] moet verschillend zijn van de waarde in veld [External ID type 2] op positie [7]*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.2.2.8. Reference field installation object type

The value provided in field *Installation object type* must have a value that exists in the corresponding setup table. The setup table that is used during validation depends on the field *Installation object.* For example, when the installation object is a meter, the installation object type must match a value in the meter type setup table.

Field value *%Installation object%*	UMAX field	Lookup value
Meter	(IUS_INS_MeterType).MetertypeId	*%Installation object type%*
ERT	(LNA_INS_ERTType).TypeID	

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position %]: Value [%field_value%] in field [%field_name%] on position [%field_position%] is invalid. *NL: Record [%record_position%]: Waarde [%field_value%] in het veld [%field_name%] op positie [%field_position%] is ongeldig.*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.3. Asset selection

For every record line that passes the record line validation, the import job tries to select the asset that must be updated (if applicable).

This selection is executed using a fixed priority:

1) Asset ID
2) Installation ID
3) External ID type 1 / External ID value 1
4) External ID type 2 / External ID value 2

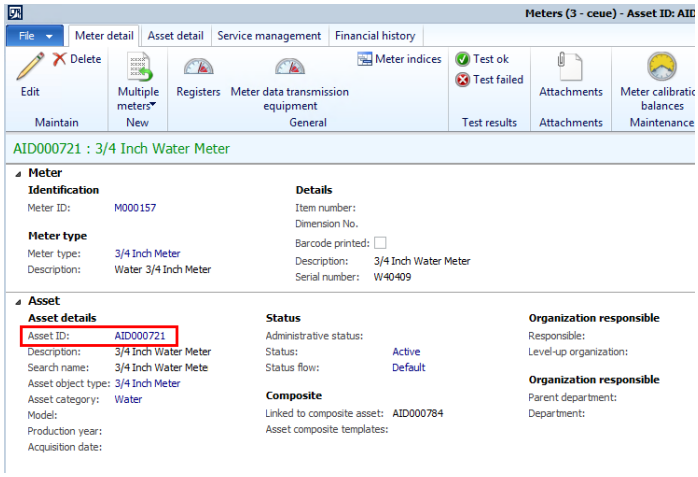
Matching rules:

1) Only one matching rule is executed (either based on *Asset ID*, *Installation ID, External ID type 1 / External ID value 1 or External ID type 2 / External ID value 2*)

- When the value of the field in the import file is empty, the matching rule is skipped and the next one is evaluated.
- When the value of the field in the import file is non-empty, the matching rule is executed.
    a. If an asset is found based on this matching rule, the asset is used as a source and an update will be performed instead of the creation of a new asset
    b. If no asset can be found:
        i. When searching based on *Asset ID or Installation ID* it is assumed that an invalid unique identifier was provided and the validation actions described in 2.2.2.2.5 are executed (error).
        ii. When searching based on *External ID value 1 or External ID value 2,* the next matching rule is evaluated (no error).
- When all matching rules are skipped, no asset is selected (the creation of a new asset is implied)

2.2.3.1. Asset ID

Look up of the asset based on the *Asset ID* field provided in the CSV record.



Selection criteria:

UMAX field	Lookup value
(IUS_AST_AssetTable).AssetId	*%Asset ID%*

Selection asset:

UMAX field
(IUS_AST_ AssetTable).AssetId

Action taken when no asset is found:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	Record [%record_position%]: No asset found with unique ID [%asset_id%]. *NL: Record [%record_position%]: Geen asset gevonden met unieke identificatie [%asset_id%]*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*No valid asset found*

2.2.3.2. Installation ID

Look up of the asset based on the *Installation ID* field provided in the CSV record. Depending on the value provided in field *Installation object*, the look up is done in a different field & table.

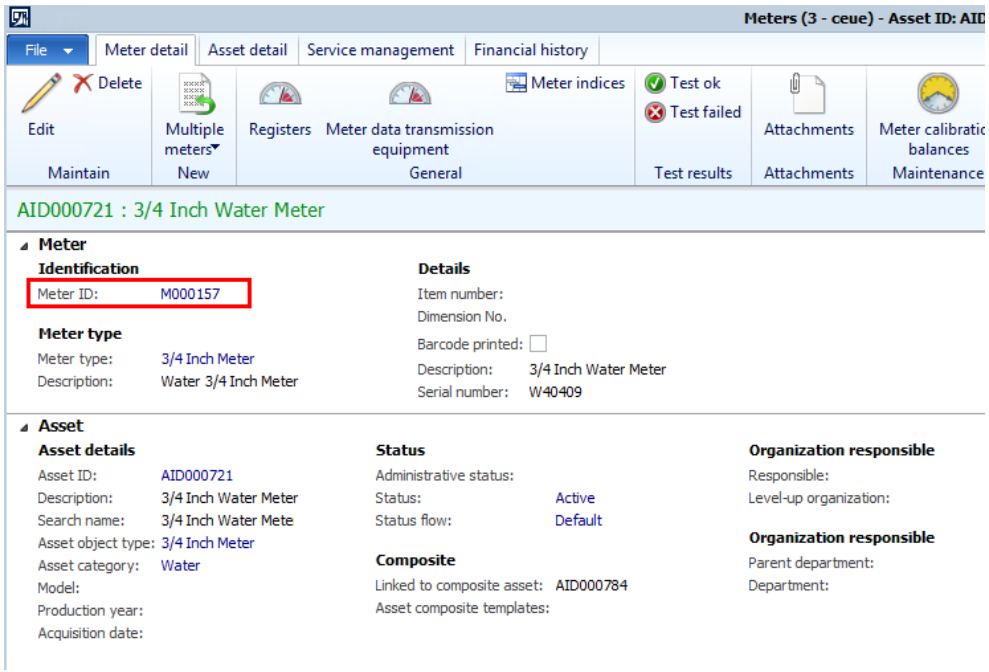
Selection criteria:

Field value *%Installation object%*	UMAX field	Lookup value
~~Premises~~	~~(IUS_INS_PremisesTable).PremisesId~~	*%Installation ID%*
~~Service~~	~~(IUS_INS_ServiceTable).ServiceID~~	
~~Serviceline~~	~~(IUS_INS_ServiceLine).ServiceLineId~~	
Meter	(IUS_INS_Meter).MeterId	
~~Register device~~	~~(LNA_INS_RegisterDevice).RegisterDeviceId~~	
ERT	(LNA_INS_ERTTable_1).ERTId	
~~Battery~~	~~(LNA_INS_Battery_1).BatteryId~~	
~~Cable modem~~	~~(IUS_INS_Router).Id~~	

~~Smartcard~~	~~(IUS_INS_Smartcard).SmartcardID~~	
~~Telephone~~	~~(IUS_INS_Telephone).TelephoneId~~	
~~SIM card~~	~~(IUS_INS_SIMCard).SIMCardId~~	
~~Supply line~~	~~(IUS_INS_SupplyLine).Id~~	
~~Disposal line~~	~~(IUS_INS_DisposalLine).DisposalLineId~~	
~~All-purpose object~~	~~(IUS_INS_GenericObject).GenericObjectId~~	

Selection asset:

Installation object type	Lookup value
~~Premises~~	~~(IUS_INS_PremisesTable).AssetId~~
~~Service~~	~~(IUS_INS_ServiceTable).AssetId~~
~~Serviceline~~	~~(IUS_INS_ServiceLine).AssetId~~
Meter	(IUS_INS_Meter).AssetId
~~Register device~~	~~(LNA_INS_RegisterDevice).AssetId~~
ERT	(LNA_INS_ERTTable_1).AssetId
~~Batteries~~	~~(LNA_INS_Battery_1).AssetId~~
~~Cable modem~~	~~(IUS_INS_Router).AssetId~~
~~Smartcard~~	~~(IUS_INS_Smartcard).AssetId~~
~~Telephone~~	~~(IUS_INS_Telephone).AssetId~~
~~SIM card~~	~~(IUS_INS_SIMCard).AssetId~~
~~Supply line~~	~~(IUS_INS_SupplyLine).AssetId~~
~~Disposal line~~	~~(IUS_INS_DisposalLine).AssetId~~
~~All-purpose object~~	~~(IUS_INS_GenericObject).AssetId~~



Action taken when no asset is found for the given criteria:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

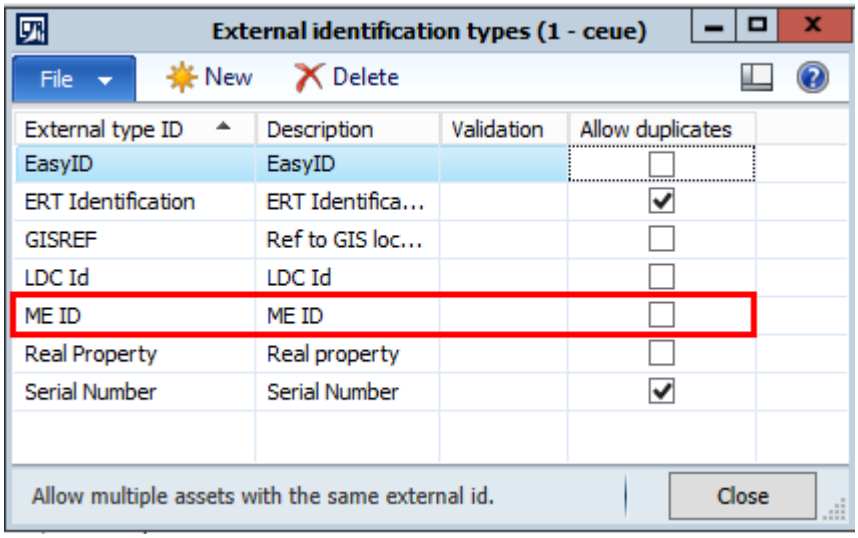
Type	Infolog		
	Record [%record_position%]: No asset found for installation object [%Installation Object%] with unique ID [%Installation ID%]. *NL: Record [%record_position%]: Geen asset gevonden voor installatie object [%Installation Object%] met unieke identificatie [%Installation ID%]*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*No valid asset found*

2.2.3.3. External identification

Look up of the asset based on the combination *External ID value 1/2 & External ID type 1/2* field provided in the CSV record.

The lookup is only performed when the external ID type provided in the record is configured in UMAX to not allow duplicate values. When the external identification type is configured to allow duplicates, the lookup is skipped.

Menu: Installations and assets > Setup > Asset setup > External identification types



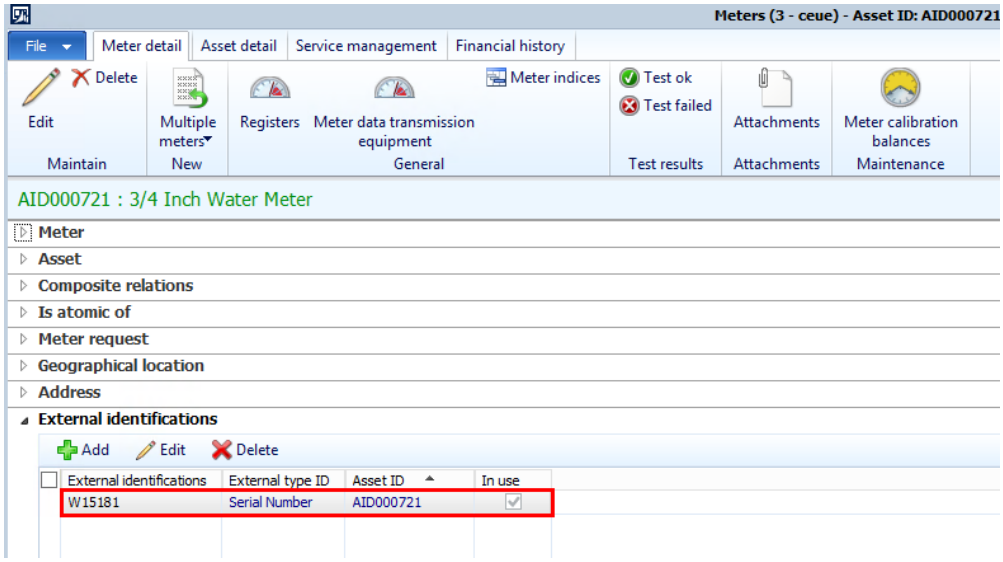
The combination of both type & value in table IUS_AST_AssetExternal determines the asset to select.

Selection criteria:

UMAX field	Lookup value
(IUS_AST_AssetExternal).ExternalId	*%External ID value 1%* *or* *%External ID value 2%*
(IUS_AST_AssetExternal).ExternalTypeId	*%External ID type 1%* *or* *%External ID type 1%*

Selection asset:

UMAX field
(IUS_AST_AssetExternal).AssetId



2.2.3.4. Examples

#	Scenario
1	Import of meter based on asset ID
2	Import of meter based on installation ID
3	Import of meter based on external identifier 1
4	Import of meter based on external identifier 2

#	Field	Scenario #1	Scenario #2	Scenario #3	Scenario #4
1	Asset ID	**AID001356**			
2	Installation ID		**M000228**		
3	Installation object		**Meter**		
4	Installation object type	**1" single**	**1" single**	**1" single**	**1" single**
5	External ID type 1			**ERT S/N**	
6	External ID value 1			**18151661**	
7	External ID type 2				**Material ID**
8	External ID value 2				**MT118189**

2.2.4. Operation mode

The outcome of the asset selection (see 2.2.3) determines whether a new asset must be created, or an existing one must be updated. When an asset is found during asset selection, the update of an existing asset is implied (see 2.2.6). When no asset is found during asset selection, the creation of a new asset is implied (see 2.2.7):

- UPDATE (see 2.2.6)
- CREATE (see 2.2.7)

2.2.5. Installation object

The *installation object* field in the CSV record determines the type of asset to be created or updated:

- Meter
- ERT

Lookup value
%Installation object%

Note: it must be possible to extend the supported installation objects in future versions.

2.2.6. Update installation object

Update of an existing installation object is performed when the outcome of the operation mode is UPDATE.

2.2.6.1. Meter

Only applies when field *Installation object type* equals to Meter (see 2.2.5).

Because the meter type cannot be changed after creation of the meter, the meter type in the CSV record must match the meter type linked to the asset found in 2.2.3.

Action taken when validation fails:

- Error is generated by the import job (info log)
- Error is added to the global error log
- Processing of the record stops
- Processing of the file continues (next record)

Type	Infolog		
	*Record [%record_position %]: Value [%field_value%] in field [%field_name%] on position [%field_position%] is invalid. The meter type cannot be changed.* *NL: Record [%record_position%]: Waarde [%field_value%] in het veld [%field_name%] op positie [%field_position%] is ongeldig. Het meter type kan niet worden gewijzigd.*		
	Log type	**Log subtype**	**Log code**
	Asset management	*Import asset*	*Invalid record line*

2.2.6.2. ERT

Only applies when field *Installation object type* equals to ERT (see 2.2.5).

When field *Installation object type* equals to ERT, the fields of the installation object linked to the asset found in 2.2.3 are updated:

UMAX field	Lookup value	Ref table
(LNA_INS_ERTTable).ERTType	%Installation object type%	Yes

2.2.7. Create installation object

Creation of a new asset & installation object is performed when the outcome of the operation mode is CREATE.

2.2.7.1. Meter

When field *Installation object type* equals to Meter (see 2.2.5), a new meter is created using the same logic as if the meter would be created interactively.

UMAX field	Lookup value	Ref table
(IUS_INS_Meter).MeterTypeId	%Installation object type%	Yes

2.2.7.2. ERT

When field *Installation object type* equals to ERT (see 2.2.5), a new ERT is created using the same logic as if the ERT would be created interactively.

UMAX field	Lookup value	Ref table
(LNA_INS_ERTTable).ERTType	%Installation object type%	Yes

2.2.8. External identifications

2.2.8.1. Update previous external identification

When the operation mode is UPDATE and an external identification of the same type as defined in field %External ID type 1 or 2% is already linked to the asset, the *In use* field of that already existing external identification record is set false.

Selection criteria:

UMAX field	Lookup value
(IUS_AST_AssetExternal).ExternalTypeId	%External ID type 1 or 2%
(IUS_AST_AssetExternal).AssetId	ID of asset selected in 2.2.3
(IUS_AST_AssetExternal).InUse	True

Update field

UMAX field	Lookup value	Ref table
(IUS_AST_AssetExternal).InUse	False	No

2.2.8.2. Create external identification

A new external identification record is created when 1) field *External ID value 1 or 2* is non-empty in the CSV record and 2) when no identical record exists. The latter is only validated when the operation mode is UPDATE.

Selection criteria:

UMAX field	Lookup value
(IUS_AST_AssetExternal).ExternalId	%External ID value 1% -or- %External ID value 2%
(IUS_AST_AssetExternal).ExternalTypeId	%External ID type 1% -or- %External ID type 2%
(IUS_AST_AssetExternal).AssetId	ID of asset selected in 2.2.3
(IUS_AST_AssetExternal).InUse	True

When the above selection does not return a record, the creation of the external identification is created as follows:

UMAX field	Lookup value	Ref table
(IUS_AST_AssetExternal).ExternalId	%External ID value 1% -or- %External ID value 2%	No
(IUS_AST_AssetExternal).ExternalTypeId	%External ID type 1% -or- %External ID value 2%	Yes
(IUS_AST_AssetExternal).AssetId	ID of asset selected in 2.2.3	Yes
(IUS_AST_AssetExternal).InUse	True	No

Note: the creation of a new external identification also applies when operation mode is UPDATE.
Note: when both external ID value 1 and external value 2 are provided in the CSV record, two external identification records are created.

2.3. OUTPUT

2.3.1. Generated output

When a file is imported

- Info message is generated
- Any subsequent message that occurs while processing the file is linked to this info message

Type	Infolog
	*File %file_name%* *NL: Bestand %file_name%*

When the import job fails due to file structure validation failure:

- Error message is generated and logged in the global log
- Import file is moved to the error folder location

For records that are successfully imported:

- An asset and installation record is created
- Optionally, an external identification record is created

For records that could not be imported due to a failed record line validation:

- Error message is generated and logged in the global log

When the import job ends without file structure validation failure:

- Import file is moved to the processed folder location

When the import job fails due to an unhandled exception:

- Error message is generated (at root level) and logged in the global log
- Any import file not yet processed is moved to the error folder location
- Status of the batch is set to Error

When the import job ends (successful or not):

- An info message is generated per imported file with the total number of processed + failed + successful records

Type	Infolog
	*%number_total% records were processed, %number_successful% successful, %number_failed% failed.* *NL: %number_total% records werden verwerkt, %number_successful% succesvol, %number_failed% gefaald.*

- In batch mode, the statistics of batch job are updated with the total number of processed records + failed + successful
- In interactive mode, the info log is shown

2.3.2. Consumers

2.3.2.1. S3 – Service 3 that receives and processes the output further on

2.3.2.2. User action

2.3.2.3. External system

3. REPORTING

No reporting is included

4. TECHNICAL AND IMPLEMENTATION INSTRUCTIONS

4.1. Code base

4.2. Fields and tables

4.3. System logic

4.3.1. Logic breakdown

-If asset id present in import file

- If exists in the system
  - If has installation object type or external ID
    - update asset with ~~installation object type or~~ external id (only if present)
  - If it doesn't have installation object type, not external ID
    - Do not update asset - nothing to do
- Asset does not exists in the system
  - If has installation object type
    - create asset with installation object type and external id
  - If it doesn't have installation object type
    - Do not create asset, we cannot determine te asset object type to create the asset

- Installation id present in the import file, but no asset id
  - Found asset in the system
    - Yes -> update objects
    - No, create objects
- If external id + type 1 AND 2 present in the import file
  - If asset found with external 1, update with external 2
  - If asset found with external 2, update with external 1
- If only external id + type 1 OR 2 present in the import file
  - If asset found -> do not update , nothing to update
  - If asset not found
    - If installation object type specified in the file
      - Create asset with Asset object type taken from the installation object type indicated in the input file
    - No installation object type in the file
      - do not create, insufficient data, we cannot determine the Asset object type used to create the asset

4.4. Forms

5. NON-FUNCTIONAL REQUIREMENTS

5.1. Requirements per service

Characteristic	F-CWS-UMX-01
Interface ID	F-CWS-UMX-01
Interface name	Create and update UMAX asset
Integration approach	File transfer
Exchange pattern	Export / import
Sequencing	Asynchronous
Volume & message size	Max. 1.000 records / 100 MB
Average message volume (messages/interval)	1 / day
Expected growth (2 years)	No growth expected
Peak message volume (messages/interval)	1 / day
Peak hour	Outside business hours
Expected processing time	10 min
Maximum processing time	1 hour
Possibility to re-send (idempotence)	No
Multi-threaded	No
Maximum number combined operations	Multiple records in one file supported; multiple files to import supported
Protocol	SMB
Security	NTLM
Encoding	UTF-8 (incl. BOM)

5.2. Operational behavior

Topic	Description
Load balancing	Not supported
Fail-over	Supported in UMAX in a multi-AOS environment. When an AOS is unavailable, another AOS will be assigned to process the service
Scalability	Not supported
Implementation technology	File transfer, import (SMB)
Monitoring schedules	Alerting mechanism in UMAX in place for detecting failures during export or import. An e-mail notification can be sent to functional maintenance.
Backend start-up procedures	n/a
Backend shutdown procedures	n/a
Audit requirements	Currently no specific requirements with regards to audit.
Backup and restore	Back-up schedule is expected to be in place for data in UMAX. Back-up schedule is expected to be in place for file share to protect files exported by one system but not yet imported by the other.

6. IMPACTED SECURITY ROLES

Role Description	Functional permissions
Asset Clerk	**Execute import (2.2.1)**
Asset Manager	Duty / privilege LNA_AssetImport