

Interface between Baan and BasWare

Users manual

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Purpose of document

This document documents the Baan parts of the Triceps-iT interface between Baan and BasWare. The main objective of the document is to enable normal users to make use of the interface and to take necessary actions on errors - if and when they may occur.

A separate "Interface Specifications" document describes details of the interface – like file formats, naming conventions, field contents etc.

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Main functionality

The BasWare interface supports the transmission of data between a BasWare invoice processing system and a Baan ERP system. It processes invoices that are received in BasWare. The processing includes a number of business processes in Baan starting with creating the invoices in a batch to the final matching and approval of the invoices.

Presently the interface supports the **following types of invoices**:

- Ordinary cost invoices,
- Invoices related to purchase orders, and
- Cost invoices related to TP-projects. The following cost types are supported: "Sundry", "Subcontracting" and "Materials".

- Credit notes for each of the above types.

The basic **business procedure is split into two steps** :

1. "Prebook" – the invoice is registered in Baan and the resulting document number is returned to BasWare.
2. "Transfer" – the processing of the invoice in BasWare is completed, and it is posted, matched and approved in Baan.

Should errors occur during the processing in Baan, then message(s) will be created and returned to BasWare.

Execution of Baan logic is based on the use of "**Application Function Servers**". This implies that the interface makes use of the programs, which already resides in the Baan system – without any need for customizations. The following maintenance of the interface is therefore dramatically minimized compared to traditional interfaces.

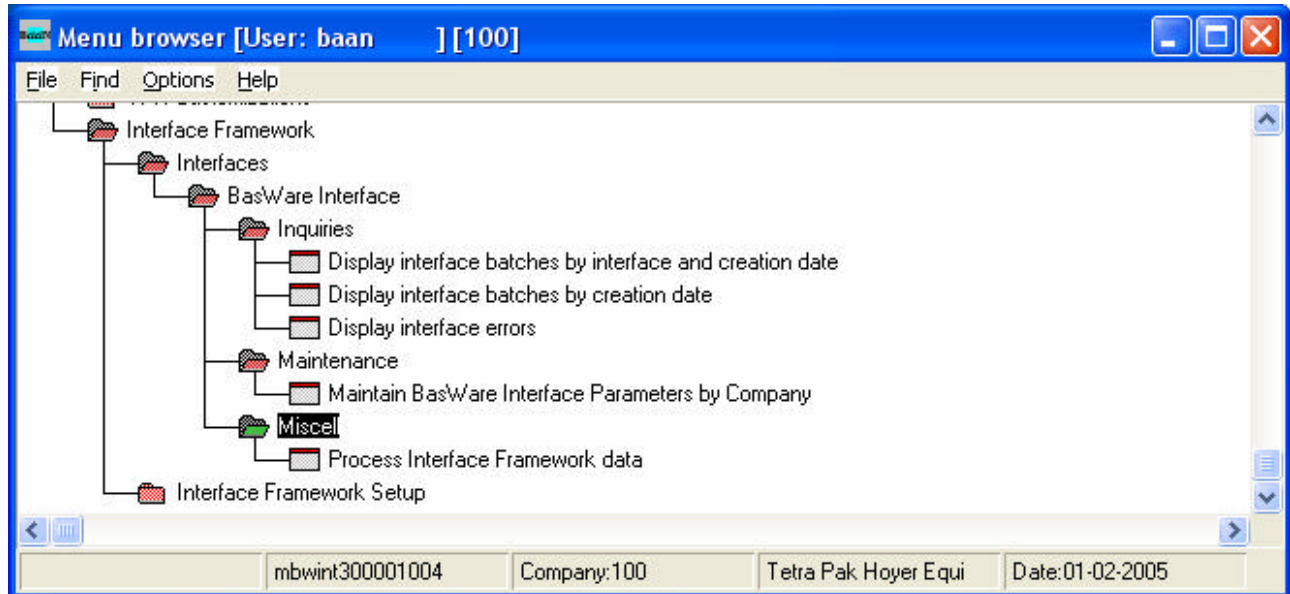
Due to the special behavior of the Finance sessions it has been necessary to change a (very) limited number of programs slightly (in gld+acp 3-5 programs with 5-10 lines added), and we are working to limit this number further.

Finally the interface is "wrapped" into the **Triceps-iT Interface Framework**. This framework offers a set of tools, that supports a structured approach to the development of an interface. It enables Baan installations to execute a number of different interfaces using the same "engine" (Baan session), and ensures a standardized approach to interfacing. Knowing one interface developed under the Interface Framework makes understanding of other interfaces very easy.

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Menus

The interface is presented to users in one menu:



At the top level 2 sub-menus can be seen:

- The BasWare Interface, and
- Interface Framework Setup

The latter is only used during the development of the interface. Consequently it is only needed when there are changes to the functionality of an interface. Ordinary end users (who use the functionality of a specific interface, or who monitors an interface) will only need access to the specific interface sub menu – in this case the: “BasWare Interface“ sub menu.

This document only describes the sessions that (directly or indirectly) are related to the “BasWare Interface”.

Menus in Baan:

The menus have the following identification in Baan:

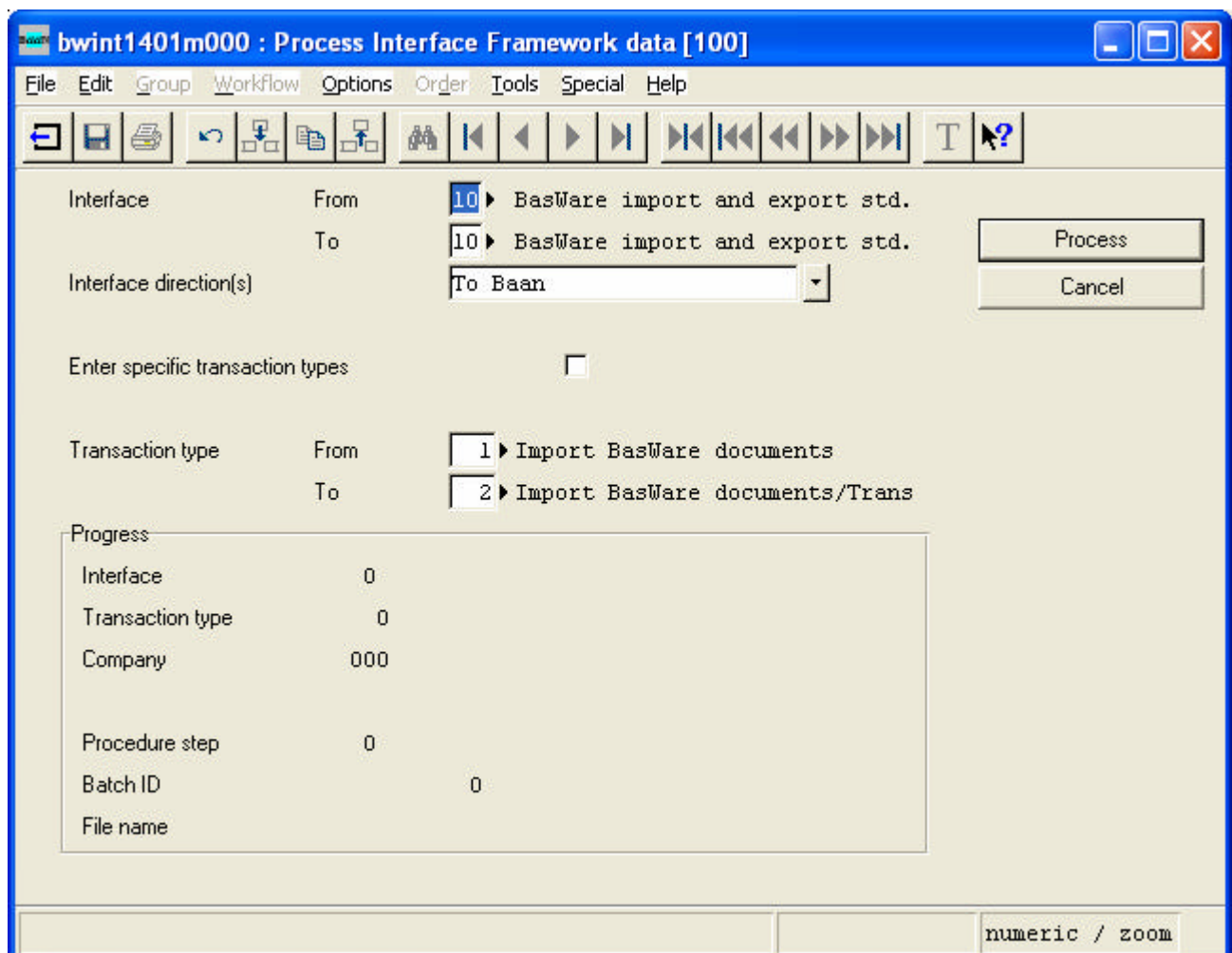
- bwint10000000 - ”Interface Framework”
- bwint30000100 - ”BasWare Interface
- bwint10000100 - ”Interface Framework Setup”

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Sessions

Processing of the interface

All processing of the BasWare interface (or any other Interface Framework interface for that matter) is done using one session: "bwint1401m000 – Process Interface Framework data", which is located in the "Miscell" menu.



bwint1401m000 : Process Interface Framework data [100]

File Edit Group Workflow Options Order Tools Special Help

Interface From 10 ▶ BasWare import and export std.
To 10 ▶ BasWare import and export std. Process
Interface direction(s) To Baan Cancel

Enter specific transaction types

Transaction type From 1 ▶ Import BasWare documents
To 2 ▶ Import BasWare documents/Trans

Progress

Interface	0
Transaction type	0
Company	000
Procedure step	0
Batch ID	0
File name	

numeric / zoom

In the form the BasWare interface must be specified in the "Interface" fields. Furthermore the "Transaction types" must be specified.

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Interface

The BasWare interface is comprised by 3 "sub-interfaces". They are numbered as follows:

- 10 :** The parts of the interface which are used for exporting all data, that are necessary for processing "normal documents" (everything except what is project related) in BasWare. In the opposite direction – by import of invoices from BasWare to Baan – all documents are processed disregarding their type.
- 12 :** Export of data related to the "TP" module – excluding "project_standard_items.csv"
- 13 :** Export of the above "project_standard_items.csv". Because of the differences in file types, (csv. Instead of xml) this export is carried out under a separate interface number.

Transaction Types

Each of the above interfaces are equipped with a number of transaction types. Each transaction type represents a file, which is either imported to or exported from Baan.

Interface-10 Supports import as well as export. On the import side the transaction types 1 and 2 handles the "Prebook" and the "Transfer" files. On the export side the files 10-23 are found. By activation the zoom-function you can see the individual file types <-> transaction type relations.

Interface-12 supports the TP-project module. It contains the transaction types 10-29, and is used exclusively for exporting TP project master data to BasWare.

Interface-13 supports only one export transaction type – "project_standard_items.csv" from the TP project module – transaction type 20. The reason why this file is exported in a separate interface is that the file format is significantly different from the other files. It has been made for one sole reason – in certain situations the XML file grew so large that BasWare couldn't handling the import of it. Furthermore the performance suffers hardly when processing very large xml files compared to processing csv-files.

(Interface-11 is reserved for future support of the PCS-project module).

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Monitoring the interface

Monitoring the interface is done using the sessions found in the "Inquiries" menu:

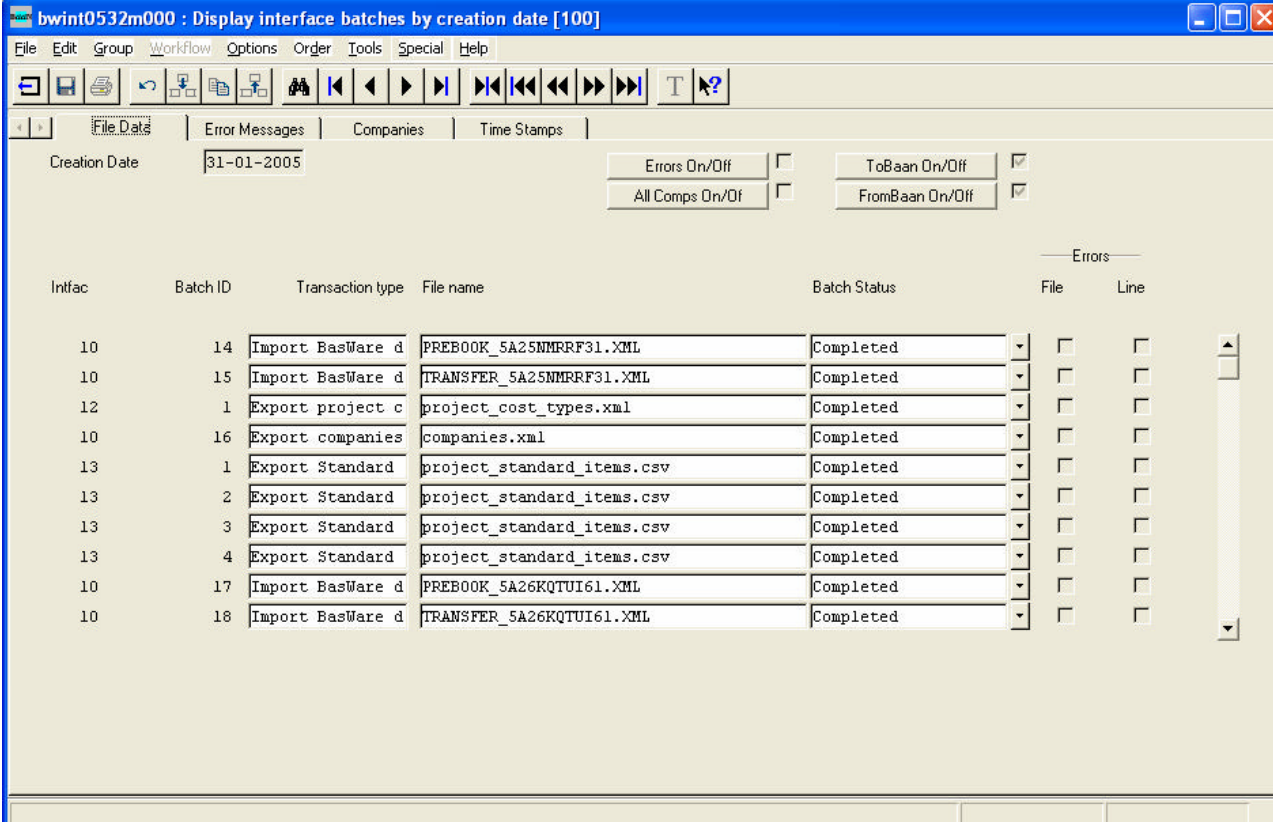
- bwint0530m000 – Display interface batches by interface and creation date
- bwint0532m000 – Display interface batches by creation date, and
- bwint0540m000 – Display interface errors

bwint0530m000 & bwint0532m000 – Display interface batches...

These sessions basically serves the same purpose. The basic difference is the structuring – or in other words the sorting of the data displayed.

The sessions display all transmissions of data between Baan and BasWare. Transmissions are made in the form of XML files (except from the "project_standard_items.csv" file). Every transmission is assigned a transmission number– a "batch-id", Each interface has its own batch-id number series.

Below is an example of bwint0532m000. In contrast to session bwint0530m000 transmissions from several interfaces are displayed simultaneously:



Inifac	Batch ID	Transaction type	File name	Batch Status	Errors	File	Line
10	14	Import BasWare d	PREBOOK_5A25MMRRF31.XML	Completed			
10	15	Import BasWare d	TRANSFER_5A25MMRRF31.XML	Completed			
12	1	Export project c	project_cost_types.xml	Completed			
10	16	Export companies	companies.xml	Completed			
13	1	Export Standard	project_standard_items.csv	Completed			
13	2	Export Standard	project_standard_items.csv	Completed			
13	3	Export Standard	project_standard_items.csv	Completed			
13	4	Export Standard	project_standard_items.csv	Completed			
10	17	Import BasWare d	PREBOOK_5A26KQTUI61.XML	Completed			
10	18	Import BasWare d	TRANSFER_5A26KQTUI61.XML	Completed			

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The transmissions – the batches – are created and numbered sequentially in the sequence that the files are created or received/read. The creation date and time is logged, and the batches are displayed in this sequence.

Form 1 – "File Data"

Form 1 displays basic data related to the individual batches like batch-id, filename, status, whether errors occurred during processing of the batch etc.. These errors can occur on file level as well as on line level. Errors on file-level are very basic problems during the handling of the file - like authorization problems, problems moving data, format error etc.. This kind of errors should not occur in a live system, but if they do (despite all god intentions) an error message will be displayed on form 2.

Form 2 – "Error Messages"

As explained above the errors displayed do not include errors during the actual processing of an imported file/document. They basically originate from the import procedures. Errors that occur after the import are logged at "record level", and they are displayed/explained in a later paragraph describing the sub sessions.

There may be several different messages logged relating to one batch. If this is the case a "*" is displayed right in front of the error field. If you wish to display all messages you choose "Special" and "Display multi-errors by line".

Form 3 – "Companies"

Form 3 displays the companies that were involved in the batch. If a multi-company setup is implemented individual batches may span several companies. If a batch includes data from several companies it will be displayed like e.g. "100 + 200 + 300".

In the BasWare interface only one document is transferred per batch therefore each batch will always relate to 1 company only.

Form 4 – "Time stamps"

Displays time stamps for creation and latest modification of each record.

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All forms

On all forms there are 4 “push buttons”. These are used for filtering the data displayed. In front of each button a checkbox indicates whether the button is activated or not.

Errors On/Off: When this button is activated only records that are in error are displayed. When not activated all records are shown – disregarding the error status.

All Companies On/Off: By activating this button, batches that are related to other companies (within the grouping defined using session bwint0111m000) than the current company are displayed. When not activated only the batches related to the current company are shown.

ToBaan On Off: When activated batches in the direction “To Baan” (From BasWare) are displayed – otherwise they are not displayed.

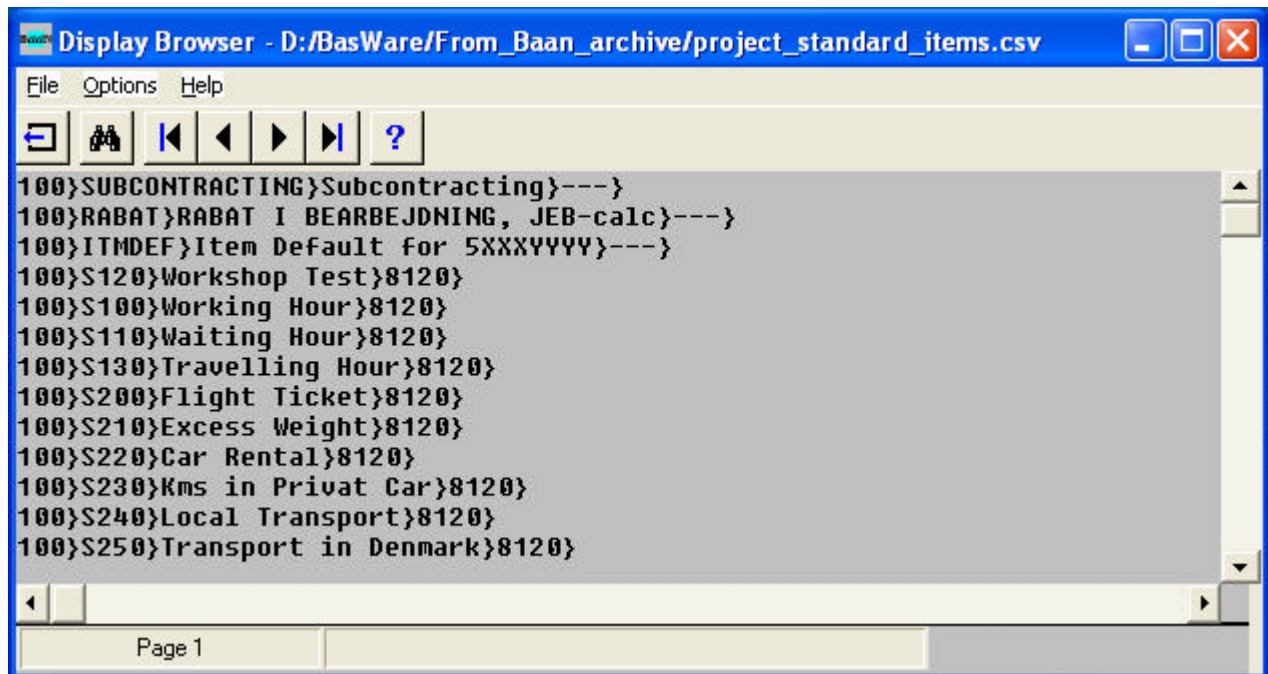
FromBaan On Off: When activated batches in the direction “From Baan” (To BasWare) are displayed – otherwise they are not displayed.

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Sub sessions:

If you wish to display more detailed information of a batch, you can mark the batch and choose: "Special", "Display File Details". Depending of the transaction type this will lead to different consequences.

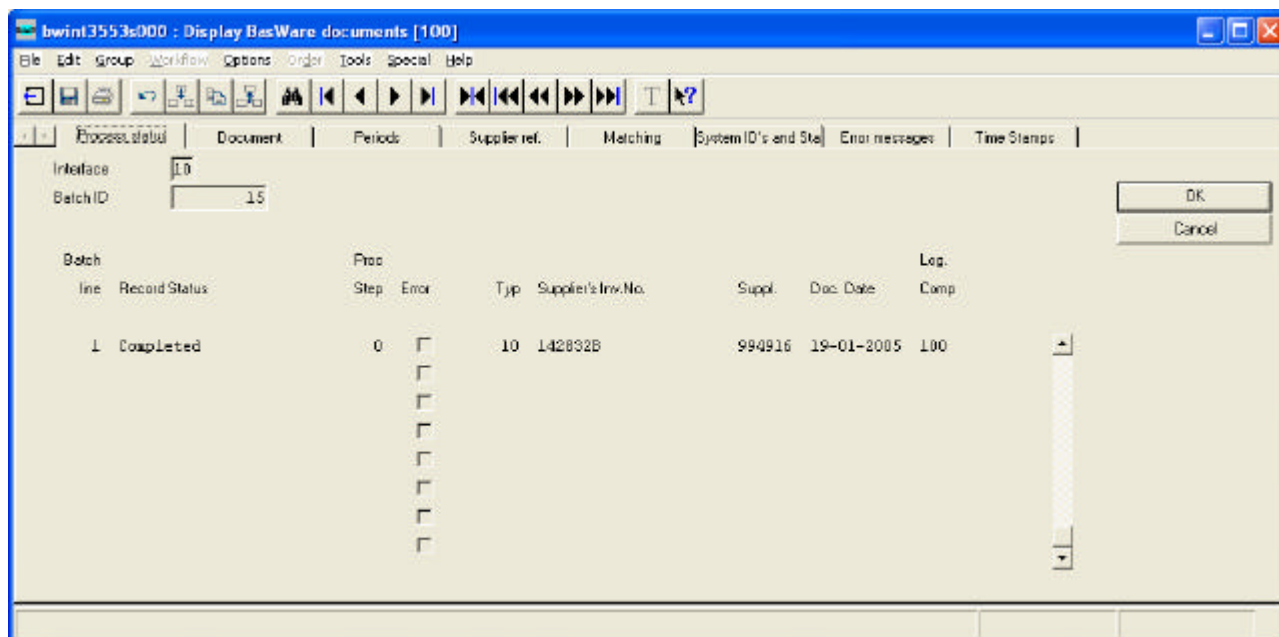
If no sub session is defined for displaying the data – typically because the data is not represented by an interface table – the Interface Framework will display the file (if any exists) by default:



If a sub session is defined for displaying the data (which is the case for transaction type 1 and 2 in interface-10 - the 2 file types from BasWare to Baan), a pre-defined display-session will be started. In principle there could be different sessions for each transaction type, but in the case of the BasWare interface the formats of the two files ("Prebook" and "Transfer") are basically equal, therefore they share the same sub session: "bwint3553s000 – Display BasWare documents":

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bwint3553s000 – Display BasWare documents



In the example above the batch second from the top in session bwint0532m000 was selected. The row was marked, and "Special", "Display File Details" was executed.

The data transferred from BasWare is grouped on the individual forms:

Form 1 – "Process Status"

On this form the Process-status and the "header-data" for each individual transfer of an invoice is displayed – supplier, invoice number, invoice date and the company in which the invoice is supposed to be posted in. Process status comprises an enumerate value: "Record Status", which can be assigned the following values: "Read From File", "Processing Started", "Skipped", "Manually Processed" and "Completed".

Furthermore each row has a "**Process step**". Each invoice is processed using the following 7 steps:

1. Reading, invoice data from BasWare of invoice and import into process file. During the process the destination company is determined and a basic validation of data is performed.
2. Investigation whether an open "BasWare batch" is available in Baan Finance. The batch must comply with the posting year/period of the batch. Otherwise a new batch is created.

Furthermore it is checked whether the actual transaction type is present in the resulting batch. If this is not the case, the transaction type is added. If the transaction type was already

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- present but not available for use (for example “in use”), then the batch is marked as closed (in respect to the interface) and the step is re-started.
3. The invoice is created as a ”Purchase invoice”. During the insertion a new document-number may be automatically created (according to standard Baan functionality).
 4. The invoice is updated if certain fields have been changed.
 5. The document is posted, matched and approved.
 6. A ”Status-file” to BasWare is created
 7. Additions to the ”Response-file” are made (for BasWare).

When processing “Prebooks”, steps 4-5 are by-passed.
When processing “Transfers”, steps 2-3 are by-passed.

Any invoice is transmitted several times –at least one successful Prebook must be followed by one successful Transfer. Any prebook may be repeated, until the invoice is finally approved. A prebook following an already completed successful Prebook will only cause updates to the already created invoice. If the invoice has already been created in Baan (a successful Prebook has been completed), steps 2 and 3 are by-passed.

Having successfully completed a “Transfer”, the document should not be transferred any more from BasWare to Baan.

Form 2 – ”Document”

In this form the most important document-details are displayed. From Baan: the batch number in Baan Finance, the transaction type and the document number – and from BasWare the total amount, the tax code, the tax amount and the due date.

Form 3 – ”Periods”

Here the most important document periods are displayed. BasWare offers the opportunity to change the default period of a document into another period (than the one which the document date by default would determine). In the form both the original invoice periods (Fiscal, Reporting and Tax) and the actual periods advised by BasWare for posting are displayed.

Form 4 – ”Supplier references”

On this form the supplier ID and name is displayed together with the invoice number and a unique reference to BasWare.

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Form 5 – "Matching Data"

In this form data, which may limit a following order matching is displayed – Order number, Project, Packing slip etc..

Form 6 – "System ID-s and status"

These are "key information's" originating from as well BasWare as from Baan. From Baan the following is displayed: Posting Year, Batch, Transaction Type and Document number. BasWare supplies the unique key to the invoice.

The form furthermore contains the majority of the fields that are also displayed (and explained) in form 1.

Form 7 – "Error messages"

If error(s) have occurred during the processing of the invoice, it is displayed on this form.

There may be several different messages logged relating to one document. If this is the case a "*" is displayed right in front of the error field. If you wish to display all messages you chose "Special" and "Display multi-errors by line".

Form 8 – "Time stamps"

Displays time stamps and userid for the creation and latest modification of each record.

Sub session:

For each document there can be multiple postings. To display these postings press: "Special", "Display account lines".

Hereby the sub session: "bwint3554s000 – Display BasWare document –Account Lines" is started.

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bwint3554s000 – Display BasWare document –Account Lines

Seq	Record Status	Proc Step	Error
1	Completed	2	
2	Completed	2	

This session displays the cost postings per purchase invoice. Depending on whether the posting is related to the TP project module or not a varying number of fields are filled.

The basic structures of the forms are very similar to the one just described in session bwint3553s000.

Form 1 – "Process Status"

This form displays the Process-status of each posting line. "Process status" may (by principle) be assigned the same values as in the previous session. In reality the row only has one procedure step. Therefore the status changes directly from "Read From File" to "Completed".

When created the "Process Step" is set to 1. When the posting has been successfully completed, the step changes to 2.

If an error has occurred during the processing a checkmark is displayed in the error field and a message is displayed following this mark.

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Side 2 – "Posting Data"

The posting data – as it would normally be entered in session: "tfacp1133s000 - Maintain Matched Purchase Invoice Transactions" is displayed here. The data includes the account, the dimensions and the amount.

Side 3 – "Order, Quantity and Reference"

Supplementary posting data which may also be entered in session "tfacp1133s000 - Maintain Matched Purchase Invoice Transactions" is displayed here.

Side 4 – "TP-Project"

If the posting in question is a TP-cost then TP posting data is displayed on this form. (Data is only used if the account above is the TP integration account).

Side 5 – "TP-Project Reference"

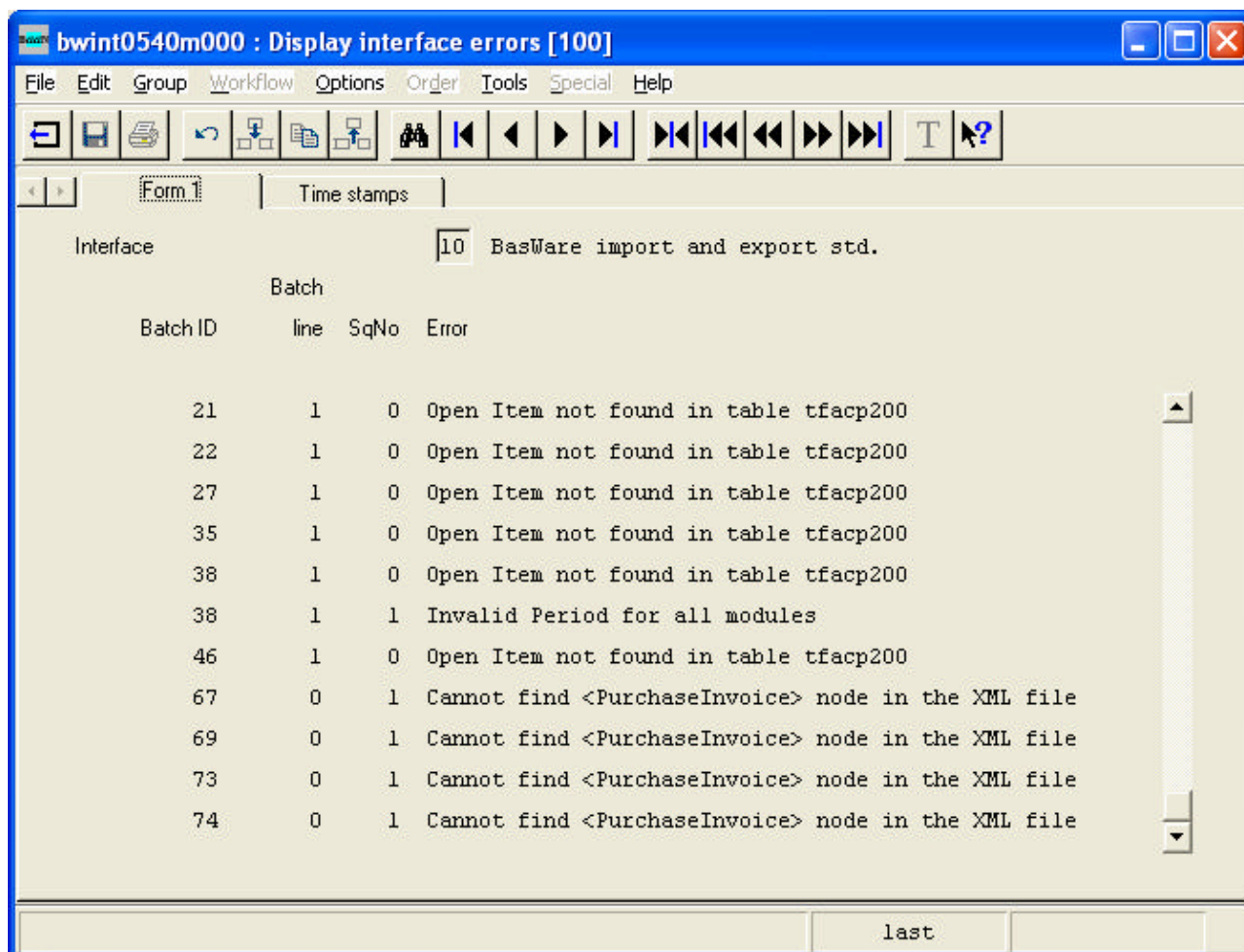
As there was no space left on the previous form, this "supplementary form" contains the reference.

Side 6 – "Time stamps"

Displays time stamps and userid for the creation and latest modification of each record.

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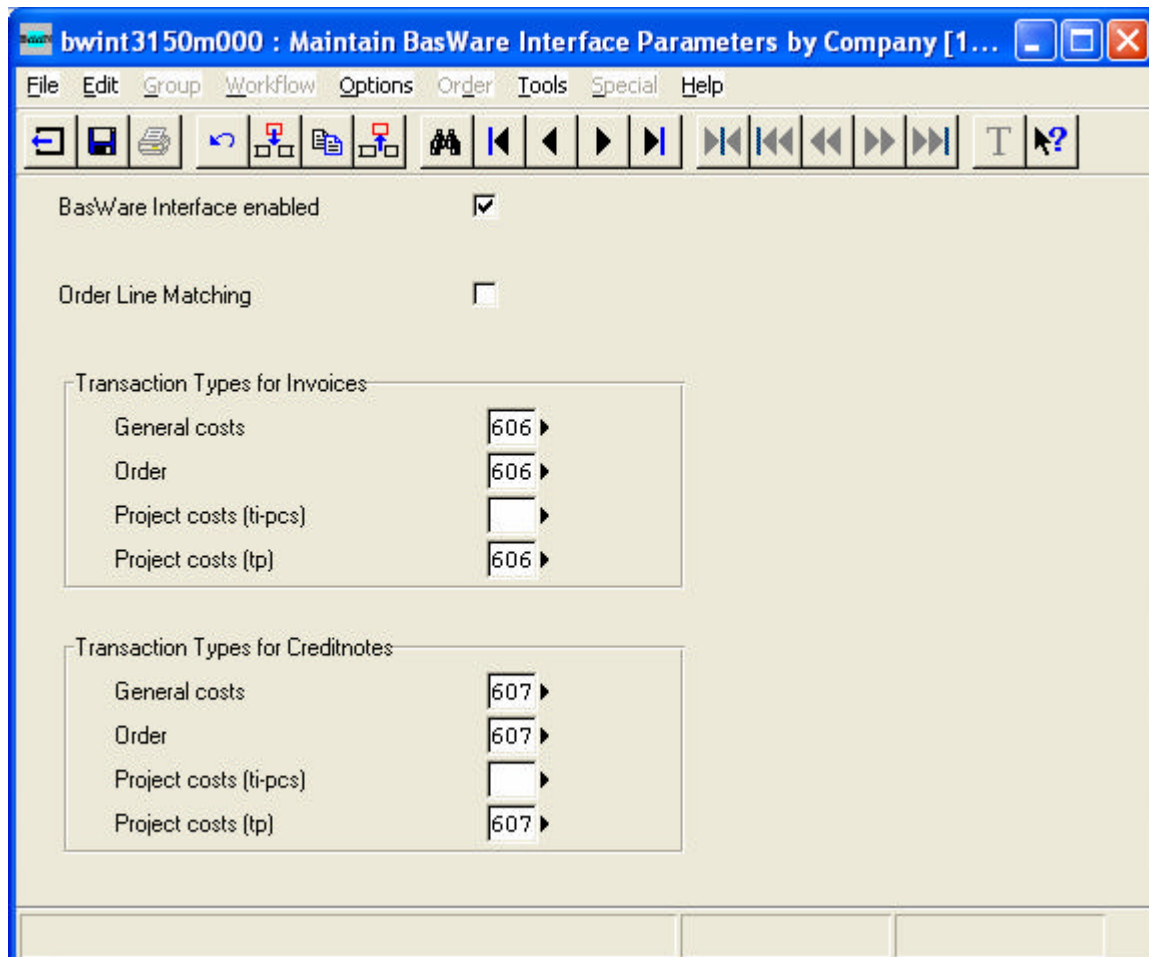
bwint0540m000 – Display interface errors



Occasionally – and normally only during development of a new interface – errors may occur, which are not displayed in the above sessions. These errors are typically caused by “strange events” like a wrong file format. As an example the above batches 67, 69, 73 and 74 have all failed – due to a formatting error of the due date field. These 4 batches will not be visible in the earlier mentioned sessions, as they were never imported into the process tables.

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bwint3150m000 – Maintain BasWare interface parameters by company



First of all it is decided whether the BasWare interface is activated in the actual company. This parameter gives the possibility to prepare an interface for later activation.

The "Order Line Matching" is for future use. The coding required has been prepared in the interface, but it has not been taken into use in a customer environment.

Finally there are a set of control-parameters for the BasWare interface. For each of the 8 possible transaction types it is possible to specify an individual Baan (Finance) transaction type. The 8 transaction types are derived from a corresponding BasWare transaction type:

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BasWare transaction types	Description
10	General costs
20	General costs - Credit note
30	Order related invoice
40	Order related invoice - Credit note
50	PCS-Project related costs – for future use
60	PCS-Project related costs - Credit note – for future use
70	TP-Project costs
80	TP-Project costs - Credit note

Prerequisites

- The interface basically runs on any Baan system that supports the “Application Function Server” technology. This technology was introduced (approximately) at level BaanIV c4 SP8, and is supported by all following versions of Baan so far (including SSA ERP LN). However experience has shown that the AFS functionality often works fine even on levels below the officially supported Baan level.

AFS is basically implemented through updates to the Baan Porting Set, updates to the Baan Tools and to the Standard Program in Baan. The Baan application itself is in other words not affected directly, although a few modifications have been necessary (and have been provided in the standard Baan code).

If the interface is required to run on systems below the officially supported level, tests must be conducted on the individual installations to ensure that everything works as required.

- Files are exchanged using the XML format. The XML file handling is also implemented through a patch to Baan Tools, and this patch may need to be installed as well (if it is not already present on the system).
- Depending on the level of Baan a few Baan program scripts may need to be changed slightly (approx. 26 lines in total in 4 scripts of GLD+ACP, if TP is support is required 1 TP-script may need changes as well). If changes are necessary, it is required that the customer makes the sources necessary accessible to the Triceps-iT implementation team.