



SAP Custom Development

SAP Corporate Connectivity for Banking

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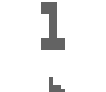


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Type Style	Description
<i>Example text</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Cross-references to other documentation.
Example text EXAMPLE TEXT	Emphasized words or phrases in body text, graphic titles, and table titles. Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
Example text	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.



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SAP Corporate Connectivity for Banking

Product Information

Product	SAP Corporate Connectivity for Banking
Release	1.0
SAP Enhancement Package	
Based on	SAP ECC 6.0
Documentation Published	February 2013

SAP Corporate Connectivity for Banking is an electronic banking solution that allows you to connect directly to the banking system of *Westpac Bank* (the bank) in course of your *accounts-receivable* and *accounts-payable* processes. The solution is meant for handling the following business scenarios:

- Sending your credit instructions and direct-debit instructions (hereafter *payment instructions*) to the bank for execution
- Receiving and processing acknowledgement messages and status messages pertaining to your instructions from the bank
- Receiving and processing account statements, which the bank sends you on successful execution of your payment instructions.

Payment instructions, status messages, and account statements are based on ISO20022 CGI V3-based XML messages. The solution also provides a basic ability to exchange generic files between your system and the bank.

The solution is provided as an Add-On to SAP ECC 6.0. It aims to provide seamless integration with the bank's landscape over the internet using Web service.

The solution optimizes your payment-instruction processes by providing additional status monitoring and re-sending options.

Integration

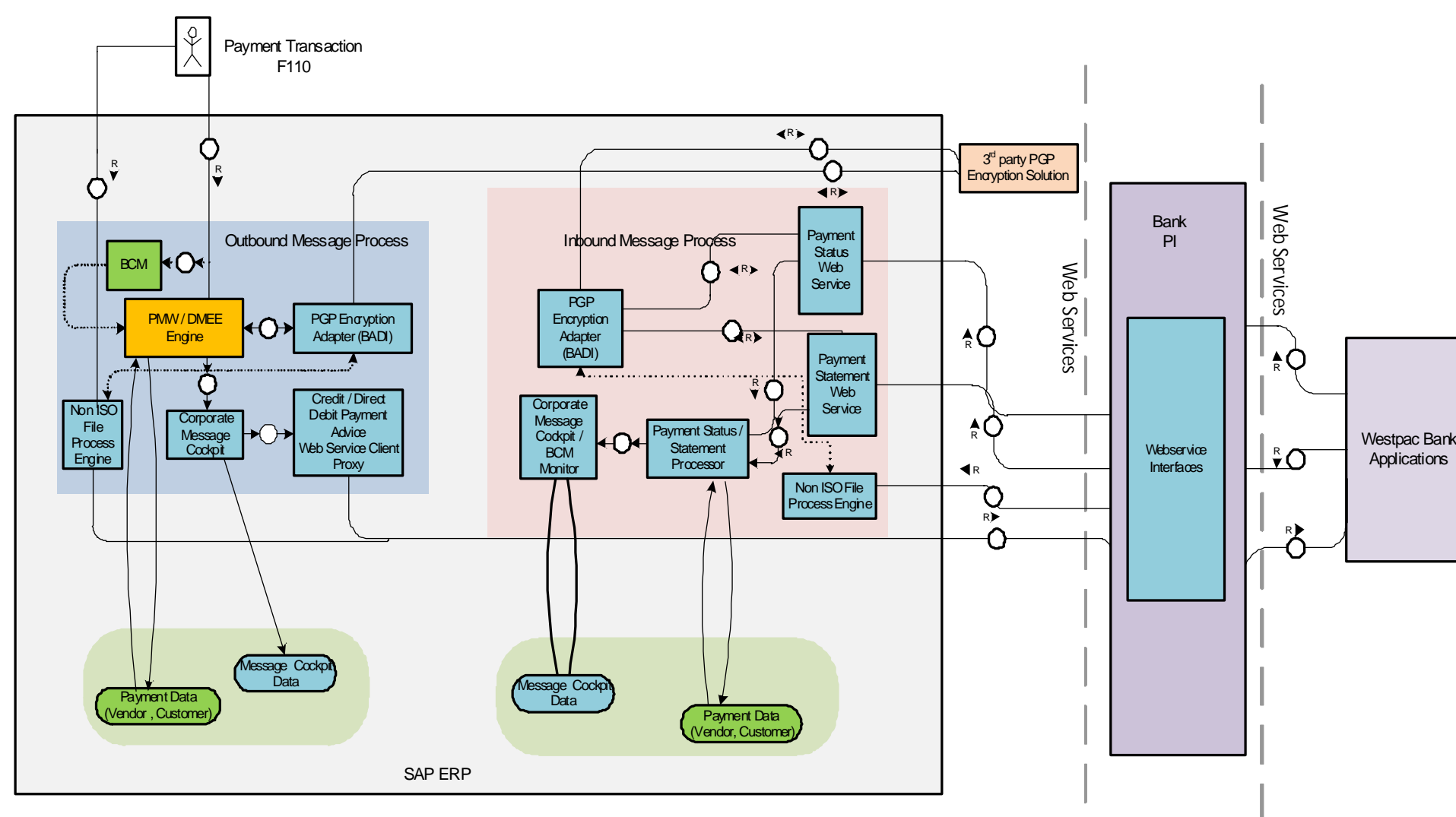
The following table provides an overview of the integration points with standard SAP functions and modules along with the purpose

Integration	Purpose
With <i>Automatic Payment Transactions</i> (transaction <i>F110</i>)	To generate payment Instructions for the payment documents created by transaction <i>F110</i> . These instructions will be sent to the bank
With <i>Payment Medium Workbench (PMW)</i> and <i>Data Medium Exchange Engine (DMEE)</i> functions	To configure the message formats for generating your payment instructions in relevant <i>ISO20022 CGI V3</i> -based XML format from the output of the standard payment run (transaction <i>F110</i>)
With Account Statement Entry (transaction <i>FF.5</i>)	To process the bank statements for reconciling your accounts
With SAP module <i>Bank Communication Management (SAP BCM or BCM)</i>	To route our payment instructions generated by SAP BCM to the bank and to return status updates sent by the bank to BCM

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The solution is designed to use standard SAP programs, features and functions for creating and sending your payment instructions to the bank using procedures and steps as described in this document. The solution expects payments documents to be created from the *F110* Payment Run.

The following figure illustrates the solution architecture:



SAP Corporate Connectivity for Banking - High-Level Solution Architecture

Implementation Considerations

System Requirements

The solution architecture requires the following components:

SAP Enterprise Resource Planning (SAP ERP) – Requiring a minimum of one instance on *SAP ECC 6.0*, with Software Component *SAP_APPL SP14* and above

or

SAP ERP with a minimum of one instance on version *ECC 6.0 EhP 2* with support package level 4 and s/w component *SAP_APPL 04* having active *SAP Bank Communication Management (SAP BCM or BCM)* for the bank's corporate customers, who opt to use the BCM business functions, or are already using them.

Prerequisites

For the solution *SAP Corporate Connectivity for Banking* and its component processes to function, the following objects must be available in the system:

- Master data: Vendor master/customer master data
- FI Configuration General ledger accounts, company codes, house banks
- Payment message configuration: (transactions *OBPM1*, *OBPM2*, *OBPM3*, and *OBPM4*)

- Integration with SAP BCM: (transaction OBPM5)

Features

- *Data Exchange*

The solution provides the following data exchange method, that is, *Web service* (data is exchanged between SAP ERP and the bank over the Internet)

For more information, see [Data Exchange](#) [Page 9].

- *Supported Message Formats*

The system supports the creation and exchange of messages between you and the bank in the following formats:

- Credit instructions to the bank using *pain.001.001.03* (v3 CGI compliant format – *Customer credit transfer initiation v03*). For more information on implementation steps and details for processing *CGI ISO20022 Credit Transfer*, see SAP Note [1665873](#).
- Acknowledgement and status update messages from the bank using *pain.002.001.02* (v2 CGI compliant format – *Payment Status Report v02*)
- Reconciliation statements sent by the bank using v2 CGI compliant *camt.053.001.02* format (*bank to customer statement v02*). For more information on implementation steps and details for processing bank statements in *camt.053.001.02* format, see SAP Note [1686264](#) and SAP Note [1729745](#)
- Direct debit instructions to the bank using v2 CGI compliant *pain.008.001.02* format (customer direct debit initiation v02). For more information on implementation steps and details for processing direct debit instructions in *pain.008* format, see SAP Note [1737313](#)
- Non-ISO file-formats sent by either party

For more information, see [Message Formats](#) [Page 8].

- *Communication Security*

All communication between your system and the bank is secured with the following security features:

- Transport Layer Security
- Message Layer Security

In every scenario that the current solution is designed for, the messages between you and the bank are exchanged through Web service exposed at your respective landscapes. (Using SOAP Protocol)

For more information, see [Security](#) [Page 10].

1 Message Formats

The solution supports the creation or exchange of messages in the following ISO 20022 formats:

- pain.001.001.03: Message format used for initiating credit instructions
- pain.002.001.03: Message format for acknowledgement and status updates from the bank
- pain.008.001.02: Message format used for initiating direct debit instructions:
- camt.053.001.02: Message format for receiving account reconciliation statements from the bank:

Structure

The following table gives an overview of the data that will be exchanged between you and the bank using each of the above-given agreed formats.

Message Format	Data
pain.001.001.03	The following credit-instructions types (payment methods) are supported for transmission: <ul style="list-style-type: none"> • Local ACH – Direct Entry – Local non-urgent • RTGS – Local-urgent • Check • International ACH – International non-urgent • OTT – International urgent (for example, SWIFT) • Bill pay
pain.008.001.02	Direct-debit instructions
camt.053.001.02	Account statements
pain.002.001.03	Acknowledgement, and status messages for instructions sent using pain.001.001.03 and pain.008.001.02 messages
Non ISO files	Files that you or the bank may need to exchange for any purpose in course of a business transaction



2 Data Exchange

Processing your credit, and debit instructions involves the following data exchange between your system and the bank's:

- Instruction messages are sent from your SAP ERP to the bank
- Acknowledgement messages and status update messages are sent from the bank to your SAP ERP
- Bank statements are sent from the bank to your SAP ERP
- Non-ISO files

The system provides the following methods of communication between your SAP ERP system and the bank:

- Web service

Communication between you and the bank is based on the *Web Services Security Protocol*. Messages are wrapped in an *SOAP* envelope and sent over the Internet.

Web service connectivity has the following features:

- *Message Encryption*

Messages exchanged with the bank are encrypted using 3rd party PGP software. For your reference, the `BAdI /CBCOM/ENH_PGP_ENCRYPTION` in Customizing under [▶ Financial Supply Chain Management ▶ Corporate Connectivity for Westpac ▶ Business Add-Ins ▶](#) provides a sample PGP implementation to integrate your preferred PGP software



3rd party PGP software does not form part of the current solution. You must acquire and implement the software separately.



3 Security

The solution applies security measures at communication-channel level (transport layer) and at message level.

- Transport Layer Security

The Web service communication channel uses secure HTTPS connection in the communication between your system and the bank's. The Authentication is established by SSL client authentication. This requires the client certificate of the client that is relevant to the individual scenario to be signed by the CA of the server. The signed certificate is presented for verification to the receiving system at the time of exchanging the message.

- Message Layer Security

ISO20022 CGI V3-format messages, exchanged over the secure HTTPS connection are encrypted using 3rd party PGP software. To decrypt an inbound message, you must have the public key of the bank.

Prerequisites



You have 3rd party PGP software integrated with your SAP system.

4 Business Processes

The main business processes that this solution supports are listed in the following:

- Generating credit, and direct-debit instructions to the bank
- Tracking status updates from the bank using the *Payment Cockpit*
- Re-sending unacknowledged credit, or direct-debit instructions through the *Payment Cockpit*
- Tracking status updates using SAP BCM (if you use this module to track the transactions between you and the bank)
 - For customers using SAP BCM, the payment cockpit delivered as part of the current solution provides bank-specific details on your payment instructions
- Processing of reconciliation statements from the bank
- Exchanging non-ISO files with the bank in course of your specific business transactions

Prerequisites

- You have configured the master data required by the bank
- You have configured your payment methods in Customizing under **Financial Supply Chain Management** > *Corporate Connectivity for Westpac* > *Corporate Technical Configurations* > *Maintain Bank-Specific Payment Methods* 
- You have configured your instruction message formats in Customizing under **Financial Supply Chain Management** > *Corporate Connectivity for Westpac* > *Corporate Technical Configurations* > *Maintain File Types* 
- You have maintained the Customizing settings for the payment medium formats

Process



To enter a vendor invoice or customer invoice for payment, you use the standard SAP programs *Enter Vendor Invoice* and *Enter Customer Invoice* respectively (transactions *FB60* and *FB70*).

To execute the payment runs corresponding to the vendor invoices or customer invoices you have entered, you use the program *Automatic Payment Transactions* (transaction *F110*). On execution of the payment run and creation of the messages, the instructions meant to be sent to the bank (based on the payment method selected for the bank) are processed by the solution and transferred.



4.1 Generating a Vendor Invoice

Procedure

1. Go to *Enter Vendor Invoice* (transaction *FB60*).
2. For the first time, you will be prompted to specify a company code; enter the appropriate company code and choose  (*Continue*).
3. On the *Basic data* tab page, enter vendor account, invoice date, amount to be paid, and currency.
4. On the *Payment* tab page, choose your bank-specific payment method configured for any of your credit transfer types to be used in making your payments.
 - o Note the invoice details you have entered; for example, vendor account, payment method, and so on.
5. Enter details on the other tab pages as per your daily-operations procedures.
6. Choose the *Simulate* pushbutton; verify the invoice details on the *Document Overview* screen that is displayed, and choose  (*Save*).



Result

Your document will be created and its number will be displayed on the status bar.



4.2 Generating a Customer Invoice

Procedure


1. Go to *Enter Customer Invoice* (transaction *FB70*)
2. For the first time, you will be prompted to specify a company code; enter the appropriate company code and choose  (*Continue*)
3. On the *Basic Data* tab page, enter a customer account, invoice date, amount due, and currency.
4. On the *Payment* tab page, choose your bank-specific payment method configured for direct-debit to be used in executing your transaction.
 - Note the invoice details you have entered; for example, the customer account, invoice date, amount due and so on
5. Enter details on the other tab pages as per your daily-operations procedures.
6. Choose the *Simulate* pushbutton; verify the invoice details on the *Document Overview* screen that is displayed, and choose  (*Save*).

Result

Your document will be created and its number will be displayed on the status bar.

4.3 Executing the Payment Run

Procedure

1. From your *SAP Easy Access* menu, navigate to program *Automatic Payment Transactions* (► *Accounting* ► *Financial Accounting* ► *Accounts Payable* ► *Periodic Processing Payments* ►)
2. On the *Status* tab page, enter the run date and identification as per your daily-operations procedures.
3. On the *Parameter* tab page, enter company code, payment method, and the vendor or customer, for whom you entered the invoices previously. Enter the date of the next payment run as per your daily-operations procedures.
4. On the *Additional Log* tab page, choose the settings as per your recommended logging requirements. On this tab page, also enter the vendor or customer account numbers used previously.
5. Enter other details or make additional settings on the other tabs as per your daily-operations procedures.
6. Choose  (Save).
7. On the *Status* tab, choose the *Payment Proposal* pushbutton, followed by the *Status* pushbutton.
8. Once the status message *Payment proposal has been created* is displayed, choose the *Payment Run* pushbutton.

Result

Your payment instruction or direct debit instruction to the bank will be created in the appropriate *ISO20022* format, that is, in v3 CGI-Compliant *pain.001.001.03* for payment instructions and in *pain.008.001.02* for your direct-debit instructions respectively.



Only relevant if you are using the module *SAP Bank Communication Management*: To generate your credit or direct-debit instructions after executing a payment run with transaction *F110* as described above, you must execute program *Create Cross-Payment Run Payment Medium* (transaction *FBPM1*).

To navigate to the *Create Cross-Payment Run Payment Medium* program, go to:
► *SAP Easy Access* ► *Accounting* ► *Financial Accounting* ► *Banks* ► *Outgoings* ► *Cross-Payment Run Payment Medium* ►.



4.4 Processing Reconciliation Statements from the Bank

In response to your payment instructions, the bank sends account statements in camt.053.001.02 format. These statements are forwarded to the *Import Electronic Bank Statement* program (transaction *FF.5*) and used to perform an automatic reconciliation.

Prerequisites

- You have created a variant for the *camt.053.001.02* message format in transaction *FF.5*
- You have made the required FI Customizing settings
- In Customizing *Maintain File Types* under **Financial Supply Chain Management** **Corporate Connectivity for Westpac** **Corporate Technical Configurations** you have maintained details of the variant you created in transaction *FF.5*

Features

This function has the following features:

- Reconciliation statements received from the bank are in camt.053.001.02 format.
- In the statements, the bank provides details like *Check Numbers* or ACH reference numbers that must be updated in your books against the credit or direct-debit entries for which you have issued instructions to the bank
- The system automatically processes inbound statements sent by the bank for successful payments and/or direct-debits and posts the appropriate entries to the relevant accounts.



During blueprinting, you must discuss your company-specific reconciliation approach with the bank.

5 Payment Cockpit

Prerequisites

- You have required authorization to execute the report
- You have maintained your SAP statuses in Customizing under **► Financial Supply Chain Management** **► Corporate Connectivity for Westpac** **► Corporate Technical Configurations** **► Maintain External Statuses** **►**

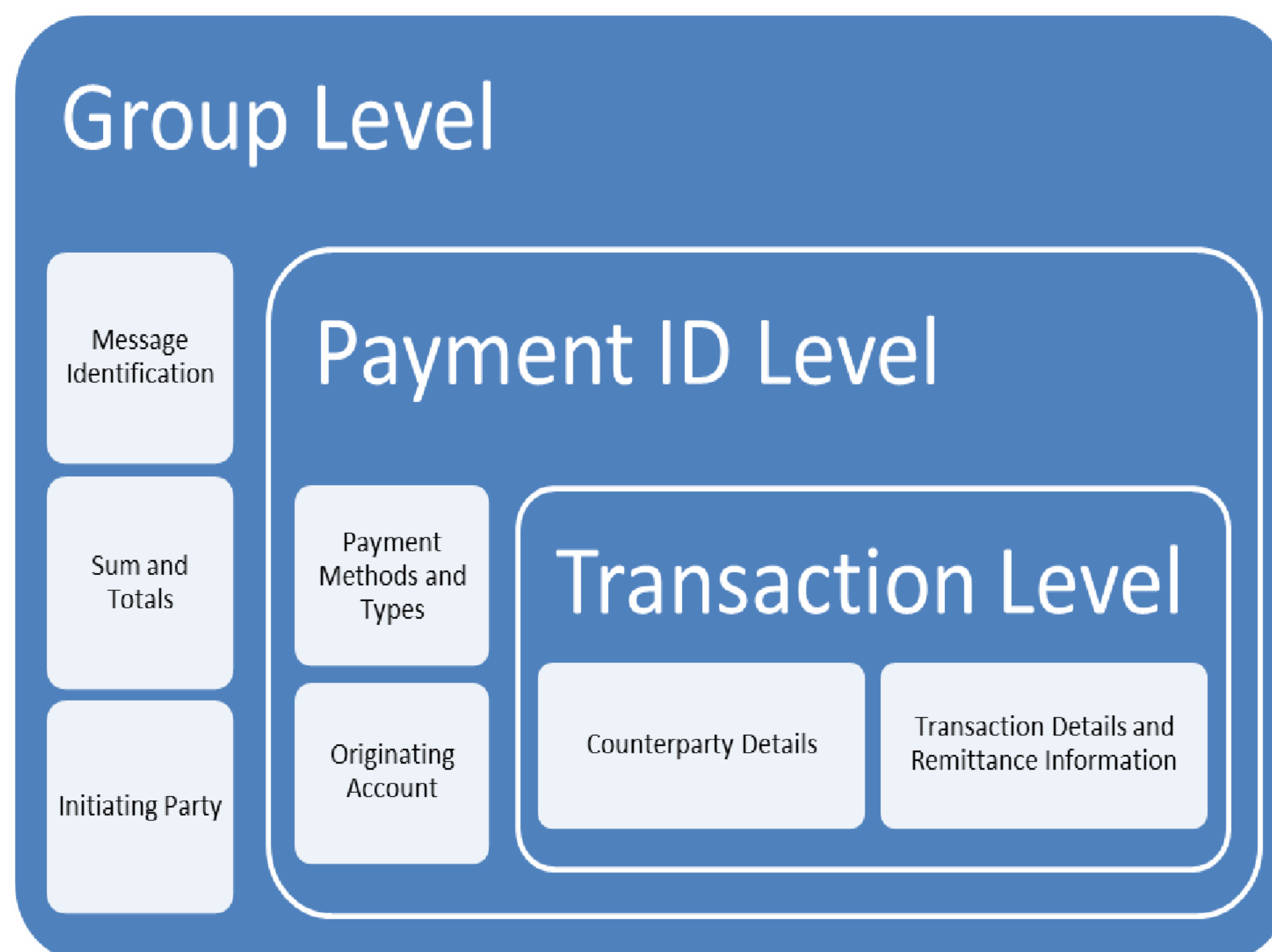
Features

You use this program to display the records of credit, and direct-debit instructions sent to the bank, and to verify their processing status. The program also allows you to track and retrace detailed status-change history. Processing logs for every payment instruction or direct-debit instruction initiated by you are also available through this program.

The payment document created by the *Automatic Payment Transactions* program (transaction *F110*) is converted into an *ISO20022*-based XML message that is delivered to the bank. This message has a three-level-structure:

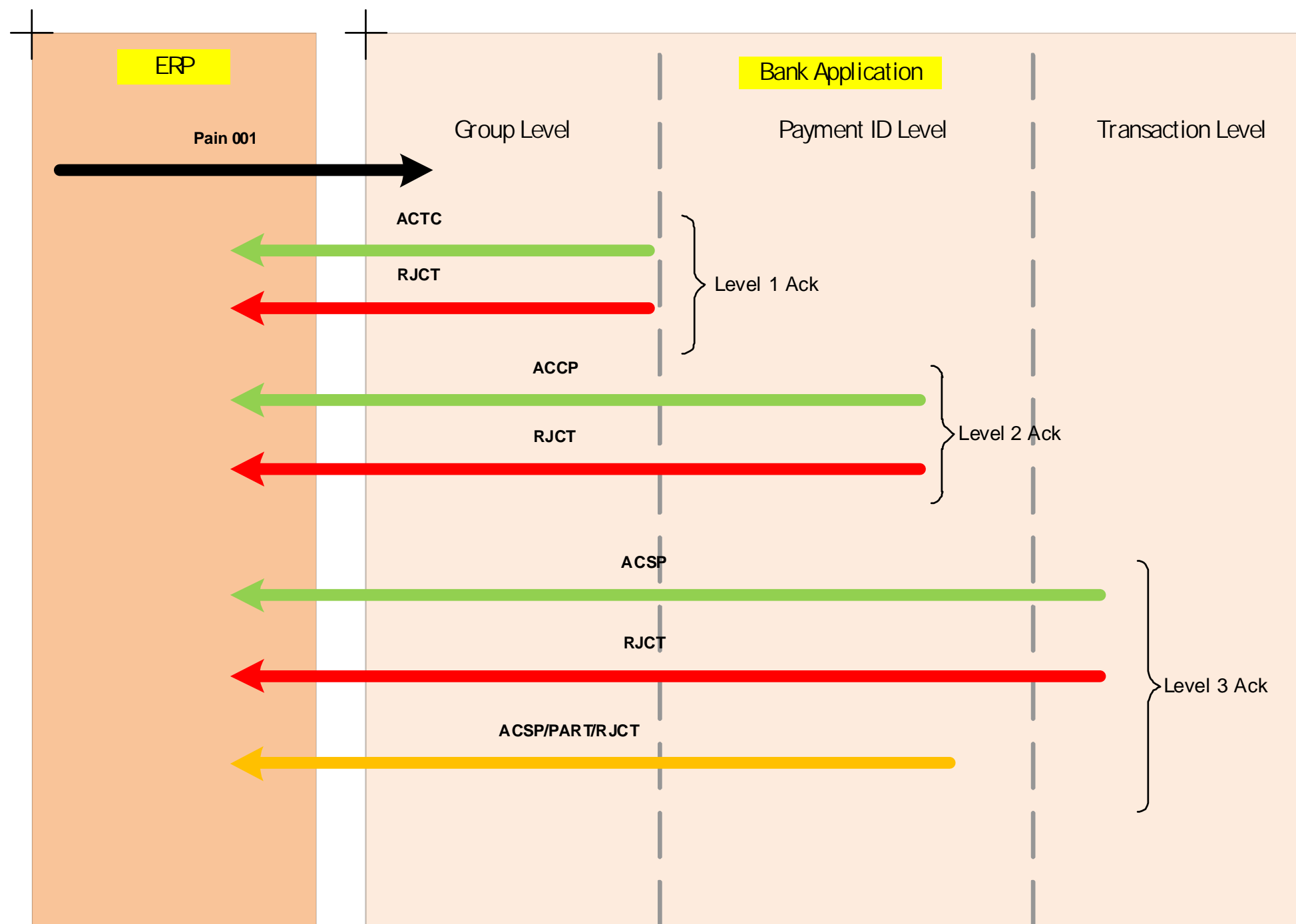
1. Group level
2. Payment ID level
3. Instruction level.

The below-given figure provides an overview of the three levels. The details that are transferred at each different level are also shown.



Message-Structure Levels

In response to your pain.001 message, the bank sends a status message for each of the three message-levels shown in the above figure. The following figure illustrates the status updates that the bank sends for these instructions, and the sequence in which the status messages are sent.



Status messages - Levels and sequence

Acknowledgement and status updates sent by the bank using pain.002 messages are read into the monitor database and the SAP statuses mapped to these external statuses are updated. The following table lists statuses that can be sent by the bank, their corresponding SAP statuses and their descriptions:

Bank's status	Response	SAP status	Description
ACTC	Group-level	Sent to Bank	This status indicates that the payment instruction, which you have sent, has been delivered to the bank; however, processing at <i>Payment-ID</i> -level and <i>Transaction</i> -level has not been initiated.
RJCT	Group-level	Rejected by Bank	The bank sends this status if a payment group is rejected by the bank.
ACCP	Payment ID-level	Received by Bank	This status indicates that the details at <i>Payment ID</i> level have been validated; processing at <i>transaction</i> level has not been initiated.
RJCT	Payment ID-level	Rejected By Bank	
ACSP	Transaction-level	Accepted by Bank	This <i>Transaction</i> level status indicates that processing is successful at every message-level
RJCT	Transaction-level	Rejected By Bank	This <i>Transaction</i> level status indicates that the bank has rejected the transaction

ACSP	Payment ID-level	Accepted by Bank	This status is sent as a summary at the <i>Payment-ID</i> level, if all transactions for a payment ID are successfully processed (with response <i>ACSP</i> at <i>Transaction</i> level)
PART	Payment ID-level	Partially accepted by Bank	This status is sent as a summary at the <i>Payment-ID</i> level, once all payment transaction for a payment-ID are processed, wherein some of the transactions are rejected (that is, there was an <i>RJCT</i> response at <i>Transaction</i> level), and some are successful (that is, there was an <i>ACSP</i> response at transaction-level)
RJCT	Payment ID-level	Rejected by Bank	This status is sent as a summary at the <i>Payment-ID</i> level if all the payment transactions for a payment-ID are rejected by the bank (that is, there was an <i>RJCT</i> response at <i>Transaction</i> level)



Statuses sent by bank are not displayed in the report generated by the Payment Cockpit program. They are provided here for information.

For a payment group, the report generated by this program offers drill-down capability to view payment information IDs (*PmtInf*) as well as individual instruction details (*CdtTrfInf* for credit and *DbrtTrfInf* for debits). The report also provides links to the related payment documents for each instruction issued by you to the bank.

The report also gives you the option to re-send instructions for which originally no acknowledgement was received from the bank, that is, for the instructions having status *Payment Medium Created*.

Following data on your payments can be displayed through the report:

- Details of payment group, payment information ID, and payment instructions sent to the bank
- Status-change history at all message-levels, that is, at the *Payment-Group-Level*, *Payment-Information level*, and at each individual *Payment-Instruction level*
- Detailed application log for both outbound and inbound messages
- Individual encrypted XML messages containing your instructions

Selection

The program gives you several search options; some important selection fields are:

- *Payment Group ID*: This is the run identification from the *payment run* program (transaction */F110*)
- *Payment Information ID*: This is an internally-generated number from *F110* which represents a particular batch
- *Instruction ID*: This is an internally-generated number from *F110* that represents an individual payment in a batch
- *Run Date*: The date of the payment run
- *Business Transaction*: The *F4* values under *Business Transaction* are:

- *Payment Medium Created*
- *Payment Sent to Bank*
- *Received by Bank*
- *Accepted by Bank*
- *Rejected by Bank*
- *Partially Accepted by Bank*
- *Payment Statement Received*
- *All*



If you are using the *SAP BCM* component, use program *Batch and Payment Monitor* (transaction *BNK_MONI*) through **SAP Easy Access** > *Accounting* > *Financial Accounting* > *Bank Communication Management* > *Status Management* to track the statuses of your payment instructions.

Navigation

In the report generated by this program:

1. Double-click on a record to navigate from a payment group to view its constituent payment information IDs
2. Double-click on a payment information ID to view details of the individual instructions

To re-send a credit or direct debit instruction to the bank, (the *Re-send* function can be used only for instructions with status: *Payment Medium Created*)

1. Select the record at *Payment Group* level
2. Choose the *Re-send* pushbutton
3. Choose *Yes* to confirm

A confirmation message that your instruction has been re-sent to the bank will be displayed.



6 Exchanging Non-ISO Files

You use this program to send non-ISO-format files to the bank. The program provides options to upload non-ISO file for transmission from an application server or from a desktop. On specifying the location of the file and executing the program, the system uses 3rd party PGP software integrated with your SAP ERP to encrypt the file before sending to the bank.

A non-ISO file may be any generic file that can be formatted by your system. Non-ISO files are encrypted with your 3rd party PGP software and transmitted to the bank using this solution.

Integration

Non-ISO files are transferred between your system and the bank's over the same Web service connectivity channel that is used to send your payment instructions.



The solution does not log the transfer of non ISO files to bank in the payment cockpit. However, you can use the standard logging features in your SAP system to display this information.

Prerequisites

You have a 3rd party PGP software integrated with your SAP system.