FORCAM™ FORCE

Version 5.10

IDoc Dashboard

Manual

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1 Introduction

The FORCAM SAP Adapter integration interface uses IDocs as a means for bidirectional communication between FORCAM FORCE™ and the SAP ERP system. In the FORCAM SAP integration interface, dedicated FORCAM IDoc basic types are used. IDocs are a tried and tested reliable SAP method which, however, also requires monitoring and processing by the user.

If IDocs cannot be posted and are in an error status, this may cause posting interruptions at the workplace or operation level depending on the serialization used. Such interruptions must be quickly identified and corrected. This can be a time-consuming task and requires a good deal of experience and circumspection. In most cases, numerous transactions must be accessed in SAP which are then only available in parallel modes. More detailed information is difficult to access.
This is the background of the idea to design a uniform user interface which can provide a sound basis for optimized navigation.

The FORCAM IDoc Dashboard is a component of the FORCAM SAP Adapter integration interface. It is a tool which has been optimized for use with FORCAM SAP Adapter. IDoc monitoring for the FORCAM basic types is substantially facilitated and the user obtains a detailed view of the current posting situation. Malfunctions can therefore be detected and eliminated quickly and efficiently.
Detailed information about IDoc processing, e.g. details of the production order, are available quickly and in a clear arrangement.

This dashboard functionality provides SAP users with a central point of access to ensure transparency about the IDoc process and data processing operations of the bidirectional FORCAM SAP Adapter interface.

2 FORCAM IDoc Dashboard

Open the FORCAM IDoc Dashboard using the SAP transaction **SA38** and executing the **/FFMES/IDoc_DASHBOARD** program in SAP.

The graphic below shows the functions available for inbound IDoc and outbound IDoc items of the bidirectional FORCAM SAP Adapter interface.

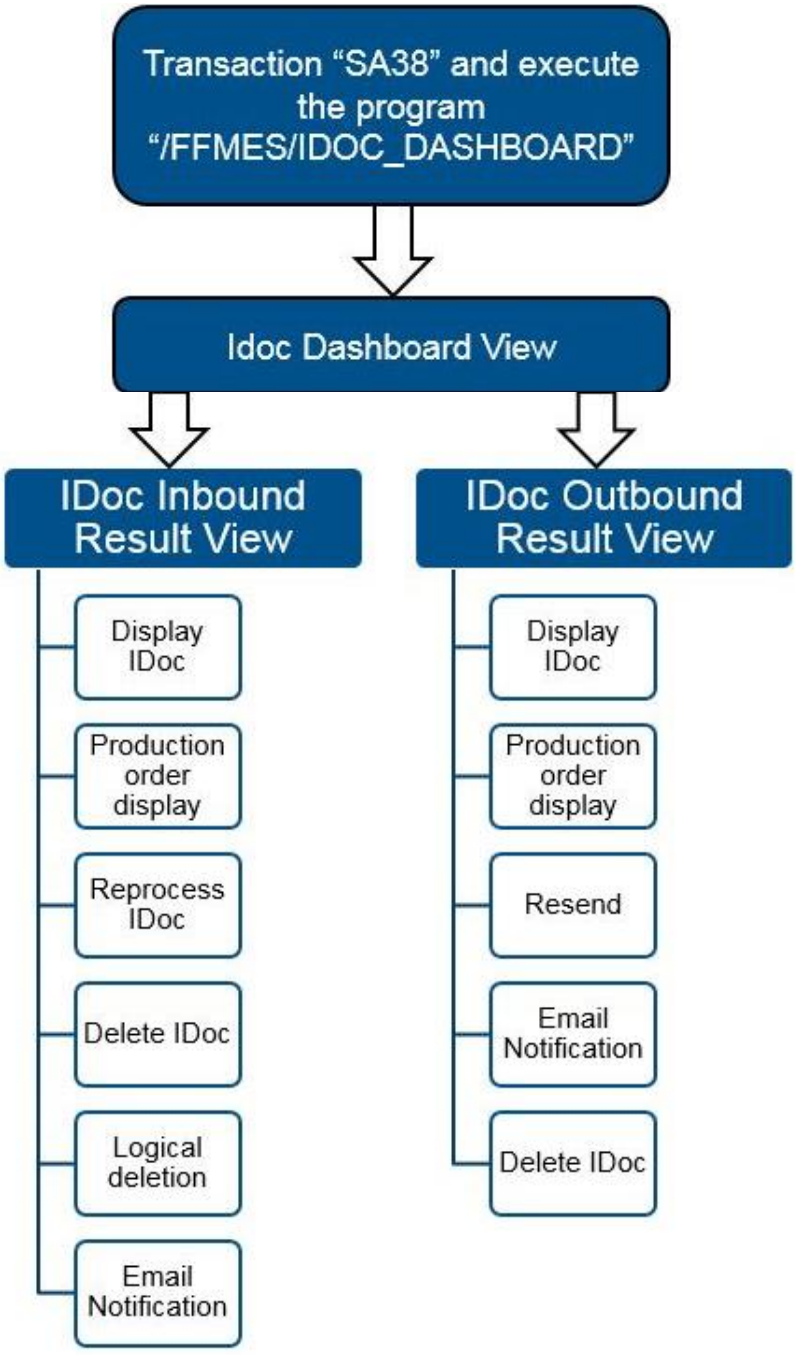
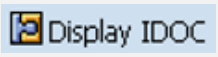
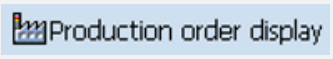
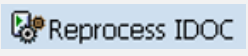
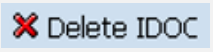
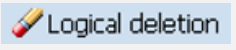
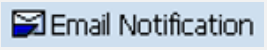


Fig. 1: Process flow and functions in the FORCAM IDoc Dashboard

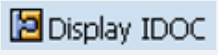
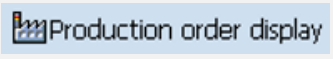
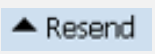
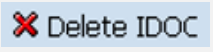
The dashboard provides the following functions for the inbound IDoc part of the bidirectional FORCAM SAP Adapter interface:

Table 1: List of IDoc inbound functions

Submodule	Description
Display IDoc 	Shows all details for a selected IDoc.
Production order display 	Shows the associated production order if the selected IDoc has a production order reference.
Reprocess IDoc 	You can initiate re-processing for a selected IDoc which has not yet been processed or has an error.
Delete IDoc 	You can delete selected IDocs. Their entries are removed.
Logical deletion 	Selected IDocs are merely set to status 68 (processing disabled). This will exclude these IDocs from further processing. Their data continue to exist.
Email Notification 	You can send the daily IDoc status notification for a manually selected day to an email address. This will include the complete IDoc summary for inbound and outbound IDocs as well as for the IDoc status.

The dashboard provides the following functions for the outbound IDoc part of the bidirectional FORCAM SAP Adapter interface:

Table 2: List of IDoc outbound functions

Dashboard IDoc outbound functions	Description
Display IDoc 	Shows all details for a selected IDoc.
Production order display 	Shows the associated production order if the selected IDoc has a production order reference.
Resend 	You can initiate another send process to the recipient for a selected IDoc which has not yet been sent or has an error status.
Delete IDoc 	You can delete selected IDocs. Their entries are removed.

Email Notification Email Notification	You can send the daily IDoc status notification for a manually selected day to an email address. This will include the complete IDoc summary for inbound and outbound IDocs as well as for the IDoc status.

2.1 FORCAM IDoc Dashboard View

Users can access the FORCAM IDoc Dashboard view using the SAP transaction **SA38** in SAP and executing the **/FFMES/IDoc_DASHBOARD** program.

The screen is structured according to an input area for data filter definition for the IDoc interface (inbound and outbound IDocs) and a status view. In the status view, the user can see at a glance how many IDoc errors have occurred today (currently) as well as the number of IDocs with errors of the past week. If the entries in the input area are incorrect or incomplete, the user will be prompted by an error message in the footer (error message area) when clicking the button (for example, if a mandatory field is not filled in, see Fig. 2).

When executing the search with the entries made in the input area, the search results are displayed in a table view for inbound IDocs (see section 2.2) or outbound IDocs (see section 2.3) along with the available functions.

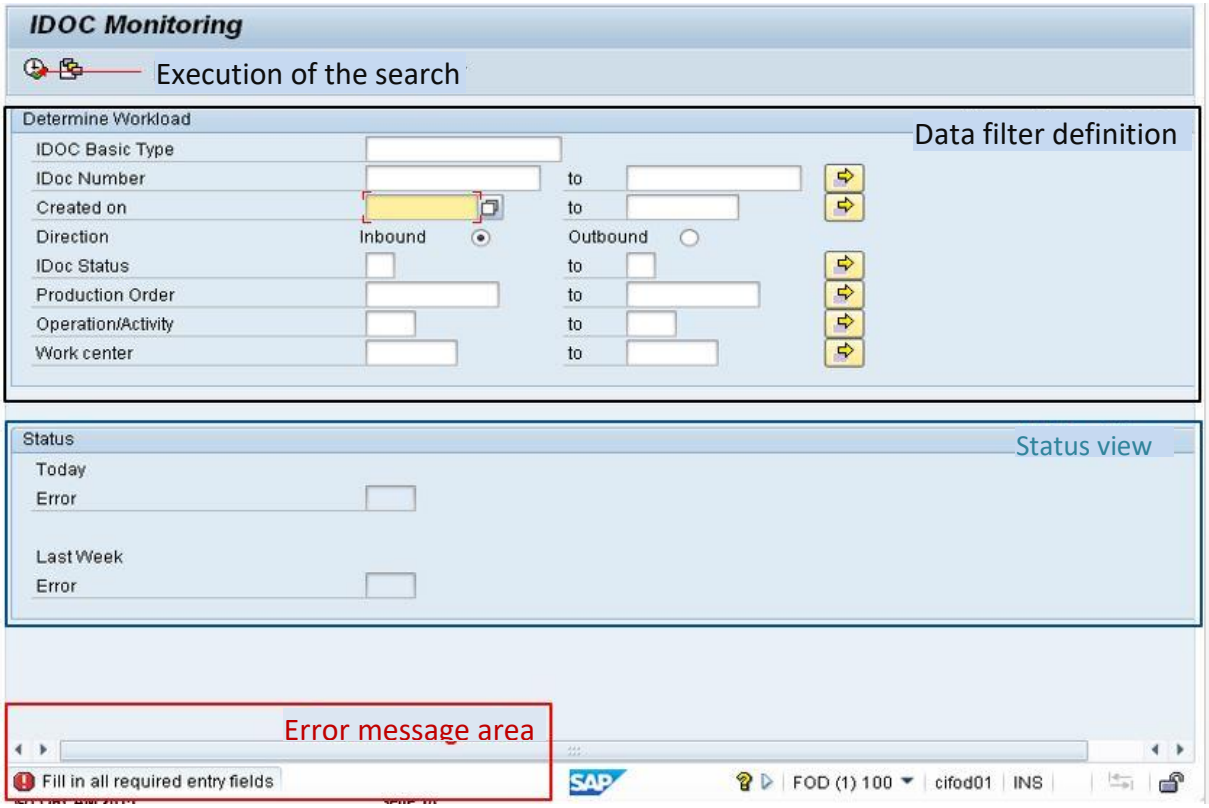


Fig. 2: IDoc Dashboard view

The input fields available in the input area are listed below.

Table 3: Input fields in the IDoc Dashboard input area

Submodule	Description
IDoc Basic Type	Specifies a dedicated IDoc basis type for the search. In this regard, there is a retroactive effect with the **IDoc interface Direction** field. You have to select the correct interface direction (Inbound or Outbound) for a given IDoc basic type. IDoc outbound (equivalent to the system output from the SAP perspective): /FFMES/f (production orders) /FFMES/s (shift definitions) /FFMES/h (selected master data) IDoc inbound (equivalent to the system input from the SAP perspective): /FFMES/r (confirmations)
IDoc Number	Each IDoc has a global unique IDoc number within SAP. You can either specify an explicit IDoc number or an IDoc number range as a filter element.
Created on	Specify a time filter from Date 1 to Date 2, referring to the IDoc creation time stamp.
Direction (of IDoc interface)	**MANDATORY FIELD:** You can use radio buttons to apply the filter entries and the data viewing range either to the IDoc inbound or IDoc outbound area. If you specify an explicit basic type in the **IDoc Basic Type** field, the interface direction selected must be compatible with the IDoc basic type.
IDoc Status	A numeric filter for the IDoc status or from status number 1 to status number 2. IDoc status codes: 00 Not used, only R/2 01 IDoc generated 02 Error passing data to port 03 Data passed to port OK 04 Error within control information of EDI subsystem 05 Error during translation 06 Translation OK 07 Error during syntax check 08 Syntax check OK 09 Error during interchange handling 10 Interchange handling OK 11 Error during dispatch 12 Dispatch OK 13 Retransmission OK 14 Interchange Acknowledgement positive 15 Interchange Acknowledgement negative 16 Functional Acknowledgement positive 17 Functional Acknowledgement negative 18 Triggering EDI subsystem OK 19 Data transfer for test OK

	20 Error triggering EDI subsystem 21 Error passing data for test 22 Dispatch OK, Acknowledgement still due 23 Error during retransmission 24 Control information of EDI subsystem OK 25 Processing despite syntax error (outbound) 26 Error during syntax check of IDoc (outbound) 27 Error in dispatch level (ALE service) 28 Not used 29 Error in ALE service 30 IDoc ready for dispatch (ALE service) 31 Error - no further processing 32 IDoc was edited 33 Original of an IDoc which was edited 34 Error in control record of IDoc 35 IDoc reloaded from archive 36 Electronic signature not performed (timeout) 37 IDoc added incorrectly 38 IDoc archived 39 IDoc is in the target system (ALE service) 40 Application document not created in target system 41 Application document created in target system 42 IDoc was created by test transaction 50 IDoc added 51 Application document not posted 52 Application document not fully posted 53 Application document posted 54 Error during formal application check 55 Formal application check OK 56 IDoc with errors added 57 Test IDoc: Error during application check 58 IDoc copy from R/2 connection 59 Not used 60 Error during syntax check of IDoc (inbound) 61 Processing despite syntax error (inbound) 62 IDoc passed to application 63 Error passing IDoc to application 64 IDoc ready to be transferred to application 65 Error in ALE service 66 IDoc is waiting for predecessor IDoc (serialization) 67 Not used 68 Error - no further processing 69 IDoc was edited 70 Original of an IDoc which was edited 71 IDoc reloaded from archive 72 Not used, only R/2 73 IDoc archived 74 IDoc was created by test transaction
Production Order	Numeric filter for IDocs relating to a specific production order or a number range of production orders (range from order no. 1 to order no. 20)

Operation/Activity	Numeric filter for IDocs relating to a specific production order or a number range of production orders (range from order no. 1 to order no. 20) further limiting the selection to a specific operation or a number range of operations (range from order 1 to order 5). **Using an operation filter requires a production order filter as a mandatory field.**
Work Center	Filter for IDocs relating to a specific workplace or a number range of workplaces (range from WP001 to WP100)

The IDoc Dashboard view offers the following function buttons.

Table 4: IDoc Dashboard function buttons

Button	Description
	**Execute** All fields completed in the input area are verified for correctness. If there is any implausibility, an error message is output in the error message area or in a dialog and information window. If execution is completed successfully, the view changes to the inbound or outbound view specified. The IDoc results are displayed in a list.

2.2 INBOUND IDOCs View (IDoc Basic Type /FFMES/r)

The INBOUND IDOCs view contains an IDoc results view. This hit list is generated on the basis of the filter entries made by the user in the IDoc Dashboard view and the matching IDoc type during execution.

The following functions are available to the user for handling individual or multiple IDocs in the INBOUND IDOCs view:

- Display IDoc (single selection)
- Production order display (single selection)
- Reprocess IDoc (single selection)
- Delete IDoc (multiple selection)
- Logical deletion (multiple selection)
- Email notification (general function)

Table 5: Screen columns in the INBOUND IDOCs results view

Screen columns	Description
	IDoc signal light status: – Red (error) – Yellow (wait; could not yet be processed) – Green (processed)
IDoc	Global unique IDoc key
Created on	IDoc time stamp in date format dd.mm.yyyy

Basic Type	Basic type for inbound IDocs (confirmations) **/FFMES/R**
Status	Numeric IDoc status (see section 2.1 for the status overview)
Description	Short description of the IDoc status
Segment name	IDoc segment name (confirmation IDoc) **/FFMES/SRUECK**
Order	Number of the production order in case of an order-specific confirmation IDoc
OpAc	The associated operation number to which the confirmation IDoc refers (in case of an order-specific confirmation IDoc)
Record type (message types)	Specifies the record type (message type) of the confirmation IDoc. Currently the FORCAM SAP Adapter processes and accepts the following record types of confirmation IDocs: – Quantity message (QTYMG) – Start message (OPSTR) – End message (OPEND) – Duration message (DURAT) – Revision message (REVMG)
Workplace	Workplace
Direction (of the interface)	Numeric definition of the direction of flow for the bidirectional FORCAM SAP Adapter interface: 2 = Inbound IDoc (confirmation process, receipt of messages from external systems)
Serialization	Unique global serialization key of the IDoc and telegram flow

The INBOUND IDOCs view offers the following function buttons.

Table 6: Function buttons in the INBOUND IDOCs view

Button	Description
	**Select all / Deselect all** Selects or deselects all entries contained in the hit list
	**Details** Shows the available information about the table entry in a separate window
	**Sort in ascending order** Sorts the selected columns in ascending order
	**Sort in descending order** Sorts the selected columns in descending order
	**Find** Search function within the result view
	**Set filter** Filter the result view by the available columns
	**Print**

	**Views** Change to SAP list output. To exit the list output, click  .
	**Export** Exports the result view, for example, into a HTML or Excel file
	**Change layout** Functions to change the layout and presentation of the screen content

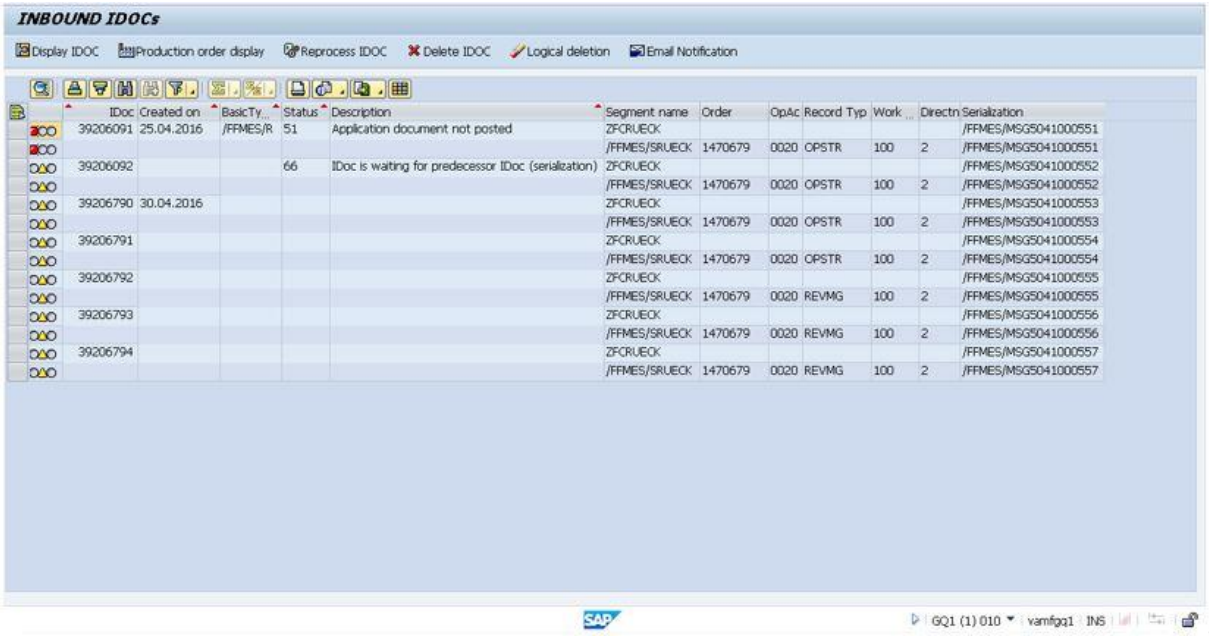


Fig. 3: INBOUND IDOCs table view with results from execution of the IDoc Dashboard

2.2.1 Display IDoc (SAP transaction WE02)

You can use this function with each individual IDoc selected in the result view. The details of the IDoc are displayed to the user in a new view: The left-hand area contains an expandable tree structure of the IDoc data. The right-hand area displays the data details when an element is selected from the tree structure.

The basic structure of an IDoc is identical in the tree structure in SAP:

- IDoc number
- Control record
- Data record
- Status record

You can view the content of an IDoc using the SAP transaction **WE02**. Moreover, the functions provided by SAP for this transaction are available (e.g. exporting, printing, etc.).

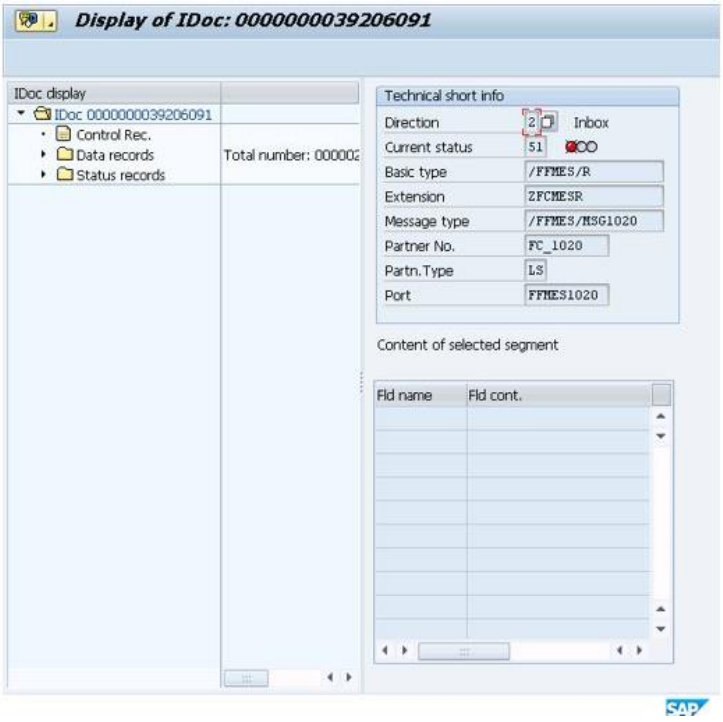


Fig. 4: IDoc detail view opened by the Display IDoc function

2.2.2 Production order display (SAP transaction CO03)

You can use this function with each IDoc selected in the result view if the IDoc describes an order-related (operation-related) confirmation message and includes this data reference.
If there is a reference to an order, the order number and operation are specified in the IDoc columns of the result view.

When executing the **Production order display** function, you get directly to the order header associated with the order number referenced in the IDoc. For this purpose, the identical transaction **CO03** is called. All functions and information about production order, operation, components and material available in SAP are available here. The transaction **CO03** is executed as a read-only operation with the attribute **Production order display**.

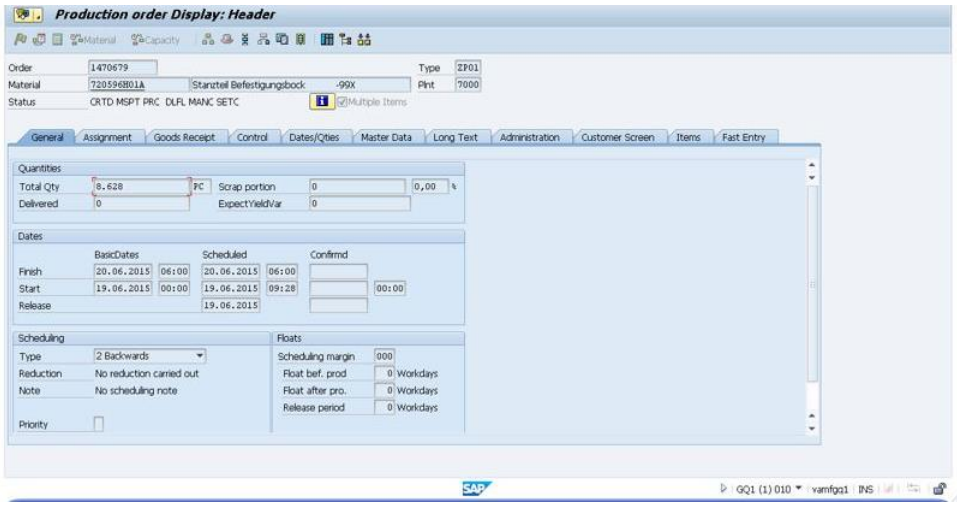


Fig. 5: Production order display with SAP transaction CO03 as a read-only operation

2.2.3 Delete IDoc

You can use this function with single or multiple IDocs selected in the result view for IDoc(s) with yellow or red signal light status (IDocs already processed and marked with green status cannot be deleted). This function deletes the IDocs including all data.

The user is prompted to confirm deletion.

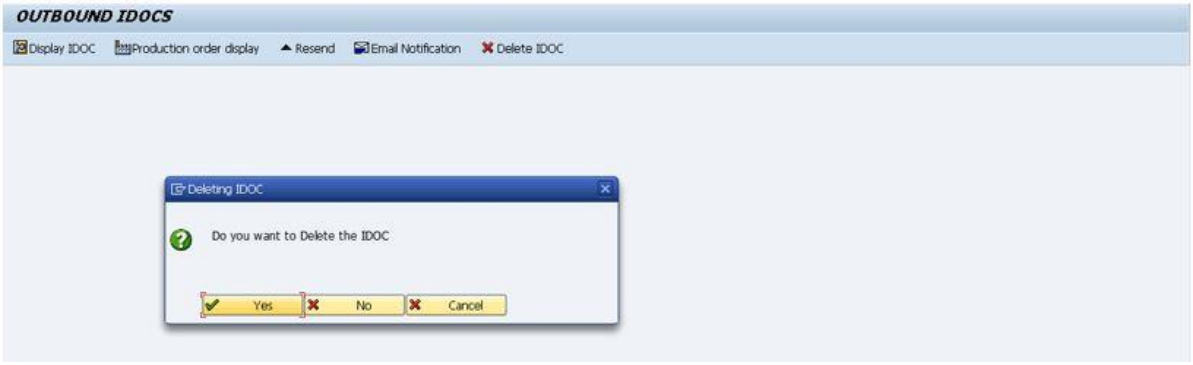


Fig. 6: Confirming deletion of an IDoc

2.2.4 Email notification

This function is independent of the result view.
The user can select a date manually and enter the email address of the recipient in a separate dialog. The message will include the complete IDoc summary for inbound and outbound IDocs as well as for the IDoc status.

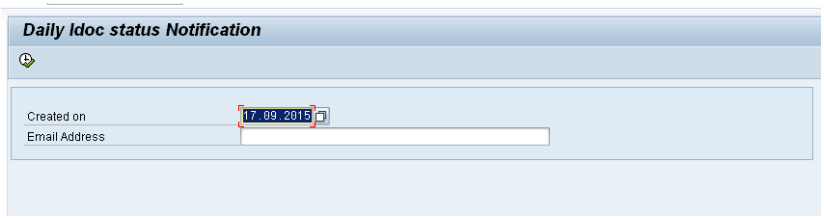


Fig. 7: Sending a daily IDoc status notification by email

If there are no IDocs available for the date specified, the user receives an information message and an email is not sent.

Fig. 8: Email information dialog

2.2.5 Reprocess IDoc (SAP transaction BD87)

You can use this function with each individual IDoc selected in the result view if the IDoc has yellow or red signal light status (IDocs already processed and marked with green status cannot be reprocessed).

This function initiates automatic reprocessing of the selected IDoc. Reprocessing involves redetermining the status of the IDoc; this can be verified at any time using the **Display IDoc** function.
If reprocessing is successful and the IDoc is posted or processed correctly in SAP, it is assigned green status. In addition, the channel counter in the BDRGIN table is adjusted and incremented by 1. In case of an error, the status either changes to red or remains yellow. This status change is indicated directly in the result view.
When a specific IDoc is reprocessed successfully, processing of all subsequent IDocs accumulated by serialization will also be resumed.
Serialization occurs in the FORCAM SAP Adapter either at workplace level or at operation level (FIFO principle).

The **Reprocess IDoc** function is available in SAP with the **BD87** transaction. In the implementation of the IDoc Dashboard, a direct call to an SAP function is used rather than the transaction itself.

2.2.6 Logical deletion

You can use this function with single or multiple IDocs selected in the result view for IDoc(s) with yellow or red signal light status (IDocs already processed and marked with green status cannot be subject to logical deletion). Logical deletion means that the IDocs are merely set to a different numeric status. Their data continue to exist.

The result view is refreshed directly and the new status for the selected IDocs displayed in the appropriate column. The signal light status is either set to red or remains red.

The user is prompted to confirm deletion.

2.3 OUTBOUND IDOCs View

The OUTBOUND IDOCs view contains an IDoc results view. This hit list is generated on the basis of the filter entries made by the user in the IDoc Dashboard view and the matching IDoc type during execution.

The FORCAM SAP Adapter supports various IDoc outbound types with different data contents. The result view on the screen changes in accordance with the IDoc type filtered. A new entry is generated in the result view for each IDoc segment and references the same IDoc number. For improved legibility, a complete entry including the general IDoc information is created only for the first segment element of a new IDoc as shown in **Fig.** 9.

The following functions are available to the user for handling individual or multiple IDocs in the OUTBOUND IDOCs view:

- Display IDoc (single selection)
- Production order display (single selection)
- Resend (single selection)
- Delete IDoc (multiple selection)
- Email notification (general function)

Moreover, the following function buttons are available in the OUTBOUND IDOCs view (see **section 2.2**):

- Select / deselect all elements
- Details
- Sort in ascending order
- Sort in descending order
- Find
- Set filter
- Print
- Views
- Export
- Change layout

2.3.1 Resend IDoc

This function initiates resending outbound IDocs that had not been transmitted successfully to external systems. You can use this function with each individual IDoc selected in the result view if the IDoc has yellow or red signal light status (IDocs already processed and marked with green status cannot be resent).

Resending involves redetermining the status of the IDoc; this can be verified at any time using the **Display IDoc** function.
When an IDoc has been transmitted correctly to the recipient, it is assigned green status. If another error occurs, the status changes to red. This status change is indicated directly in the result view.

2.3.2 OUTBOUND IDOC Production Order (IDoc Basic Type /FFMES/f)

If the user defines the IDoc type **/FFMES/f** (production order) by the IDoc Dashboard view filter entries, the following data are displayed in the outbound IDoc result view:

Table 7: Screen columns in the OUTBOUND IDOCs results view

Screen columns	Description
	IDoc signal light status: - Red (error) - Yellow (wait; could not yet be processed) - Green (processed/transmitted)
IDoc	Global unique IDoc key
Created on	IDoc time stamp in date format dd.mm.yyyy

Basic Type	Basic type of the IDoc for outbound IDocs **/FFMES/F (production orders)**
Status	Numeric IDoc status (for the status overview, see **section 2.1**)
Description	Short description of the IDoc status
Segment name	IDoc segment name **/FFMES/SVSART (download type, e.g. single download)** **/FFMES/SAUFTR (order header)** **/FFMES/SAUFMK (product characteristics)** **/FFMES/SAFOLG (operations)** **/FFMES/SAFOTX (operation long text)** **/FFMES/SAUFFH (production resources/tools)** **/FFMES/SAFOKO (material components)**
Order	Number of the production order in case of an order-specific IDoc
OpAc	The associated operation number to which the IDoc refers (in case of an order-specific IDoc)
Record type (message types)	Specifies the record type (message type) of the outbound IDoc. Currently the FORCAM SAP Adapter processes and sends the following message types for production orders: – Order header (AUFTR) – Product characteristics (AUFMK) – Operations (AFOLG) – Operation long text (AFOTX) – Components (AFOKO) – Production resources/tools (AUFFH)
Workplace	Workplace
Direction (of the interface)	Numeric definition of the direction of flow for the bidirectional FORCAM SAP Adapter interface: 1 = Outbound IDoc (sending messages from SAP to external systems)
Serialization	Unique global serialization key of the IDoc and telegram flow

For a production order, a separate entry is generated in the result view for each s tructural element (order, operations, production resources/tools, components) in an IDoc (see **Fig. 9)**. Only the first entry is included into the general information of the IDoc. All subsequent entries include only the segment-specific elements.

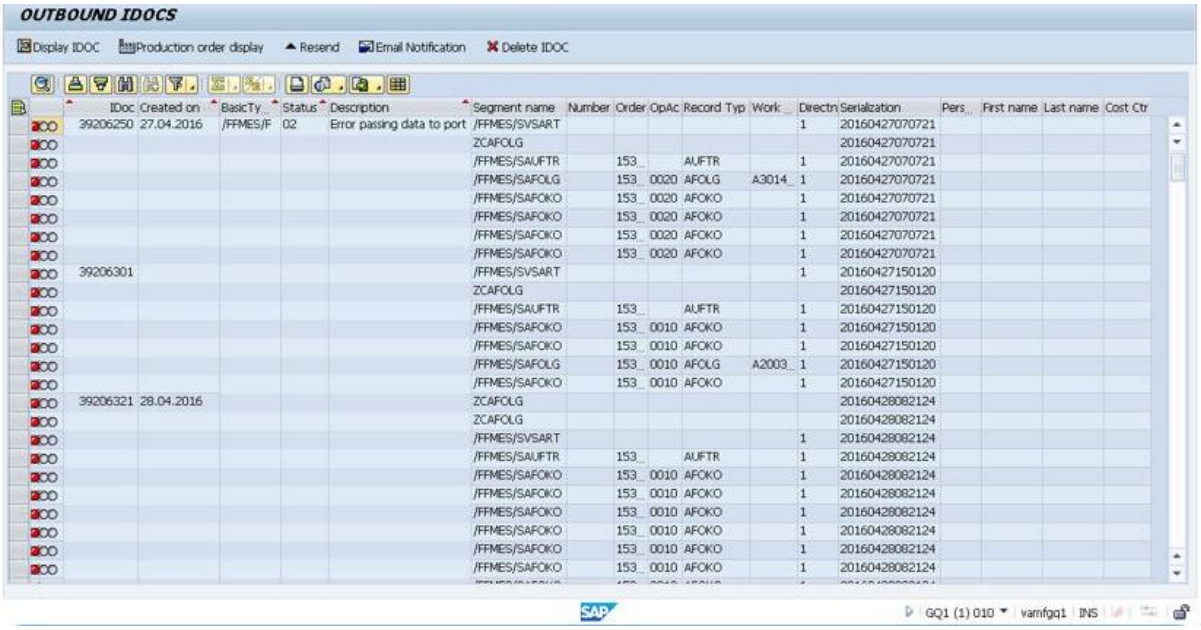


Fig. 9: OUTBOUND IDOCs table view with results from execution of the IDoc Dashboard for /FFMES/F

2.3.3 OUTBOUND IDOC Shift Definition (IDoc Basic Type /FFMES/s)

If the user defines the IDoc basic type **/FFMES/s** (shift definition) by the IDoc Dashboard view filter entries, the following data are displayed in the outbound IDoc result view:

Table 8: Screen columns in the OUTBOUND IDOCs results view

Screen columns	Description
	IDoc signal light status: – Red (error) – Yellow (wait; could not yet be processed) – Green (processed/transmitted)
IDoc	Global unique IDoc key
Created on	IDoc time stamp in date format dd.mm.yyyy
Basic Type	Basic type of the IDoc for outbound IDocs **/FFMES/S (shift definition)**
Status	Numeric IDoc status (for the status overview, see **section 2.1**)
Description	Short description of the IDoc status
Segment name	IDoc segment name **//FFMES/SHIFT (shift)** **/FFMES/BREAK (break)**
Number	Consecutive segment number in IDoc
Record type (message types)	Specifies the record type (message type) of the outbound IDoc. Currently the FORCAM SAP Adapter processes and sends the following message types for shift definitions:

	– Shift (SCHIC) – Break (PAUSE)
Workplace	Workplace
Direction (of the interface)	Numeric definition of the direction of flow for the bidirectional FORCAM SAP Adapter interface: 1 = Outbound IDoc (sending messages from SAP to external systems)
Serialization	Unique global serialization key of the IDoc and telegram flow

2.3.4 Selected Master Data View (IDoc Basic Type /FFMES/h)

If the user defines the IDoc basic type **/FFMES/h** (selected master data) by the IDoc Dashboard view filter entries, the following data are displayed in the outbound IDoc result view:

Table 9: Screen columns in the OUTBOUND IDOCs results view

Screen columns	Description
	IDoc signal light status: – Red (error) – Yellow (wait; could not yet be processed) – Green (processed/transmitted)
IDoc	Global unique IDoc key
Created on	IDoc time stamp in date format dd.mm.yyyy
Basic Type	Basic type of the IDoc for outbound IDocs **/FFMES/H (selected master data download)**
Status	Numeric IDoc status (for the status overview, see **section 2.1**)
Description	Short description of the explicit IDoc status
Segment name	IDoc segment name **//FFMES/HRDATA**
Record type (message types)	Specifies the record type (message type) of the outbound IDoc. Currently the FORCAM SAP Adapter processes and sends the following message types for selected master data: – PERSNR
Workplace	Workplace
Direction (of the interface)	Numeric definition of the direction of flow for the bidirectional FORCAM SAP Adapter interface: 1 = Outbound IDoc (sending messages from SAP to external systems)
Serialization	Unique global serialization key of the IDoc and telegram flow
Personnel number	Personnel number
First name	First name

Last name	Last name
Cost center	Cost center