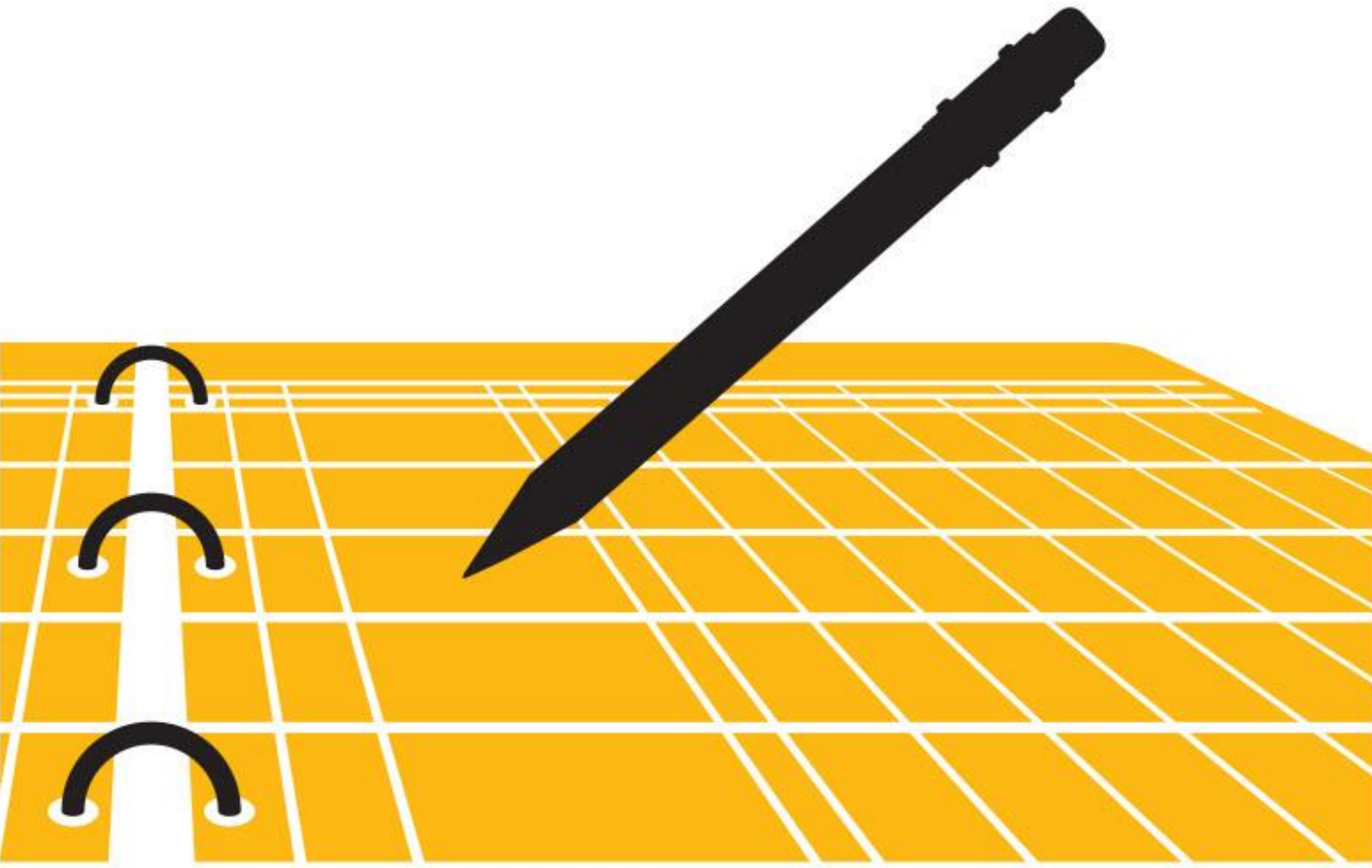
Configuration Guide **CUSTOMER**

Document Version: 4.0 – Final
Date: August 15, 2016

Overtake and Undertake Quantities Billing for German Energy Utilities



Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
`EXAMPLE`	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`	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`	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
`<Example>`	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
`EXAMPLE`	Keys on the keyboard, for example, `F2` or `ENTER`.

Document History

Version	Status	Date	Change
1.0	Final	2015-08-03	Initial version
2.0	Final	2015-10-30	Final version SP 01
3.0	Final	2016-02-01	Final version SP 02
4.0	Final	2016-08-15	Final version SP 03

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1 About This Document

1.1 Purpose and Scope

The configuration guide provides a central starting point for the technical implementation and configuration of overtake and undertake quantities billing for German energy utilities. It describes all activities that are necessary for implementing and configuring this application. In addition, this configuration guide provides information about the components and guides that are required during the implementation process.

Overtake and undertake quantities billing for German energy utilities supports the following business scenarios:

- Creation of overtake and undertake quantities billing documents by grid usage billing
- API to create overtake and undertake quantities billing documents for settlement without grid usage
- Mass process ranging from determining settlement information until creating billable Items in SAP Convergent Invoicing (SAP CI)
- Billing in SAP Convergent Invoicing
- Invoicing in SAP Convergent Invoicing
- Single process to send out MSCONS and INVOIC

To allow for an efficient implementation process, all information within this document is structured according to scenarios. You can choose from several generic business scenarios and find all information that is relevant for the technical implementation and configuration of a specific business scenario.

1.2 Target Audience

This document is intended for the following target audiences:

- Consultants
- Customers
- System administrators
- Support specialists

1.3 Glossary

Term	Abbreviation	Definition
overtake and undertake quantity billing		Process in which the system compares feed-out or feed-in quantities with the settled quantity at a point of delivery, determines the overtake and undertake quantities based on that, and bills the supplier with

Term	Abbreviation	Definition
		these resulting quantities.
overtake quantity		Overtake and undertake quantities for a feed-out or feed-in point of delivery are determined by subtracting the feed-out quantity from the settled quantity, or by subtracting the settled amount from the feed-in quantity respectively. If the resulting value is positive, it is an overtake quantity.
undertake quantity		Overtake and undertake quantities for a feed-out or feed-in point of delivery are determined by subtracting the feed-out quantity from the settled quantity, or by subtracting the settled amount from the feed-in quantity respectively. If the resulting value is negative, it is an undertake quantity.
overtake amount		Amount that is determined by an overtake quantity
undertake amount		Amount that is determined by an undertake quantity
Point of Delivery	PoD	
energy data management	EDM	
Business Configuration Set	BC Set	
application programming interface	API	
SAP Convergent Invoicing	SAP CI	
REMADV advice	REMADV	EDIFACT format of an advice that is imported in the system as an IDoc. This can be a payment advice or a non-payment advice.
non-payment advice/complaint notification		The supplier rejects invoices that are contained in a REMADV of type non-payment advice (code value R). These are called complaint notifications in the system.
payment advice		The supplier accepts invoices that are contained in a REMADV of type payment advice (code value C)
positive payment advice/REMADV		The sum of all payment amounts in a REMADV is positive. This means the supplier will pay this amount to the DSO.
negative payment advice/REMADV		The sum of all payment amounts in a REMADV is negative. This means the DSO has to pay this amount to the supplier. The part of the open FI-CA items that correspond to the invoices within this REMADV need to be marked for payment so that the next payment run will select and pay them.

Term	Abbreviation	Definition
zero-balance payment advice/REMADV		The sum of all payment amounts in a REMADV is zero. The invoices within the REMADV can be cleared with each other. No payment will be done.
payment advice note	PAN	When a REMADV IDoc is received, the system creates PANs to capture the data of the REMADV within the system for further processing. Normally, a REMADV IDoc creates one PAN. However, if a REMADV contains invoices by different suppliers (merge of suppliers) or invoices from grid usage billing as well as from MeMi billing, the system splits a REMADV into different PANs.
reversal process		A process that is triggered when a MeMi process is reversed.
reversal overtake quantity		Represents the overtake quantity that is reversed in a reversal process.
reversal undertake quantity		Represents the undertake quantity that is reversed in a reversal process.
simulation process		A MeMi process that is created in simulation mode. It can be triggered by simulation grid usage billing execution or the API *Settlement without Grid Usage*. In the simulation process, no market messages (MSCONS and INVOIC) are sent out, nor will it create any consumption items for the MGV billing process or create any posting documents.
market area responsible	MGV	For the gas division, the sum of all invoiced MeMi quantities for each grid account number and application month will be billed for the market area responsible.

1.4 Related Information

For more information, see SAP Support Portal at http://support.sap.com under *Download Software → Installations and Upgrades → A-Z Alphabetical List of my Products → Q → QUANTITIES BILL. GER ENRG → QUANTITIES BILL. GER ENRG 1.0 →Technical Documentation → Application Help*.

1.5 Important SAP Notes

Recommendation

Make sure that you read the SAP Notes before you start implementing the software. The SAP Notes contain the latest information about the installation as well as corrections to the installation information.

Also make sure that you have the up-to-date version of each SAP Note.

SAP Note Number	Title	Description
2143215	Extensibility of the billing view of the installation	This SAP Note is a precondition for *overtake and undertake quantities billing for German energy utilities*. It must be implemented before installing the software.
1745581	Release strategy for the ABAP Add-On IDXGC	Installation information of software component IDXGC
1083318	Release strategy for the ABAP Add-On IDEXDE	Installation information of software component IDEXDE
2198475	Release strategy for ABAP Add-On MEMI	Installation information of software component MEMI
1893824	IDXGC: BC Set of the configurations	You must activate the Business Configuration Set (BC Set) of *intercompany data exchange common layer for Germany* (technical abbreviation *IDXGC*), version IDXGC10008 before activating other BC Sets mentioned in this guide
1893823	IDEXDE: BC Set for Configuration	You must activate Business Configuration Set (BC Set) of software component version IDEXDE 61706 before you activating BC Set mentioned in this guide
2194900	New BAdI Method When Releasing Billing Document	This SAP Note is a precondition for *overtake and undertake quantities billing for German energy utilities*. It must be implemented before installing the software.
1932375	BAdI for update of billing and reversal	This SAP Note is a precondition for overtake and undertake quantities billing for German energy utilities. It must be implemented before installing the software for Support Package 01.
2189252	CL_ISU_SE_IMPL_BASIC: Visibility of methods, inheritance	This SAP Note is a precondition for overtake and undertake quantities billing for German energy utilities. It must be implemented before installing the software for Support Package 01.
2247680	FKKBIX: Create several BITs for consumption items	This SAP Note is needed for the MGV billing process to support energy tax
2248303	FKKBIX: Industry specific Source Transaction Type is not possible in posting area 8175	This SAP Note is needed for the MGV billing process to derive BIT fields during rating

SAP Note Number	Title	Description
2248152	FKKBIX: Rating not possible without provider contract	This SAP Note is needed for the MGV billing process to support rating of consumption items
2255828	FKKBIX: Wrong call of FKK_INV_BILLDOCS_INVOICED_CHK	This SAP Note is needed for the MGV billing process to support reversing BITs
2225460	FKKINV: No free selections possible in transaction for single invoicing	This SAP Note is needed to have Further Selections in the single invoicing transaction of SAP CI
2237868	FKKINV: Error FKKINV 399 when invoicing billing documents with external tax for base amount zero	This SAP Note is needed to invoice the billing document which has a zero amount for an external tax item.
2265907	FKKBIX: Simulated billable item cannot be invoiced	This SAP Note is needed to invoice simulated billing documents.
2264533	FKKBIX: Runtime error TABLE_INVALID_INDEX in rating	This SAP Note is needed for rating consumption items (MGV billing process)
2268743	FKKBIX: Misleading error message FKKBIX 779 in rating: "There are no consumption items for rating or qualified for rating"	This SAP Note is needed for rating consumption items (MGV billing process)
2264654	FKKBIX: Error message FKKTAX 848 not precise	This SAP Note is needed for reversing BITs (MGV billing process)
2270273	FKKBIX: Optimization of the reversal of billed billable items	This SAP Note is needed for reversing BITs (MGV billing process)
2277518	MeMi: Adjustment at the time of event 1330 for due date determination	This SAP Note is needed to determine the due date for MeMi.
2277516	Determination of the due date for third parties with working days only	This SAP Note is needed to determine the due date for MeMi.
2278073	INVMON: Navigation from payment advice note display to print document	This SAP Note is needed to navigate from INVMON to the MeMi document.
2318107	FKKINV: Object links for reversal invoicing document or reversal billing document are not saved	This SAP Note is needed to update the reference object in the MGV reversal CI invoice document.

SAP Note Number	Title	Description
2321450	FKKINV: Subsequent generation of object links for invoicing document or billing document	This SAP Note is needed to set the reference object in the MGV CI invoice document.
2317022	Dunning: New events 0389 and 0397	This SAP Note is needed to delete the MeMi dunning history when the standard history is deleted, and to facilitate user interaction from the standard dunning history header to the MeMi dunning history display screen.
2331275	FKKINV: Printing lock cannot be removed	This SAP Note is needed to manually change the print lock setting for CI invoice
2343434	Deregulation: Billing of overtake and undertake amounts (quantity structure tool)	This SAP Note is required to create an entry in `ECROSSREFNO` for MGV invoices

2 Solution Overview

2.1 Process for Overtake and Undertake Quantities Billing

This process compares feed-out and feed-in quantities with the settled quantity at a specified point of delivery. It also determines the overtake and undertake quantities based on this comparison, and bills the supplier with the resulting quantities.

The process is started by either the grid usage billing scenario, or settlement without grid usage. Depending on the configuration and Customizing in your system, the process creates an overtake and undertake quantity document by determining all relevant data in an automated manner, and triggers the follow-on invoicing processes.

The overtake and undertake quantities billing process involves several objects:

- Grid usage billing document
- Overtake and undertake quantities billing document
- Process document for overtake and undertake quantities billing
- Mass process document for overtake and undertake quantities billing
- Settlement Information by the energy data management (EDM) system [This is not part of this product but is needed for the overall solution]
- Billable items by SAP Convergent Invoicing
- Billing document by SAP Convergent Invoicing
- Invoicing document by SAP Convergent Invoicing and the posting document by Contract Accounts Receivable and Payable (FI-CA)
- MSCONS and INVOIC IDocs

The EDM information could lie within the same SAP Utilities system or in an external system. SAP supports both cases by offering an asynchronous Web service query and response for external EDM systems. The process until receiving and checking the settlement information are slightly different and are shown in the following figures:

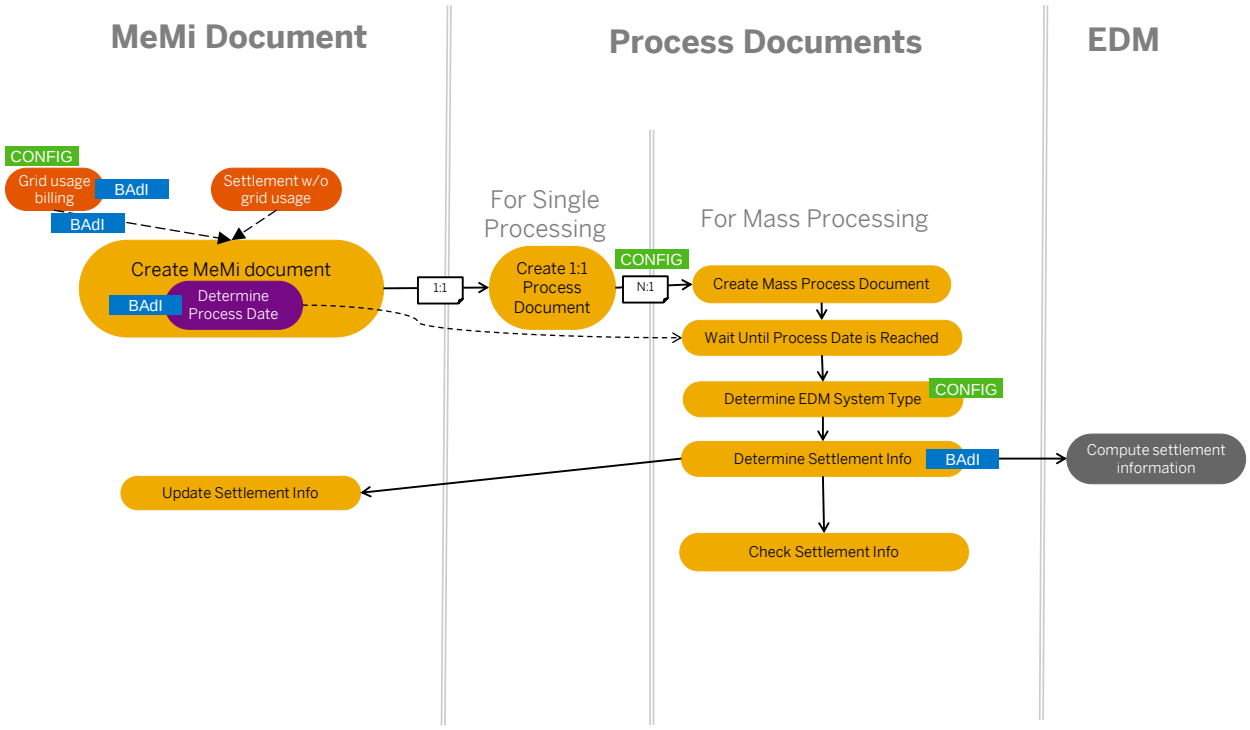


Figure 1 Overtake and Undertake Quantities Billing Process with an Internal EDM System

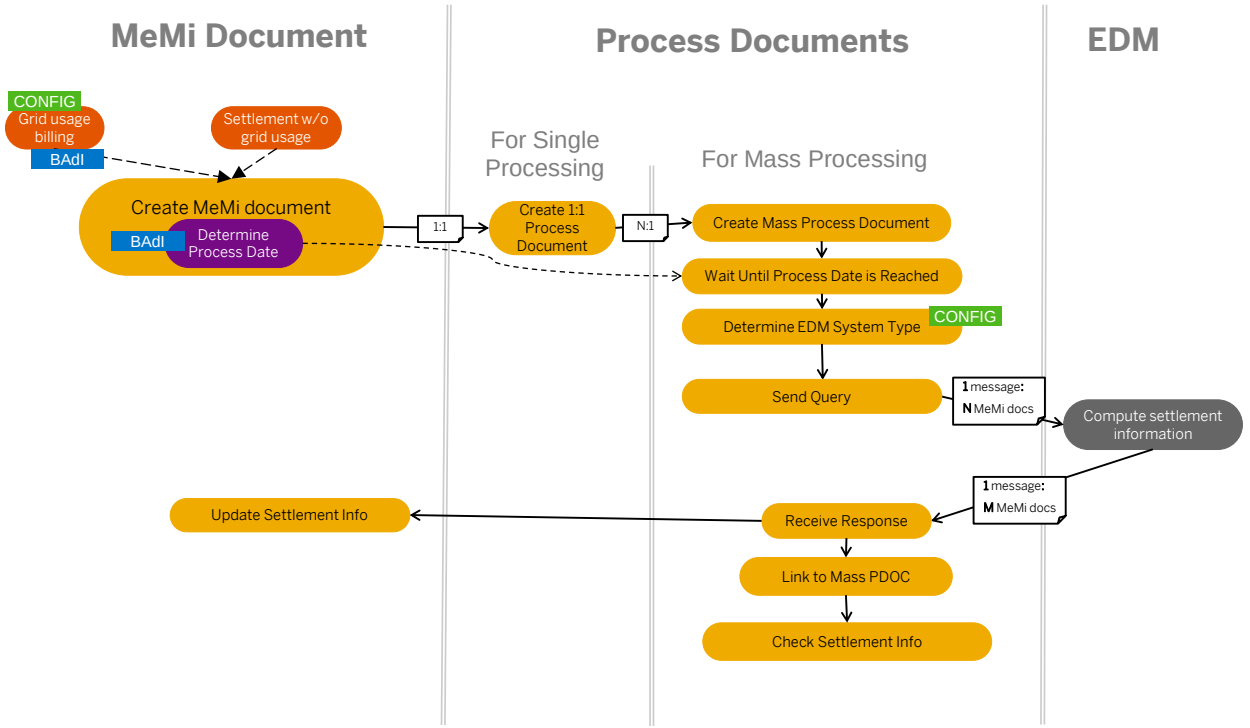


Figure 2 Overtake and Undertake Billing Process with an External EDM System

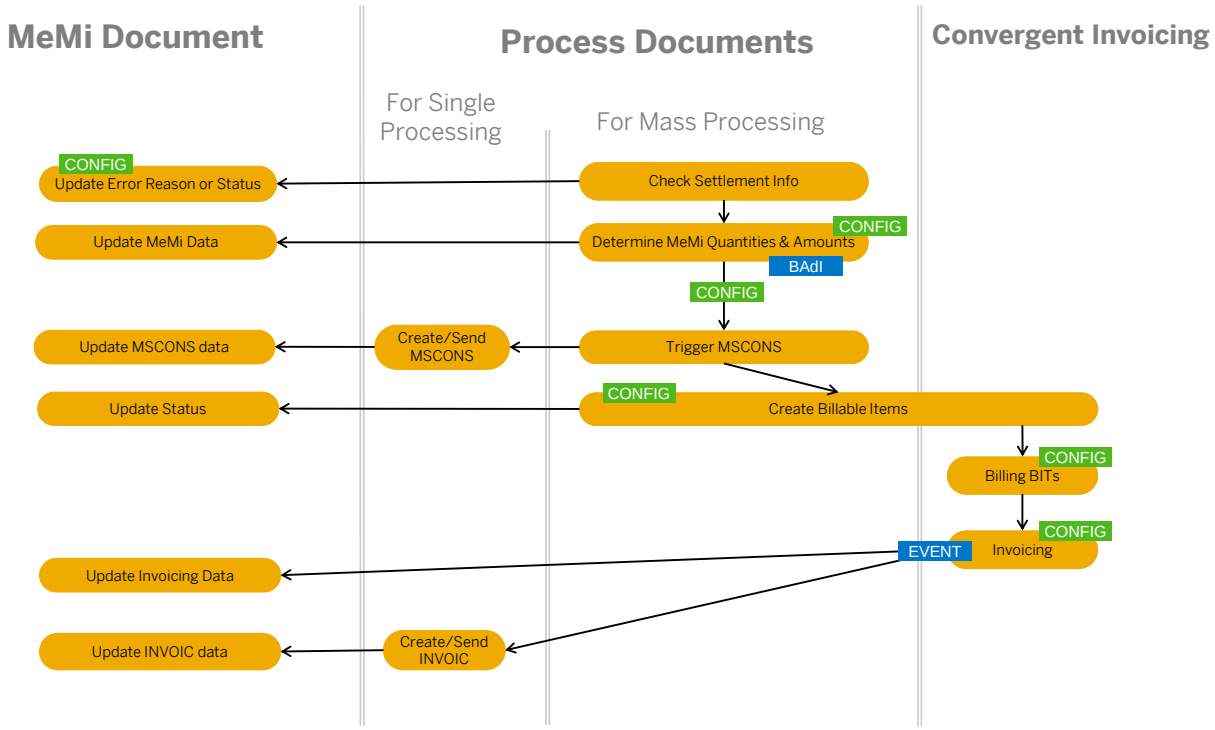


Figure 3: Process Continued for Both Internal and External EDM

2.1.1 Determine Due Date of Invoice

Deregulation process `MEMI_OUT` contains a parameter for the payment frequency. Exit event 2640 is implemented to determine the due date of the invoice document when it is generated. By calling exit event 1330, standard function module `ISU_DUE_DATE_DETERMINE` considers the logic to determine the invoice due date based on the payment frequency specified in the supplier's service provider agreement.

Different periods with working dates can be defined for payable and receivable invoices. The baseline date is the date of the invoice document. You can then define the payment frequency in the service provider agreement. If the agreement doesn't specify a payment frequency, the document date is used as the due date of the invoice document.

2.1.2 Recheck Settlement Data

We provide a BAdI that you can use to recheck settlement data after the standard checks have been carried out, and overwrite the check result to control the subsequent MeMi process.

> **Note**
>
> To recheck and overwrite the result of the settlement data and master data check for the MeMi document, you need to provide your own implementation of the *BAdI: MeMi Document Business Access*. Method

`CHECK_SETTLE_DATA` allows you to recheck MeMi documents that contain errors via the standard check. You can then overwrite the check result.

2.1.3 Determine MeMi Period for Split Grid Usage Periods

In some cases, several MeMi documents can refer to the same grid usage billing document. For example, if there is a change in the VAT group during the grid usage period. In these cases, the grid usage period can be split into two periods, and a new MeMi document is created for each of these periods.

After EDM has received the settlement response for these MeMi documents, the MeMi period, application month, and price are determined. The price, and therefore the application month, should be the same in each of the split periods. However, the tax date (which is the end of the MeMi period) should be different. To enable this, the logic used to determine the MeMi period and application month has been changed.

The MeMi period is now determined on the basis of the split grid usage period. Each MeMi document determines the MeMi period for its own split grid usage period. The application month is determined as the latest date on which the different MeMi periods end.

Caution

The MeMi period for all MeMi documents was previously determined by setting the start date to the earliest date and the end date to the latest date. All of the MeMi documents therefore had the same end date.

If you want to continue to use the old logic, implement the following methods for *BAdI: Define Business Logic for Overtake and Undertake Quant. Billing Doc.*:

- `DETERMINE_MEMI_PERIOD`
- `DETERMINE_APPL_YEAR_MONTH`

2.1.4 Print Lock Setting in Convergent Invoice

By defining invoice type MM, you can set a print lock for the invoice from SAP Convergent Invoicing. The default setting is to set the print lock for the document, which means that an electronic invoice will be sent for overtake and undertake quantities billing. For more information, see Define Invoicing Types.

Note

Setting the print lock using function module `/IDXMM/FM_EVENT_2645` through FI-CA event 2645 is obsolete with BC set `/IDXMM/CI_03` and `/IDXMM/CLNT_DEP_03`.

2.1.5 Create MeMi INVOIC

Recommendation

Create the MeMi INVOIC IDocs asynchronously, that is, not during CI invoicing but later. By default, INVOIC steps for both original and reversal MeMi documents are configured as "Asynchronous" in Customizing.

During invoicing, the INVOIC step is created but not executed. To execute it later, run report `/IDXGC/RP_API_TRIGG_PROC_MASS` or call transaction `/IDXGC/MASS`. On the selection screen, leave the *Asynchronous* checkbox deselected.

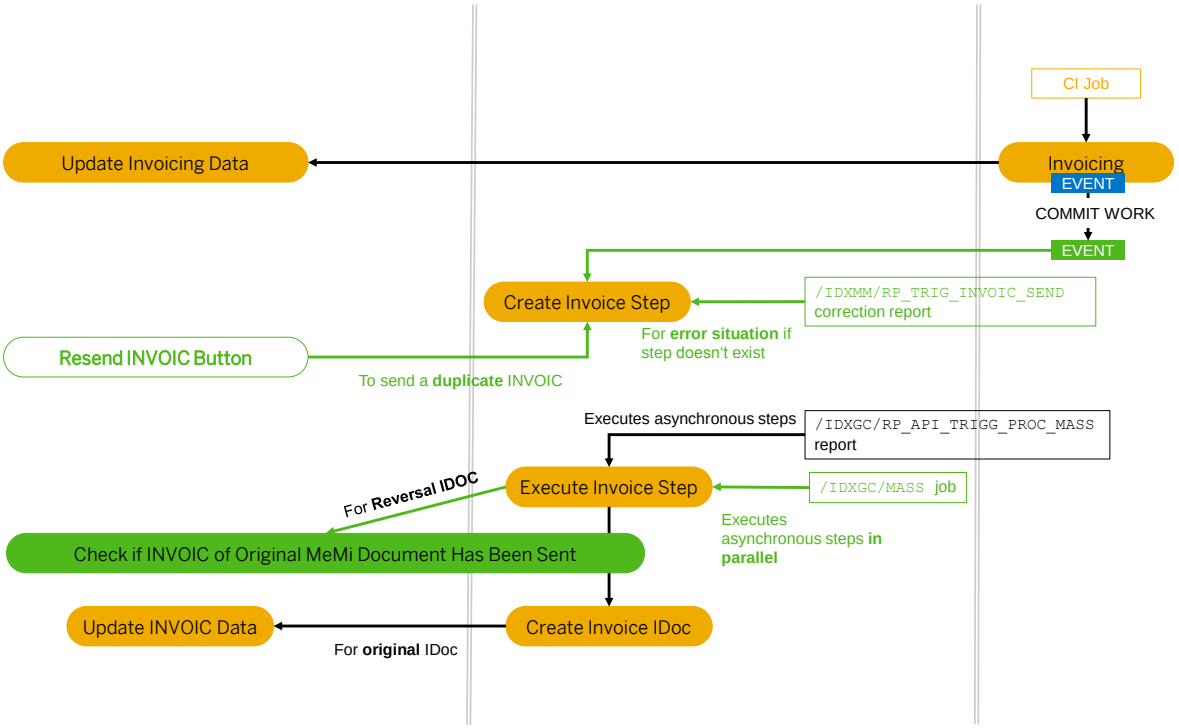


Figure 4: Process for Creating a MeMi INVOIC

2.1.6 Resend MeMi INVOIC

The MeMi document contains a button that enables you to resend an INVOIC IDoc. The button is displayed next to the invoice IDoc number. It will only trigger another INVOIC step if the original INVOIC has been sent. The new INVOIC IDoc will be created as duplicate invoice.

Note

Resending an INVOIC is only possible for MeMi documents that are embedded in process documents of version 4 or later.

If you use asynchronous INVOIC creation, the step will be created only in status *Ready to Be Processed*. Once the deadline has been reached, the step will be executed and the INVOIC IDoc will be created.

2.2 Process for Reversing Overtake and Undertake Quantities Billing

You can reverse overtake and undertake quantities billing documents (also referred to as "MeMi" documents) if the settlement retrieved by an external energy data management (EDM) system is not correct, for example. The reversal process creates a replacement overtake and undertake quantities billing document that rolls back all actions executed by the original document.

You can reverse the documents in three ways:

- Manually using the *Reverse* button to reverse individual documents. You can reverse the overtake and undertake quantities billing document that is displayed. Press the *Reverse* button and a reversal document is generated and added to the mass reversal process document.
- As a mass process by selecting multiple documents to be reversed. Use this option to process a set of overtake and undertake quantities billing documents if single processing is not possible, for example if the MeMi price was wrongly maintained, or if the results of the EDM settlement data were wrong. Enter the range of document numbers you want to reverse (transaction **`/IDXMM/REVERSE_DOCS`**).
- By reversing the grid usage bill. When you do so, the MeMi document is reversed automatically. When the new grid usage bill is created, a new MeMi document is created automatically.

The reversal process posts an inverted amount and quantity of the original document to be reversed to FI-CA, and sends out a reversal INVOIC via an IDoc (provided the INVOIC for the original document was already sent out).

If the overtake and undertake quantities billing document is reversed without the grid usage bill being reversed, the system automatically creates a replacement document with data derived from the grid usage bill. The replacement document is processed like a MeMi document, and the settlement data is requested from the EDM. After the MeMi quantities are calculated, the pricing is worked out using the MeMi price table.

The process for reversing overtake and undertake quantities billing includes the following steps:

1. The process starts when you select a document or documents for reversal.
2. A reversal document is created and attached to a mass reversal document.
3. The mass reversal document triggers the following process steps:
    - The EDM is informed about the reversal via a web service.
    - Market communication is stopped and no EDM settlement data is requested or processed.
    - The reversal MSCONS is sent (if the original MSCONS has already been sent).
    - New billable items are created for SAP Convergent Invoicing with opposite amounts (if a billable item has been created for the original document).
      Note: Billing and invoicing result in two posting documents (one for the reversal and one for the original document). Both documents are cleared automatically during the invoicing process, so the account balance does not contain any open items.
    - The reversal INVOIC is sent (if the original INVOIC has already been sent).
    - The status of the original document is checked before reversal. If it was triggered by a grid usage reversal, the new overtake and undertake quantities billing document is automatically created when the new grid usage bill is created. For the other two options, a new overtake and undertake quantities billing document is created from the grid usage bill with same signs for the amount and quantity, thereby replacing the original document.
    - The reversal status of the original document and the reversal document is set to *Reversal Completed*.

2.2.1 Check Whether Original INVOIC Has Been Sent

If the original INVOIC IDoc hasn't been sent, step 500 (*Send Reversal INVOIC*) will not create an INVOIC. Instead, a new deadline step 550 (*Deadline for Repeating INVOIC Sending Out*) will be created and will wait (by default) for 24 hours. If the deadline is reached, the step to send the reversal INVOIC will be created and triggered again. The system will check if the original INVOIC has since been sent. If not, a BPEM Case will be created.. If the original INVOIC IDoc **has** been sent, a reversal IDoc will be created.

The check not only determines whether the INVOIC IDoc has been created, but also whether the IDoc has been sent as an individual IDoc or whether it has been included in an aggregated IDoc.

After you have ensured that the original INVOIC has been sent, you can reprocess the current step from within the BPEM case.

2.3 REMADV and Payment Processing

A REMADV is a remittance advice that is sent by a supplier to the DSO and is imported into the system as an IDoc.

It contains several invoice documents that are either confirmed or rejected by the supplier. This is determined by the advice type of the IDoc:

- Payment Advice (C = Confirmation)
- Non-Payment Advice (R = Reject)

A REMADV can also contain different kinds of invoices that are identified by cross-reference numbers. A cross-reference number can refer to a print document of a grid usage invoice, or to an invoice by overtake and undertake quantities billing (abbreviated as "MeMi invoice").

> **Note**
>
> To enable the new REMADV and payment processing, you must run report `/IDEXGE/RP_PAN_CONVERSION` once in the system. It will fill new fields in database table `TINV_INV_DOC` for all payment advice notes of type C. For more information, see the application help for SAP Intercompany Data Exchange for German Electric Utilities under *What's New → What's New as of November 16, 2015*.

2.3.1 Receiving and Splitting REMADVs

During IDoc processing, the invoices contained in the REMADV are stored in payment advice notes (PANs) in the system. One REMADV usually results in one PAN, but there are some cases when the system splits the REMADV, and several PANs are created for the same REMADV:

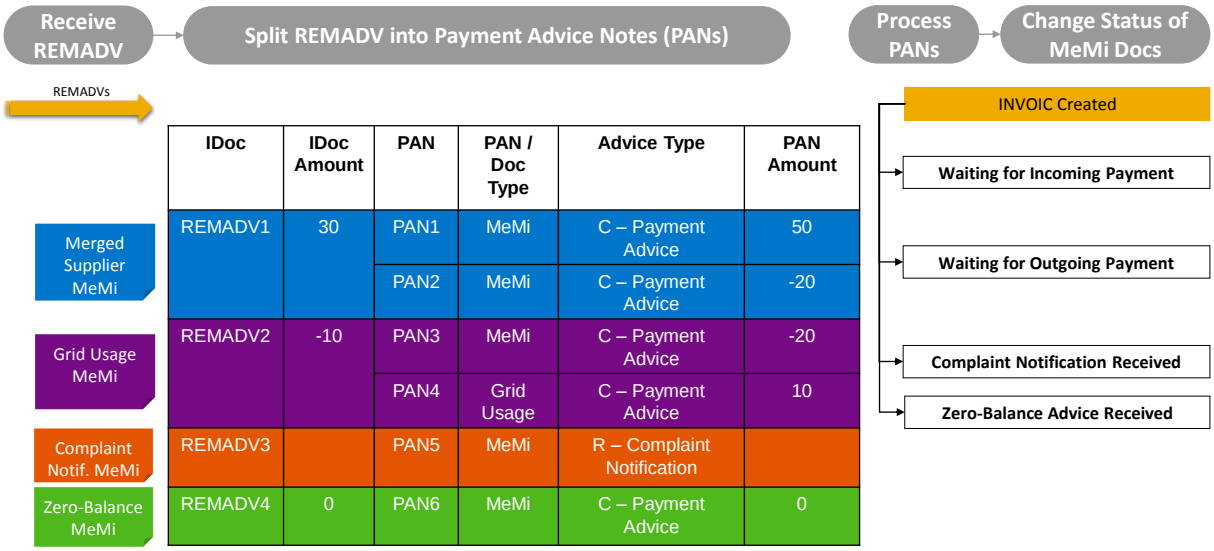


Figure 5: Overview of Split REMADVs and MeMi Document Statuses

Splits for payment advice REMADVs:

- The REMADV contains cross-reference numbers for print documents of grid usage as well as MeMi invoices. In this case, the PANs that are created are of different invoice or document types.
- The REMADV contains cross-reference numbers of invoices of different suppliers. In this case, a PAN for each supplier is created.

Non-payment advice REMADVs:

- If a non-payment advice REMADV contains more than one cross-reference number, then each cross-reference number is stored in a separate PAN: complaint notification

2.3.2 Process PANs of Payment Advices

The overall payment amount of the REMADV determines how the process continues.

The MeMi PANs that are created must be processed in transaction `INVMASSPROC`, or manually by using transaction **`INVMON`**. The overall payment amount of the REMADV determines how the process continues.

If no duplicates have been found in other PANs, the status of the included MeMi documents is changed:

- If payment > 0 (Positive Advice): *Waiting for Incoming Payment*
- If payment amount < 0 (Negative Advice): *Waiting for Outgoing Payment*
- If payment = 0 (Zero-Balance Advice): *Zero-Balance Advice Received*

Also the REMADV IDoc number and the internal PAN number will be entered in the MeMi document at this point.

For positive advices, the system checks whether an incoming payment has already been posted with reference to the REMADV. If not, the PAN has the document status *20 - On Hold* and a warning message *Payment must be booked in the system* is displayed in the PAN's log.

For negative advices, the system allocates the open items for the payment run (transaction **FPY1**) by maintaining the following on the open item:

- Payment method that is maintained in the service provider agreement for negative payments
- Payment group so that all open items belonging to the same REMADV are paid together
- Item text with the internal PAN number so that the payment run can find the PAN to which the payment is referenced, and check that all PANs of the same REMADV are paid together

The PAN then has the document status *20 - On Hold* and a warning message *Payment must be booked in the system* is displayed in the PAN's log.

For zero-balance advices, the system automatically clears the included invoices with each other so that after the PAN has been processed, the status of the MeMi documents is *Cleared as Zero-Balance*.

In general, the status of a MeMi document is updated when its corresponding open items are cleared in FI-CA:

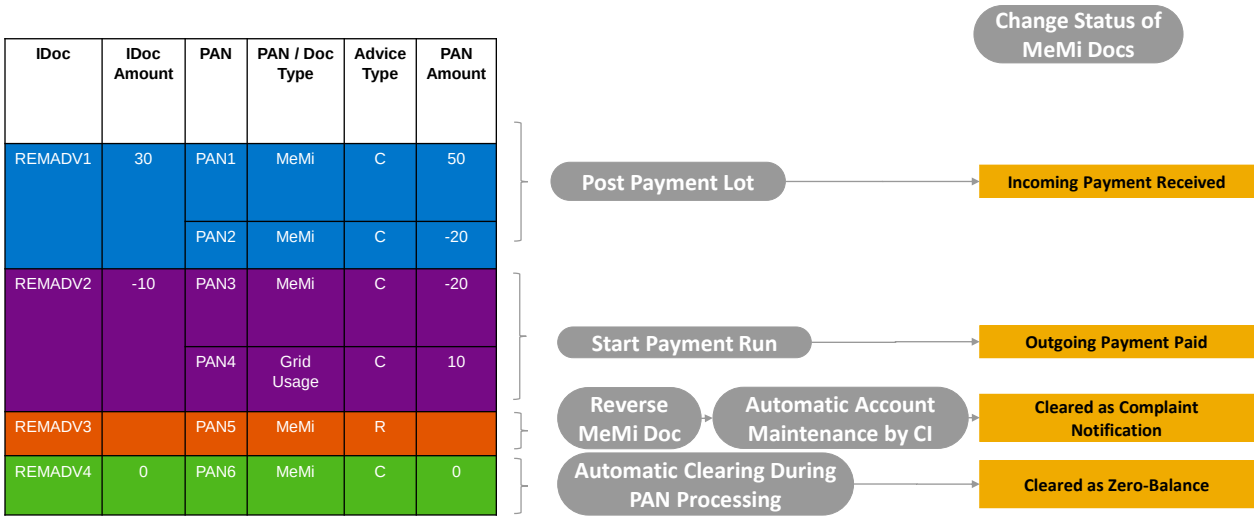


Figure 6: Status of MeMi Documents When Open Items Are Cleared

2.3.3 Post Payment Lot

After the bank statement is imported, a payment lot must be created for the incoming payment (transaction **FP05**). It must contain a reference to the REMADV for which the payment has been made.

Recommendation

Since the note to payee contains the external PAN number as a reference, we recommend using this external PAN number in the payment lot. The selection category for it is *T - Deregulation: Ext. PAN Number*. You need to enter the total payment amount of the REMADV together with the external PAN number.

Alternatively, you can use the selection category *U - Deregulation: Int. PAN Number* to enter internal PAN numbers. If you choose this option, you need to make sure that you maintain all PANs that are contained in the same REMADV within one item as a subselection. Otherwise, the system will issue an error message. You also need to make sure that you enter the amounts of the single PANs as the payment amount.

When the payment lot is posted, the MeMi documents can be found by the reference to the REMADV and are set to status *Incoming Payment Received*. The open FI-CA items belonging to the MeMi documents will be cleared.

Caution

You must NOT make any postings on account. The MeMi documents cannot be cleared via the REMADV and the MeMi documents would remain open.

Since the incoming payment refers to a REMADV that could relate to grid usage print documents as well as MeMi documents, the clearing category used for the aggregated grid usage contract account must also be used for the MeMi contract accounts. For the information about how to configure the clearing category AVIS and clearing variant AVI, see the Adjustment of Clearing Control chapter in the configuration guide for SAP Intercompany Data Exchange for German Electric Utilities.

Note

Make sure that in clearing variant AVI and clearing step 10, both main transactions are maintained in the same group: the one you use for grid usage invoices and the one you use for MeMi invoices.

2.3.3.1 Duplicate Invoices in Positive REMADV

If duplicate invoices are found in the referenced PANs of this incoming payment, the system cannot clear all MeMi documents and corresponding open items in FI-CA. Some of them have already been cleared or processed by other REMADVs. Therefore, the system will create a clarification case. You can then clarify it with the supplier and you may want to repay the payment that was received.

2.3.4 Post Outgoing Payment by Payment Run

We need to make sure that all open items belonging to the same REMADV (not only PAN) are selected by the payment run and are paid together in one payment.

For this to work, certain settings need to be made on all contract accounts of the suppliers: one contract account must be used for outgoing payments per supplier.

This is important if you use different contract accounts for MeMi and grid usage, or if you have merged suppliers. The details of this “paying” contract account must be entered in all other contract accounts of the same supplier in the following fields:

Contract Accounts paid by other contract account:

- Payer: Enter the business partner acting as the payer
- Paid By: Enter the contract account used for payment transactions

The payment run should only select those open items that have been allocated during PAN processing. These are the items that now contain the payment method for negative REMADV payments. Therefore, you need to make sure that the payment run uses the same payment method and that this payment method is not maintained in the “paying” contract account.

Payment Run:

- Payment Methods: Enter the payment method for negative REMADV payments

Contract Account:

- Outgoing Payment Methods: Leave blank

If no payment method is maintained in the contract account, the payment run will only select those open items that contain the payment method specified in the payment run.

All open items with the same payment group, paying contract account, and own bank details will be in the same payment unit. For each payment unit, the system checks that the payment amount of the payment unit is the same as the total payment amount of the REMADV of this payment unit. In addition, it checks that the open items of all PANs of the same REMADV are contained in the payment unit. If this is not the case, an exception is created with error information.

2.3.5 Process Complaint Notifications

Many customers already have their own solution in place to work on non-payment advices. Some users work on BPEM cases, while others work with workflow. Therefore, manual interaction with the PANs is not always required. To keep these existing complaint notification processes running, no manual action on the complaint notification PAN is needed.

You can process the PAN manually in transaction `INVMON` or automatically by using transaction `INVMASSPROC`. If no duplicate is found, the status of the MeMi document is set to *Complaint Notification Received* and the REMADV IDoc number and the internal PAN number will be filled. If the original MeMi document has not yet been reversed, a warning is issued in the PAN's log.

After having processed the PANs, the user needs to decide whether to reverse the MeMi document or wait for a new payment advice.

Case: Reversal after processing a complaint notification:

- After reversing a MeMi document for which a complaint notification has been processed, the system will automatically clear the reversal document with the original document by integrated account maintenance within SAP Convergent Invoicing. The status of the original and the reversal MeMi document is set to *Cleared as Complaint Notification*.

Case: Process a new payment advice after receiving a complaint notification:

- If the original document has **not** yet been reversed (see the case above), the status of the MeMi document is set to *Waiting for Incoming Payment*, *Waiting for Outgoing Payment*, or *Cleared as Zero-Balance* when the new payment advice is processed. The references of the PAN and REMADV will be filled by the new payment advice.

2.3.6 Navigate from INVMON to Invoice Document

Function module /IDXMM/FM_ACT_OWN_INVOICE_NO is customized for the document type and invoice type used in the overtake and undertake quantities billing process. It allows users to navigate from transaction INVMON to the overtake and undertake quantities billing document.

Function module /IDXMM/FM_ACT_MGV_INVOICE_NO is customized for the document type and invoice type used in the overtake and undertake quantities MGV billing process. It allows users to navigate from transaction INVMON to the CI invoice for overtake and undertake quantities MGV billing.

Sample Customizing for the payment advice note process is provided in BC set /IDXMM/CI_03. If PAN invoice types and document types already exist in your system, configure the necessary Customizing settings according to your custom implementation.

For more information about navigating from transaction INVMON, see SAP Note 2278073.

2.3.7 Reverse Payment Document

You can reverse a payment document after the payment process has been completed. If you reverse the payment document, the MeMi documents are changed back to their previous statuses. To do this, you must configure certain Customizing settings for FI-CA events.

In the following cases, the processes for reversing the payment document are restricted for MeMi to ensure consistency:

Case	Explanation
Reset clearing document for MeMi in transaction FP07	Resetting clearing documents that refer toMeMi documents is not allowed
Reverse clearing document for MeMi in transaction FP08	Clearing documents that clear open items related to a MeMi document are allowed only if the original transaction is a payment lot process, payment run process, or manual payment process.
Reverse payment document for MeMi and grid usage billing in transaction IUEEDPPLOTAALC4	Payment documents that clear open items related to a MeMi document or a grid usage document are allowed only if the original transaction is a payment lot process, payment run process, or manual payment process.

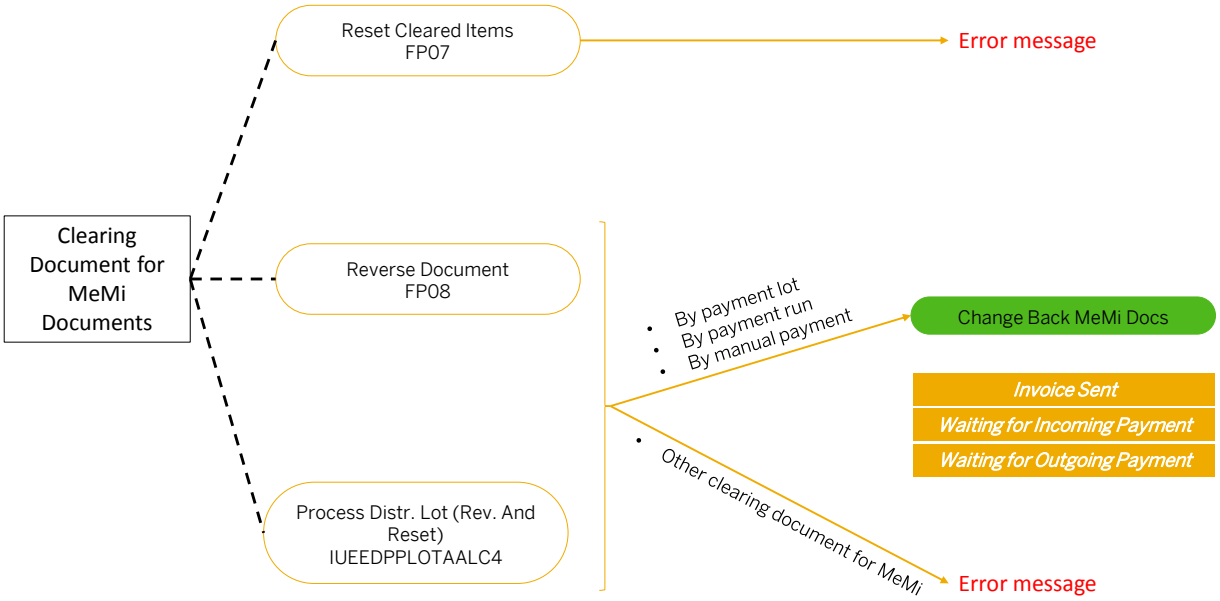


Figure 7 Reversing a Payment Document

2.4 Status Model of Overtake and Undertake Quantities Billing Document

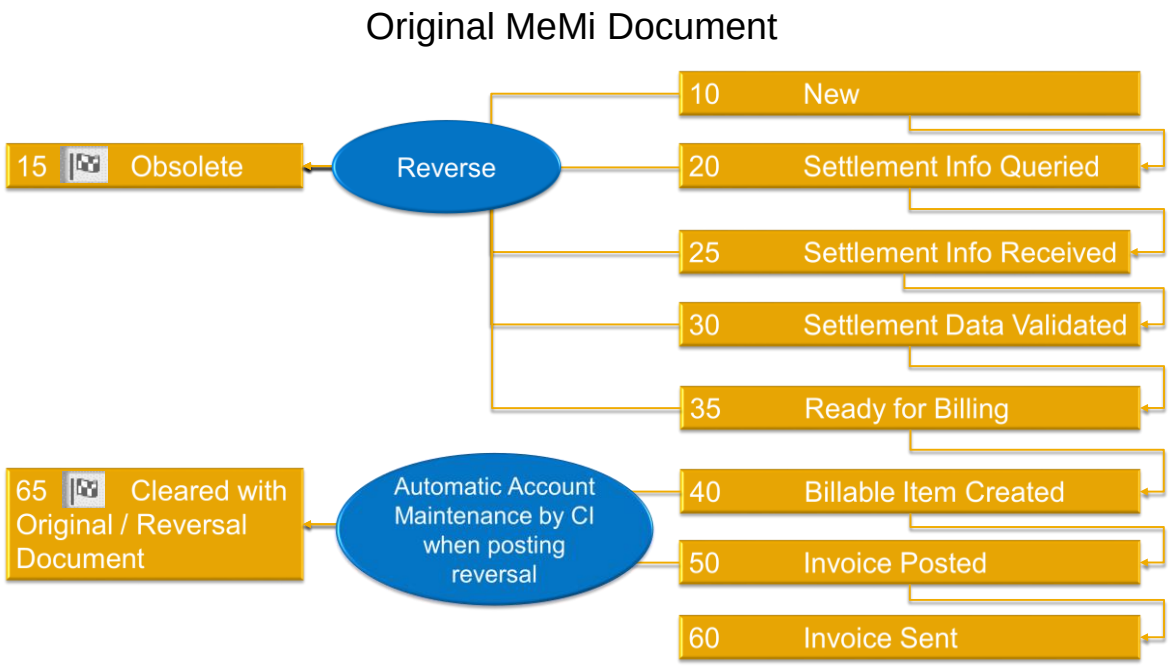


Figure 8 Status Transitions for an Original Document until "Invoice Sent"

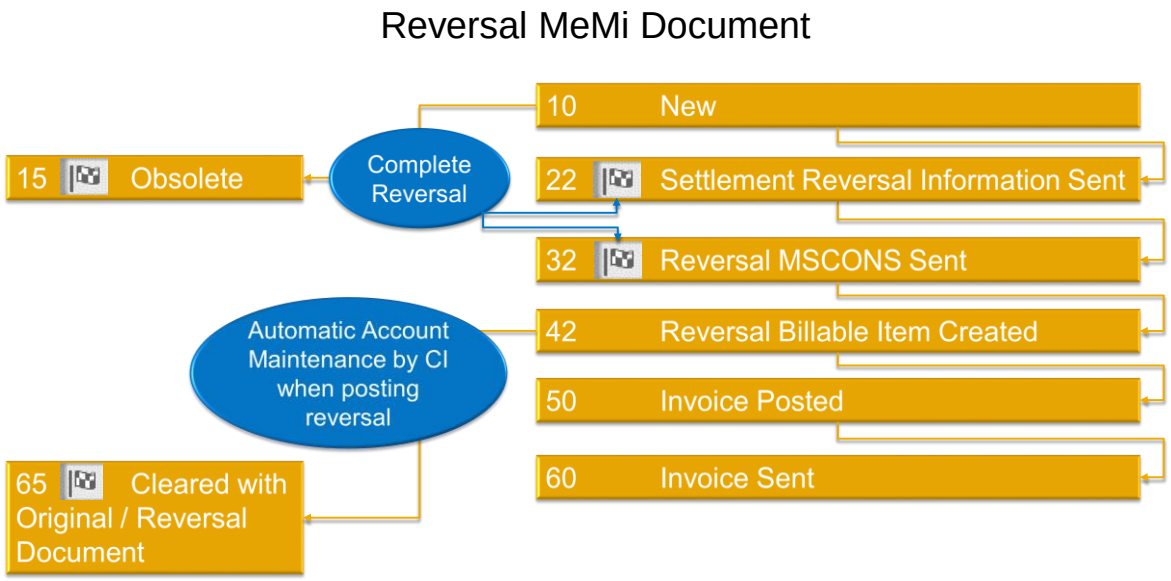


Figure 9 Status Transitions for a Reversal Document until "Invoice Sent"

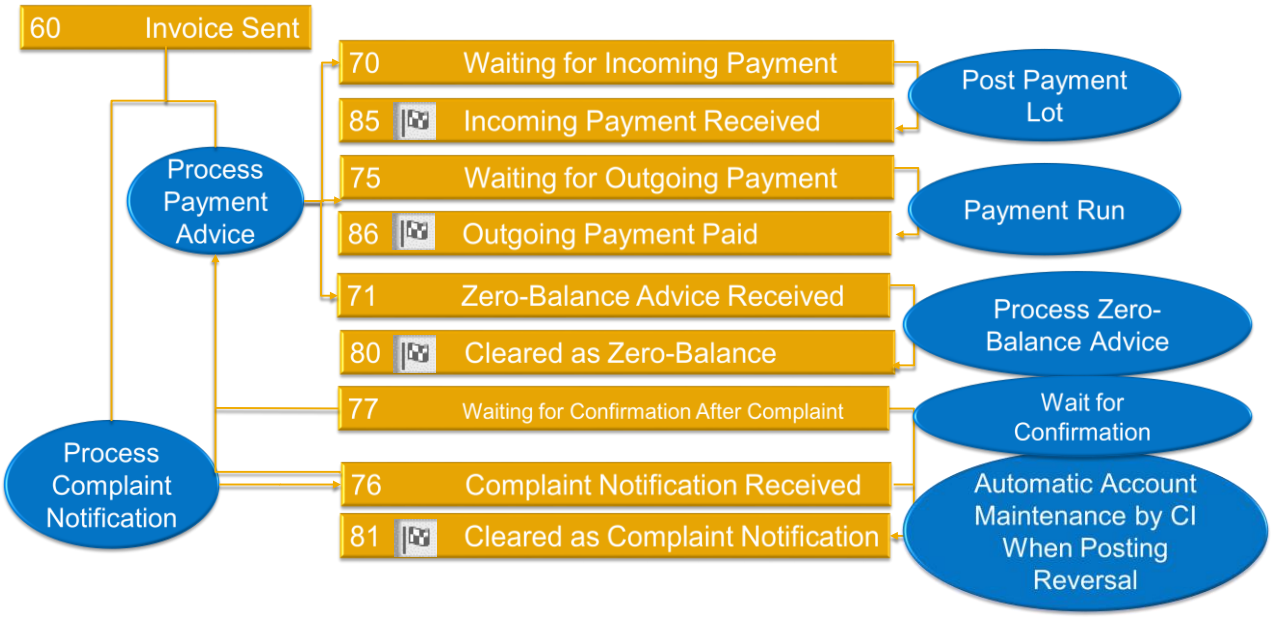


Figure 10 Final Status 66 – Cleared as Zero Amount

MeMi documents with amount EUR 0 are already cleared when invoiced. They are set to the new final status 66 – *Cleared as Zero Amount* during invoicing.

2.5 MGV Billing Process for Overtake and Undertake Quantities

> **Note**
>
> The following information is relevant for the gas market only. The German term Marktgebietsverantwortlicher [market area responsible in English] is abbreviated to MGV and used throughout this documentation.

For both the gas and electricity markets, overtake and undertake (MeMi) quantities are billed and invoiced by distribution system operators (DSOs) to suppliers. In addition, the German gas market is divided between two market areas, operated by two market area operators (MGVs). Whereas suppliers are billed for each point of delivery, MGVs are billed for each grid account number and application month. So for MGVs, all overtake and undertake quantities with the same grid account number and application month are aggregated when consumption items are created.

Consumption items are created when supplier invoicing is executed. MeMi documents are updated in SAP Convergent Invoicing (CI) with the invoicing data, which is where the MGV billing process starts. One invoicing document can relate to several MeMi documents, so their quantities are aggregated for each grid account and application month, and a consumption item is created using this quantity.

> **Caution**
>
> Consumption items are created based on database table `/IDXMM/MGV_DETIF`, which links the MeMi documents and the MGV-relevant information to the consumption items. This table contains all of the MeMi documents for gas, not just those with split settlement items. This table will be filled when the EDM response is received and also when a reversal MeMi document is created.
>
> If you have already received EDM responses before upgrading to Support Package 2, you need to initialize this new DB table. To support you, we provide report `/IDXMM/RP_MGV_DETIF_CONVERSION`. This report returns a list of all MeMi documents and shows which can be entered in the new DB table. If an error occurs, you can see a detailed error message in the *Error Log* column within the ALV. Ensure, for example, that the grid account numbers are maintained in the new master data table before executing the report. Do not forget to click on *Insert to DB*. Only then are the MeMi documents without errors inserted into the new DB table.

Prerequisites

You have maintained the contract account in the parameter of the service provider agreement for each MGV.

Process

1. Consumption items are created that contain information about the quantities that were supplied and consumed.

   > **Note**
   >
   > Consumption items are created for each grid account number and application month (this data is filled in the *Baseline Date* field in all objects in SAP Convergent Invoicing). Different MeMi documents can exist with different grid account numbers and even different application months, each with different consumption items. So, for example, if there are five MeMi documents within a supplier invoice document with the same grid account number and application month, the five different MeMi documents are aggregated and one

consumption item is created for all of them. Two invoice documents also create two consumption items even if the grid account number and application month is the same. The invoice document number is the first part of the source document ID of the created consumption item.

One MeMi document can also relate to more than one grid account number (for more details, see chapter 2.5.3). In this case, the MeMi quantities of the split items will be part of different consumption items.

2. During rating, all of the consumption items are aggregated, but again only for each grid account number and application month. The objective is to have one invoicing document for each application month and grid account number. During rating, consumption items are taken and aggregated into billable items (BITs). If energy tax is not applicable, exactly one BIT is created for each grid account number and application month. If energy tax is applicable, exactly two BITs are created for each grid account number and application month with the same source transaction ID. This source transaction ID ensures that they are always billed and invoiced together.

   The rating step also contains events that determine the MeMi price, whether a reverse charge is applicable, whether energy tax is to be levied, and if so, the corresponding energy tax price.

   Caution

   To ensure that all consumptions items of the same grid account and application month are aggregated in the same BIT, users must not overwrite the rating units that are proposed by the system during rating.

3. In the billing step, the SSQNOT IDoc is created using an event. This IDoc contains quantities and has to be sent to the MGV for each grid account and application month, stating whether the overall quantity was an overtake or an undertake quantity. The SSQNOT that is sent is also linked in the billing document on the *References* tab.
4. An INVOIC IDoc is sent to the MGV (previously a paper invoice was sent). To create the INVOIC, a process document for the MGV Billing Process is created during invoicing. It creates an INVOIC, which is linked to the invoice document on the *References* tab. A couple of fields need to be created on the invoice header and invoice items are needed to fill the INVOIC.

2.5.1 Reversing the MGV Billing Process

You can reverse the entire MGV billing process. This may be necessary if the entire process has already been performed but MeMi documents are subsequently reversed, for example. Also, DSOs may need to resend the SSQNOT document and submit a new invoice. Because there is no delta information, the DSOs have to create the SSQNOT again (with the overall quantity of documents for the grid account number and application months). Even if consumption items have already been invoiced, they can be reversed so that they can be rated, billed, and invoiced again.

You can reverse the process in two ways:

- You select the billable item and reverse it. The billing document is then reversed automatically by SAP Convergent Invoicing.
- You select the billing document and reverse it. The billable item is then reversed automatically by SAP Convergent Invoicing.

When the billing document is reversed, a reversal billing document is created with the opposite amount. You then need to invoice this reversal billing document so that a reversal invoice document is created and with it a new open item. The REMADV of the MGV determines how these open items will be cleared.

Caution

Do not reverse the invoice document and do not continue to use it. If you do so, the original item is cleared and a new open item is not created.

Example

In the figure below, you want to reverse billing document 1995, which is for EUR 104.71. Instead of reversing associated invoice document 1825, you reverse billing document 1995 to create reversal billing document 2141. You then invoice reversal billing document 2141, which creates invoice document 2192 with the negative amount of EUR -104.71.

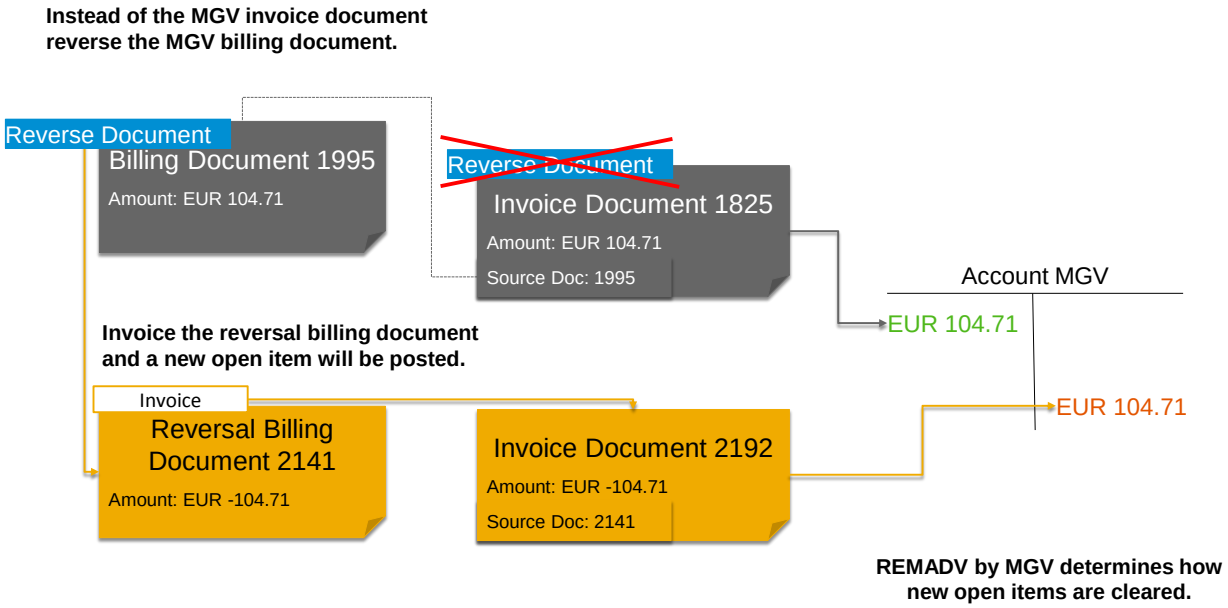


Figure 11 Reversing the MGV Billing Process

Caution

To prevent users from reversing the invoice document, you need to delete the Invoice Function "REVERSE" from the Invoice Process for the MGV. If you receive a REMADV by the MGV, no invoice document must be reversed anymore.

2.5.2 Maintaining Grid Account Numbers

Prerequisites

You must add the field for the grid account number in the customer include of the CI billing document, CI invoicing order, and CI invoicing document. To add the field, run report `/IDXMM/RP_FKKINV_ENH_MASTER`.

Features

Transaction **/IDXMM/GRID_ACCOUNTS** enables you to enter grid account numbers, so that the system can validate the grid account numbers that it receives within the settlement information in the EDM response.

The grid account number specifies the settlement coordinator and the distributor. This information is provided during normal overtake and undertake quantities billing (MeMi) processing after the EDM system is queried and the response is received, and needs to be entered manually in this transaction. Besides the grid account number, you need to enter the service provider ID of the MGV (settlement coordinator) and the DSO.

Grid account numbers can also be used in SAP Convergent Invoicing transactions to restrict displaying, rating, billing, or invoicing by certain grid account numbers. To do this, specify the relevant grid account numbers by choosing *Further Selections* in the relevant SAP Convergent Invoicing transactions.

2.5.3 Split Settlement Item by Grid Account Numbers

If there are several grid account numbers involved in a settlement period of a MeMi document, the EDM system can provide several grid account numbers for non-overlapping settlement periods. The web service response message provides a new node for this: *SettlementSplitItem*. Several settlement split items can be maintained for each *SettlementStatusItem*, i.e. for each MeMi document.

When the system receives a response with *SettlementSplitItems,* it checks the consistency to ensure that:

- There are no gaps or overlaps in the split settlement periods; they are within the overall settlement period that is provided in the *SettlementStatusItem*.
- The sum of the settlement quantities in the split items matches the settlement quantity that is provided in the *SettlementStatusItem*.
- The grid account numbers are valid as defined in the master data table (see chapter 0).
- The external service provider ID of the MGV that was received fits with the settlement coordinator maintained in the grid account number master table (see chapter 0).

If split items have been received, they are shown on the user interface for the MeMi document when you click *Show Split Items* in the section *Settlement Information.* This button will only be shown if there are settlement split items.

In step *500 Determine Overtake and Undertake Quantities & Amounts*, the system determines the grid usage quantity for each split item by using the weighting key of the grid usage billing document. MeMi quantities are also determined for each split item so that the correct MeMi quantities are considered for each grid account in the MGV billing process.

2.5.4 Contract Account for MGV Billing

The contract account for MGV billing is determined in the invoicing event before the consumption items are created. BAdI `/IDXMM/BADI_MGV_BILLING` is called to determine the contract account for MGV. The default logic, provided by a fallback class, reads from the service provider agreement of the MGV service provider: *MGV_OUT_G - Overtake and undertake Quantities Billing to MGV for Gas*. You need to maintain the contract account in the parameter of this service provider agreement for each MGV as the prerequisite for MGV billing.

2.5.5 Reverse Charge for MGV Billing

We provide a BAdI to determine whether a reverse charge is applicable for a certain MGV billable item.

> **Note**
>
> To determine if a reverse charge is relevant and what kind of reverse charge type should be used for a certain MGV billable item, you need to provide your own implementation of the *BAdI: MGV Billing Process for Overtake and Undertake Quantities Billing*. Method `DETERMINE_REVERSE_CHARGE_TYPE` provides the correct reverse charge type. All valid types are available in domain `/IDXMM/D_REVERSE_CHARGE_TYPE`, where one of the values is *No Reverse Charge*.

During rating, the system fills the *Key 1* field of the MGV billable item with the reverse charge type that was determined by the BAdI mentioned above. Key 1 can therefore contain the following values (from domain `/IDXMM/D_REVERSE_CHARGE_TYPE`):

01 Cross-Border Service Delivery

02 Reseller of Service Recipient

03 No Reverse Charge

If you want to derive different G/L accounts or tax determinations for different reverse charge types, first you need to maintain different main or subtransactions for Key 1 in Customizing under *Financial Accounting (New) → Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Transfer → Account Assignment Derivation →Define Main Transactions and Subtransactions*. To do so, in edit mode you need to choose *Goto → Select Keys…* and select the checkbox for *Used* and Key 1.

You can now maintain different main or subtransactions for Key 1 in the same Customizing activity.

In posting areas 2610 and 2611, you can then maintain different G/L accounts and tax determinations for the main and subtransactions.

2.5.6 Energy Tax for MGV Billing

See chapter 2.8.

2.5.7 Print Lock Setting in Convergent Invoice

When defining invoice type MG, you can set a print lock for the invoice from SAP Convergent Invoicing. An electronic invoice for aggregated overtake and undertake quantities billing will therefore be sent to the MGV. In the default Customizing settings, the print lock is set by default. For more information, see chapter 3.5.44.

2.5.8 Print Paper Invoice

> **Note**
>
> As of October 2016, paper invoices have been replaced by INVOIC IDocs. If you still want to print a paper invoice, you can set a print lock before the process document for MGV billing executes the step that creates the INVOIC.

Prerequisites

You need to define and implement the application form for the printed invoice. The application form should exist in the client and belong to the form class `FICA_INVOICE`. It is possible to add the grid account number and application month of the CI invoice document in the application form. Once you have defined it, you need to assign it to an application form ID in Customizing under *Financial Accounting (New) → Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Application Form.*

You then need to assign this application form ID in the columns *Appl. Form ID* and *Dialog Form ID* to the invoicing process *MG* and invoicing type *MG* in Customizing under *Financial Accounting (New) → Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Specifications for Determination of Application Form.*You can preview or print a single invoice document by using the *Preview* button on a certain invoice document in SAP CI.

For mass printing, you can use transaction **FPCOPARA** (Correspondence Printing). On the *Correspondence Selection* tab and in field *Correspondence Type*, choose *0042 - Invoicing to FI-CA.*

2.5.9 Determine Due Date of Invoice

Deregulation process `MEMI_OUT` contains a parameter for the payment frequency. Exit event 2640 is implemented to determine the due date of the invoice document when it is generated. By calling exit event 1330, standard function module `ISU_DUE_DATE_DETERMINE` considers the logic to determine the invoice due date based on the payment frequency specified in the MGV's service provider agreement.

Different periods with working dates can be defined for payable and receivable invoices. The baseline date is the document date of the invoice document. You can then define the payment frequency in the service provider agreement. If the agreement doesn't specify a payment frequency, the document date is used as the due date of the invoice document.

2.5.10 Send INVOIC to MGV

INVOIC IDocs are based on SAP CI invoicing documents. All of the data needed for the INVOIC must therefore be stored in the invoicing document. The MeMi price, reverse charge type, and energy tax price must be added to the MGV consumption item (CIT), billable item (BIT), billing document, and invoicing document. To do this, you need to:

- Generate/regenerate the CIT class **without** deleting the existing CITs
- Generate/regenerate the BIT class **without** deleting the existing BITs

If energy tax is levied, you need to identify which invoice item is subject to energy tax. To do this, you need to create:

- CI structure CI_FKKINVDOC_I with the description "Enhancement Item of Invoice Document" and with field MGV_ETAX_PRICE referencing data element /IDXMM/DE_ENERGY_TAX_PRICE.
- CI structure CI_FKKINVBILL_I with the description "Enhancement of Item of Billing Document" and with field MGV_ETAX_PRICE referencing data element /IDXMM/DE_ENERGY_TAX_PRICE.

Instead of sending a paper invoice to the MGV, the system sends an electronic invoice by default. The print lock is set by default for invoice type MG.

Process 4041 has been defined to send electronic invoices for the MGV billing process.

Process 4042 has been defined to send electronic reversal invoices for the reversal MGV billing process.

The document identifier in the INVOIC message is determined by method DETERMINE_MGV_DOCUMENT_IDENT of BAdI /IDXMM/BADI_INVOIC_OUT, By default, the document identifier combines the prefix "MGV" with the CI invoice document number. The document identifier is stored in the invoice document header so that the invoice document can be found via the document identifier. You therefore need to add field MGV_DOC_IDENT referencing data element /IDXGC/DE_DOCUMENT_IDENT.

2.5.11 Resend INVOIC to MGV

It is possible to resend the INVOIC as a duplicate to the MGV by clicking on an icon in column *Resend MGV INVOIC* of the invoice document header. The icon is only displayed if the original INVOIC has already been created and is referenced within the invoice document.

The icon must be added to the header of the invoice document. A hotspot will be set for this icon. When you click on it, the invoice sending step will be triggered again if the original INVOIC has been sent. To achieve this, you need to create CI structure CI_FKKINVDOC_H_DISP with the description "Additional CI Invoice Document Header for Display" and include structure /IDXMM/S_CIINVDOC_H_DISP_ENH.

2.5.12 Additional Header UI for MGV Billing Process

The CI invoice document number is added to the additional process-document header for MGV billing. To navigate to the CI invoice document, you must have implemeted BAdI implementation /IDXMM/BADI_UI_COMP_DISP_MGV. This implementation is inherited from an implementation belonging to the common layer for Germany and is activated instead of the common layer implementation. To achieve this, you need to:

- Deactivate the BAdI implementation in Customizing for SAP Utilities under *Intercompany Data Exchange* → *Intercompany Data Exchange Common Layer for Germany* → *System Preparation* → *Business Add-Ins (BAdIs)* → *Activate/Deactivate Implement. for Data Display in UI Comp. of Process Doc.* → *Implementation: Additional Header Data for Process Document.*
- Activate the BAdI implementation in Customizing for SAP Utilities under *Intercompany Data Exchange* → *Overtake and Undertake Quantities Billing for German Energy Utilities* → *System Preparation* → *Business Add-Ins (BAdIs)* → *Implementations* → *Implementation: Data in UI Components of PDoc Additional Header*.

2.5.13 Receive REMADV from MGV

After the electronic INVOIC has been sent from the distributor to the MGV, a REMADV message can be sent back from the MGV to the distributor as a payment advice or complaint notification. When a REMADV IDoc is received, an inbound format class determines whether it was sent by an MGV based on the service category of the sending service provider. A new payment advice note is created with a new invoice type and document type that are mapped to *G – MGV Billing for MeMi*.

The new payment advice note document type and invoice type are defined for REMADVs from an MGV. Sample Customizing for the payment advice note process is provided in BC set `/IDXMM/CI_03`. For more information, see chapter 3.8.1.

So that different PAN document types and invoice types can be maintained for the REMADV messages received from an MGV (based on the REMADV type), domain value G has been extended for data element `/IDEXGE/DE_CREATEDFROM`.

At present, there is no payment advice note process or clearing process defined for MGV billing PANs. If you want to process payment advice notes and clear the corresponding open items, users must process them manually. Alternatively, you can define your own checks and processing function modules for payment advice notes.

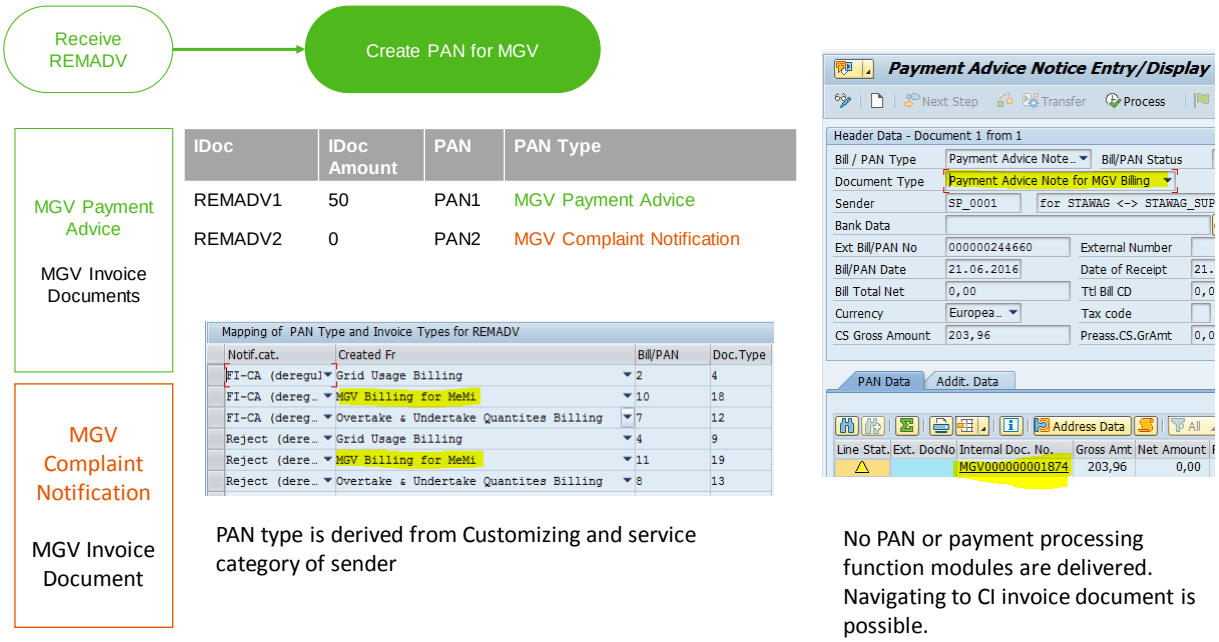


Figure 12 MGV REMADV

2.6 Dunning of MeMi Documents

Dunning of MeMi documents is based on the dunning of open items in FI-CA. To create a dunning proposal, you need to call transaction `FPVA` for the contract account that you use for MeMi. Open items that are marked by a payment method (that is, those that correspond to a MeMi document with the status *Waiting for Outgoing Payment*) are excluded automatically by FI-CA dunning. Which MeMi documents are relevant for dunning depends on the document status and on the Customizing settings in *SAP Utilities → Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities →Define Status Configuration.* By default, MeMi documents in status *Complaint Notification Received, Zero-Balance Advice Received*, or *Invoice Posted* are excluded.

The dunning proposal run also creates a dunning history for MeMi documents. You can access it by calling transaction `FPM3`. The dunning header contains the column *Display MeMi Dunning History*. If you click the icon in this column, you navigate to a list of MeMi documents and their dunning statuses. You can also see whether a MeMi document has been excluded and is therefore is part of a dunning reduction.

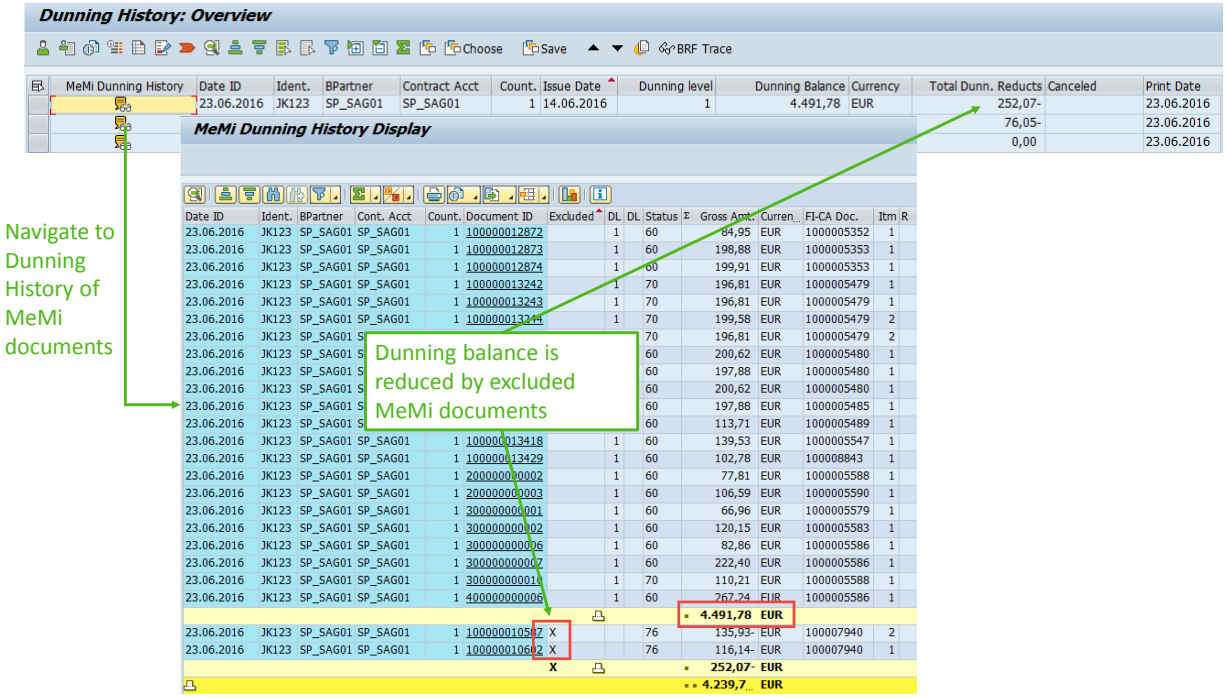


Figure 13 Reduced Dunning Balance

Caution

MeMi supports dunning only by dunning procedure. Dunning by collection strategy is not supported.

When you dun a MeMi contract account, only one dunning header is supported. Using different dunning headers, for example, by grouping dunning levels, is not supported. The dunning header will have the maximum dunning level of all open items.

MeMi doesn't support FI-CA Customizing for additional receivables. If you use these Customizing settings to exclude subtransactions during dunning, inconsistencies may occur in the overall dunning balance or dunning levels.

MeMi documents that are receivables also have a dunning level. Its dunning level is raised if the MeMi document isn't excluded and the dunning level of the corresponding open item is raised. You can see the dunning level on the MeMi document UI, and you can navigate from there to the dunning history for the MeMi document.

2.6.1 MeMi Dunning Reduction

When the dunning proposal is run, you can exclude open items based on the status of the MeMi document. By default, these are the MeMi documents in status *Complaint Notification Received*, *Invoice Posted*, and *Zero-Balance Advice Received*. The gross amounts of all excluded MeMi documents are totaled and a dunning reduction is created for this amount. The balance of the dunning header takes this dunning reduction into account so that the dunning balance is the sum of all non-excluded MeMi documents.

Note

MeMi documents with the status *Wait for Outgoing Payment* don't need to be excluded because they are not selected for the dunning proposal. This is because their corresponding open items have a payment method maintained and open items with payment methods are not selected by the dunning proposal run.

2.6.2 MeMi Dunning History

When the dunning proposal is created and the standard dunning history inserted into the database table, the MeMi dunning history is also inserted.

When the dunning history or dunning proposal is reversed and the standard dunning history is reversed in the database table, the MeMi dunning history is also reversed.

When the dunning proposal is deleted and the standard dunning history is deleted, the MeMi dunning history is deleted.

If the standard dunning proposal contains posting documents that relate to MeMi documents, an icon is shown in the header via which you can display the MeMi dunning history item. When you double-click the icon, the MeMi dunning history for the dunning proposal is displayed. You can also navigate from the MeMi dunning history to the MeMi document itself. To achieve this, you need to create CI structure `CI_FKKMAKO_PLUS` with the description "Additional fields on dunning history header for display" and include structure `/IDXMM/S_FKKMAKO_DISP_ADD`.

2.6.3 MeMi Dunning Level

The dunning level of the MeMi document is determined independently of the standard dunning level. If the dunning level of an open item is increased by the standard dunning process, the dunning level of the corresponding MeMi document is also increased to the next dunning level. The dunning levels are determined based on the MeMi dunning history. If the dunning level of an open item isn't increased, the dunning level of the corresponding MeMi document also isn't increased.

If the MeMi document has been excluded, the dunning level is cleared.

If the MeMi document is a payable, it doesn't have a dunning level. This is the same behavior as for open payables items.

> **Note**
>
> The dunning level of the MeMi documents is already set during the payment proposal run when the dunning proposal is created.

2.7 Wait for Confirmation

If a complaint notification is received and the issue is subsequently clarified with the result that a payment advice is required instead, you can click *Wait for Confirmation* on the MeMi document UI to change the status of the MeMi document to *Waiting for Confirmation after Complaint*. This button only appears if the MeMi document has the status *Complaint Notification Received*. When the MeMi document has the status *Waiting for Confirmation after Complaint,* it becomes relevant for dunning again.

> **Note**
>
> The system can also process new incoming payment advices for a MeMi document that is still in status *Complaint Notification Received*. Therefore, *Wait for Confirmation* is not a mandatory action.

2.8 Energy Tax

To determine whether energy tax is applicable for a certain MeMi document or MGV billable item, we deliver a BAdI with a default implementation in which energy tax is relevant.

> **Note**
>
> To determine if energy tax is relevant for a certain MeMi document or MGV Billable Item, you need to provide your own implementation of *BAdI: Energy Tax for Overtake and Undertake Quantities Billing*.

If energy tax is relevant, the system will read the energy tax price, determine the net amount of the energy tax, and create another billable item with the same source transaction ID as the MeMi-priced BIT. The system ensures that the two BITs are always billed together in SAP Convergent Invoicing. To distinguish the energy tax billable item from the MeMi-priced billable item, the *Key 2* field is used for the BIT. If *Key 2* is set to X, the BIT is an *Energy Tax BIT*.

To assign different main and subtransactions to an energy BIT, for example, to determine different G/L accounts later on, you need to enable *Key 2* in Customizing under *Financial Accounting (New) → Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Transfer → Account Assignment Derivation →Define Main Transactions and Subtransactions.*

To do so, in edit mode choose *Goto → Select Keys…* and select the checkbox for *Used* and *Key 2.*

You can now maintain different main or subtransactions for Key 2 in the same Customizing activity.

In posting areas 2610 and 2611, you can then maintain different G/L accounts for the main and subtransactions.

Caution

Ensure that you assign the same tax determination codes in posting area 2610 to both main and subtransactions, the one for the MeMi-priced BIT as well as the one for the energy tax priced BIT. Since the tax needs to be computed based on the sum of both items, the same tax determination must be used for both.

Caution

You must also ensure that there will only be one open item created for both subtransactions, the MeMi-priced one and the energy tax priced one. It is crucial that only one MeMi document is part of one open item, so that the REMADV and payment processing also works. The same should apply to MGV BITs. To achieve this, you need to maintain these pairs of subtransactions in Customizing. Under *Financial Accounting (New)*, choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Documents → Posting Documents → Define Summarization Transactions for Business Partner Items.*

The open item of the main and subtransaction maintained in the first two columns *Billing MainTns* and *Billing Subtrns* will be merged to the main and subtransaction maintained in the other columns.

Example

If subtransaction ME is used for the MeMi priced overtake quantity, and MEE is used for the energy tax priced overtake quantity, then you should maintain the following entries:

Billing Main Transaction	Billing Subtransaction	OI Main Transaction	Debit Subtransaction	Credit Subtransaction
MEMI	MEE	MEMI	ME	ME

2.8.1 Maintain Energy Tax Prices

Transaction **/IDXMM/ETAXPRICE** (*Determine Price for Energy Tax*) allows you to enter the energy tax price per division. You need to specify the energy tax price with a valid-from date for both divisions: gas and electricity.

2.9 Tax Valuation: Delivery or Other Services for Grid Usage

For overtake quantities in electricity, it could be necessary to support different tax valuations. On the one hand, it could be considered as *Other Service for Grid Usage*, which would mean that INVOIC 31005 would be used. On the other hand, it could be considered as *Delivery* as is the case for gas overtake quantities. In this case, INVOIC 31006 would be used and the tax determination would be input tax.

To support these two kinds of tax valuations, we provide domain `/IDXMM/D_TAX_VALUATION_CODE` and add a new field of this type in the MeMi document. It contains the following values:

DL Delivery

OS Other Service for Grid Usage

To determine which tax valuation is to be used for a certain MeMi document, we provide a BAdI (without a fallback implementation).

> **Note**
>
> To determine the tax valuation code for a certain MeMi document, you need to provide your own implementation of *BAdI: Define Business Logic for Overtake and Undertake Quant. Billing Doc*. Implement method `DETERMINE_TAX_VALUATION_CODE` to provide the correct tax valuation for the MeMi document. If you do not provide an implementation, the field will remain empty and the following logic will apply when creating the INVOIC, which is compatible with previous SPs:
>
> - Case Gas Overtake: INVOIC 31006 will be used
> - Case Electricity Overtake: INVOIC 31005 will be used

When creating the BITs for the MeMi documents, the system will fill the *Key 3* field of the BIT with the tax valuation code that is maintained in the MeMi document. *Key 3* can therefore contain the following values according to domain `/IDXMM/D_TAX_VALUATION_CODE`:

DL Delivery

OS Other Service for Grid Usage

If you want to derive different G/L accounts or tax determinations for different tax valuation codes, first you need to maintain different main or subtransactions for *Key 3* in Customizing. Under *Financial Accounting (New),* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Transfer → Account Assignment Derivation →Define Main Transactions and Subtransactions.* To do so, in edit mode choose *Goto → Select Keys…* and select the checkbox for *Used* and *Key 3*.

You can now maintain different main or subtransactions for *Key 3* in the same Customizing activity.

In posting areas 2610 and 2611, you can then maintain different G/L accounts and tax determinations for the main and subtransactions.

2.10 Display MeMi Document

Transaction **`/IDXMM/DOC_DISPLAY`** enables you to find and display MeMi documents. It is possible to restrict the number of hits.

The result list shows the external point of delivery. If you want to see any changes that may have been made, you can also refresh the list.

2.11 Simulation

You can use grid usage simulation to create MeMi documents, for example, for unbilled revenue reporting.

> **Note**
>
> Before you can create simulated MeMi documents, you need to specify the simulation indicators for grid usage for which the MeMi documents are to be created. You do so in Customizing.
>
> If you want to create simulated MeMi documents for settlement without grid usage, you can do so by setting the simulation indicator when you use the API for the creation process *02 - Settlement without Grid Usage Billing*.

Processing simulated MeMi documents is similar to standard processing and is depicted here:

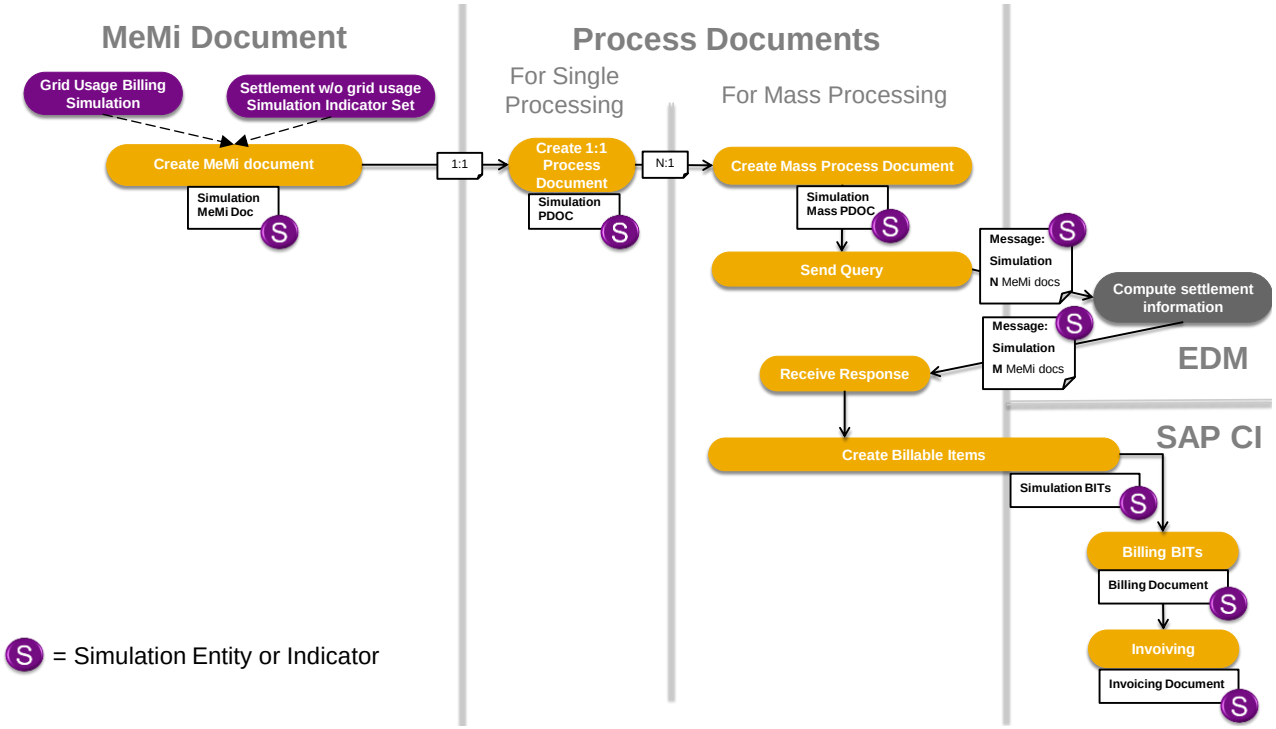


Figure 14 Processing of Simulated MeMi Documents

What is different from the normal process?

- No MSCONS is created
- No posting document is created
- No INVOIC will be created
- Reversal is not possible
- The final status of the simulated MeMi document is *51 - Simulation Invoice Created*
- No MGV detail information is stored
- No consumption items are created

2.12 Error Resolution Using BPEM Cases

If an error occurs when a process document is executed, a BPEM case can be created. For these situations, generic exception code `/IDXMM/GENERAL_ERROR` is provided in a BC Set. It is assigned to a demonstration Case Category IDXD – BPEM Case Category for Demo IDEX Process. The BPEM case provides several methods for solving the error and is intended for demonstration purposes only.

Recommendation

Define your own BPEM case categories and map them to customer-specific exception codes that allow the user to use only those solving methods that are suitable for the specific error situation. If you use the

demonstration BPEM case, users are able to click on solving methods that will not solve the problem, but could instead stop processing and even create data inconsistencies.

You can map your own exception codes to specific check results in Customizing for SAP Utilities under → *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Check Framework → Define Check Framework Settings → Define Outcome Codes for Check Results*.

You can assign your own BPEM case category to exception codes in Customizing for SAP Utilities under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Exception Management → Configure Exception Codes*.

The following processes are used to solve most error situations that can occur in overtake and undertake quantities billing for German energy utilities:

- Reprocess current process step
- Reprocess previous process step

Call the "reprocess previous process step" process if the reentry step is defined for this process step. In most cases, the BPEM case is raised for an error that is not detected by the current process step but is passed down from the previous step. It therefore needs to be resolved by reprocessing the previous process step.

Example

In a mass PDoc, step 600 (*Process Wrong Settlement Data*) has created a BPEM case because settlement periods overlap. This is already detected in the *Check Settlement Information* step, which needs to be executed again. After fixing the root cause, you check the steps again by choosing *Reprocess Previous Step* in the BPEM case.

Call the "reprocess current process step" process if the BPEM case is raised for a specific error that is detected by the process step itself.

Example

In a mass PDoc, step 500 (*Determine Overtake and Undertake Quantities & Amounts*) has created a BPEM case because the MeMi price could not be determined. After having maintained the price, you need to choose *Reprocess Current Step* in the BPEM case.

When the mass process document is processed, if an error is detected for a MeMi document but not for all of the associated MeMi documents, the following process steps are executed for the correct MeMi documents. For the erroneous MeMi documents, a BPEM case is created and attached to the mass process document.

Note

The BPEM case is created only if there is no open BPEM case for the same process step and exception code. In other words, duplicate BPEM cases are not possible. For more information, see SAP Note 2297365.

In the BPEM case, you can see which process step generated the BPEM case and for which customer-specific exception code. You can then navigate from the BPEM case to the mass PDoc to obtain more information about the error. On the *MeMi Documents* tab, you can filter for MeMi documents using an error reason that corresponds to the exception code. Depending on the cause of the error, you can then determine which action to take to resolve the error.

2.13 Correction Tools

To rectify incorrect or inconsistent data that may have been generated in your system, we provide the following correction tools that you can run depending on your error case.

2.13.1 Correction to Create Billable Items

If the status of a MeMi document is updated to 40 – *Billable Item Created* or 42 – *Reversal Billable Item Created* but no billable items are actually created due to an unexpected error, you can run report `/IDXMM/RP_BIT_CREATION_CORR` to create the missing items.

Before you run the report, please create an incident so that we can identify the root cause of your error. This will allow us to avoid inconsistencies in the future.

2.13.2 Correction to Rollback CI Invoice Information on MeMi Document

You can run correction report `/IDXMM/RP_CIINV_ROLLBACK_CR` to roll back any invoice information and the status of the MeMi documents if its posting document is missing or has been reversed. After running the report, you can reinvoice the billing documents that contain the MeMi documents.

Before you run the report, create an incident so that we can identify the root cause of your error. This will allow us to avoid inconsistencies in the future.

- MeMi documents in status 50 will be changed to status 40 - *Billable Item Created*.
- MeMi documents in status 65 will be changed to status 40 - *Billable Item Created* and also the counterpart, that is, the original or reversal will change its status to 50 - *Invoice Posted*.
- MeMi documents in other statuses such as 60 - *Invoice Sent*, 71 - *Zero-Balance Advice Received*, and 80 - *Cleared as Zero-Balance* will remain in their current status. During reinvoicing, an additional INVOIC will be created because an INVOIC had already been sent to the supplier triggered by the previous invoice document.

  > **Note**
  >
  > If you have reversed an invoice document for **gas** and reinvoiced the billing documents, you will get a new invoice document and new consumption items will be created for it. The previous invoice document that was reversed already had consumption items. These consumption items need to be permanently excluded so that the MeMi quantities will not be considered twice for the MGV billing.

You run the report in the following cases:

- The CI invoice document information in the MeMi document has been updated but there is an inconsistency on the CI invoice, for example, a non-existent posting document.
- The status of the MeMi document is updated to 65 – *Cleared with Original/Reversal Document* but the corresponding posting documents aren't cleared due to an unexpected error.
- The status of the MeMi document is updated to 71 – *Zero-Balance Advice Received* or 80 – *Cleared as Zero-Balance* but the corresponding posting document can't be cleared because no more split items can be created. In this case, some post-processing tasks are required.

2.13.3 Correction to Create Process Document for MeMi Document

If the MeMi document is created but the corresponding individual MeMi process document isn't created, the process isn't triggered successfully and can't be triggered again. In this case, run correction report `/IDXMM/RP_CREPDOC_FOR_MEMIDOC` to create an individual process document and trigger the MeMi process. Before you run the report, create an incident so that we can identify the root cause of your error. This will allow us to avoid inconsistencies in the future.

2.13.4 Correction to Update MGV Detail Information

If MGV detailed information is generated but some values (such as the application year / month or the contract account) are missing, you can run correction report `/IDXMM/RP_MGV_DETIF_UPDT_CORR` to update the missing values.

Before you run the report, create an incident so that we can identify the root cause of your error. This will allow us to avoid inconsistencies in the future.

2.13.5 Correction to Trigger INVOIC Sending Step

If the CI invoice document is generated and the status of the MeMi document and invoice information is updated but there is no step that dispatches the INVOIC message in a single MeMi process, you can run correction report `/IDXMM/RP_TRIG_INVOIC_SEND` to create and trigger the step.

2.14 System Landscape

Overtake and undertake quantities billing is an add-on application based on SAP ERP 6.0 enhancement package 7 including components SAP for Utilities (IS-U) and by Contract Accounts Receivable and Payable (FI-CA).

The EDM system can be located either in the same IS-U system or in an external system that supports Web services.

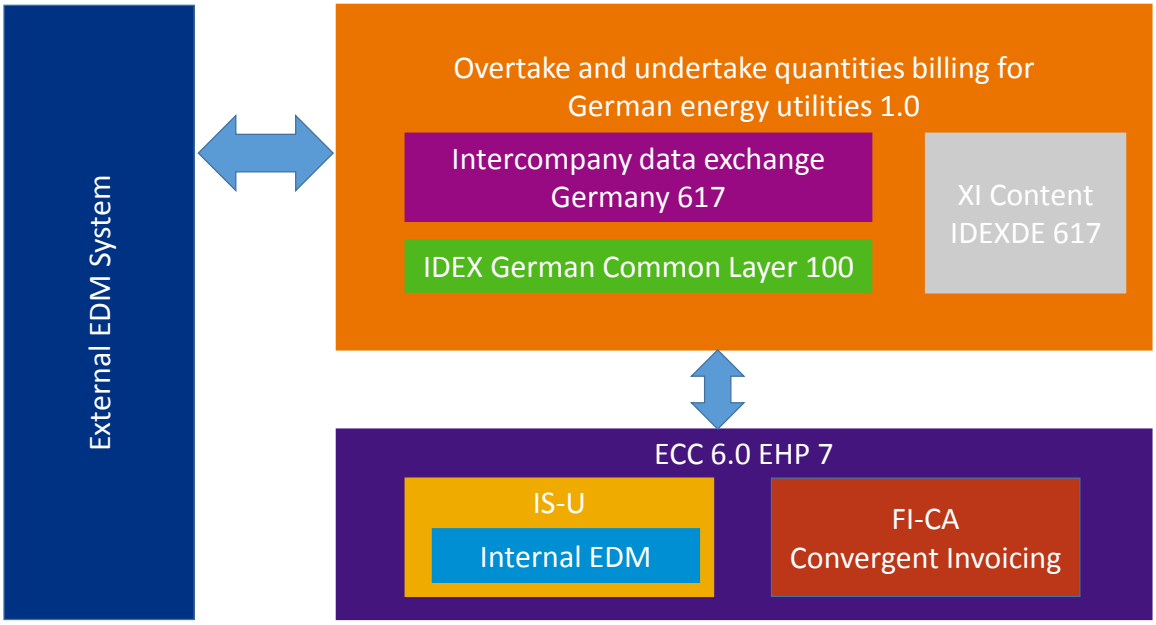


Figure 15 System Landscape

2.15 Software Component Matrix

Scenario/Business Processes	Software Components	Implementation and Configuration Process
Overtake and undertake quantities billing	IDXGC 100 (SP11) IDEXDE 61709 or IDEXDE 61801 MEMI 100	See chapter 3.

2.16 Implementation and Configuration – Basic Settings

The configuration guide contains the information necessary for configuring the SAP system to meet customer requirements. The actual configuration is done in Customizing with the help of the implementation guide (IMG; transaction SPRO). It covers all steps of the implementation process as well as the SAP standard (factory) Customizing settings and the system configuration activities. The Customizing activities and their documentation are structured from a functional perspective.

For more information about process-specific Customizing for overtake and undertake quantities billing, see Customizing for overtake and undertake quantities billing for German energy utilities under *SAP Utilities → Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities*.

> **Note**
>
> For more information, see chapter 0.

2.16.1 Business Functions

To configure and use SAP Convergent Invoicing you need to activate the following business functions:

1. Log on to your SAP system and run transaction **SFW5**.
2. Choose the *UTILITIES* business function set.
3. Activate the following business functions:
   - ISU_CA_1
   - ISU_CA_2
   - ISU_CA_3
   - ISU_INV_1
   - ISU_INV_2
   - ISU_INV_PP_1
   - ISU_INV_PP_2
   - ISU_INV_PP_3
   - ISU_INV_PP_3A
   - ISU_INV_PP_3D
   - ISU_INV_PP_3E
   - ISU_LOC_CI_1
   - ISU_BI_INV_1

3 Configuration Scenarios

This application enables billing of over and undertake quantities of the divisions electricity and gas based on the new regulatory requirement effective on April 01, 2016.

Once you have activated the relevant business functions for SAP Convergent Invoicing (SAP CI), you will be able to activate Business Configuration Sets (BC Sets).

SAP delivers the following BC Sets:

1. BC Set `/MEMI/CLNT_DEP_00` contains:
   - Customizing for SAP Utilities
   - Customizing for overtake and undertake quantities billing for German energy utilities
   - Customizing for intercompany data exchange common layer for Germany
2. BC Set `/MEMI/CI_00` contains
   - Sample Customizing for SAP Convergent Invoicing and grid usage billing:

   Note

   Please check the content before you activate the BC Set. This is just a possible example.

   Note

   For more information about business configuration (BC) sets, see SAP Help Portal at http://help.sap.com under *Technology Platform → SAP NetWeaver Enterprise Search → 7.2 →Business Configuration Sets (BC-CUS)*.

Once you have activated the BC Sets and manually executed the Customizing activities, certain master data needs to be adapted:

- Add the contract account in service provider agreements of suppliers.
- Add steps specific for overtake and undertake quantities billing in billing schemas for all relevant point of deliveries.

3.1 Customizing of SAP for Utilities

This chapter describes the necessary Customizing in component SAP for Utilities (IS-U).

3.1.1 Define Line Item Type

During grid usage billing, the maintained line item types are used to identify lines within a grid usage billing document that are relevant for overtake and undertake quantities billing. The grid usage billing quantity and period of these lines are used as input to create new overtake and undertake quantities billing documents. This is described in the next section.

If you decide to use the variant program *MEMIDOC1* in your rate step, you need to create the line item type *MEMI* and assign it in this Customizing activity.

Line item types are allocated using transaction **EA88** (Maintain Variant) to all variant programs that write billing line items. To specify a line item type as relevant for the overtake and undertake quantities billing document, proceed as follows:

1. You define line item types in Customizing for *SAP Utilities under Tools → System Modifications → User-Defined Enhancements for Billing → User-Defined Variant Programs → Define Line Item Types*. The system will take the entries maintained in this activity as the selection option for the next Customizing activity in chapter 3.3.8 Define Line Item Type.
2. In Customizing activity *Define Line Item Type for Overtake and Undertake Quantities Bill. Document*, you can define the line item type used only in the overtake and undertake quantities billing document.

3.1.2 Variant Program

Sample variant program *MEMIDOC1* is defined in BC Set */MEMI/CI_00*. This variant program will create line items of type *MEMI* in the billing document from which the grid usage billing period and grid usage billing quantity will be taken during grid usage billing for the new overtake and undertake quantities billing document.

> **Note**
>
> You need to define your own billing line item types as described in chapter 3.1.1 Define Line Item Type and then assign it to this variant program.
>
> You can also choose to use our own variant program, in which case you then need to make sure that the line item type is maintained accordingly. This is described in the next Customizing activity.
>
> For more information, see Customizing for *SAP Utilities →Tools -→ System Modifications → User-Defined Enhancements for Billing → User-Defined Variant Programs → Define Variant Programs.*

3.1.3 Rate Determination

You should change the rate determination that is assigned to the rate related to the variant program defined in chapter 3.1.2 Variant Program. This is used to make sure that grid usage billing line item for overtake and undertake quantities billing has a starting point.

> **Recommendation**
>
> It is suggested that you set the start date to January 01, 2015 (01.01.2015).

3.1.4 Define Period Types

This Customizing defines period types for overtake and undertake quantities billing in deadline control of the billing process.

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Process Management → Supplier Change → Define Period Types*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, `/IDXMM/CLNT_DEP_02`, and `/IDXMM/CLNT_DEP_03`.

3.1.5 Define Service Provider Agreement Types

This Customizing defines service provider agreement types. They are used to derive the contract account.

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Service Provider Agreements → Define Service Provider Agreement Types.*

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00` and `/IDXMM/CLNT_DEP_02`.

3.2 Customizing for Intercompany Data Exchange Common Layer for Germany

Before you start configuring the Customizing described in this chapter, you must make sure that the BC Set of software component intercompany data exchange common layer for Germany (*IDXGC Release 1.0 SP08*) is activated. For more information, see the configuration guide of intercompany data exchange common layer for Germany in the SAP Support Portal at support.sap.com under *Download Software → Installations and Upgrades → Browse Our Download Catalog → Industry-specific Components → SAP IDEX DE → SAP IDEX DE 1.0 ON ERP 6.0 EHP7 and Upgrades → Technical Documentation → Documentation for intercompany data exchange common layer for Germany*.

3.2.1 Mass Processing of Process Documents

The *Mass Trigger for Processes* report (`/IDXGC/RP_API_TRIGG_PROC_MASS`) is being used ever more frequently, especially in the area of overtake and undertake quantities billing. This report only enables you to schedule jobs to run sequentially. To improve the time required for processing, you can schedule jobs to run in parallel using transaction `/IDXGC/MASS`.

Transaction `/IDXGC/MASS` to define the package size for your process documents as well as the number of parallel work processes that are to be made available. You define these parameters as a mass activity. It is also possible to separate the update of the step from the triggering of the process (asynchronous processing). These asynchronous tasks can also be handled by the mass activity.

The parallelization object is used to build the chunks of objects that are to be processed. The logic selects all instances of the parallelization object and builds the chunks on the basis of this. Open process documents are used to build the chunks.

Before you can run this transaction, you must configure a number of settings.

Additional Parameters

Specify the following selection parameters to narrow down the objects:

- Process references to consider only specific process instances
- Process ID to define the process types to be considered
- Process key date to consider only processes with a specific key date such as the move-in date
- Period types to consider only processes with a specific open deadline type, for example, all processes waiting for the completion of a move-in deadline.
- Last update of process documents to filter processes based on when they were last updated. This can be used, for example, to prevent unnecessary retriggering / repeated wakeup of processes that were updated within the last 24 hours.
- Trigger type to define the group of processes to be considered:
  - A Processes that are active
  - D Processes that are active with expired deadline
  - R Processes that are active with steps ready to be processed

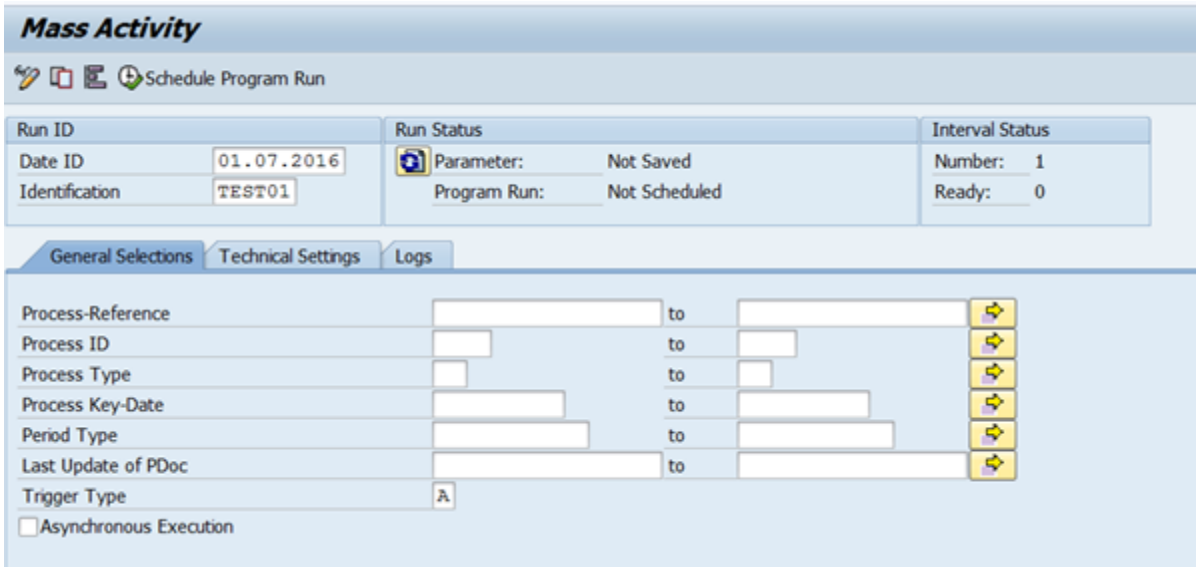


Figure 16 Selection Parameters for Mass Activities

The technical settings for parallelization of work are as follows:

- Variants for parallel processing object to distribute work packages into intervals
- Number of jobs for automatic load distribution
- Block size for mass selection to optimize database access

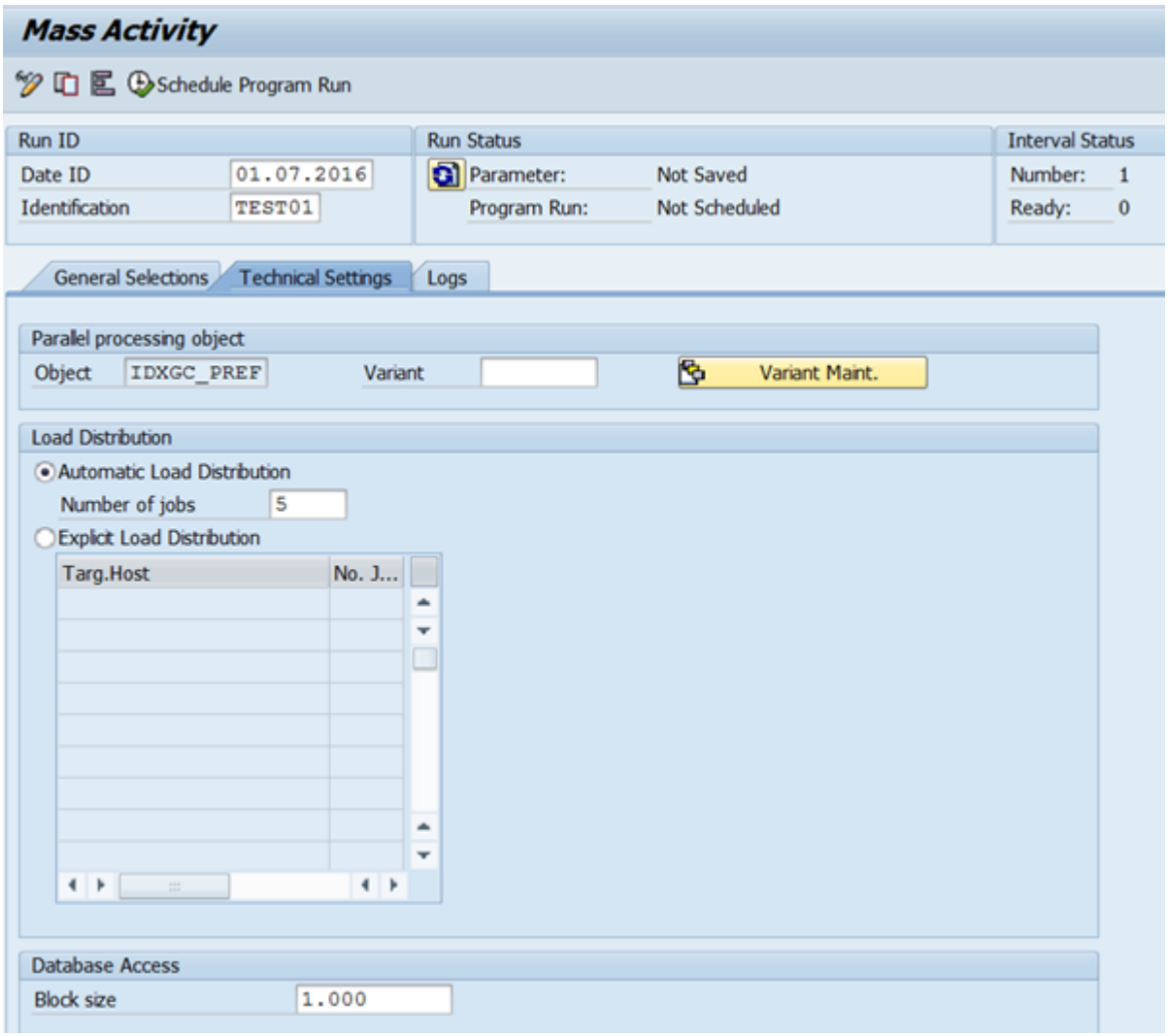


Figure 17 Technical Settings for Mass Activities

To log mass processing, we provide a specific sub-object MASS for application log object `/IDXGC/`. All messages that are created during mass processing but not logged in the process document are stored there.

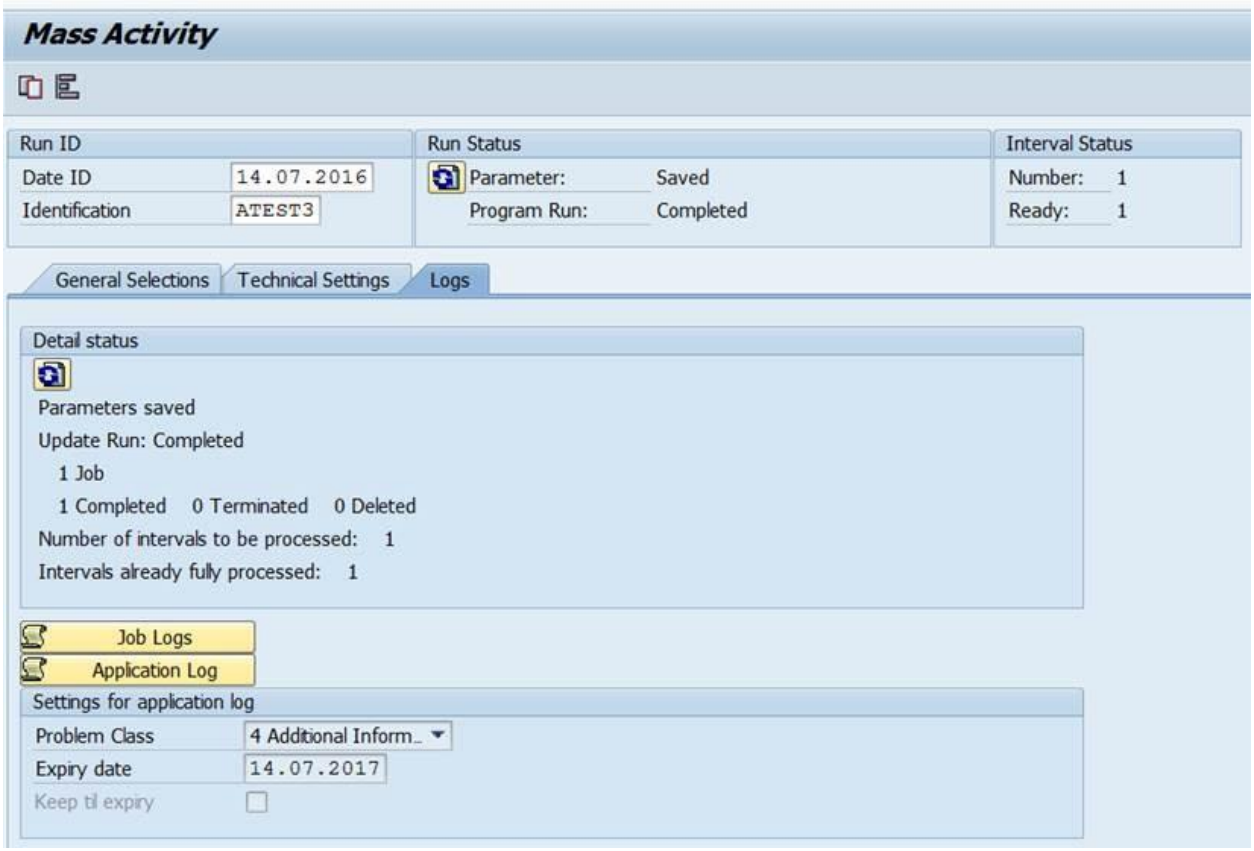


Figure 18 Logs for Mass Activities

Preconfigured System Settings

Mass activities for process documents are created largely based on SAP Note 144461 (*Mass activities: Step-by-step setup*). The main settings are defined in the Customizing activity *Prepare Mass Activities*, which you can access by choosing *Financial Accounting (New) → Contract Accounts Receivable and Payable → Technical Settings → Prepare Mass Activities*.

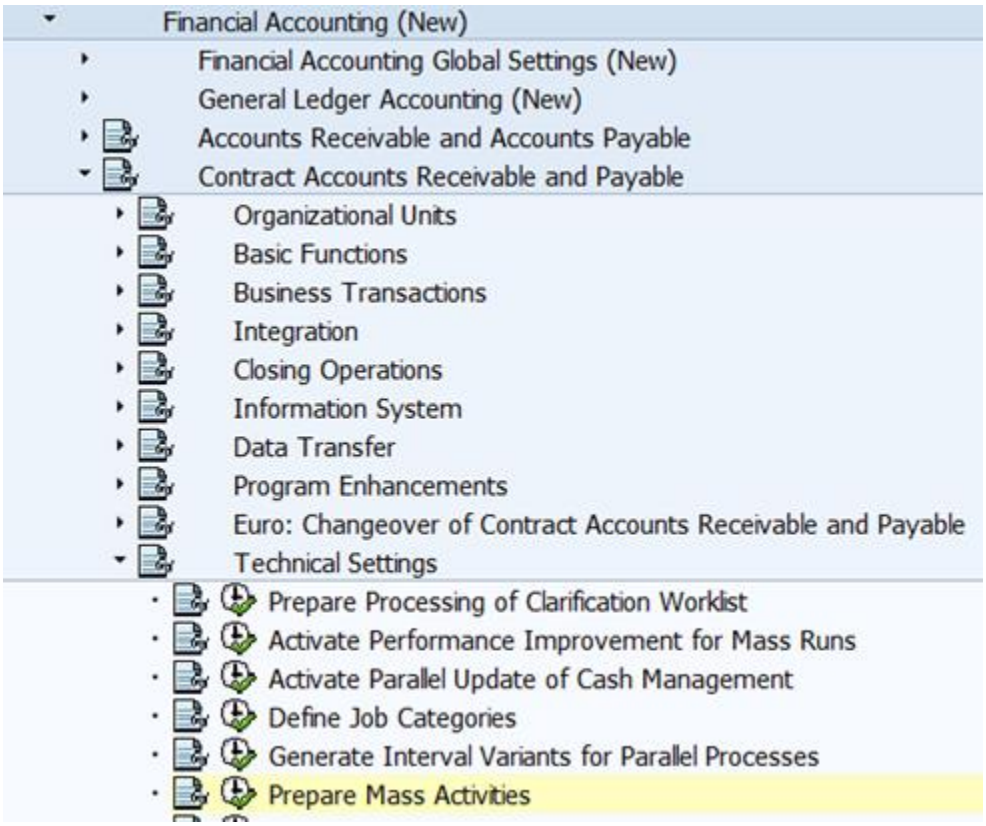


Figure 19 Customizing for Defining Mass Activities

The following configuration settings are delivered as part of the solution. They are listed here for documentation purposes. The most important settings are:

Setting	Value
Mass Activity Type	IXGC
Event for Interval Processing	R902 (entry in TFKFBM)
Event for Additional Parameter Handling	R903 (entry in TFKFBM)
Transaction	/IDXGC/MASS
Job Category	U2
ADDONS structure for selection parameters	/IDXGC/S_MASS_PARAMS
Layout	5555
Group Box / Screen	4160 / 247
New Parallelization Object for Interval Generation	IDXGC_PREF (PDOC)

3.2.1.1 Cyclic Scheduling of Mass Runs

Mass runs defined in transaction /IDXGC/MASS can also be planned as a cyclic job in the system. This feature can be used for deadline monitoring as an alternative to planning report /IDXGC/RP_API_TRIGG_PROC_MASS as a cyclic job.

Procedure

1. Define and save a "template" run (or multiple templates depending on your requirements) manually in transaction /IDXGC/MASS.

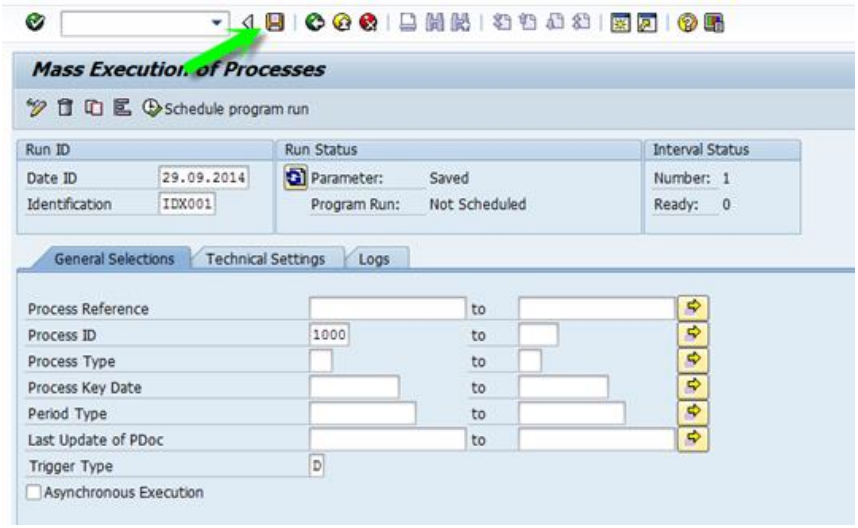


Figure 20 Example Run for Mass Processing to Trigger Instances for Process 1000

2. Execute report RFKK_MA_SCHEDULER and save a report variant with your "template" run parameters.

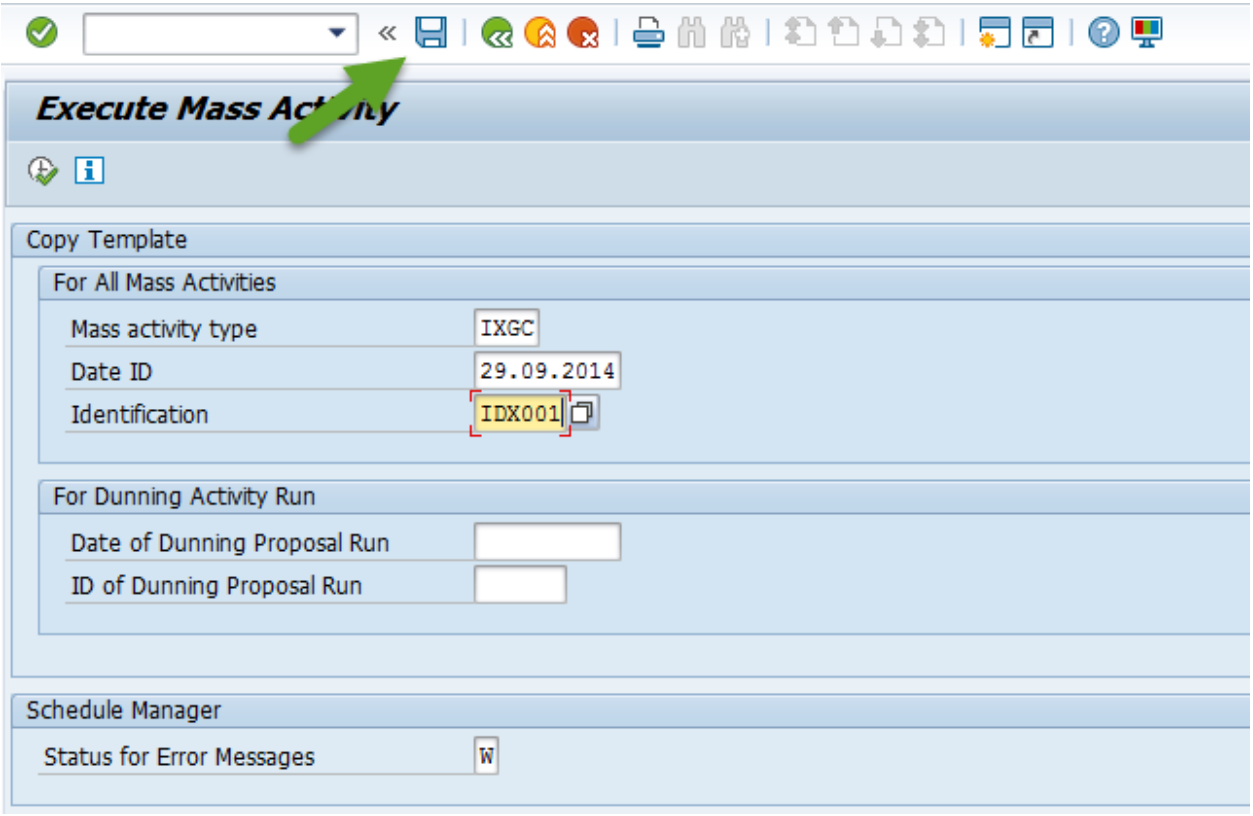
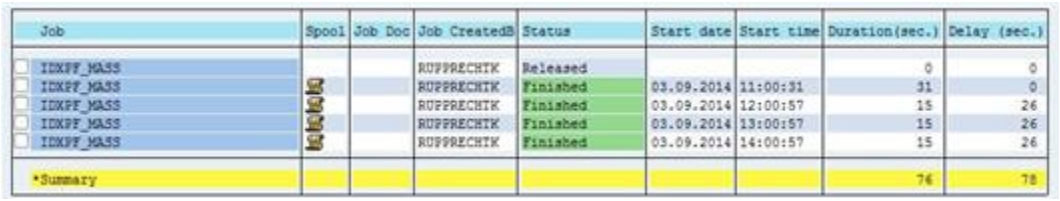


Figure 21 Report RFKK_MA_SCHEDULER Referring to the Created Template Run

> **Note**
>
> This program creates and starts a new mass activity run. The copy template entered is used. If event 1906 is not implemented, the date ID and identification are determined as follows:
>
> - The date ID is set to the current date.
> - The old identification is used.
>
> If there is already a run with this date ID and identification, a number is added to the first 3 characters of the old identification. If this identification also exists already, the number is increased.

3. Plan report `RFKK_MA_SCHEDULER` as a cyclic job via transaction `SM36` with your saved variant.



Job	Spool	Job Doc	Job CreatedB	Status	Start date	Start time	Duration(sec.)	Delay (sec.)
IDXPF_MASS			RUPPRECHTK	Released			0	0
IDXPF_MASS			RUPPRECHTK	Finished	03.09.2014	11:00:31	31	0
IDXPF_MASS			RUPPRECHTK	Finished	03.09.2014	12:00:57	15	26
IDXPF_MASS			RUPPRECHTK	Finished	03.09.2014	13:00:57	15	26
IDXPF_MASS			RUPPRECHTK	Finished	03.09.2014	14:00:57	15	26
*Summary							76	78

Figure 22 Job View for an Hourly Planned Report RFKK_MA_SCHEDULER

4. The details of each run can be checked via transaction `/IDXGC/MASS`.

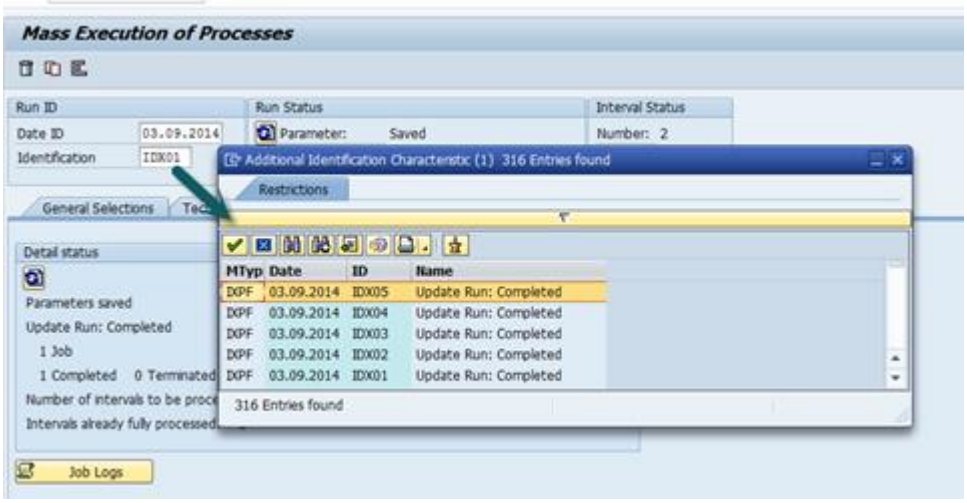


Figure 23 Selecting a Completed Mass Run

5. The detail logs can be viewed via transaction `SLG1`.

3.2.2 Assign Parser for Outbound Message Processing

You define a parser class for converting MSCONS and invoice messages in the Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Inbound and Outbound Message Handling → Assign Parser Class for Outbound Message Processing.*

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, and `/IDXMM/CLNT_DEP_03`.

3.2.3 Assign Parser for Web Service Processing

You define a parser class for inbound and outbound processing of Web service communication with the external EDM system in the Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Inbound and Outbound Message Handling → Assign Parser Class for Web Service Processing*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00` and `/IDXMM/CLNT_DEP_01`.

3.2.4 Assign Message Class for Outbound Message Processing

You define a parser class for outbound processing of MSCONS and invoice messages in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Inbound and Outbound Message Handling → Assign Message Class for Outbound Message Processing*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, and `/IDXMM/CLNT_DEP_03`.

3.2.5 Determine Application Message Identifiers

You define Customizing settings for determining the application message identifier for outbound processing of MSCONS and invoice messages in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Inbound and Outbound Message Handling → Determine Application Message Identifiers*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, and `/IDXMM/CLNT_DEP_03`.

3.2.6 Define Process Configuration

You can enhance default overtake and undertake quantities billing processes in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Process Configuration → Define Process Configuration*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, `/IDXMM/CLNT_DEP_02`, and `/IDXMM/CLNT_DEP_03`. You can enhance custom steps with specific logic.

3.2.7 Define Check Framework Settings

You can define business check logic for overtake and undertake quantities billing process in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Check Framework → Define Check Framework Settings*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, `/IDXMM/CLNT_DEP_02`, and `/IDXMM/CLNT_DEP_03`. You can add custom checks for your specific business purpose.

3.2.8 Define Exception Code

You can define a custom exception code in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Exception Management → Configure Exception Codes*. In conjunction with the Customizing settings described in chapter 3.2.7 Define Check Framework Settings, these settings decide how the exception is handled in the business process.

Default Customizing settings are defined in BC Set `/IDXMM/CLNT_DEP_00`.

3.2.9 Configure UI Components of Process Document

You can change the UI of the process document monitoring in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Intercompany Data Exchange Common Layer for Germany → Process Monitoring → Configure UI Components of Process Document*.

Default Customizing settings are defined in BC Sets `/MEMI/CLNT_DEP_00`, `/IDXMM/CLNT_DEP_01`, `/IDXMM/CLNT_DEP_02`, and `/IDXMM/CLNT_DEP_03`.

3.3 Customizing for Overtake and Undertake Quantities Billing for German Energy Utilities

This chapter describes specific Customizing settings for the application. In the Customizing for *SAP Utilities* choose Intercompany *Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities*.

3.3.1 Define General Settings

This Customizing activity defines the following general settings for overtake and undertake quantities billing based on the company code and division:

- *EDM System Type*

  Define whether you are using an internal IS-U EDM system or an external EDM system. For an external EDM system, Web service communication is supported.

- *Package Size*

  The package size decides how many PoDs will be handled together in one mass processing for inquiring settlement and convergent billing and/or invoicing. The recommended package size is less than 1000.

- *Billable Item Class*

  You need to define also the billable item class (BITCAT) which you have created and activated in the SAP CI Customizing. It controls the interface for creating billable items (BITs) and therefore BITs for MeMi documents are created according to this BITCAT.

  Note

  The billable item class determines the technical attributes of a billable item, for example, database tables in which the system saves the billable items, or function modules that receive and save the billable items. For more information about the billable item class, see chapter 3.4.2 Maintain Billable Item Class.

3.3.2 Configure Number Ranges

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange →Overtake and Undertake Quantities Billing for German Energy Utilities → Configure Number Ranges*. You define the number ranges for the overtake and undertake quantities billing document. Multiple number ranges are supported.

3.3.3 Define Category

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → Define Category*. You define the category and text description of the overtake and undertake quantities billing document. The document category indicates the relationship with grid usage and/or settlement.

Example

Following categories are predefined by SAP:

Category	Category Description
01	Grid Usage with Settlement
02	Grid Usage without Settlement
03	Settlement without Grid Usage

3.3.4 Define Simulation

To create MeMi documents in case of grid usage billing simulation, the solution needs some Customizing settings.

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → Define Simulation*. You can define entries for billing simulation which will be used for the overtake and undertake quantities billing simulation process. Note: If no entries are maintained here, no simulation document will be generated during grid usage billing in simulation mode.

An example: If you want to define that only grid usage billing simulation for unbilled revenue reporting (Bilanzielle Abgrenzung in German) should create MeMi documents, maintain here only value 2 (for unbilled revenue reporting simulation).

3.3.5 Define Status

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → Define Status*. You can define the status and text description of the overtake and undertake quantities billing document. You define all of the statuses that an overtake and undertake quantities billing document can have along the business process.

SAP has predefined the following statuses:

Status	Status Description	Compl. Pdoc	Final Status
10	New		
15	Obsolete	X	X
20	Settlement Info Queried		
22	Settlement Reversal Information Sent		

Status	Status Description	Compl. Pdoc	Final Status
25	Settlement Info Received		
30	Settlement Data Validated		
32	Reversal MSCONS Sent		
35	Ready for Billing		
40	Billable Item Created	X	
42	Reversal Billable Item Created	X	
50	Invoice Posted	X	
51	Simulation Invoice Created	X	
60	Invoice Sent	X	
65	Cleared with Original/Reversal Document	X	X
66	Cleared as Zero Amount	X	X
70	Waiting for Incoming Payment	X	
71	Zero-Balance Advice Received	X	
75	Waiting for Outgoing Payment	X	
76	Compliant Notification Received	X	
77	Waiting for Confirmation after Complaint	X	
80	Cleared as Zero-Balance	X	X
81	Cleared as Complain Notification	X	X
85	Incoming Payment Received	X	X
86	Outgoing Payment Paid	X	X

3.3.6 Define Status Configuration

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → Define Status*. For each status you can define whether it should be relevant for dunning.

Default Customizing settings are defined in BC Set */IDXMM/CLNT_DEP_02* so that the following status values are relevant for dunning:

Status	Status Description	Enable Dunning	Excluded Dunning
50	Invoice Posted		X
60	Invoice Sent	X	
70	Waiting for Incoming Payment	X	

Status	Status Description	Enable Dunning	Excluded Dunning
71	Zero-Balance Advice Received		X
76	Complaint Notification Received		X
77	Waiting for Confirmation after Complaint	X	

3.3.7 Define Creation Process

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → Define Creation Process*. You can define different document access classes to handle different creation processes for the overtake and undertake quantities billing document. Four access classes are defined in BC Set */MEMI/CLNT_DEP_00 and /IDXMM/CLNT_DEP_01*.

Example

Creation process *01 - Grid Usage Billing* is used for grid usage billing and its relevant access class is */IDXMM/CL_MEMI_DOCUMENT_GRIDUS*. This means that the overtake and undertake quantities billing document is created for grid usage billing and the instance of class */IDXMM/CL_MEMI_DOCUMENT_GRIDUS* will be generated during runtime to handle the access to the document.

The following fields need to be filled as input:

- Internal point of delivery
- Creation process
- Grid usage billing document number
- Grid usage billing transaction
- Grid usage billing period
- Grid usage billing quantity
- Grid usage billing measurement unit

You can call creation process *02 - Settlement without Grid Usage* if no grid usage data exists but a settlement period does. The EDM system should be queried for settlement information. The following fields need to be filled as input:

- Internal point of delivery
- Creation process
- Supplier
- Distributor
- Settlement query period

There are also some fields in the overtake and undertake quantities document which are not derived by these APIs, but which you can derive or enter yourself:

- Previous Billing Transaction
- Metering Procedure
- No Settlement Queried

If this data is filled, it will also be mapped to the structure used for the *Settlement Information Query*.

You can call creation process *03 - Standalone MeMi reversal* if the MeMi process is reversed by the reversal functionality on the MeMi document UI, or reversed by a mass reversal transaction. After the reversal process is finished, one replacement MeMi document will be created. The following fields need to be filled as input:

- Internal point of delivery
- Creation process
- Supplier
- Distributor
- Settlement query period

There are also some fields in the overtake and undertake quantities document which are not derived by these APIs, but which you can derive or enter yourself:

- Previous Billing Transaction
- Metering Procedure
- No Settlement Queried

You can call creation process *04 - Reversal via Grid Usage* if the MeMi process is reversed via grid usage billing reversal. After the reversal process is finished, no replacement MeMi document is created. The following fields need to be filled as input:

- Internal point of delivery
- Creation process
- Supplier
- Distributor
- Settlement query period

There are also some fields in the overtake and undertake quantities document which are not derived by these APIs, but which you can derive or enter yourself:

- Previous Billing Transaction
- Metering Procedure
- No Settlement Queried

If you need to fill your own fields for the overtake and undertake quantities document, or if you want to have your own creation processes, you can also define your own creation process in this Customizing activity:

Create your own class as API and assign it here. You might want to use this for a transaction to create an overtake and undertake quantities document where it is also possible to maintain a reason for manual creation.

All classes that are assigned here should implement the */IDXMM/IF_MEMI_DOCUMENT* interface.

We recommend inheriting from the common super class that already implements the */IDXMM/CL_MEMI_DOCUMENT* interface and in which some basic validations and determinations are implemented.

By calling */IDXMM/CL_MEMI_DOCUMENT=>GET_INSTANCE* and passing the creation process, you will get the correct instance of the class that is maintained in this Customizing activity

3.3.8 Define Line Item Type

In this Customizing activity, you can define line item types for the billing document used for overtake and undertake quantities billing. Usually you pick one line item type which has already been defined in the Customizing in chapter 3.1.1 Define Line Item Type.

> **Note**
>
> If more than one line item type is determined in this Customizing activity, the quantity of all the line item types will be collected and summed up for the overtake and undertake quantity billing process.

3.3.9 Define Error Reason Codes

In this Customizing activity, you can define the error reason code and error reason text to be used in the overtake and undertake quantities billing document.

Default Customizing settings are defined in BC Set */MEMI/CLNT_DEP_00 and /IDXMM/CLNT_DEP_01 and /IDXMM/CLNT_DEP_02*.

3.3.10 Define Mapping between Error Reason Code and Check Result

In this Customizing activity, you can map the error reason code of the overtake and undertake quantities billing document with the check result of the check framework in the process document. This Customizing activity is used in the overtake and undertake quantities billing document to handle all the errors raised from the check framework of the process document.

Default Customizing settings are defined in BC Set */MEMI/CLNT_DEP_00 and /IDXMM/CLNT_DEP_01 and /IDXMM/CLNT_DEP_02*.

3.3.11 Determine Parameters for Creating Billable Items

In this Customizing activity you can determine the parameters that are used for billable item creation in the overtake and undertake quantities billing process. This Customizing activity determines the type of billable item and subprocess used for billing based on the quantity type, energy flow direction, and reverse charge type in the overtake and undertake quantities billing document.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4 Customizing for SAP Convergent Invoicing for Supplier Billing

This chapter lists necessary Customizing settings as an example in *component Contract Accounts Receivable and Payable* (FI-CA) for *SAP Convergent Invoicing*. Make the necessary Customizing settings to the software according to your custom implementation.

3.4.1 Define Interface Components

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Define Interface Components*.

Interface component *MEMI* is predefined by SAP.

3.4.2 Maintain Billable Item Class

You need to define a billable item class and assign it to the interface component *MEMI*.

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Maintain Billable Item Classes*.

Default Customizing settings are defined in BC Set */MEMI/CI_00*.

3.4.3 Generate Interface for Billable Item Classes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Generate Interfaces for Billable Item Classes.*

You need to manually generate the interface for billable item classes defined in chapter 3.4.2 Maintain Billable Item Class.

3.4.4 Generate Maintenance Dialogs for Billable Item Classes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Generate Interfaces for Billable Item Classes*.

You need to manually generate maintenance dialogs for billable item classes defined in chapter 3.4.2 Maintain Billable Item Class.

3.4.5 Activate Billable Item Classes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Maintain Billable Item Classes.*

You need to manually activate Billable Item Classes defined in chapter 3.4.2 Maintain Billable Item Class.

3.4.6 Define Processing Rules and Program Enhancements

To define processing rules and program enhancements, in the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Subprocesses of Billing.*

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.7 Settings for Data Storage

To make necessary settings for data storage, in the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management →Make Settings for Data Storage.*

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.8 Define Subprocesses for Billing

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Subprocesses of Billing.*

Recommendation

For the subprocess of billing, we suggest you have two different values for the overtake and undertake quantity so you can distinguish them in billing and invoicing.

For the reversal process of the overtake and undertake quantities billing process, we suggest you have another two different values for the subprocess of billing, so you can distinguish them in the subsequent SAP CI billing and invoicing process.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.9 Assign Subprocesses to Classes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Assign Subprocesses to Classes.*

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.10 Define Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Item Types.*

Recommendation

For the line item type of billable items we suggest you have four different values:

- Overtake quantity
- Overtake quantity with reverse charge
- Undertake quantity
- Undertake quantity with reverse charge.

For the reversal process of overtake and undertake quantities billing, we need four more different values:

- Overtake amount reversal with reverse charge
- Overtake amount reversal
- Undertake amount reversal with reverse charge
- Undertake amount reversal

Sample settings are defined in BC *Set /MEMI/CI_00 and /IDXMM/CI_01*.

3.4.11 Assign Item Types to Subprocesses

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Assign Item Types to Subprocesses.*

Sample settings are defined in BC *Set /MEMI/CI_00 and /IDXMM/CI_01*.

3.4.12 Define Source Transaction Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Source Transaction Types*.

The source transaction type *MEMI* is predefined by SAP and must not be changed.

3.4.13 Make Settings for Source Transaction Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Make Settings for Source Transaction Types*.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.14 Define Main Transactions and Subtransactions

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Transfer-> Account Assignment Derivation →Define main Transaction and Subtransaction.*

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

You can then maintain different GL accounts for the main and subtransactions in posting area 2610 and 2611.

3.4.15 Define Billing Process

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Processes*.

In the billing process, you assign a selection variant and a billing type to a subprocess of billing.

Recommendation

We suggest you have two different entries to distinguish between overtake and undertake quantities.

For the reversal of the overtake and undertake quantities billing process, we suggest you have two more different entries to distinguish between the reversal overtake and the reversal undertake quantities.

If credit and debits are mixed in one billing document, the automatic clearing cannot work properly. Therefore, we strongly recommend you follow the above-mentioned recommendation!

Sample settings are defined in BC-Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.16 Define Selection Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Processes → Define Selection Variants.*

In this Customizing activity you define selection variants. It will be used later in the billing of the billable items.

Recommendation

We suggest you have two different values for the overtake quantity and undertake quantity. Then you assign a billable item class and a source transaction type to them, and also filter out the irrelevant billable item types.

For the reversal of the overtake and undertake quantities billing process, we suggest you have two more different values for the reversal overtake quantity and the reversal undertake quantity. Then you assign a billable item class and a source transaction type to them, and also filter out the irrelevant billable item types.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.17 Define Grouping Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Grouping Variants*.

In this Customizing activity, you define the grouping variant. This will be used later for aggregation of billable items.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.18 Define Billing Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Types*.

Recommendation

We suggest you have two values for the overtake quantity and undertake quantity for further use in billing processing.

To reverse the overtake and undertake quantities billing process, we suggest you have two more values for the reversal overtake quantity and the reversal undertake quantity for further use in billing processing.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.19 Define Billing Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Item Types.*

Recommendation

We suggest you have two values for the overtake quantity and undertake quantity for further usage in billing processing.

For the reversal of the overtake and undertake quantities billing process, we suggest you have two values for the reversal overtake quantity and the reversal undertake quantity for further usage in billing processing.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.20 Assign Billing Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Assign Billing Item Types*.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.21 Define Aggregation for Billable Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Processes → Define Aggregation for Billable Items*.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.22 Assign Document Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Assign Document Types*.

In this Customizing activity you assign the source document type to the billing process and billing type. For more information about the source document type, see chapter 3.4.27 Define Source Document Types.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.23 Make Basic Settings for Billing Reversal

You need to manually maintain the basic settings for billing processes in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Reversal of Billing Documents → Make Basic Settings for Billing Reversal*.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.24 Define Invoicing Processes

You define invoicing processes in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Invoicing Processes*.
Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

In this Customizing activity, you define the billing process. You assign the criteria to the source document defined in chapter 3.4.27 Define Source Document Types. Apart from, that you assign functions to the invoicing process.

In this Customizing activity, you must enable function 'ACCT_MAINT' from Support Package 01 on, for the further account maintenance process to automatically clear open items from the overtake and undertake quantities billing process.

3.4.25 Define Invoicing Categories

You define invoicing categories in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes→ Define Invoicing Categories*.

Sample settings are defined in BC Set `/MEMI/CI_00`.

3.4.26 Define Invoicing Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes→ Define Invoicing Types*.

Sample and settings are defined in BC Set `/MEMI/CI_00` and `/IDXMM/CI_03`.

3.4.27 Define Source Document Types

You define a source document type in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes→ Define Source Document Types*.

In this Customizing activity, you must define a source document type. The source document is used in the billing process to pick the correct billing documents. It is a mandatory Customizing activity for the integration of SAP Convergent invoicing into the overtake and overtake quantities billing system.

Sample settings are defined in BC Set */MEMI/CI_00 and /IDXMM/CI_01*.

3.4.28 Maintain Grouping Variants

You maintain grouping variants in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Maintain Grouping Variants*.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.29 Maintain Key for Tax Display

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Maintain Key for Tax Display*.

Sample settings are defined in BC Set */MEMI/CI_00*.

3.4.30 Define Summarization Transactions for Business Partner Items

For energy tax you must ensure that only one open item will be created for both subtransactions, the MeMi-priced one and the energy tax priced one. It is crucial that one MeMi document only is part of one open item, so that also the REMADV and payment processing is working. The same should apply to MGV BITs. To achieve this, you need to maintain these pairs of subtransactions in Customizing under *Financial Accounting (New) choose Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Documents → Posting Documents → Define Summarization Transactions for Business Partner Items*.

The open item of the main and subtransaction maintained in the first two columns *Billing MainTns* and *Billing Subtrns* will be merged to the main and subtransaction maintained in the other columns.

Example

If subtransaction ME is used for the MeMi priced overtake quantity, and MEE is used for the energy tax priced overtake quantity, then you should maintain the following entries:

Billing Main Transaction	Billing Subtransaction	OI Main Transaction	Debit Subtransaction	Credit Subtransaction
MEMI	MEE	MEMI	ME	ME

3.4.31 Define Account Assignment of General Ledger Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Documents → Posting Documents → Define Account Assignment of General Ledger Items.*

Caution

For energy tax, you need to ensure that you assign the same tax determination codes to both subtransactions, the one for the MeMi-priced BIT as well as the one for the energy tax priced BIT. Since the VAT needs to be computed based on the sum of both items, only the same tax determination makes sense and must be used for both.

3.4.32 Define Account Assignment for Business Partner Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Documents → Posting Documents → Define Account Assignment for Business Partner Items.*

3.4.33 Maintain Function Module for FI-CA Event 0061

In the overtake and undertake quantities billing process, the clearing of open items is completely covered by the solution delivered by Support Package 01. Generally, manual clearing of open items related to the MeMi process is forbidden. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0061	/IDXMM/FM_EVENT_0061

3.4.34 Maintain Function Module for FI-CA Event 2630

For some scenarios in the overtake and undertake quantities billing process, when an SAP CI invoice is created, SAP CI enables you to select open items for account maintenance proposal. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2630	/IDXMM/FM_EVENT_2630

3.4.35 Maintain Function Module for FI-CA Event 2631

When SAP CI invoicing process starts, account maintenance will be executed if you selected it in the 'invoicing process' in chapter 3.4.24. This event function module enables you to create a proposal for account maintenance, based on the overtake and undertake quantities billing documents and FI-CA document line items. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2631	/IDXMM/FM_EVENT_2631

3.4.36 Maintain Function Module for FI-CA Event 2648

After the SAP CI invoicing process, the overtake and undertake quantities billing process should be enabled to update the status and CI-related fields in the MeMi document. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2648	/IDXMM/FM_EVENT_2648

3.4.37 Maintain Function Module for FI-CA Event 2649

After the SAP CI invoicing process, the overtake and undertake quantities billing process must be enabled to trigger the step that sends out the invoice. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2649	/IDXMM/FM_EVENT_2649

3.4.38 Maintain Function Module for FI-CA Event 0070

You cannot reverse a clearing document for an open item related to a MeMi document unless it is a payment document by payment lot process, payment run process, or manual payment process. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

3. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
4. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0070	/IDXMM/FM_CLEAR_REV_FORBID_70

3.4.39 Maintain Function Module for FI-CA Event 0071

Resetting the clearing document which cleared any open items related to the MeMi document is forbidden. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0071	/IDXMM/FM_CLEAR_RSET_FORBID_71

3.4.40 Maintain Function Module for FI-CA Event 1206

In the account balance monitor, we can navigate to the overtake and undertake quantities billing document based on the open item in the posting document using an additional function. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
1206	/IDXMM/FM_DOC_DISP_1206

3.4.41 Maintain Function Module for FI-CA Event 2603

In CI invoice creation, we need to initialize global attributes to determine the due date for the MeMi document in FI-CA event 2640 and 1330. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2603	/IDXMM/FM_EVENT_2603

3.4.42 Maintain Function Module for FI-CA Event 2640

In CI invoice creation, we need to determine the due date of the MeMi invoice based on the payment frequency configured for service provider. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2640	/IDXMM/FM_EVENT_2640

3.4.43 Maintain Function Module for FI-CA Event 0020

When a payment lot or payment run is posted, the status of the MeMi documents needs to be updated. When a payment document is reversed, the status of the MeMi documents also needs to be changed back to the previous status before the payment was made. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0020	/IDXMM/FM_EVENT_0020

3.4.44 Maintain Clearing Variant for Automatic Account Clearing

If the invoice of an overtake and undertake quantities billing process is not sent out, or if the invoice is sent out but it is rejected as a non-payment advice note, then in this case the SAP CI invoicing process should be able to clear the open items automatically to make sure that the balance of the account is correct. For this purpose, define a new clearing variant to the following events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Basic Functions → Open Item Management → Clearing Control → Define Clearing Types*.
2. Ensure the sample settings are defined in BC Set */IDXMM/CI_01*.

3.5 Customizing for SAP Convergent Invoicing for MGV Billing

For the MeMi billing to the gas settlement coordinator (MGV), you need to customize consumption items in SAP Convergent Invoicing.

3.5.1 Define Interface Components (CIT)

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Consumption Items → Consumption Item Classes → Define Interface Components*.

Interface component *IDXMM/MGV* is delivered by SAP and has prerequisite components.

3.5.2 Maintain Consumption Item Classes

You need to define a consumption item class and assign it to the interface component IDXMM/MGV in the Customizing for *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Consumption Items → Consumption Item Classes → Maintain Consumption Item Classes*.

> **Note**
>
> With the BC Sets */IDXMM/CI_02_CROSS* you will get the inactive Consumption Item Class *MGV*. Since you cannot activate it, you need to delete it. Then you need to create it again with the same name and assign the interface component *IDXMM/MGV* to it. Prerequisite components will be assigned automatically with it. Then you need to activate the class.

3.5.3 Generate Interfaces for Consumption Item Class

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Consumption Items → Consumption Item Classes → Generate Interfaces for Consumption Item Classes.*

You need to manually generate the interface for the consumption item class defined in the previous chapter.

You need to generate the interfaces for the class *MGVA*.

3.5.4 Activate Classes for Consumption Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Consumption Items → Consumption Item Management → Activate Classes for Consumption Items*

You need to maintain the consumption item class *MGVA* here in the client in which it should be active.

3.5.5 Define Types of IDs for Consumption Items

SAP delivers the type *MGVC*.

3.5.6 Define Interface Components (BIT)

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Classes → Define Interface Components*.

Interface component *IDXMM/MGV* is delivered by SAP and has prerequisite components.

3.5.7 Maintain Billable Item Classes

You need to define a billable item class and assign it to the interface component IDXMM/MGV in the Customizing for *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions→ Billable Items → Billable Item Classes → Maintain Billable Item Classes*.

> **Note**
>
> With the BC Set */IDXMM/CI_02_CROSS* you will get the inactive Billable Item Class *BMGV*. Since you cannot activate it, you need to delete it. Then you need to create it again with the same name and assign the interface component *IDXMM/MGV* to it. Prerequisite components will be assigned automatically with it. Then you need to activate the class.

3.5.8 Generate Interfaces for Billable Item Class

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Consumption Items → Consumption Item Classes → Generate Interfaces for Consumption Item Classes.*

You need to manually generate the interface for the consumption item class defined in the previous chapter.

You need to generate the interfaces for the class *BMGV*.

3.5.9 Activate Classes for Billable Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Activate*

Note

You need to maintain the billable item class *BMGV* here in the client in which it should be active.

3.5.10 Define Processing Rules and Program Enhancements

To define processing rules and program enhancements, in the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Processing Rules and Program Enhancements.*

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.11 Settings for Data Storage

To make necessary settings for data storage, in the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Make Settings for Data Storage.*

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.12 Enter Exception Reasons

To reverse the MGV billing process, you need to reverse the MGV BITs. When reversing a BIT, you need to enter an exception reason. This reason must be configured so that also the consumption items are unrated again, and that it is not possible to restore the BIT. You maintain this exception reason in Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Enter Exception Reason.*

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.13 Define Subprocesses for Billing

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Subprocesses of Billing.*

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.14 Assign Subprocesses to Classes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Assign Subprocesses to Classes.*

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.15 Define Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Define Item Types.*

Sample settings are defined in BC *Set /IDXMM/CI_02*.

3.5.16 Assign Item Types to Subprocesses

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Assign Item Types to Subprocesses.*

Sample settings are defined in BC *Set /IDXMM/CI_02*.

3.5.17 Define Source Transaction Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Assign Item Types to Subprocesses*.

The source transaction type *MGVB* is predefined by SAP and must not be changed.

3.5.18 Make Settings for Source Transaction Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Management → Make Settings for Source Transaction Types*.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.19 Define Main Transactions and Subtransactions

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Billable Item Transfer-> Account Assignment Derivation → Define Main Transaction and Subtransaction.*

The solution only works for MGV if one subprocess and one billable item type is used. Our sample Customizing contains the value *MGV* for both. For MGV billing, you should maintain the main and subtransactions for your receivables in the column *Debit Main Transaction* and *Debit Subtransaction*. You need to enter your payables main and subtransactions in the *Credit Main Transaction* and *Credit Subtransaction* columns.

If you need to derive different tax determinations or GL accounts based on the reverse charge type, you need to add "Key 1" to the key of this Customizing activity. You do this by choosing *Goto* -> *Select keys…* -> confirm the popup -> select checkbox *Used* for "Key 1". During rating the system fill field Key 1 of the MGV BIT with the reverse charge type that was determined by a BADI. So, Key 1 can contain the following values according to data element /IDXMM/DE_REVERSE_CHARGE_TYPE:

01 Cross-Border Service Delivery

02 Reseller of Service Recipient

03 No Reverse Charge

If you need to derive different tax determinations or GL accounts based on energy tax, you need to add "Key 2" to the key of this Customizing activity. You do this by choosing *Goto* -> *Select keys…* -> confirm the popup -> select checkbox *Used* for "Key 2". To distinguish the energy tax billable item from the MeMi-priced billable item, the field "Key 2" is used for the BIT acting as an indicator. If "Key 2" is set with 'X', the BIT is an *Energy Tax BIT*.

If you need to derive different tax determinations or GL accounts based on the tax valuation (Delivery, Other Services for Grid Usage), you need to add "Key 3" to the key of this customizing activity. You do this by choosing *Goto* -> *Select keys…* -> confirm the popup -> select checkbox *Used* for "Key 3". When creating the BITs for the MeMi documents, the system will fill field Key 3 of the BIT with the tax valuation code that is maintained in the MeMi document and was determined previously by a BADI. So, Key 3 can contain the following values according to data element /IDXMM/DE_TAX_VALUATION_CODE:

DL Delivery

OS Other Service for Grid Usage

Sample settings which determine different main and subtransactions for debit and credit as well as for different reverse charge types are defined in BC Set */IDXMM/CI_02*.

You need to define your own main and subtransactions and account determination for them in Customizing.

Then you can maintain them also in this Customizing activity.

You can then maintain different GL accounts or tax determinations for the main and subtransactions in posting area 2610 and 2611.

3.5.20 Reversal of Billable Items -> Make Basic Settings

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Reversal of Billable Items → Make Basic Settings →* Maintain for your MGV subprocess that reversal is allowed only for items not invoiced. Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.21 Reversal of Billable Items -> Make Standard Settings

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Basic Functions → Billable Items → Reversal of Billable Items → Make Standard Settings →* For your MGV subprocess, maintain that reversal is allowed only for items that are not invoiced. Sample settings are defined in BC Set */IDXMM/CI_02.* Maintain here the exception reason you have defined before. Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.22 Define Rating Groups

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Define Rating Groups*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

> **Note**
>
> If you want to make use of parallel processing during rating, you can maintain the grid account number as parallel processing criteria 1. Ensure that you do so from the very beginning before the first rating is done. Once a rating has been done, this setting must not be changed anymore.

3.5.23 Assign Consumption Item Classes to Rating Groups

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Assign Consumption Item Classes to Rating Groups*.

Sample settings are defined in BC Set */IDXMM/CI_02*

3.5.24 Define Number Ranges for Rating IDs

In the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Define Number Ranges for Rating IDs*, you need to define a number range for the rating IDs.

3.5.25 Specify Derivation of Standard Attributes for Billable Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Specify Derivation of Standard Attributes for Billable Items*.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.26 Define Grouping Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Define Grouping Variants*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.27 Define Aggregation Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Define Aggregation Variants*.

Sample settings are defined in BC Set */IDXMM/CI_02*..

3.5.28 Define Aggregation for Consumption Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Rating → Define Aggregation for Consumption Items*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.29 Define Billing Processes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Processes*.

In the billing process, you assign a selection variant and a billing type to a subprocess of billing.

Sample settings are defined in BC-Set */IDXMM/CI_02.*

3.5.30 Define Selection Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Processes → Define Selection Variants.*

In this Customizing activity you define selection variants. It ensures that only BITs for the MGV billing are selected during billing.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.31 Define Grouping Variants

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Grouping Variants*.

In this Customizing activity, you define the grouping variant. This will be used later for aggregation of billable items. It needs to be ensured by the grouping that only one BIT or with energy tax two BITs and up in the same billing document. This is achieved by including the source transaction ID.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.32 Define Billing Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Types*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.33 Define Billing Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing →Billing Processes → Define Billing Item Types.*

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.34 Assign Billing Item Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Processes → Assign Billing Item Types*.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.35 Define Aggregation for Billable Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Processes → Define Aggregation for Billable Items*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.36 Maintain Number Ranges for Billing Documents

You need to maintain number ranges in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Maintain Number Ranges for Billing Documents.*

3.5.37 Maintain Document Types and Assign Number Ranges

You need to assign the number ranges above in Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Maintain Document Types and Assign Number Ranges.*

3.5.38 Assign Document Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Assign Document Types*.

In this Customizing activity you assign the source document type to the billing process and billing type. For more information about the source document type, see Define Source Document Types.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.39 Make Basic Settings for Billing Reversal

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Reversal of Billing Documents → Make Basic Settings for Billing Reversal.*

You need to allow reversal of the billing documents.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.40 Make Specifications for Billing Processes

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Reversal of Billing Documents → Make Basic Settings for Billing Reversal.*

You need to allow reversal of the MGV billing process.

Sample settings are defined in BC Set */IDXMM/CI_02.*(

3.5.41 Define Reasons for Reversal of Billing Documents

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Reversal of Billing Documents → Define Reasons for Reversal of Billing Documents.*

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.42 Make Specifications for Reversal Reason

In the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Billing → Billing Documents → Reversal of Billing Documents → Make Specifications for Reversal Reason,* you need to assign the exception reason of the BITs to the reversal reason of the billing document. When billed BITs are reversed, the billing document will also be reversed.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.43 Define Invoicing Processes

You define invoicing processes in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Invoicing Processes*. Sample settings are defined in BC Set */IDXMM/CI_02*.

Also ensure the selection control is maintained correctly for both MEMI and MGV invoice processes.

> **Note**
>
> Remove function `REVERSAL` in the Invoice Functions in the Invoice Process for MGV. This means that it will no longer be possible to reverse an invoice document for the MGV. This ensures that the original open item will not be cleared by the reversal invoice.

3.5.44 Define Invoicing Types

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes→ Define Invoicing Types*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.45 Define Source Document Types

You define a source document type in the Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes→ Define Source Document Types*.

In this Customizing activity, you must define a source document type. The source document is used in the billing process to pick the correct billing documents. It is a mandatory Customizing activity for the integration of SAP Convergent Invoicing into the overtake and overtake quantities billing system.

Sample settings are defined in BC Set */IDXMM/CI_02.*

3.5.46 Maintain Grouping Variants

You maintain grouping variants in the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Maintain Grouping Variants*.

Sample settings are defined in BC Set */IDXMM/CI_02*.

3.5.47 Define Application Form

You need to create your own application form and maintain it in Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Application Form.*

3.5.48 Define Specifications for Determining the Application Form

You need to assign your application form ID in Customizing for *Financial Accounting (New)* under *Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Invoicing Processes → Define Specifications for Determination of Application Form* so that you can print paper invoices for the MGV.

3.5.49 Define Reasons for Reversing Invoicing Documents

To prohibit the reversal of CI invoice documents of the MGV, you need to remove the `REVERSAL` function from the invoice process. The *Reversal* button continues to be displayed and a user can maintain a reversal reason. However, the system will then issue an error message.

To prevent the user from being able to enter a reversal reason, delete the reason in Customizing for Finanical Accounting (New) under *Contract Accounts Receivable and Payable → Convergent Invoicing → Documents → Invoicing Reversal →Define Reasons for Reversal of Invoice Documents.*

3.5.50 Define Summarization Transactions for Business Partner Items

For energy tax, you must ensure that there will be only one open item created for both subtransactions, the MeMi-priced one and the energy tax priced one. It is crucial that that one MeMi document only is part of one open item, so that also the REMADV and payment processing is working. The same should apply to MGV BITs. To achieve this, you need to maintain these pairs of subtransactions. In Customizing for *Financial Accounting (New) choose Contract Accounts Receivable and Payable → Convergent Invoicing → Invoicing → Documents → Posting Documents → Define Summarization Transactions for Business Partner Items*.

The open item of the main and subtransaction maintained in the first two columns *Billing MainTns* and *Billing Subtrns* will be merged to the main and subtransaction maintained in the other columns.

Example

If subtransaction ME is used for the MeMi priced overtake quantity, and MEE is used for the energy tax priced overtake quantity, then you should maintain the following entries:

Billing Main Transaction	Billing Subtransaction	OI Main Transaction	Debit Subtransaction	Credit Subtransaction
MGV	+E	MGV	+	+

3.5.51 Define Account Assignment of General Ledger Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Documents → Posting Documents → Define Account Assignment of General Ledger Items.*

Caution

For energy tax, you need to ensure that you assign the same tax determination codes to both subtransactions, the one for the MeMi-priced BIT as well as the one for the energy tax priced BIT. Since the VAT needs to be computed based on the sum of both items, only the same tax determination makes sense and must be used for both.

3.5.52 Define Account Assignment for Business Partner Items

In the Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Convergent Invoicing → Documents → Posting Documents → Define Account Assignment for Business Partner Items.*

3.5.53 Maintain Function Module for FI-CA Event 8120

Based on CI Customizing, the system will propose billing units so that the same grid account numbers and baseline dates (application months) will end up in the same billing unit. If there are different grid account numbers or application months involved and the system proposes different billing units, this function module ensures that the user cannot overwrite it with the same billing unit. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
8120	/IDXMM/FM_EVENT_8120

3.5.54 Maintain Function Module for FI-CA Event 8135

To assign the SSQNOT IDoc reference to the billing document you need to assign the following new function modules to the following events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
8135	/IDXMM/FM_EVENT_ 8135

3.5.55 Maintain Function Module for FI-CA Event 8137

To create the SSQNOT IDoc during billing, you need to assign the following new function modules to the following events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
8137	/IDXMM/FM_EVENT_8137

3.5.56 Maintain Function Module for FI-CA Event 2645

In the case of CI invoices that are created by the MGV billing process, the process document is added as a reference object of the CI invoice. To enable this, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2645	/IDXMM/FM_EVENT_2645_MGV

3.5.57 Maintain Function Module for FI-CA Event 2648

After the SAP CI invoicing process for MGV billing process, the MGV billing process must be triggered and the process document created. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2648	/IDXMM/FM_EVENT_2648_MGV

3.5.58 Maintain Function Module for FI-CA Event 2640

In CI invoice creation for MGV billing process, we need to determine the due date of the invoice for the MGV billing process based on the payment frequency configured for the MGV service provider. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2640	/IDXMM/FM_EVENT_2640_MGV

3.5.59 Maintain Function Module for FI-CA Event 2673

In the CI invoice header for MGV billing, we need to add an icon to resend the electronic invoice to the MGV. The corresponding field catalog needs to be adjusted to set the hotspot and icon. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2673	/IDXMM/FM_EVENT_2673_MGV

3.5.60 Maintain Function Module for FI-CA Event 2674

In the CI invoice header for MGV billing, the step that sends out the invoice needs to be triggered again when the user clicks the corresponding icon. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2674	/IDXMM/FM_EVENT_2674_MGV

3.5.61 Maintain Function Module for FI-CA Event 2676

In the CI invoice header for MGV billing, we need to add an icon to resend the electronic invoice to the MGV. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2676	/IDXMM/FM_EVENT_2676_MGV

3.5.62 Maintain Function Module for FI-CA Event 2774

When CI billing documents are reversed by the MGV billing process, the SSQNOT message reference of original billing document will be removed in reversal billing document. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
2664	`/IDXMM/FM_EVENT_2774_MGV`

3.6 Customizing for Intercompany Data Exchange for German Electric Utilities

SSQNOT IDocs are created within the MGV billing process. For this purpose, you need to maintain Customizing.

3.6.1 Assign Class for General Message Outbound Processing

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → SAP Intercompany Data Exchange for German Electric Utilities → Data Exchange Processes → Assignment of Message Processing Classes → Assign Class for General Message Outbound Processing*.

Default Customizing settings are defined in BC Set */IDXMM/CLNT_DEP_02*.

3.7 Customizing for Data Exchange Processes

SSQNOT IDocs and INVOIC IDocs are created within the MGV billing process. For this purpose, you need to maintain Customizing.

3.7.1 Define Data Exchange Processes

In the Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Data Exchange Processes → Define Data Exchange Processes.*

Default Customizing settings are defined in BC Set `/IDXMM/CLNT_DEP_02` and `/IDXMM/CLNT_DEP_03`.

3.8 Customizing for Payment Advice Note Processing

This chapter describes specific Customizing settings for payment advice note processing.

3.8.1 Configure Basic Settings

You need to define the basic settings for a new payment advice note type and document type for an overtake and undertake quantities billing payment advice note. The payment advice note process is based on a new payment advice note type and document type. Function module `/IDXMM/FM_ACT_OWN_INVOICE_NO` needs to be maintained to navigate to a MeMi document based on the cross-reference number. In the Customizing for *SAP Utilities → Intercompany Data Exchange → Bill and Payment Advice Note Processing → Make Basic Settings*.

Ensure the sample settings are defined in BC Set `/IDXMM/CI_01` and `/IDXMM/CI_03`.

Example

Payment advice note type *07 - Payment Advice Note for MeMi* and document type *12 - Payment Advice Note for MeMi* are used for the overtake and undertake quantities billing payment advice note.

Payment advice note type *08 - Complaint Notification (Receipt) for MeMi* and document type *13 - Complaint Notification (Receipt) for MeMi* are used for the overtake and undertake quantities billing complaint notification.

Payment advice note type *10 - Payment Advice Note for MGV Billing* and document type *18 - Payment Advice Note for MGV Billing* are used for the overtake and undertake quantities MGV billing payment advice note.

Payment advice note type *11 - Complaint Notification for MGV Billing* and document type *19 - Complaint Notification for MGV Billing* are used for the overtake and undertake quantities MGV billing complaint notification.

Note

If the number of new payment advice note types and document types already exist in your system, please make the necessary Customizing settings according to your custom implementation. Refer to the sample Customizing.

3.8.2 Define Process Control (Part 1)

In this Customizing activity, you can define payment advice note process function modules which are used in the basic settings for the overtake and undertake quantities billing payment advice note.

Default Customizing settings are defined in BC Set */IDXMM/CLNT_DEP_01*.

3.8.3 Define Check Parameters

You need to define the check parameters for the overtake and undertake quantities billing payment advice note. In the Customizing for *SAP Utilities → Intercompany Data Exchange → Bill and Payment Advice Note Processing → Define Check Parameters*.

Ensure the sample settings are defined in BC Set */IDXMM/CI_01*.

3.8.4 Assign Invoice Document Type to PAN Type

You need to assign an invoice document type to the payment advice note type for the overtake and undertake quantities billing payment advice note. In the Customizing for *SAP Utilities → Intercompany Data Exchange → SAP Intercompany Data Exchange for German Electric Utilities → Bill and Payment Advice Note Processing →* Assign Invoice Document Type to PAN Type.

Ensure the sample settings are defined in BC Set `/IDXMM/CI_01` and `/IDXMM/CI_03`.

> **Note**
>
> The `CREATE_FROM` field should be populated with 'M' for the overtake and undertake quantities billing payment advice note by the supplier.
>
> The `CREATE_FROM` field should be populated with 'G' for the overtake and undertake billing payment advice note by the MGV.

3.8.5 Maintain Rules for Reconciliation Key Default Values

To enable automatic clearing of zero-balance advices, you need to make sure that reconciliation keys are defaulted by the system. You need to define the determination rules in the Customizing *Financial Accounting (New) → Contract Accounts Receivable and Payable→ Basic Functions → Postings and Documents → Document →Define Default Values →Maintain Rules for Reconciliation Key Default Values.*

3.8.6 Maintain Alternative Check Group for Specific Service Provider

To define a specific check group to control PAN processing for certain service providers, you need to adjust your Customizing settings as follows:

1. Create a new check group and assign the customer check function modules in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Bill and Payment Advice Note Processing → Define Process Control (Part 1)*.
2. Assign the new check group to the relevant Bill/PAN type and document type in Customizing for *SAP Utilities* under *Intercompany Data Exchange → Bill and Payment Advice Note Processing → Make Basic Settings*.

3. Assign the check group for the parameter of the service provider in SPA configuration (transaction: `EEDMIDESERVPROV02`).

3.8.7 Maintain SPA Parameter to Skip check for Original Invoice Answered by PAN

When a payment advice note of a negative REMADV contains reversal invoices, function module `/IDXMM/DEREG_INV_CHECKB_071` checks whether the original invoice has been answered by a payment advice note. If not, an error is raised.

For some service providers, you can deactivate this check using the *Skip Check for Original Invoice* parameter. To do so, add the parameter for the relevant bill/PAN type for the service provider in transaction `EEDMIDESERVPROV02`. Enter **x** for the parameter if you want to skip the check.

3.9 Customizing for Allocation List

3.9.1 Data Exchange Process

To exchange data for sending an allocation list, you must define the scenarios that use the MSCONS format. To do so, you must define the data exchange processes for communication between the market participants. In Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Data Exchange Processes → Define Data Exchange Processes*.

A new data exchange process is provided for the following data exchange basic process, which is delivered with the intercompany data exchange common layer for Germany component: EXALLOLIST: *Send Allocation List*.

The following table contains an example of the data exchange process that is used to export the MSCONS message from the distributor. The following Customizing settings are included in the BC Set */IDXMM/CLNT_DEP_01*.

Attribute	Value (incl. Description)
Data exchange process	EXPALLOLST
Data Exchange Process Text	Send Allocation List
Basic process	EXALLOLIST
Basic Process Description	Send Allocation List
Schedule Data Exchange Process	1 (Do Not Schedule)
Service Type: Own Service Provider	2005
Service Type: Third Party Service Provider	2008
Direct Execution of Data Exchange Process	2 (Direct Execution Not Possible)

3.9.2 Define Number of PoDs in One IDoc

When the distributor sends an allocation list to a supplier, all valid PoDs must be sent. Since tens of thousands of PoDs are valid for each supplier, multiple IDocs have to be sent out.

However, an IDoc can only contain a certain number of PoDs. For this reason, you have to define the number of PoDs in each IDoc for the corresponding distributor and supplier.

By default, the number of PoDs is set to 1000, if this number is not defined in Customizing.

To define this number, choose the following IMG path:

SAP Utilities → *Intercompany Data Exchange -> Intercompany Data Exchange for German Gas Utilities -> Define Number of PoDs in One IDoc for Allocation List.*

3.10 Customizing for Dunning Process

3.10.1 Maintain Function Module for FI-CA Event 0308

When the dunning proposal is created, the dunning history is generated as standard. We also need to generate the MeMi dunning history. Also the dunning level on the MeMi documetns is set. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0308	`/IDXMM/FM_EVENT_0308`

3.10.2 Maintain Function Module for FI-CA Event 0335

When the dunning proposal is created, we need to reduce the dunning amount based on the status of the MeMi documents that are to be excluded from dunning. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0335	`/IDXMM/FM_EVENT_0335`

3.10.3 Maintain Function Module for FI-CA Event 0389

Items from the MeMi dunning history are to be shown when the user clicks the icon in the dunning history header. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0389	/IDXMM/FM_EVENT_0389

3.10.4 Maintain Function Module for FI-CA Event 0391

In dunning history header, we need to add an icon to show the MeMi dunning history items. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0391	/IDXMM/FM_EVENT_0391

3.10.5 Maintain Function Module for FI-CA Event 0395

In the dunning proposal reversal, the dunning history is reversed as standard. We also need to reverse the MeMi dunning history. Also the dunning level of the MeMi documents need to be reset. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0395	/IDXMM/FM_EVENT_0395

3.10.6 Maintain Function Module for FI-CA Event 0397

When the dunning proposal is deleted, the dunning history is deleted as standard. We also need to delete the MeMi dunning history and reset the dunning level on the MeMi documents. For this purpose, assign the following function modules to the corresponding events as installation-specific function modules:

1. In Customizing for *Financial Accounting (New)* choose *Contract Accounts Receivable and Payable → Program Enhancements → Define Customer-Specific Function Modules*.
2. Choose the event from the table below and assign the corresponding function module in the *Installation-Specific Function Modules* area of the *Function Modules* tab:

Event	Function Module
0397	/IDXMM/FM_EVENT_0397

3.11 Business Add-In (BAdI) Enhancement

3.11.1 BAdI: Define Business Logic for Overtake and Undertake Quant. Billing Document (/IDXMM/BADI_MEMI_DOCUMENT)

You can use the Business Add-In (BAdI) */IDXMM/BADI_MEMI_DOCUMENT* defined in enhancement spot */IDXMM/ES_BO* to enhance the business logic for the overtake and undertake quantities billing document. Fallback class */IDXMM/CL_DEF_BADI_MEMI_DOC* is defined.

This BAdI interface contains the following methods:

Method	Description
VALIDATE_STATUS	Validate Status
DETERMINE_EDM_PROC_DATE	Determine EDM Process Date
DETERMINE_METERING_PROCEDURE	Determine Metering Procedure
DETERMINE_APPL_YEAR_MONTH	Determine Application Year and Month for overtake and undertake quantities billing The application year and month will be determined when the period of the overtake and undertake quantities billing document is determined by this BAdI method. The fallback implementation will use the year and month of the end date from the overtake and undertake quantities billing document.
DETERMINE_PRICE	Determine Price for MEMI Document
DETERMINE_PARAMETERS_FOR_BIT	Determine Parameters for Billable Items Creation
DETERMINE_REVERSE_CHARGE_TYPE	Determine Reverse Charge Type
DETERMINE_TAX_VALUATION_CODE	Determine Tax Valuation Code

Method	Description
ENHANCE_MEMI_DOCUMENT	Enhance MeMi Document before update
DETERMINE_WEIGHTING_KEY	Determine Weighting Key for MeMi document
SPLIT_MEMI_DOCUMENT	Split MeMi document
CHECK_SETTLE_DATA	Check Settlement Data of MeMi document
DETERMINE_MEMI_PERIOD	Determine MeMi Period

Note

To determine the price for the billing of overtake and undertake quantities, you can run the transaction for price determination (/IDXMM/PRICE) on the *SAP Easy Access* screen under *Utilities Industry* → *Intercompany Data Exchange* → *Overtake and Undertake Quantities Billing for German Energy Utilities*.

3.11.2 BAdI: Determine Internal Settlement Data (/IDXMM/BADI_EDM_SERVICE)

This Business Add-In (BAdI) is used to determine the settlement result from the internal system. You can implement customer-specific logic to determine settlement data for the overtake and undertake quantities billing document. The interface of the internal settlement determination is the same as the one for the external settlement determination.

3.11.3 BAdI: Check Web Service Response of Inbound Message (/IDXMM/BADI_WEB_SERVICE_CHECK)

This Business Add-In (BAdI) is used for checking the inbound message of the Web service. When the settlement result comes from the external EDM system, there are checks against this message before it is passed on to the process framework of intercompany data exchange common layer for Germany. You can implement customer-specific checks to check against the Web service message content.

3.11.4 BAdI: Define Data for Sending Invoice (/IDXMM/BADI_INVOIC_OUT)

You can use the Business Add-In (BAdI) defined in enhancement spot */IDXMM/ES_PROCESS* to enhance data for sending out INVOIC IDocs for overtake and undertake quantities billing and MGV billing. Fallback class */IDXMM/CL_DEF_BADI_INVOIC_OUT* is defined.

This BAdI interface contains the following methods:

Method	Description
DETERMINE_CROSS_REFERENCE_NO	Determine invoice cross-reference number for sending MeMi INVOIC IDoc

Method	Description
	out
DETERMINE_MGV_DOCUMENT_IDENT	Determine document identifier for sending MGV INVOIC IDoc out

Note

The default prefix of the cross-reference number for overtake and undertake quantities billing is *MMM*.

The default prefix of the document identifier for MGV billing is *MGV*.

3.11.5 BAdI: MeMi Energy Tax (/IDXMM/BADI_ENERGY_TAX)

You can use the Business Add-In (BAdI) defined in enhancement spot /IDXMM/ES_BO to derive if energy tax is relevant. Fallback class */IDXMM/CL_DEF_BADI_ENERGY_TAX* is defined which determines that it is relevant by default.

This BAdI interface contains the following methods:

Method	Description
IS_ENERGY_TAX_RELEVANT	Determine Whether Energy Tax is Relevant to Process

3.11.6 BAdI: MeMi MGV Billing Process (/IDXMM/BADI_MGV_BILLING)

You must use the Business Add-In (BAdI) defined in enhancement spot /IDXMM/ES_BO to derive the reverse charge type for MGV BITs.

This BAdI interface contains the following methods:

Method	Description
DETERMINE_REVERSE_CHARGE_TYPE	Determine Reverse Charge Type
DETERMINE_MGV_CONTR_ACCT	Determine Contract Account of MGV

3.11.7 BAdI: SSQNOT to MGV (/IDXMM/BADI_MGV_SSQNOT)

You can use the Business Add-In (BAdI) defined in enhancement spot /IDXMM/ES_IDE to adapt fields in SSQNOT for MGV billing. Fallback class /IDXMM/CL_DEF_BADI_MGV_SSQNOT is defined.

This BAdI interface contains the following methods:

Method	Description
FILL_RFF_AMID	Fill AMID in REF+Z13
FILL_STS_CATEGORY	Fill status category in SG37+STS
OVERWRITE_IDOC_DATA	Overwrite SSQNOT IDoc data
POST_UPDATE_AFTER_SENDING	Update tasks after SSQNOT is sent to MGV

3.12 BAdI Implementations

You must ensure that the following implementations are activated before using any functions provided by this application. To do so, in Customizing for *SAP Utilities* choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → System Preparation → Business Add-Ins (BAdIs)*

3.12.1 BAdI Implementation: Prepare and Save Data for Update (/IDXMM/IM_ISU_BI_BILLING_SPOT)

BAdI *Prepare and Save Data for Update* (*ISU_BI_UPDATE*) is implemented to enable you to create an overtake and undertake quantities billing document, and trigger the related process document for monitoring when the grid usage billing document is created. This implementation selects all lines of the line item types that are specified in the Customizing described above and sums up their billing quantities.

For more information, see chapter 3.1.1 Define Line Item Type.

3.12.2 BAdI Implementation: Override Name of Called Function Module (/IDXMM/IM_ISU_BI_FUNCNAME)

This BAdI implementation is used to change the name of the variant program of the function module to your namespace. SAP Utilities will call by default the variant program of the function module with prefix 'ISU_'. By implementing the BAdI, the name of the function module can be changed from *ISU_** to */IDXMM/**, allowing you to call a function module from the */IDXMM/* namespace.

Example

Variant Program *MEMIDOC1* defined in chapter 3.1.2 Variant Program is activated.

SAP Utilities calls by default variant program *ISU_MEMIDOC1.*

BAdI implementation */IDXMM/IM_ISU_BI_FUNCNAME* changes the name from *ISU_MEMIDOC1* to */IDXMM/MEMIDOC1*.

3.12.3 BAdI Implementation: Enhanced Installation View (/IDXMM/EI_BADI_BI_INSTVIEW)

This BAdI implementation implements BAdI `ISU_BI_INSTVIEW_USERGRID` to display customer-specific tables for the accounting view of the installation. For overtake and undertake quantities billing for German energy utilities, the default implementation is to show all the overtake and undertake quantities billing documents which belong to this installation, and to provide a link to other documents such as the billing document and the process document.

3.12.4 BAdI Implementation: Display List of Overtake and Undertake Quantities Billing Documents (/IDXMM/EI_BADI_UI_COMP_DISP)

BAdI implementation implements BAdI `/IDXGC/BADI_UI_COMP_DISP` to set the display tab for the list of overtake and undertake quantities billing documents that is used in process document monitoring for process type 4021 (Mass Process for Overtake and Undertake Quantities Billing).

3.12.5 BAdI Implementation: Custom Control (/IDXMM/IM_BI_CUST_CONTROL)

You can use the `/IDXMM/IM_BI_CUST_CONTROL` BAdI implementation to fill customer-specific billing parameters when the billing document is created.

Note

You have implemented SAP Note 2194900 in your system.

3.12.6 BAdI Implementation: Update in Reversal (/IDXMM/IM_BI_REVERSAL)

You can use the `/IDXMM/IM_BI_REVERSAL` BAdI implementation to reverse overtake and undertake billing documents when grid usage billing document is being reversed.

Note

You have implemented SAP Note 1932375 in your system.

3.12.7 BAdI Implementation: Display Additional Header of MGV Billing Process (/IDXMM/EI_BADI_UI_COMP_DISP_MG)

You can use BAdI implementation `/IDXMM/BADI_UI_COMP_DISP_MGV` to set the additional header tab for the MGV billing process (used to monitor the process document).

4 Maintaining Master Data

4.1 Contract Account on Supplier SPA

You need to adapt each service provider agreement for supplier service providers and maintain the parameter for the new service provider agreement type *MEMI_OUT*. There is only one parameter available which is the Contract Account to which the receivables/payables for MeMi invoices will be posted.

It is highly recommended that for the MeMi process, you use a separate contract account for the FI-CA posting document instead of mixing MeMi posting documents for grid usage posting documents.

Two service provider agreements are defined by SAP. For more information, see BC-Set `/MEMI/CLNT_DEP_00`.

4.2 Payment Frequency on Supplier SPA

A new parameter for the payment frequency has been added to the service provider agreement type `MEMI_OUT` for the supplier. You can define your own payment frequency to calculate the due date of the CI invoice for the MeMi document. The due date of the CI invoice will be determined by FI-CA event 2640.

We implemented event function module `/IDXMM/FM_EVENT_2640` with logic to calculate the due date of the CI invoice based on the payment frequency of supplier SPA. The advantage of using the payment frequency is that the working day unit is available so that the due date can be calculated more accurately. You can also define different periods for the due date calculation for debit and credit amounts.

4.3 Contract Account on MGV SPA

For MGV billing, you need to adapt each service provider agreement for MGV service providers, and maintain the parameter for the new service provider agreement type `MGV_OUT_G`. There is only one parameter available which is the contract account to which the receivables/payables for MGV invoices will be posted.

4.4 Payment Frequency on MGV SPA

A new parameter for the payment frequency has been added to the service provider agreement type `MGV_OUT_G` for the supplier. You can define your own payment frequency to calculate the due date of the CI invoice for the MGV billing process. The due date of the CI invoice will be determined by FI-CA event 2640.

We implemented event function module `/IDXMM/FM_EVENT_2640_MGV` with logic to calculate the due date of the CI invoice based on the payment frequency of MGV SPA. The advantage of using the payment frequency is that the working day unit is available so that the due date can be calculated more accurately. Also different days can be

specified for credit and debit amounts. You can also define different periods for the due date calculation for debit and credit amounts.

4.5 Price Determination

To determine the price for the overtake and undertake quantities billing document, proceed as follows:

1. On the *SAP Easy Access Screen* choose *Utilities Industry → Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → /IDXMM/PRICE - Determine Price*.
2. You use this transaction to determine the price for overtake and undertake quantities billing.

   The table contains the following entries:

   1. *DV* (Division): Enter the required division category, for example gas.
   2. *Settlement Coordinator*: Choose a service provider with the role of coordinator.
   3. *Application Year*
   4. *Application Month*
   5. *Currency*
   6. *Billing Price*
3. Choose *Save*.

   Note

   This application supports the *electricity* and *gas* divisions.

4.6 Contract Account Maintenance for Payment Run

In case the REMADV IDoc generates both a grid usage billing payment advice note and an overtake and undertake quantities billing payment advice note, and the total amount of both payment advice notes is negative, we need to ensure that all open items belonging to the same REMADV (not just the PAN) are selected by the payment run and paid together in one payment.

For this to work, certain settings need to be made on all contract accounts of the suppliers: one contract account must be used for outgoing payments per supplier.

This is important if you use different contract accounts for MeMi and grid usage, or if you have merged suppliers. The details of this “paying” contract account must be entered in all other contract accounts of the same supplier in the following fields:

- Contract Accounts paid by other contract account:

1. Payer: Enter Business Partner Acting as Payer
2. Paid By: Enter Contract account used for payment transactions

The payment run should only select those open items which have been allocated during PAN processing. These are those items which now contain the payment method for negative REMADV payments. Therefore, you need to make sure that the payment run uses the same payment method and that this payment method is not maintained in the “paying” contract account.

- Contract Account for outgoing payment:

1. Outgoing Payment Methods: Leave blank

If no payment method is maintained in the contract account, the payment run will only select those open items that contain the payment method specified in the payment run.

All open items with the same payment group, paying contract account, and their own bank details will be in the same payment unit. For each payment unit, the system checks that the payment amount of the payment unit is the same as the total payment amount of the REMADV of this payment unit. In addition, it checks that the open items of all PANs of the same REMADV are contained in the payment unit. If this is not the case, an exception is created with the error information.

4.7 Price Determination for Energy Tax

To determine the energy tax price for the overtake and undertake quantities billing document, proceed as follows:

1. On the *SAP Easy Access Screen* choose *Utilities Industry → Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities → /IDXMM/PRICE - Determine Price for Energy Tax*.
2. You use this transaction to determine the price for overtake and undertake quantities billing.

   The table contains the following entries:

   1. *DV* (Division): Enter the required division category, for example gas.
   2. *Valid-from date:* Enter the date from which the energy tax price is effective
   3. *Currency*
   4. *Billing Price* for energy tax
3. Choose *Save*.

   Note

   This application supports the *electricity* and *gas* divisions.

4.8 Maintain Grid Account Numbers

To maintain your grid account numbers you can use transaction **/IDXMM/GRID_ACCOUNTS**.

Besides the grid account number, you also need to maintain the service provider ID of the Gas Settlement Coordinator (MGV) and the service provider ID of your own DSO.

This is a mandatory activity for gas.

5 Web Services

To support Web Service communication with external EDM system, two asynchronous service interfaces are defined for query and response of settlement data. Point-to-Point communication or using the SAP Process Integration platform are both possible, depending on your own IT infrastructure.

5.1 Service Enablement

The service enablement of SAP Business Suite consists of one or more of the following SAP components:

- SAP Business Suite 7

  Enterprise services are an integral part of the software components of the SAP Business Suite applications. Enterprise services are the technical interfaces to the functionality available in the business application.

- SAP NetWeaver PI 7.11 or higher

  SAP NetWeaver Process Integration (SAP NetWeaver PI) is an open integration and application platform that provides tools enabling you to set up a service-oriented architecture for business applications. You can use the platform for providing, discovering, and consuming services, integrating applications using the integration server, and managing business processes. Process integration is required in a runtime environment to consume enterprise services in a mediated scenario.

  We recommend that you use the highest version of SAP NetWeaver Process Integration (PI). For more information, see SAP Note 1515223 and SAP Note 1388258.

  > **Note**
  >
  > Starting with SAP NetWeaver Process Integration (PI) 7.3, SAP provides a new installation option Advanced Adapter Engine Extended (AEX). Since AEX is based on AS Java alone, it is easier to install and maintain as well as it needs less memory and data storage. Therefore, AEX is a cost-saving option compared to a full installation of SAP NetWeaver PI. For more information about the AEX, enter the phrase Advanced Adapter Engine Extended in the documentation of SAP NetWeaver Process Integration at http://help.sap.com/nw73 and see SAP Note 1573180.

  > **Note**
  >
  > Asynchronous services that are enabled for Web Services Reliable Messaging (WS-RM) can be called in a point-to-point communication scenario. Otherwise, asynchronous services can only be consumed in a mediated scenario.

- Services Registry

  The Services Registry is shipped with SAP NetWeaver PI and SAP NetWeaver CE starting with SAP NetWeaver PI 7.1 and SAP NetWeaver CE 7.1. The Service Registry is only required for the publication of enterprise service end-points (Web services) that have been configured and activated in the SAP Business Suite.

- SAP NetWeaver CE 7.1 or higher

The SAP NetWeaver Composition Environment (SAP NetWeaver CE) provides a robust environment for the design and implementation of composite applications.

The design time environment of SAP NetWeaver CE can be used for the model-driven design and development of composite applications based on enterprise services. SAP NetWeaver CE offers the tools and the environment necessary for running composite applications fast and efficiently in a runtime environment.

5.1.1 Installation of the Service-Oriented Architecture (SOA)

The installation of service interfaces, and therefore the service enablement, consists of one or more of the following phases:

You use the technical data section of the enterprise service documentation to identify the following data for each enterprise service:

- The software component version *XI_CNT_IDEXDE 617* with which the service was shipped
- Service interfaces:
  - Outbound interface *SettlementInformationForOvertakeAndUndertakeQuantitiesBillingQuery_Out*
  - Inbound interface *SettlementInformationForOvertakeAndUndertakeQuantitiesBillingResponse_In*

5.1.1.1 SettlementInformationForOvertakeAndUndertakeQuantitiesBillingQuery_Out

The service interface contains an operation that sends a query for the settlement amount for a specific period.

Technical Data

Entity Type	Service Interface
Namespace	http://sap.com/xi/IDXMM
Application Component	IS-U-LIB-DE-MM
Web Service Definition	Not applicable
Category	A2A
Direction	Outbound
P2P Communication Enabled	Yes

Business Context and Use

This service interface enables Web service communication with the external energy data management (EDM) system to receive settlement information.

Prerequisites

You configure the Web service properly in SOA Manager. For more information about the configuration of Web Services, see SAP Help Portal at http://help.sap.com/home under *Enterprise Management →SAP ERP → 6.0 →ABAP Workbench Tools → Web Services → SOA Manager*.

5.1.1.2 SettlementInformationForOvertakeAndUndertakeQuantitiesBillingResponse_In

The inbound service interface contains an operation that receives settlement information for a specific period.

Technical Data

Entity Type	Service Interface
Namespace	http://sap.com/xi/IDXMM
Application Component	IS-U-LIB-DE-MM
Web Service Definition	Not applicable
Category	A2A
Direction	Inbound
P2P Communication Enabled	Yes

Business Context and Use

This service interface enables Web service communication with the external energy data management system (EDM system) to receive settlement information.

Prerequisites

You configure the Web service properly in SOA Manager. For more information about the configuration of Web Services, see SAP Help Portal at http://help.sap.com/home under *Enterprise Management → SAP ERP → 6.0 →ABAP Workbench Tools → Web Services → SOA Manager*.

The Web service response message provides a new node for this purpose which you can use: *SettlementSplitItem*. You can maintain several ones for each *SettlementStatusItem*, that is, for each MeMi document.

When the system receives a response with *SettlementSplitItems,* it will check the consistency to ensure:

- There are no gaps or overlaps in the split settlement periods, they are within the overall settlement period that is provided in the *SettlementStatusItem*.
- The sum of the settlement quantities in the split items matches the settlement quantity that is provided in the *SettlementStatusItem*.
- The grid account numbers are valid as maintained in the master data table (see the previous chapter).
- The external service provider ID of the MGV that is received fits with the settlement coordinator maintained in the grid account number master table (see previous chapter).

5.1.1.3 SettlementReversalInformationForOvertakeAndUndertakeQuantitiesBilling_Out

The inbound service interface contains an operation that receives settlement information for a specific period.

Technical Data

Entity Type	Service Interface
Namespace	http://sap.com/xi/IDXMM
Application Component	IS-U-LIB-DE-MM
Web Service Definition	Not applicable
Category	A2A
Direction	Outbound
P2P Communication Enabled	Yes

Business Context and Use

This service interface enables Web service communication with the reversal information when an overtake and undertake quantities billing process is reversed.

Prerequisites

You configure the Web service correctly in SOA Manager. For more information about the configuration of Web Services, see SAP Help Portal at http://help.sap.com/home under *Enterprise Management → SAP ERP → 6.0 → ABAP Workbench Tools → Web Services → SOA Manager*.

6 SAP Business Information Warehouse

6.1 Introduction

The MeMi solution supports the extraction of data to the SAP Business Information Warehouse (BW) system for reporting and other requirements. The MeMi solution has defined a BW extractor which is used to extract data from the source system (MeMi) to an SAP BW system.

The extractor supports a full and a delta extraction mode. The delta extraction mode is realized by using the delta queue mechanism. All changes of the MeMi document are considered and made available in BW.

Please note, that **NO** BW Content for the MeMi extractor is shipped with the MeMi solution!

6.1.1 Name of BW Extractor and Extraction Structure

There are two data sources for MeMi:

- */IDXMM/0UC_MEMIDOC* MeMi Documents
- */IDXMM/0UC_MGVDETIF* MGV Detail Information

They can be found under node *0IS_UC_IDE*. The extraction structure */IDXMM/SBIW_MEMIDOC* contains all available MeMi attributes of the table */IDXMM/MEMIDOC* including the customer includes. The extraction structure */IDXMM/SBIW_MGV* contains all available fields of the table */IDXMM/MGV_DETIF* including the customer includes.

6.1.2 Usage of the MeMi Extractor in BW

Due to the namespace of the MeMi BW extractor (/IDXMM/0UC_MEMIDOC), you must define the repository namespace */IDXMM/* with the namespace role *C* via transaction **SM30** (View V_TRNSPACE) in BW. Furthermore, the namespace */IDXMM/* must be assigned to a BW namespace object (such as /BIC/) using transaction **SM30** (RSNSPACE) in BW.

7 Solution Manager Information

7.1 Project Administration

7.1.1 System and Application Landscape

The following systems are the basis for **overtake and undertake quantities billing for German energy utilities**:

Logical Component (Proposed)	Product (Main Instance)	Product Version
Intercompany Data Exchange Common Layer for Germany	IDXGC	IDXGC 100
Intercompany Data Exchange for German Gas Utilities and/or SAP Intercompany Data Exchange for German Electric Utilities	IDEX	IDEX 617

7.1.2 Interface Documentation

The following interfaces are used for **overtake and undertake quantities billing for German energy utilities:**

Interface Scenario/Interface (Proposed)	Sending/Receiving Logical Component	Technology	Type
SettlementInformationForOvertakeAndUndertakeQuantitiesBillingResponse_In	Mass Process Document ID 4021 Inbound	Webservice	Asynchronous
SettlementInformationForOvertakeAndUndertakeQuantitiesBillingQuery_Out	Mass Process Document ID 4021 Outbound	Webservice	Asynchronous
SettlementReversalInformationForOvertakeAndUndertakeQuantitiesBilling_Out	Mass Reversal Process Document ID 4022 Outbound	Webservice	Asynchronous

- Business Scenario: Overtake and undertake quantities billing for German energy utilities
  - Business Process: Overtake and undertake quantities billing

> **Note**
>
> For more information about business scenario and process, see SAP Support Portal at support.sap.com under *Download Software → Installations and Upgrades → A-Z Alphabetical List of my Products → Q → QUANTITIES BILL. GER ENRG → QUANTITIES BILL. GER ENRG 1.0 →Technical Documentation → Application Help*.

Configuration Content

Enter the following information in your Solution Manager system using transaction **SOLAR02**.

Information Type/Tab	Information Entered	Remarks
Configuration Activities (optional)/Configuration Tab	The configuration is included in Business Configuration sets (BC sets): **/MEMI/CLNT_DEP_00** and **/MEMI/CI_00** For SP01, please see BC sets: **/IDXMM/CLNT_DEP_01** and **/IDXMM/CI_01**. To configure application-specific Customizing settings, see Customizing for *SAP Utilities* and choose *Intercompany Data Exchange → Overtake and Undertake Quantities Billing for German Energy Utilities*.	**/MEMI/CI_00** and /IDXMM/CI_01 is only a possible example for SAP Convergent Invoicing. Please check the Customizing before you activate the BC set

- Business Process: Receive Allocation Subscription

  The process is automatically triggered on the distributor side when an allocation subscription request is received from the supplier. The distributor performs the necessary checks before either accepting the request or sending a rejection using EDI message ORDRSP.

8 Security Information

Overtake and undertake quantities billing for German energy utilities is based on SAP for Utilities. Therefore, the related guides also apply to this application.

For more information about specific security-related topics, see the following resources on SAP Service Marketplace or SDN:

Topic	Quick Link on SAP Service Marketplace or SDN
Security	http://service.sap.com/security http://sdn.sap.com/irj/sdn/security
Platforms	http://service.sap.com/platforms
Infrastructure	http://service.sap.com/securityguide → Infrastructure Security
Related SAP Notes	http://service.sap.com/notes http://service.sap.com/securitynotes
SAP NetWeaver	http://sdn.sap.com/irj/sdn/netweaver
SAP for Utilities	http://service.sap.com/security → Security in Detail → Industry Solutions → SAP for Utilities

For a complete list of available SAP Security Guides, see SAP Service Marketplace at http://service.sap.com/securityguide.

8.1 Authorization Concept

8.1.1 Authorization Objects

The following table lists the security-relevant authorization objects that are used by overtake and undertake quantities billing for German energy utilities.

Authorization Object	Field	Value	Description
/IDXMM/DOC	ISU_ACTIVT		Activity regarding authorization in IS-U
/IDXMM/DOC	ISU_SPTYP		Division category

/IDXMM/DOC	BUKRS		Company Code

During invoicing of MeMi documents, the system creates consumption items in SAP Convergent Invoicing to support the MeMi billing for the gas settlement coordinator (MGV). To create consumption items, the following authorization object is needed:

Authorization Object	Field	Value	Description
F_KKBIXCIT	ACTVT		Activity
F_KKBIXCIT	CITCAT		Consumption Item Class

For creating and reversing billable items and subsequent processes in SAP Convergent Invoicing, you can find the authorization objects you require in the documentation for Convergent Invoicing authorizations.

9 Operations Information

Designing, implementing, and running your SAP applications at peak performance 24 hours a day is vital for your business success. This chapter contains important information on how to smoothly operate **overtake and undertake quantities billing for German energy utilities 1.0**. The major topics are related to the billing process of overtake and undertake quantities.

This chapter describes the tasks to execute and the tools to use.

Overtake and undertake quantities billing for German energy utilities is based on IS-U component of SAP ERP7 for SAP ERP 6.0.Therefore, the general operations information that is covered in the related operations guides also applies to **overtake and undertake quantities billing for German energy utilities**.

For more information about related guides, see the following resources on SAP Service Marketplace:

Resource	Quick Link on SAP Service Marketplace
EHP 7 for SAP ERP 6.0 - Operations Guide	http://service.sap.com/instguides →*SAP Business Suite Applications* →*SAP ERP* →*SAP enhancement packages for SAP ERP 6.0* →*SAP enhancement package 7 for SAP ERP 6.0*.

For a complete list of available SAP Operations Guides, see SAP Service Marketplace at http://service.sap.com/instguides.

The operations information specific to **overtake and undertake quantities billing for German energy utilities** is described in the following chapters. The following areas are covered:

9.1.1 Alert Monitoring

You need to monitor in a timely manner whether there are any open cases of Business Process Exception Management (BPEM cases) which indicate that manual action is required.

9.1.2 Interface Monitoring

To monitor the communication with an external EDM system, SOA Runtime tools are recommended. Use transaction **SRT_TOOLS**.

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