

# **SAP enhancement package 6 for SAP ERP 6.0**

## **Release Notes**



---

Copyright

Copyright(c) 2011 SAP AG. All rights reserved.

Neither this document nor any part of it may be copied or reproduced in any form or by any means or translated into another language, without the prior consent of SAP AG. The information contained in this document is subject to change without notice.

SAP is a registered trademark of SAP AG.

All other products which are mentioned in this documentation are registered or not registered trademarks of their respective companies.

1	IS-U SAP Utilities .....	5
1.1	Enterprise Services for SAP Industry Solutions Utilities (New) .....	5
1.2	ISU_MCOMM_3: BF Utilities, Market Communication (New) .....	10
1.3	ISU_QD_1: BF Utilities, Quantity Determination (New) .....	11
1.4	ISU_LOC_CI_3: Localization, Customer Feedback (New) .....	12
1.5	IS-U-DM Device Management .....	13
1.5.1	ISU_AMI_3: Enter/Display Period Consumption for Interval Meters (New) .....	13
1.5.2	IS-U-DM-TD Technical Device and Connection Data .....	13
1.5.2.1	IS-U-DM-TD-DE Device .....	13
1.5.3	IS-U-DM-MR Meter Reading .....	14
1.5.3.1	Quantity Determination During Meter Reading (New) .....	14
1.6	IS-U-EDM Energy Data Management .....	18
1.6.1	ISU_LOC_CI_3: Define Reasons for Settlement Unit Assignment (New) .....	18
1.6.2	ISU_AMI_3: Utilities, Advanced Metering Infrastructure 3 (New) .....	18
1.7	IS-U-BI Contract Billing .....	20
1.7.1	ISU_AMI_3: Define Consumption Patterns (New) .....	20
1.7.2	ISU_AMI_3: Simulation of Time-of-Use Billing for Interval Meters (New) .....	20
1.8	IS-U-CA Contract Accounts Receivable and Payable .....	22
1.8.1	Account Balance (New) .....	22
1.8.2	Archiving in Contract Accounts Receivable and Payable (New) .....	22
1.8.3	Brazil: Boletto (New) .....	22
1.8.4	Posting Area Views (New) .....	23
1.8.5	Collections Management (New) .....	23
1.8.6	Integration with SAP Credit Management (New) .....	24
1.8.7	Master Data Objects: Provider Contract, Product (New) .....	25
1.8.8	Deferred Revenues (New) .....	27
1.8.9	Integration with SAP Dispute Management (New) .....	27
1.8.10	New Points of Delivery (New) .....	28
1.8.11	Generation of BRF Functions for Events (New) .....	28
1.8.12	Integration with SAP Convergent Charging (SAP CC) (New) .....	29
1.8.13	Integration with Customer Relationship Management (New) .....	29
1.8.14	Distribution of Master Data (New) .....	30
1.8.15	Prepaid Processing (New) .....	31
1.8.16	Requests (New) .....	43
1.8.17	Tax Posting and Tax Report (New) .....	43
1.8.18	Enhanced Withholding Tax Calculation (New) .....	44

1.8.19	Write-Offs (New) .....	45
1.8.20	Archiving in Billing (New) .....	46
1.8.21	Displaying Billable Items (New) .....	47
1.8.22	Reversal of Billable Items (New).....	47
1.8.23	Managing Billing Periods (New).....	48
1.8.24	Billing Integration for DSM in Contract Accounts Receivable and Payable (New) .....	48
1.8.25	ISU_INV_PP_2: BF Utilities, Billing in Contract Accounts Receivable and Payable 1 (New) 49	
1.8.26	ISU_CA_2: BF Utilities, Contract Accounts Receivable and Payable 2 (New).....	50
1.9	IS-U-WA Waste Management .....	52
1.9.1	ISU_WASTE_3: Index Pricing (new) .....	52
1.9.2	ISU_WASTE_3: Intercompany activities allocation in the CO-Cockpit(new).....	52
1.9.3	ISU_WASTE_3: Business Function Waste & Recycling 3 (new) .....	53
1.9.4	ISU_WASTE_3: Default values weighbill (new) .....	54
1.9.5	ISU_WASTE_3: Subcontracting (new) .....	54
1.9.6	IS-U-WA-PC Processing .....	56
1.9.6.1	ISU_WASTE_3: Subcontracting (new) .....	56
1.10	IS-U-IDE Intercompany Data Exchange .....	59
1.10.1	ISU_AMI_3: Connection of Monitoring to the Upload of Profiles (New).....	59
1.10.2	ISU_CA_2: BPEM Integration for Bill and Payment Advice Note Processing (New) .....	60
1.10.3	ISU_MCOMM_3: Basic Process for Sending / Receiving Profile Values.....	60
1.10.4	ISU_MCOMM_3: Mass Activity: Generate/Execute Data Exchange Tasks(New).....	61

# 1 IS-U SAP Utilities

## 1.1 Enterprise Services for SAP Industry Solutions Utilities (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), new service interfaces and service operations are available for the industry-specific component *Utilities Industry*.

#### Process Component Utilities Time Series Processing

- Business Object Utilities Time Series (new services)
  - Service Interface Notify Utilities Time Series Out
    - \* Service-Operation Notify of Utilities Time Series Item as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkNotification\_Out)
    - Asynchronous bulk-enabled service operation that sends values for time series (profile data). Sending data from IS-U to the external system is triggered by a mass activity.
    - The BAdI ISU\_SE\_TSITEMBLKNOO\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.
  - Service-Interface Notify Utilities Time Series In
    - \* Service Operation Change based on Utilities Time Series Item Notification as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkNotification\_In)
    - Asynchronous bulk-enabled service operation that receives time series (profile data).
    - The BAdI ISU\_SE\_TSITEMBLKNOI\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic used to receive application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.
  - Service Interface Utilities Time Series In
    - \* Service-Operation Create Utilities Time Series Item as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkCreateRequest\_In)
    - Asynchronous bulk-enabled service operation that an external system (such as MDUS) can use to load time series (profile data) to your SAP for Utilities system.
    - The BAdI SU\_SE\_TSITEMCRTBLKRCI\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for inbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.

In the BAdI ISU\_SE\_TSITEMCRTBLKRCI\_ASYN method INBOUND\_PROCESSING, you can define the AMI monitoring response:

- Log all AMI messages
- Log all AMI error messages
- Do not log AMI messages.

\* Service-Operation Change Utilities Time Series Item as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkChangeRequest\_In)

Asynchronous bulk-enabled service operation that an external system (such as MDUS) can use to load and change time series (profile data) to your SAP for Utilities system.

The BAdI ISU\_SE\_TSITEMCHGBLKRCI\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for inbound sending of

application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.

In the BAdI ISU\_SE\_TSITEMCHGBLKRCI\_ASYN method INBOUND\_PROCESSING, you can define the AMI monitoring response:

- Log all AMI messages
- Log all AMI error messages
- Do not log AMI messages.

- Service Interface Utilities Time Series Out
  - \* Service-Operation Confirm Utilities Time Series Item Creation as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkCreateConfirmation\_Out)  
Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective time series (profile data). This confirmation is supplied for each individual time series uploaded.  
The BAdI ISU\_SE\_TSITEMCRTBLKRCI\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.

- \* Service-Operation Confirm Utilities Time Series Item Change as Bulk (new)  
(UtilitiesTimeSeriesERPItemBulkChangeConfirmation\_Out)

Asynchronous bulk-enabled service operation that supplies bulk confirmations by changing the respective time series (profile data). This confirmation is supplied for each individual time series uploaded.

The BAdI ISU\_SE\_TSITEMCHGBLKRCI\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_TIMESERS.

Forward Error Handling, which you activate by implementing the BAdI ISU\_SE\_FEH\_EXCEPTION, is available for the following service operations :

*UtilitiesTimeSeriesERPItemBulkCreateRequest\_In*

*UtilitiesTimeSeriesERPItemBulkChangeRequest\_In* and

### **Process Component Utilities Device Management**

- Business Object Utilities Device (new services)
  - Service Interface Utilities Device Out
    - \* Service Operation Request Utilities Device Smart Meter Change as Bulk (new)  
(UtilitiesDeviceERPSmartMeterBulkChangeRequest\_Out)  
Asynchronous bulk-enabled service operation that sends changes of device data. Sending from SAP for Utilities to the external system is triggered using transaction EG31.  
The BAdI ISU\_SE\_DEVICSMCHGBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.
    - \* Service Operation Request Utilities Device Smart Meter Register Change as Bulk (new)  
(UtilitiesDeviceERPSmartMeterRegisterBulkChangeRequest\_Out)  
  
Asynchronous bulk-enabled service operation that sends changes of register data (register factor, interval length). Sending from SAP for Utilities to the external system is triggered using transactions EG31, EG32 and EG33.  
The BAdI ISU\_SE\_DEVSMREGCHGBLKRCO\_ASYNC is available for this service

operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

\* Service Operation Request Utilities Device Smart Meter Register Creation as Bulk (new)  
(UtilitiesDeviceERPSmartMeterRegisterBulkCreateRequest\_Out)

Asynchronous bulk-enabled service operation that sends created register device data. Sending from SAP for Utilities to the external system is triggered using transaction EG34. The BAdI ISU\_SE\_DEVSMREGCRTBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

\* Service-Operation Notify of Utilities Device Smart Meter Location as Bulk  
(UtilitiesDeviceERPSmartMeterLocationBulkNotification\_Out)

Asynchronous bulk-enabled service operation that sends changes of device data. Sending from SAP for Utilities to the external system is triggered using transactions EG31, EG33, EG36, EG32, EG50, EG51, EG52, EG53, IQ04 and MB1C. The BAdI ISU\_SE\_DEVICSMLOCBLKNOO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

#### -Service Interface Utilities Device In

\* Service Operation Change based on Utilities Device Smart Meter Change Confirmation as Bulk (new)  
(UtilitiesDeviceERPSmartMeterBulkChangeConfirmation\_In)

Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective changes of device data. This confirmation is supplied for each individual change of device data.

The BAdI ISU\_SE\_DEVICSMCHGBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

\* Service Operation Change based on Utilities Device Smart Meter Register Change Confirmation as Bulk (new)  
(UtilitiesDeviceERPSmartMeterRegisterBulkChangeConfirmation\_In)

Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective changes of register device data. This confirmation is supplied for each individual change of register device data.

The BAdI ISU\_SE\_DEVSMREGCHGBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

\* Service-Operation Change based on Device Smart Meter Register Creation Confirmation as Bulk (new)  
(UtilitiesDeviceERPSmartMeterRegisterBulkCreateConfirmation\_In)

Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective created register device data. This confirmation is supplied for each individual creation of register device data.

The BAdI ISU\_SE\_DEVSMREGCRTBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

\* Service-Operation Change based on Utilities Device Smart Meter Registered Notification as Bulk  
(UtilitiesDeviceERPSmartMeterRegisteredBulkNotification\_In )

Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective changes of device data. This confirmation is supplied for each individual change of device data.

The BAdI ISU\_SE\_DEVICEMRGDBLKNOI\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.

Forward Error Handling, which you activate by implementing the BAdI ISU\_SE\_FEH\_EXCEPTION, is available for the following service operations :

*UtilitiesDeviceERPSmartMeterBulkChangeConfirmation\_In*

*UtilitiesDeviceERPSmartMeterRegisterBulkChangeConfirmation\_In*

*UtilitiesDeviceERPSmartMeterRegisterBulkCreateConfirmation\_In*

*UtilitiesDeviceERPSmartMeterRegisteredBulkNotification\_In*

### **Process Component Measurement Processing**

- Business Object Utilities Measurement Task (new services)
  - Service-Interface Utilities Measurement Task Out
    - \* Service Operation Request Smart Meter Utilities Measurement Task Change as Bulk (new)(SmartMeterUtilitiesMeasurementTaskERPBulkChangeRequest\_Out)  
Asynchronous bulk-enabled service operation that sends changes of meter reading data. Sending from SAP for Utilities to the external system is triggered using transaction EG42. The BAdI ISU\_SE\_MTSMCHGBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_MEASTASK.
  - Service Interface Utilities Measurement Task In
    - \* Service Operation Change based on Smart Meter Measurement Task Change Confirmation as Bulk (new)  
(SmartMeterUtilitiesMeasurementTaskERPBulkChangeConfirmation\_In)  
Asynchronous bulk-enabled service operation that supplies bulk confirmations by uploading the respective changes of meter reading data. This confirmation is supplied for each individual change of meter reading data.  
The BAdI ISU\_SE\_MTSMCHGBLKRCO\_ASYNC is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of values. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_DEVICE.
  - Service Interface Notify Utilities Measurement Task Out
    - \* Service Operation Notify of Smart Meter Measurement Task Point Of Delivery Assigned as Bulk (new)  
(SmartMeterUtilitiesMeasurementTaskERPPointOfDeliveryBulkAssignedNotification\_Out)

Asynchronous bulk-enabled service operation that sends messages as soon as a point of delivery has been newly allocated to a measurement task. Sending from SAP for Utilities to the external system is triggered using transactions EG30, EG31, EG32, EG34, EG35 and EG42. The BAdI ISU\_SE\_MTSMPDDBLKNOO\_ASYN is available for this service operation. This BAdI supports the implementation of a customer-specific logic for outbound sending of application data. This BAdI is found in the enhancement spot ISU\_SPOT\_SE\_MEASTASK.

Forward Error Handling, which you activate by implementing the BAdI ISU\_SE\_FEH\_EXCEPTION, is available for the following service operations :

*SmartMeterUtilitiesMeasurementTaskERPBulkChangeConfirmation\_In*

## 1.2 ISU\_MCOMM\_3: BF Utilities, Market Communication (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), the business function *Utilities, Market Communication 3* (ISU\_MCOMM\_3) is available. You can use this mass activity framework provided by this business function to efficiently send large volumes of profile data (time series) to other market participants.

This business function provides you with the following functions:

- **Runtime-Optimized Generation and Execution of Data Exchange Tasks**  
You can use the two new transactions EDATEXGENMA and EDATEXEXECUTEMA, which are based on the FI-CA mass activity framework, to do the following:
  - Generate data exchange tasks in parallel
  - Execute data exchange tasks in parallel
  - Bundle data exchange tasks during execution to reduce the time needed to send the datapackage
- **Runtime-optimized sending and receiving of profiles**  
You can process data exchange tasks using enterprise services, for example to send or receive profiles (time series) from market partners.
  - The new basic process EXPPROFBLK supports the sending of profile values with and without a day offset using the bulk service UtilitiesTimeSeriesERPItemBulkNotification\_Out that is also available with this release.
  - The new basic process IMPPROFBLK supports the receiving of profile values using the bulk service UtilitiesTimeSeriesERPItemBulkNotification\_In that is also available with this release.

For more information, see the following release notes:

- Mass Activity: Generate/Execute Data Exchange Tasks (New)
- Enterprise Services for SAP Industry Solutions Utilities (New)
- Basic Process EXPPROFBLK for Sending Profile Values (New)
- Connection of Monitoring to the Upload of Profiles (New)

### Effects on Customizing

To use this business function, you first have to activate the following business functions:

- Flexibilization of IDE 2 (ISU\_MCOMM\_2)
- Utilities: Contract Accounts Receivable and Payable (ISU\_CA\_2)

To use the new basic processes, you must define the corresponding data exchange processes in Customizing for *SAP Utilities* under *Intercompany Data Exchange -> Data Exchange Processes -> Define Data Exchange Processes*.

### See also

For more information see SAP Library for SAP ERP under *Business Functions -> SAP Enhancement Package 6 for SAP ERP 6.0 -> Industries in SAP ERP -> SAP Utilities -> Intercompany Data Exchange*.

## 1.3 ISU\_QD\_1: BF Utilities, Quantity Determination (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), the business function *Utilities, Quantity Determination* is available. You can use this business function to perform quantity determination during meter reading entry. The determined quantities (for example, consumption data) are saved and can be used as a basis for subsequent processes such as billing.

This business function modifies the infrastructure so that the utilities solution can be used in deregulated energy markets. Meter reading data processing and billing are decoupled with regard to quantity and consumption determination. This means that distributors in deregulated energy markets can perform quantity determination independently of consumption billing.

The functions provided by this business function cover the legal requirements that apply here. These functions can however also be used by utility companies working in regulated energy markets if they require consumption determination prior to billing.

For more information, see the following release note:

*Quantity Determination During Meter Reading*

### Effects on Customizing

Activating the business function does not also activate the functions described here. To use these functions, you must specify the quantity determination procedure *Quantity Determination During Meter Reading* in Customizing:

*SAP Utilities -> Basic Settings/Enterprise Structure -> Define Quantity Determination Procedure*

### See also

SAP Library for *SAP ERP* under *SAP ERP Enhancement Packages -> ERP Central Component Enhancement Package 6 -> Business Functions -> Industry Business Function Sets -> Utilities -> Utilities, Quantity Determination*

## 1.4 ISU\_LOC\_CI\_3: Localization, Customer Feedback (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, the business function *Localization, Customer Feedback* (ISU\_LOC\_CI\_3) is available. With this business function, you can use the following features in the *SAP Utilities* (SAP IS-U) component for India:

## 1.5 IS-U-DM Device Management

### 1.5.1 ISU\_AMI\_3: Enter/Display Period Consumption for Interval Meters (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), business function *Utilities, Advanced Metering Infrastructure 3* (ISU\_AMI\_3), you can enter and display the period consumption for interval meters.

The system needs the period consumption of the interval meter for billing simulation using a TOU interface. For more information, see release note *Simulation of Time-of-Use Billing for Interval Meters* (New).

You can enter and display the period consumption using the following transactions:

EC70: Accelerated Entry for Move-In / Move-Out / Move-In/Out

EG33: Technical Installation

EG34: Billing-Related Installation

EG31: Full Installation

EG30: Full Replacement

EG70: Change Rate Data

EG71: Display Rate Data

EC30: Maintain Rate Data

EC31: Display Rate Data

EL56: Maintain Period Consumption

EL57: Display Period Consumption

EC70: Accelerated Entry for Move-In / Move-Out / Move-In/Out

Note that maintaining period consumption for interval meters is not mandatory even if rate data has been entered.

Note also that the unit of measurement for period consumption for an interval meter must be identical to the unit of measurement for the register.

### 1.5.2 IS-U-DM-TD Technical Device and Connection Data

#### 1.5.2.1 IS-U-DM-TD-DE Device

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), business function *Utilities, Advanced Metering Infrastructure 3* (ISU\_AMI\_3), you can use the following additional selection criteria during the selection of serial numbers for devices:

-Advanced Metering System

-Advanced Meter Capability Group (AMCG)

You can display these fields in the results list of the report by adjusting the layout accordingly.

## 1.5.3 IS-U-DM-MR Meter Reading

### 1.5.3.1 *Quantity Determination During Meter Reading (New)*

#### **Use**

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), business function *Quantity Determination* (ISU\_QD\_1), you can execute quantity determination at the same time as entering meter readings. The determined quantities (for example, consumption data) are saved and can be used as a basis for subsequent processes such as billing.

You define quantity determination procedures in Customizing for each division. During the initial changeover to this quantity determination procedure, as well as in day-to-day use during meter reading entry or change, the quantity determination procedure is defined across installations at register level. As soon as a meter reading is entered or changed, the system calculates the respective consumption quantity, saves it in the database, and updates the quantity determination information. The system also determines the conversion history and saves this along with the consumption.

#### **Visualization of Quantity Determination**

##### **Meter Reading**

The following information is displayed on the user interfaces for meter reading data processing:

- Quantity determination information  
Shows whether the displayed consumption value is a final consumption or a provisional consumption.
- Quantity determination status

##### **Device Management**

You can display the quantity determination procedure using the transactions *Change Rate Data* (EG70) and *Display Rate Data* (EG71).

##### **Customer Service Processes**

In the customer service processes (for example, move-in and move-out), the following information is displayed on the user interfaces for meter reading data processing:

- Consumption
- Quantity determination information
- Quantity determination status

#### **Changeover of Quantity Determination Procedure**

To change over to the new quantity determination procedure *Quantity Determination During Meter Reading*, proceed as follows:

1. In Customizing, define the quantity determination procedure for a key date for each division. See the Customizing section.

##### **Caution**

- **Register relationships** for the following register relationship types in the gas division cannot be used in conjunction with the quantity determination procedure *Quantity Determination During Meter Reading*:
  - Register relationship ZZ
  - Register relationship ZEFor divisions that use these types of register relationship, you **cannot** change over to the quantity determination procedure *Quantity Determination During Meter Reading* **without consulting**

## SAP.

- **Volume correction factor procedures** with the following special procedures in the gas division cannot be used in conjunction with the quantity determination procedure *Quantity Determination During Meter Reading*:
    - 05 # Volume correction factor relationship
    - 06 # Volume correction factor calculationFor divisions that use these types of special procedure, you **cannot** change over to the quantity determination procedure *Quantity Determination During Meter Reading* **without consulting SAP**.
2. For existing installations, use a report to change over the quantity determination procedure defined in Customizing at register level.
- If a device is installed in multiple installations, the leading installation determines the quantity determination procedure. To determine the leading installation, implement method *Determine Which Installation is the Leading Installation* (GET\_LEADING\_INSTALLATION) of business add-in Quantity Determination Procedure (ISU\_QD\_PROC).
- To change the quantity determination procedure, you can use the report Define Quantity Determination Procedure (REQD\_SET\_QDPROC\_TO\_REGISTER). This report changes the quantity determination procedure on the key date defined in Customizing. If you want to execute a rolling changeover instead, implement method *Change From-Date of Quantity Determination Procedure* (CHANGE\_VALID\_FROM\_EADZ\_QD) of BAi Quantity Determination Procedure (ISU\_QD\_PROC).
- Alternatively, you can use the report as a template to create a company-specific changeover report in your project.

## Comments

- **Dynamic period control** cannot be used in conjunction with the quantity determination procedure *Quantity Determination During Meter Reading*. If you attempt to change over to quantity determination procedure *Quantity Determination During Meter Reading* for installations with the DPC rate category, a check in report *Define Quantity Determination Procedure* and in the technical transactions separates these installations. Also note that for registers for which the quantity determination procedure *Quantity Determination Procedure During Meter Reading* is defined, you cannot subsequently enter a DPC rate category in the installation.
- **Assessing** cannot be used in conjunction with the quantity determination procedure *Quantity Determination During Meter Reading*. If you are using this quantity determination procedure, the result *Assessed* is not triggered during the meter reading.
- For **demand registers**, quantity determination generally takes place during billing. When attempting to change over installations that contain demand registers to the quantity determination procedure *Quantity Determination During Meter Reading*, the quantity determination procedure *Quantity Determination During Billing* is defined automatically for demand registers.
- **Japanese billing periods** cannot be used in conjunction with the quantity determination procedure *Quantity Determination During Meter Reading*. If you are using Japanese billing periods, you cannot use the quantity determination procedure *Quantity Determination During Meter Reading*.

## Defining the Quantity Determination Procedure in Technical Transactions

In day-to-day business, the quantity determination procedure is defined or changed automatically at register level in the following transactions:

- EG34: Billing-Related Installation
- EG31: Full Installation
- EG30: Full Replacement
- EG32: Full Removal
- EG35: Billing-Related Removal
- EG42: Device Modification
- EG60: Change Logical Register Number

If a device is installed in multiple installations, the leading installation determines the quantity determination procedure. To determine the leading installation, implement method *Determine Which*

*Installation is the Leading Installation* (GET\_LEADING\_INSTALLATION) of business add-in Quantity Determination Procedure (ISU\_QD\_PROC).

If you want to use a different validity date for the quantity determination procedure than the one defined in Customizing, implement methods *Change From-Date of Quantity Determination Procedure* (CHANGE\_VALID\_FROM\_EADZ\_QD and CHANGE\_VALID\_FROM\_EZWG\_QD) of BAaI Quantity Determination Procedure (ISU\_QD\_PROC).

## **Quantity Determination Trigger for Meter Reading Results Without Final Quantity Determination**

If a final quantity determination is not possible for certain meter reading results, the system automatically creates *quantity determination triggers*. Reasons for creating quantity determination triggers include missing gas data or previous meter readings are not unique, for example. A quantity determination trigger identifies a meter reading result without a final quantity determination and shows that quantity determination calculation has to be executed again for a data record in order to get the final results.

You can process these quantity determination triggers as part of single processing or in a mass activity:

- Single processing  
Transaction *Monitor Meter Reading Data* (EL31)  
SAP menu under *Utilities Industry -> Device Management -> Meter Reading -> Monitoring*
- Mass activity  
Transaction *Process Quantity Determination Trigger* (EQDTRIGGERMA)  
SAP menu under *Utilities Industry -> Device Management -> Meter Reading -> Parallel Processing*

## **Extrapolation**

If quantity determination takes place during meter reading, extrapolation is based on the quantities that have been saved.

Extrapolation is used in the following processes:

- Estimation of meter reading results
- Validation of meter reading results
- Billing simulation
- Budget billing plan creation
- Unbilled revenue reporting

## **Billing**

You can generally execute utilities billing using the quantity determination procedure *Quantity Determination During Meter Reading* without making any additional adjustments. The quantities determined during meter reading are used in billing.

When displaying a billing document for a billed period, the system automatically recognizes the quantity determination procedure being used from the device information.

The new internal document line item type *IQTGRP* is available for grouping together prorated periods during billing. It is primarily used to create an information line for time slices for which the meter readings and quantities have already been determined during meter reading. As opposed to the quantity determination procedure *Quantity Determination During Billing*, if you use the new quantity determination procedure (if the price or the factors change, for example), proration meter readings are not longer determined during billing. The information lines can be used as a record of meter reading in the bill form.

The sample application form IS\_U\_BILL\_PDF uses these document line items to display consumption values and meter readings transparently in two separate blocks.

If you do not adjust your previous application form accordingly, we recommend that you suppress the bill print document line items with the new document line item type *IQTGRP* on your company-specific form

to avoid having redundant information on the bill. You can do this using a user exit for form level DOC\_ITEM, or using the interface for the SmartForm or PDF-based forms.

### **Effects on Customizing**

Determine quantity determination procedure for each division:

Customizing for SAP Utilities under *Basic Settings/Enterprise Structure -> Define Quantity Determination Procedure*

### **See also**

SAP Library under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities -> Business Process Oriented Documentation -> Measurement Data Management -> Quantity Determination.*

## 1.6 IS-U-EDM Energy Data Management

### 1.6.1 ISU\_LOC\_CI\_3: Define Reasons for Settlement Unit Assignment (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), business function **Localization, Cont. Improvements** (ISU\_LOC\_CI\_3), you can define reasons for allocating the current settlement unit to a higher-level settlement unit.

This enables you to implement different algorithms in the settlement procedure for data aggregation according to the semantic logic of a settlement unit hierarchy.

#### Effects on Customizing

You define reasons for settlement unit allocation in Customizing for *SAP Utilities* under *Energy Data Management -> Settlement-> Define Reasons for Settlement Unit Allocation*.

#### See also

For more information, see SAP Library for *SAP Utilities* under *Energy Data Management* or SAP Help Portal (<http://help.sap.com>) under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP for Utilities -> Energy Data Management -> Settlement*.

### 1.6.2 ISU\_AMI\_3: Utilities, Advanced Metering Infrastructure 3 (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), the business function **Utilities, Advanced Metering Infrastructure 3** (ISU\_AMI\_3) is available. You can use this business function to activate the following functions with regard to an advanced metering infrastructure:

- **Enterprise Services for Energy Data Management Profiles**  
You can use the new enterprise services for Energy Data Management (EDM) profiles
  - UtilitiesTimeSeriesERPItemBulkCreateRequest\_In and
  - UtilitiesTimeSeriesERPItemBulkChangeRequest\_Into upload high volumes of interval data (utilities time series) from third party applications such as an MDUS system to SAP for Utilities. You can use the AMI monitoring functions, which were implemented with EhP5, to monitor the upload.
  
- **Simulation of Time-of-Use Billing for Mass Activities**  
As an alternative to the RTP interface, you can also use the time-of-use interface (TOU interface) to bill measured consumption profiles. In addition to the simulation of billing using existing billing orders, you can now also carry out simulation for time-of-use rates - for example, when creating budget billing plans, for uninvoiced revenues, or when billing without a billing order.
  
- **Enter and Display Period Consumption for Interval Meters**  
You can now enter and display period consumption for interval meters using the

- ISU\_AMI\_3: Simulation of Time-of-Use Billing for Interval Meters
- ISU\_AMI\_3: Enter and Display Period Consumption for Interval Meters (New)
- ISU\_AMI\_3: Define Consumption Patterns (New)
- ISU\_AMI\_3: New AMI Fields for Serial Number Selection (New)

### **Effects on Customizing**

To use this business function, you first have to activate the following business functions:

- Advanced Metering Infrastructure 2 (ISU\_AMI\_2)
- Utilities: Contract Accounts Receivable and Payable (ISU\_CA\_2)

You can find the Customizing activities for this business function under *SAP Utilities -> Advanced Metering Infrastructure*.

### **See also**

For more information see SAP Library for SAP ERP under *Business Functions -> SAP Enhancement Package 6 for SAP ERP 6.0 -> Industries in SAP ERP -> SAP Utilities -> Advanced Metering Infrastructure*.

## 1.7 IS-U-BI Contract Billing

### 1.7.1 ISU\_AMI\_3: Define Consumption Patterns (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), Business Function *Utilities, Advanced Metering Infrastructure 3* (ISU\_AMI\_3), you can use time-of-use billing in Customizing to define entries for the consumption patterns of customers.

Consumption patterns are used to categorize customer profiles into different templates, which the system uses during simulation.

Once the values have been defined in Customizing, you can select your customers' consumption patterns in the time-of-use interface.

You have to allocate a synthetic profile to each consumption pattern in the respective production system. The profile can then be used to simulate time-of-use billing. You assign a consumption pattern to a synthetic profile on the SAP Easy Access screen for the respective system under *SAP menu -> Utilities Industry -> Billing -> Master Data -> AMI: Time-Of-Use Interface -> Change Allocation of Consumption Pattern to Profile*.

#### Effects on Customizing

You define entries for consumption patterns in *Customizing for SAP Utilities -> Contract Billing -> Billing Master Data -> AMI: Time-of-Use Interface -> Define Consumption Pattern*.

#### See also

For more information, see the documentation for the Customizing activity Define Consumption Patterns mentioned above, and the documentation for SAP Utilities in SAP Library under Advanced Metering Infrastructure, or in SAP Help Portal (<http://help.sap.com>) under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities -> Advanced Metering Infrastructure*.

### 1.7.2 ISU\_AMI\_3: Simulation of Time-of-Use Billing for Interval Meters (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), Business Function *Advanced Metering Infrastructure 3* (ISU\_AMI\_3), during billing of profile values in SAP EDM, you can use the simulation mode in the time-of-use interface to simulate billing of interval meters.

The following forms of simulation are supported:

- Billing simulation even without a billable billing order
- Unbilled revenue reporting (mass billing of simulation indexes)  
**Note** that this type of simulation is significantly more runtime-intensive than billing conventional discrete interval meters.
- Budget billing simulation (except in the express transaction Change Budget Billing AmountEA61EX)

You can execute the simulation as an individual or mass activity.

To simulate rate steps, access billing in the simulation mode or perform periodic billing with integrated

budget billing simulation.

For more detailed information about time-of-use billing for interval meters, see the release note for the business function *Advanced Metering Infrastructure 2 (ISU\_AMI\_2)* ISU\_AMI\_2: Time-of-Use Billing of Interval Meters. Note that the restrictions described in this document still apply to the billing of profile values in external systems. The new simulation functions are only available for billing profile values in SAP EDM.

### Effects on Customizing

- You have defined the consumption pattern in Customizing.  
You do this in *Customizing* under *SAP Utilities -> Contract Billing -> Billing Master Data -> AMI:Time-of-Use Interface -> Define Consumption Pattern*.
- You have assigned a synthetic profile to the consumption pattern.  
You do so on the *SAP Easy Access* screen under *SAP menu -> Utilities Industry -> Billing -> Master Data -> AMI: Time-Of-Use Interface -> Change Allocation of Consumption Pattern to Profile*.
- You have maintained the time-of-use interface in Customizing.  
You do this in *Customizing* under *SAP Utilities -> Contract Billing -> Billing Master Data -> AMI:Time-of-Use Interface -> Edit Time-of-Use Interface*.
- You have generated profile values for the synthetic profile.
- You have entered the period consumption for interval meters in the system.  
See also the documentation *Simulation of Time-of-Use Rates* (specifically *Step 5: Synthetic Profile Adjusted to Period Consumption of Interval Meter* and the notes in the final section) and the release note ISU\_AMI\_3: Enter/Display Period Consumption for Interval Meters.
- You can also define a minimum share for intervals meters in the Customizing settings for rates (see *Percentage Minimum Share*).  
You do this in *Customizing* under *SAP Utilities -> Contract Billing -> Billing Master Data -> Rate Structure -> Rates -> Define Rates*.

### See also

For more information see SAP Library under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities -> Advanced Metering Infrastructure*.

## 1.8 IS-U-CA Contract Accounts Receivable and Payable

### 1.8.1 Account Balance (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can display your own selection screen in the account balance as follows:

- You can call the additional selection screen with a customer-specific transaction and thereby place a variant alongside the account balance display (transaction FPL9).
- You can integrate the additional selection screen directly in the account balance display (transaction FPL9).

#### Effects on Customizing

Enter the program and application in Customizing for Contract Accounts Receivable and Payable under *Basic Functions -> Postings and Documents -> Document -> Screen Preparations -> Include Own Fields in Detail Screens*.

### 1.8.2 Archiving in Contract Accounts Receivable and Payable (New)

#### Use

##### **Parallel Document Archiving (Archiving Object FI\_MKKDOC)**

As of SAP enhancement package 6 for SAP ERP 6.0, you can use document archiving as a mass activity in Contract Accounts Receivable and Payable. As a result, you can now process the documents in parallel in multiple runs.

The system executes the scheduled jobs immediately when the mass activity is started. The same prerequisites apply for this archiving as for the generation of archive files for FI-CA documents in archive administration (SARA). You can access the transaction for parallel document archiving from the SAP Easy Access screen under *Periodic Processing -> Archive Data -> Documents (Parallel Processing)*.

### 1.8.3 Brazil: Boletos (New)

#### Use

If vendors also present you with boletos along with their invoices, as of SAP enhancement package 6 for SAP ERP 6.0, you can manually enter, change and display the bar codes of the boletos in the corresponding document items when posting the payables in Contract Accounts Receivable and Payable. This enables you to create a direct relationship between the document and the invoice (boleto).

To be able to use the new Bar Code field for payables in Brazilian company codes, you have to make the field visible in the corresponding transactions. To do so, you implement the enhancement described in the section "Effects on Customizing". Then you can use the field as follows:

- During document entry (FPE1), you can enter a bar code in the detail view under *Dunning Data/Payment Data*.
- The document display (FPE3) displays the bar code on the *Payment Data* tab page.
- The payment run (FPY1) uses the *Bar Code* as a separation criterion for creating separate payments and pays only those items together that have the same bar code.
- When changing a document (FPE2), you can enter the bar code on the *Payment Data* tab page.
- During a document change by BAPI, you can transfer the field BARCODE to the BAPI BAPI\_CTRACDOCUMENT\_CHANGE in the structure BAPIDFKKOPCH.

#### Effects on Customizing

To activate the *Bar Code* field, execute the report in Customizing for Contract Accounts Receivable and Payable under *Program Enhancements -> Prepared Enhancements -> Add Field for Bar Code to*

*Business Partner Item.* The report adds the *Bar Code* field to the business partner item.

## 1.8.4 Posting Area Views (New)

### Use

In Customizing, you can derive multiple function fields from various key fields in a posting area. Even if not all function fields depend on all key fields, you have to nonetheless enter all possible combinations when configuring a posting area. To reduce the number of entries to those that are actually needed, as of SAP enhancement package 6 for SAP ERP 6.0, you can define posting area views for individual posting areas.

### Note

The use of views is optional. That means that even if SAP makes views available for a given posting area, you do not have to work with views.

In posting areas where SAP provides for views, you can define up to three views.

A view acts like a separate posting area. For example, you can derive the first function field from exactly the first key field, and for all other function fields provide another key selection, which does not have to contain the first key field. As a result, you do not have to define as many combinations of key fields. The number of entries is thereby reduced.

### Note

Whenever you activate or deactivate a view, you have to check and adjust the field assignment.

If you already made settings in a posting area, for which SAP now allows views, once you have activated views for the posting area, you have to change and adjust the existing settings. (This is similar to the procedure for a changed key selection.) You must assign each function field to exactly one active view. In each view, you can choose the key fields necessary for the derivation as new and as appropriate for the view.

The application continues to call the account determination only once (and not for each view). Internally, the system determines the active views, and combines the results from these views. You can also, as before, simulate the results of account determination using the *Simulation* function.

If you have defined views for a posting area, you must select a view on the initial screen for account determination.

## 1.8.5 Collections Management (New)

### Use

#### *Updating Collection Strategies*

As of SAP enhancement package 6 for SAP ERP 6.0, you can use predefined master data selections when updating collection strategies.

To do so, you first have to create a preselection and execute it. From the SAP Easy Access screen, choose *Periodic Processing -> Technical Preparations*.

You can then use this preselection as an additional selection criterion when updating collection strategies (on the SAP Easy Access screen, choose *Periodic Processing -> For Contract Accounts -> Dunning Notice -> By Collection Strategy -> Update Collection Strategies*).

### Note

Note that when you enter a predefined selection of contract accounts, when updating the collection strategies (transaction FPCCU), the system only takes into account the business partners determined.

#### *Dunning by Collection Strategy with BRFplus*

As of SAP enhancement package 6 for SAP ERP 6.0, you can use BRFplus for dunning by collection

strategy. If you assign a BRFplus function to a collection strategy, event 0315 (*Determine Next Collection Step*) calls the BRFplus function.

In a similar way as for a BRF trace, the system stores a BRFplus trace that you can display.

### Effects on Customizing

Create a BRFplus function in Customizing for Contract Accounts Receivable and Payable under *Business Transactions -> Dunning Notices -> Dunning by Collection Strategy -> Settings for BRFplus* (see the sample application in the activity Example Application for BRFplus).

Assign a BRFplus function to the collection strategy under *Business Transactions -> Dunning Notices -> Dunning by Collection Strategy -> Define Collection Strategy*. If you assign both a BRFplus function and a BRF event to the collection strategy at the same time, then the sample function module FKK\_SAMPLE\_0315 executes the BRFplus function.

## 1.8.6 Integration with SAP Credit Management (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, the following new functions are available for updating credit exposure in SAP Credit Management.

#### *Update of credit exposure for billable items*

Contract Accounts Receivable and Payable now also transfers credit exposure for billable items and billed but not yet invoiced items from billing in Contract Accounts Receivable and Payable to SAP Credit Management. Contract Accounts Receivable and Payable transfers the credit exposure for billable items with status billable (2) with the credit exposure category 220; for billable items with status billed (4) it uses credit exposure category 210. In SAP Credit Management, the credit exposure category serves to differentiate the various credit exposures, such as billable items and open items.

At event 4512, you can determine different credit exposure categories for billable and billed items.

### Note

The transfer takes place only for items that were created for billing in postpaid scenarios.

#### *Update of credit exposure for external billing systems*

By defining an external credit exposure category, you can prevent SAP Credit Management from considering credit exposures twice that are reported both by an external billing system and Contract Accounts Receivable and Payable. If an external application reported a credit exposure with this external credit exposure category to SAP Credit Management, then the mass activity *Transfer of Credit Data* (transaction FPCM1) resets this external credit exposure in SAP Credit Management, and reports the credit exposure in the form of billable items, billing documents, or FI-CA posting documents, using the credit exposure categories of Contract Accounts Receivable and Payable, to SAP Credit Management.

### Effects on Customizing

#### *Update of credit exposure for billable items*

If you want to transfer the credit exposure for billable and billed but not yet invoiced items from Billing in Contract Accounts Receivable and Payable to SAP Credit Management, then you have to set the *Bill.Active* indicator in Customizing for Contract Accounts Receivable and Payable under *Integration -> Financial Supply Chain Management -> Credit Management* in the activity *Activate Credit Management*.

#### *Update of credit exposure for external billing systems*

You enter external credit exposure categories in Customizing for Contract Accounts Receivable and Payable under *Integration -> Financial Supply Chain Management -> Credit Management -> Define Credit Exposure Category for External Billing Systems*.

## 1.8.7 Master Data Objects: Provider Contract, Product (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the master data objects provider contract and product in an integrated scenario with SAP Customer Relationship Management (SAP CRM), Contract Accounts Receivable and Payable (FI-CA) in SAP ERP, and SAP Convergent Charging (SAP CC). In the individual components, the product and provider contract are used as follows:

- **SAP Customer Relationship Management (SAP CRM)**  
In the CRM system, you configure and manage your products and enter and manage customer data as well as contract data. You transfer the parts of this data needed in conjunction with SAP Convergent Invoicing to the affected systems.
- **SAP Convergent Charging (SAP CC)**  
SAP Convergent Charging generates billable items for the services used and transfers them for further processing to billing in Contract Accounts Receivable and Payable in the ERP system. The basis for the creation of billable items are sets of rules stored in SAP CC for pricing and account determination in combination with customer data, contract data, and product data that was replicated from SAP CRM. The billable items contain the price that is due for the use of the service, and information about the account to which the receivables or payables are to be posted.
- **SAP ERP**  
Billing in Contract Accounts Receivable and Payable accepts the billable items from SAP Convergent Charging. It creates invoices and credit memos from them, posts the corresponding receivables or payables, and manages them until they are paid.

The following describes the processes in billing in Contract Accounts Receivable and Payable. Reference is made to SAP CRM and SAP CC only where it is necessary for creating a clear picture of the processes.

### Overview

In the case of integrated use of Contract Accounts Receivable and Payable, SAP CC and SAP CRM, SAP CRM is the leading system as regards master data. That means that you enter and change provider contracts and products in SAP CRM and replicate these afterwards to SAP ERP and SAP CC. SAP ERP keeps only that information for the provider contract and product that you need directly for the business transactions that take place in SAP ERP.

In SAP ERP you normally just display provider contracts and products. For exceptional cases there are change transactions available. However, these changes are purely local and are not distributed to the connected systems. During the next replication of master data from SAP CRM, the system overwrites any manual changes.

### Provider Contract

A provider contract is linked to exactly one business partner. Every contract item refers to a contract account and/or a prepaid account.

The header of the provider contract stores the following data:

- Number of the business partner, who signed the provider contract
- Contract start and end date
- Authorization group and company code for authorization checks

The header of each provider contract references the contract items, which contain the following data:

- Contract account and/or prepaid account
- Number of the product that the provider contract refers to
- Standard account assignment that is used for the billable item, such as company code, business

area, standard division, profit center and segment

On the SAP Easy Access screen under *Master Data -> For Integration with Rating and Charging -> Provider Contract*, you can display (transaction FP\_VT3) and change (transaction FP\_VT2) provider contracts. You can change provider contracts in Contract Accounts Receivable and Payable, but you should do so only in justified exceptional cases; for example if there were errors in the replication of data from the CRM system, but current data is needed quickly in Contract Accounts Receivable and Payable.

When the billable item is generated in SAP CC, the system determines which contract account, which business partner, and which provider contract (more precisely, which contract item) are affected. This information is contained in the billable item and is transferred to SAP ERP.

### **Product**

The product information in Contract Accounts Receivable and Payable consists of the following parts:

- Language-dependent texts
- Sales-area-dependent data

You can display products from the SAP Easy Access screen under *Master Data -> For Integration with Rating and Charging -> Product*. You can change products (transaction FPPRD2) in Contract Accounts Receivable and Payable or create them (transaction FPPRD1), but this should be limited to exceptional cases (for example, to temporarily correct errors during replication).

During the replication of products from SAP CRM, Contract Accounts Receivable and Payable stores the sending system and the product type as part of the product. The information is used in order to ensure that when products are transferred, an existing product in Contract Accounts Receivable and Payable is not overwritten by a product with the same name or another product type. If you create a new product in Contract Accounts Receivable and Payable, or set the technical settings (logical system and product type) to their initial values, the system overwrites the changed data with the currently valid values during the next replication from the CRM system.

### **Common Object Layer Framework (COL Framework)**

The Common Object Layer Framework (COL Framework) is available for the integration and data distribution of the provider contract in SAP ERP und SAP CC. The COL Framework is not limited to the provider contract. You can extend the COL Framework to include other replication objects by implementing program enhancements and making additional settings in Customizing.

To perform general authorization checks in the COL Framework, you can use authorization object X\_COL\_OBJ.

For the provider contract, the Business Object Layer (BOL) model (BOL component ISXCTR), which is integrated in the COL Framework, is also available. Using it, you can generate special Web services for the provider contract, based on the BOL Webservice Framework.

### **Effects on Customizing**

You make system settings for **provider contracts** in Customizing for Contract Accounts Receivable and Payable under *Basic Functions -> Provider Contract* in these activities:

- **Activate Provider Contract**  
Here you activate the use of provider contracts.  
If you already use another contract object, and are therefore activating the provider contract as a second contract, then the system uses the subapplication *P* for the provider contract. In that case, activate subapplication *P* under *Basic Functions -> Activate Subapplication*.
- **Derivation of Standard Account Assignment**  
You can enter specifications for deriving required account assignments.
- **Define Number Range**  
To ensure successful replication of provider contracts, you have to specify number ranges here. You need number range 01 with internal number assignment and number range 02 with external number assignment.  
Make sure that the number ranges are synchronized with the number ranges used by SAP CRM.

- *Configure Field Attributes per Activity*  
You specify here, depending on the activity, which fields are required, displayed, or hidden during master data maintenance.
- *Maintain Authorization Types*  
Here you define new authorization types that are used to control maintenance authorization.
- *Define Field Groups for Authorization Check*  
You can define here for each field group on the provider contract if it is checked for authorization. You make settings for the **Common Object Layer Framework** in Customizing for Contract Accounts Receivable and Payable under *Integration -> Convergent Charging -> Set Up Replication of Provider Contracts*.

## 1.8.8 Deferred Revenues (New)

### Use

The transfer posting run for time-based deferred revenues (on the SAP Easy Access screen under *Closing Preparation -> Receivable/ Revenue Adjustment -> Transfer Deferred Revenues*) and the transfer posting run for event-based deferred revenues (on the SAP Easy Access screen under *Closing Preparation -> Receivable/Revenue Adjustment -> Event-Based Deferred Revenues -> Transfer Run*) both post cumulated documents in the general ledger.

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the report *Display of Transferred Deferred Revenues* to display the data records posted in each of these transfer posting runs. You can total based on different attributes and thereby make the totals more transparent.

The report can be found:

- From the SAP Easy Access screen under *Periodic Processing -> Closing Preparation -> Receivable/Revenue Adjustment*
- From the menu of the transfer posting programs under *Environment -> Line Items*

## 1.8.9 Integration with SAP Dispute Management (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the following functions that enhance the display of dispute cases:

- From the list of dispute cases, you can now navigate to the following objects in Billing and Invoicing in Contract Accounts Receivable and Payable (as long as the object types are contained in the dispute case):
  - Documents
  - Invoicing documents
  - Invoicing document items
  - Billable items

The dispute case displays the attributes of the objects. By double-clicking (forward navigation) you go to the display of the object.

- If a dispute case in Contract Accounts Receivable and Payable was generated from a CRM dispute case, by choosing the *@10@ CRM Dispute Case* pushbutton, you can navigate to the dispute case in the CRM system and process the dispute case there. You can display the internal or external case numbers, as well as the CRM dispute case number by choosing the *@3R@ Additional Data* pushbutton in the toolbar.

In the SAP Easy Access menu under *Account -> More Information -> Dispute Cases for Account Balance*, you can search for a dispute case using the CRM dispute case number.

## 1.8.10 New Points of Delivery (New)

### Use

As of SAP ERP 6.0, Enhancement Package 6, you can use the following new events:

- 0067: Posting: Exchange Tax on Sales/Purchases Code
- 0176: Taxes: Change Withholding Tax Base Amount
- 0177: Taxes: Add or Correct Withholding Tax Supplements
- 0235: Payment Lot: Limit Search for Similar Keys
- 0550: Provider Contract: Report Changes Further
- 0551: Provider Contract: Enrichment of Industry/Customer Fields
- 0552: Provider Contract: Jump to Contract from Contract Account
- 0965: Prepaid: Derive Prepaid Account from Reference Details
- 0966: Prepaid: Refills and Other Balance Changes
- 0967: Prepaid: Determine Balance of Prepaid Accounts
- 0968: Prepaid: Determine Posting Rule for Reversal
- 0969: Prepaid: Specifications for Payment Authorization
- 0995: Prepaid: Check Table of Messages
- 0996: Prepaid: Process Messages
- 0997: Prepaid: Display Transactions
- 0999: Prepaid Account: Report Changes Further
- 1744: MassAct: Clearing of Prepaid Accounts
- 1745: MassAct: Clearing of Prepaid Accounts, Shift Parameters
- 1785: MassAct: Parallel Document Archiving
- 1876: MassAct: Prepaid Account Closing Operations
- 1877: MassAct: Prepaid Acct Closing Operations, Move Parameters
- 2740: MassAct: Parallel Archiving of Invoicing Documents
- 2742: MassAct: Parallel Archiving of Billing Documents
- 2788: CRM-FCC Enrichment of List of Invoicing Documents
- 2789: CRM-FCC Enrichment of Invoicing Document
- 4512: Determination of Credit Exposure Category for Billable Items
- 4515: Change Amounts for Billable and Billed Items
- 5701: SAP CC: Exclude Business Partner from Distribution
- 5702: SAP CC: Exclude Contract Account from Distribution
- 5703: SAP CC: Additional Data for Business Partner
- 5704: SAP CC: Additional Data for Contract Account
- 5705: SAP CC: Additional Data for Prepaid Account
- 6531: Requests: Account Assignments for Earmarked Funds with Tax
- 8140: BIX: Parallel Archiving of Billed Items
- 8171: CRM-FCC Enrichment of Billable Items

### Effects on Customizing

You enter installation-specific function modules in Customizing for Contract Accounts Receivable and Payable under *Program Enhancements -> Define Customer-Specific Function Modules*.

## 1.8.11 Generation of BRF Functions for Events (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can define, in Customizing for management of events, individual events specified for this by SAP as BRFplus functions. To do so, you select the event and directly create the BRFplus function there with the appropriate context, along with an installation-specific function module that calls the BRFplus function with the program context.

This function is released for the following events:

-0040

-0060

-1140

For events 0060 and 1140, SAP provides example implementations.

### Effects on Customizing

In order to create a BRFplus function and the related installation-specific function module, in Customizing for Contract Accounts Receivable and Payable, choose *Program Enhancements -> Define Customer-Specific Function Modules*. After you have selected an event by double-clicking on it, define the necessary objects on the *@39@ Generate BRFplus Function* tab page.

For more information, see the Info (@0S@) button on the *@39@ Create BRFplus Function* tab page.

## 1.8.12 Integration with SAP Convergent Charging (SAP CC) (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can get an overview in Customizing of the interfaces that exist between Contract Accounts Receivable and Payable and SAP Convergent Charging (SAPCC). You receive a list of all interfaces; you can limit the selection by selecting a group. By double-clicking on an interface, you receive detailed information for the interface.

### Effects on Customizing

You can display interfaces for SAP Convergent Charging in Customizing for Contract Accounts Receivable and Payable under *Integration -> Convergent Charging -> Display Interfaces to SAP CC*.

## 1.8.13 Integration with Customer Relationship Management (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can replicate collective bill accounts in SAP Customer Relationship Management (SAP CRM).

The prerequisite for this is that you implement the business function of one of the following industry components in combination with the business function CRM\_FCA\_1 in SAP CRM:

-Contract Accounts Receivable and Payable (FI-CA): FICAX\_CI\_4

- Media (IS-M): MED\_INV\_PP

- Telecommunications (IS-T): TEL\_CA\_4

- Public Sector Contract Accounts Receivable and Payable (PSCD):  
PSCD\_COLLECTIONS\_MANAGEMENT\_3

You can also use this replication if you implement the business function ISU\_CA\_2 of the industry component Utilities (IS-U) in combination with the business function CRM\_UT\_ER\_2 in SAP CRM.

### Effects on Customizing

If you want to replicate collective bill accounts in SAP CRM, you must explicitly activate the replication in Customizing for Contract Accounts Receivable and Payable. To do so, choose *Integration -> Customer Relationship Management -> Business Agreement -> Define Specifications for Replication of Collective Bill Accounts*.

## 1.8.14 Distribution of Master Data (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the following master data objects in an integrated scenario:

- Business partner
- Contract account
- Prepaid account

You can integrate the master data objects listed with the following components:

- SAP Customer Relationship Management (SAP CRM)
- Contract Accounts Receivable and Payable (FI-CA) in SAP ERP
- SAP Convergent Charging (SAP CC)

### Overview

SAP Convergent Charging generates billable items for the services used and transfers them for further processing to billing in Contract Accounts Receivable and Payable in the ERP system. The billable items have to contain information on the business partner and on the account (contract account in postpaid scenarios or prepaid account in prepaid scenarios) so that Contract Accounts Receivable and Payable can post the receivables or payables and you can track the prepaid usages of your customers.

The integration of Contract Accounts Receivable and Payable in SAP ERP and SAP Convergent Charging ensures the distribution and synchronization of master data. SAP Convergent Charging handles the master data of Contract Accounts Receivable and Payable (FI-CA) during creating and changing as follows:

- FI-CA distributes business partners to SAP Convergent Charging as subscriber accounts.
- FI-CA distributes contract accounts to SAP Convergent Charging as external accounts.
- FI-CA distributes prepaid accounts to SAP Convergent Charging as prepaid accounts.

If you are using SAP Customer Relationship Management, you normally enter master data there and then distribute this data to Contract Accounts Receivable and Payable in the ERP system. Then Contract Accounts Receivable and Payable ensures that the master data is transferred successfully to SAP Convergent Charging.

### Master Data Distribution

If you activate master data distribution, then Contract Accounts Receivable and Payable automatically distributes all new and changed master data to SAP Convergent Charging - regardless of whether the master data:

- Was created or changed in Contract Accounts Receivable and Payable
- Arrived in Contract Accounts Receivable and Payable by means of a transfer using BAPI or RFC from another SAP system (such as SAP CRM) or a third-party system

### Monitoring and Error Handling

#### Monitor for Master Data Distribution

You can monitor the master data distribution from Contract Accounts Receivable and Payable to SAP Convergent Charging using transaction FKKCC\_MD\_MON. (On the SAP Easy Access screen, choose *Master Data -> For Integration with Rating and Charging -> Replication -> Monitor Replication*.)

In the case of errors, you can display error messages and trigger the distribution to SAP Convergent Charging again. For more information on the monitor, see the documentation of the program.

#### Automatic Distribution of Distribution Records with Errors

In transaction FKKCC\_MD\_PRC, you can automatically process distribution records with errors and automatically trigger a new distribution to SAP Convergent Charging. (On the SAP Easy Access screen, choose *Master Data -> For Integration with Rating and Charging -> Replication -> Resend Failed Replication*.) For more information, see the documentation of the program.

### **Manual Replication**

You can use transaction FKKCC\_MD\_MAN to distribute master data (once again) if necessary to SAP Convergent Charging. (On the SAP Easy Access screen, choose *Master Data -> For Integration with Rating and Charging -> Replication -> Manual Replication*.) For more information on manual distribution, see the documentation of the program.

### **Delete Distribution Records**

Contract Accounts Receivable and Payable updates the status of the distribution to SAP Convergent Charging in distribution records. If the distribution was successful, you no longer need to store these records in your system. You can delete distribution records that are no longer needed using transaction FKK\_CC\_CLU. (On the SAP Easy Access screen, choose *Master Data -> For Integration with Rating and Charging -> Replication -> Delete Distribution Records*.) For more information, see the documentation of the program.

### **Comparison of Master Data**

To be able to find discrepancies between the master data in Contract Accounts Receivable and Payable and SAP Convergent Charging, you can use transaction FKKCC\_MD\_COM. (On the SAP Easy Access screen, choose *Master Data -> For Integration with Rating and Charging -> Replication -> Compare Master Data in FI-CA and SAP CC*.) For more information, see the documentation of the program.

## **Customer Enhancements**

At event 5701, you can exclude business partners from the distribution.

At event 5702, you can exclude contract accounts from the distribution.

At event 5703, you can add additional data to the business partner.

At event 5704, you can add additional data to the contract account.

At event 5705, you can add additional data to the prepaid account.

## **Replication Using Web Services**

SAP Convergent Charging makes Web services available that Contract Accounts Receivable and Payable uses to transfer master data to SAP Convergent Charging. Contract Accounts Receivable and Payable uses the service consumer *SUACProvisioningServices* for this transfer. For this service consumer, you have to create a connection to SAP Convergent Charging System (for instance using the transaction SOAMANAGER).

## **Effects on Customizing**

Activate the master data distribution from Contract Accounts Receivable and Payable to SAP Convergent Charging in Customizing for Contract Accounts Receivable and Payable under *Integration -> Convergent Charging -> Activate Replication of Business Partners and Accounts to SAP CC*.

You can enhance the mapping for calls of SAP CC interfaces that are based on Web services. You make the settings for this in Customizing for Contract Accounts Receivable and Payable under *Integration -> Convergent Charging -> Enhance Mapping of Individual Interfaces*.

## **1.8.15 Prepaid Processing (New)**

### **Use**

As of SAP enhancement package 6 for SAP ERP 6.0, you can map prepaid processes in the system.

## 1. Overview

You need prepaid accounts in business models where customers can use services only as long as a sufficient amount is available on a prepaid account or units for prepaid services are available.

When a customer uses services subject to a fee, the amount on the customer's prepaid account is reduced accordingly. Or else the number of available units, such as free SMS or voice minutes in a national network, are reduced.

Customers can refill their prepaid account or purchase additional free units on an individual basis, or this can be handled automatically based on an agreement with the service provider.

The prepaid account can be considered from two different perspectives. In SAP Convergent Charging (SAP CC), the rating and charging system manages the current balance that is available for more usage. Accounting records this balance in Contract Accounts Receivable and Payable by posting usages or refills with a time delay.

You can manage prepaid accounts with entered customer data or they can be anonymous. Unnamed accounts are currently not allowed in many countries or are no longer allowed. In SAP CC, unnamed accounts are technically not treated differently than accounts where the customer has registered with his or her data. This also ensures an unproblematic transition if the customer registers at a later date. The examples in the following are from the area of cellular phones, and are meant to illustrate the possible prepaid processes.

There are following methods are available for individual refills:

- Purchase of credit in department stores or service stations using vouchers or activation codes
- Refill with debit card or credit card using automatic teller machines
- Refill by bank transfer to the bank account of the service provider
- Refill through one-time permission for collection by telephone call, SMS or other contact with the service provider

So that the customer does not forget to refill his or her prepaid credit in time, the service provider can enter into an optional agreement with the customer to send a notification (usually by SMS), when the level of the prepaid account goes below a certain threshold value.

For automatic refill, there is a distinction made between date-controlled and event-controlled refills.

### **Examples**

- For a date-controlled refill, the customer and service provider agree that the prepaid account is always refilled on the first of the month, either by a fixed amount or to a specified amount.
- For an event-controlled refill, the customer and service provider agree that the customer refills the account by a specified amount, as soon as the level of the prepaid account goes below a certain threshold value.

Both forms of automatic refill can be combined.

In the case of an automatic refill, the rating and charging system (SAP CC) increases the available amount. Soon after that Contract Accounts Receivable and Payable posts a receivable for the amount of the refill on the contract account of the customer. This receivable can be cleared by an automatic debit or by charging a credit card. The bank data or credit card data to be used is a part of the agreement with the service provider.

With a more common form of refill, instead of or in addition to the refill of a credit that can be used for any purpose, the customer can also purchase units such as voice minutes or SMS messages.

## *2. Systems and Components Involved*

Prepaid accounts are a subtopic of the processes supported by SAP in SAP CC. Several systems with different roles are involved in the execution of processes in SAP CC. From the SAP side, the following systems are involved:

### **SAP Customer Relationship Management (SAP CRM)**

In the CRM system:

- Configure and manage your products
- Enter and manage customer data and contract data

You transfer part of this data to other involved systems.

### **SAP Convergent Charging (SAP CC)**

SAP CC generates billable items for services used, and transfers these to the ERP system for further processing. The basis for this are sets of rules defined in SAP CC for pricing and account determination in combination with customer data, contract data, and product data that SAP CC adopts from SAP CRM. The billable items receive the price that is due for the use of the service and information about the account to which the receivable or payable is to be posted. In addition, SAP CC manages the prepaid credit and refillable units that change through the usage of services and through refills.

### **SAP ERP**

Contract Accounts Receivable and Payable in the ERP system:

- 1.Receives billable items from SAP CC
2. From the billable items, creates invoices and credit memos and posts corresponding receivables or payables
- 3.Manages the receivables or payables until they are settled

In the case of prepaid accounts, there is an automatic clearing with the credit on the prepaid account.

Refills also lead to billable items, for which Contract Accounts Receivable and Payable then makes postings to the prepaid accounts (refill of credit) or posts revenues (purchase of refillable units).

In the following, the focus is on the processes in Contract Accounts Receivable and Payable. As far as SAP CRM and SAP CC are mentioned, the only purpose is to provide understandable explanations in the given context. For detailed information about the processes in SAP CC and SAP CRM, see the release notes for these components.

## *3. Master Data*

In Contract Accounts Receivable and Payable, along with the master data for the business partner and contract account, there is a master record for the prepaid account. Contract Accounts Receivable and Payable can manage several prepaid accounts for one customer that reference the same contract account. The most important data of the prepaid account includes:

- The currency, in which the prepaid account is managed
- Specified minimum amount on the prepaid account  
The minimum amount specifies the amount down to which a customer can use services debited to the prepaid account. The amount can also be negative, if you allow overdrawing the account.
- The number of the business partner and of a contract account
- Data for handling payments for automatic refills

You must enter master data at the latest when the customer signs an agreement for the first time to use services.

If you manage contracts in SAP CRM, enter a business agreement there or use an existing one. The

business agreement contains both the data of a contract account and the data of a prepaid account. As a result, there is a restriction that you can create only one prepaid account for each contract account. The data is replicated in the corresponding master data of Contract Accounts Receivable and Payable and enriched as part of this process.

On the SAP Easy Access screen under *Master Data -> For Integration with Rating and Charging -> Prepaid Account*, you can display (transaction PPAC3), change (transaction PPAC2) and create (transaction PPAC1) prepaid accounts. However, you should limit creating and changing to exceptional cases where there are problems with the replication of data from the feeder system, but current data is needed quickly in Contract Accounts Receivable and Payable.

To be able to create prepaid accounts, you have to first define number ranges in Customizing for the number range object FKK\_PPACC (transaction FPN\_PPACC).

#### **4. Posting of Usages to Prepaid Accounts**

A posting to a prepaid account can be understood as a posting to the assigned contract account, whereby in addition you enter the number of the prepaid account, a clearing restriction, and for certain postings, a reason for the balance change. The specifications are found in the posting item in the fields *FKKOP-PPACC [Prepaid Account]*, *FKKOP-AUGRS [Clearing Restriction]* and *FKKOP-PPRSN [Reason for Balance Change]*.

Postings to prepaid accounts are excluded from all further processing steps, such as, dunning, payment, interest calculation, and clearing. This is ensured by the fact that the system sets the clearing restriction in the field *FKKOP-AUGRS* to the value K. You can only clear postings to a prepaid account with other postings on the same prepaid account. Contract Accounts Receivable and Payable provides a separate function for this type of clearing. For more information, see the section "Other Postings on Prepaid Accounts".

For each service used (such as, a phone call or sent SMS), the rating and charging system (SAP CC) sends at least one data record with detailed information to Billing in Contract Accounts Receivable and Payable. This record is called a billable item. Along with the data on the service used (such as, telephone number called, start and duration of phone call) it contains the price, tax specifications, and the number of the prepaid account to which the posting should be debited. If the customer consumes a service charged against a previously purchased allotment of refillable units, then there are no amount entries in the billable item. Contract Accounts Receivable and Payable does not create any postings in that case.

The postings for usages are aggregated - similar to billing of postpaid services (for instance, once a month). The usages are debited to the prepaid account in Contract Accounts Receivable and Payable. Directly following the posting, the system automatically offsets the amount against the credit on the prepaid account.

The handling of consumed prepaid services is similar to that of postpaid services. This thereby also makes it possible to create invoices for customers, which they can use, for example, to claim back taxes for their costs (see the section "Invoices for Prepaid Accounts").

The current prepaid credit is known only by the rating and charging system (SAP CC). The accounting transactions are posted to the prepaid account with a time delay. Therefore the balance of the prepaid account does not provide a definitive statement on the credit that is currently available.

SAP CC can calculate prices with up to six decimal places. Due to this and also due to billing of usage to the second, rounding differences can arise between the exactly managed totals for usage in SAP CC and the accounting view in Contract Accounts Receivable and Payable. Contract Accounts Receivable and Payable rounds posting amounts to the natural number of decimal places of the account currency, manages the rounding differences for each prepaid account, and carries them forward from posting to posting.

#### **Example**

For the first posting of usages, the total amount is USD 38.5044. Contract Accounts Payable and Receivable rounds this amount. This results in a posting amount of USD 38.50. The system records USD 0.0044 as a rounding difference. For the next posting, the usages amount to a total amount of 36.2092. By

adding the recorded rounding difference, this results in a new amount of USD 36.2136. Contract Accounts Receivable and Payable rounds this amount to USD 36.21 and carries forward USD 0.0036 as a rounding difference.

### **5. Posting of Refills of the Prepaid Credit**

You can refill the credit on a prepaid account either with payment or without payment. For a refill with payment, the refill amount is the same as the amount the customer paid. A refill without payment is at the cost of the service provider. Possible reasons for this could be the granting of bonus credits for a contract renewal or for regularly paid refills. Additional credits could also be granted to resolve a customer dispute.

You can post purchased credit on the prepaid account as tax-relevant as down payment received, or as other credit without tax. What is decisive for the type of posting is whether you have designated the reconciliation account in the general ledger as a down payment account or not.

The system always posts credits that are credited in other ways to the prepaid account as other credits.

For each refill, along with the posting in Contract Accounts Receivable and Payable, there has to be a change of the credit in the rating and charging system (SAP CC). Depending on how the refill took place, the following situations can arise:

- The posting is made first in Contract Accounts Receivable and Payable and immediately triggers the change of the credit in SAP CC.
- The credit change is made first in SAP CC. The posting is made in Contract Accounts Receivable and Payable with a time delay.

In any case, the rating and charging system (SAP CC) sends a detail record for the refill to Billing in Contract Accounts Receivable and Payable. This record contains the refill amount, the time at which the refill became effective, and other data that is needed for the posting, if it was not already transferred.

#### **5.1. Postings for Automatic Refills Using SAP Convergent Invoicing**

Automatic refills take place on previously scheduled dates or when the credit of the prepaid account goes below an agreed limit. An automatic refill is always triggered by control mechanisms in the rating and charging system. The refill then takes place in the following steps:

1. SAP CC increases the available credit on the prepaid account.
2. SAP CC sends a detail record to Billing in Contract Accounts Receivable and Payable.
3. Based on this detail record, Contract Accounts Receivable and Payable generates a posting of the type 'Debit receivable on contract account, Credit credit on prepaid account'.

The receivable item is due immediately. If payment is made using a credit card, then the item is cleared immediately and to offset this a receivable is posted to the credit card company. You can also choose to check the credit card authorization first. If the payment is to be made by automatic debit from a bank account, the receivable item is considered during the next debit memo run. The type of payment and the credit card to be used or bank details of the customer are entered in the master data of the prepaid account.

Unlike the contract account, the prepaid account does not manage any payment methods. Instead you choose a radio button to select one of the following payment options:

- No Automatic Payment
- Payment Method as per Contract Account
- Debit Memo with entry of a bank details ID from the business partner master record
- Card Payment with entry of a card ID from the business partner master record
- Card Payment with other payment card (the data of which you enter explicitly)

For payments with a payment card, the receivable is cleared immediately when the refill is posted. To offset it, a receivable is posted to the credit card company.

For payments by debit memo, the payment is collected with the next debit memo run. You specify in

Customizing how the system converts the entry *Debit Memo* into an appropriate payment method (see Customizing for Contract Accounts Receivable and Payable under *Prepaid Processing -> Payment Processing -> Specify Payment Methods for Prepaid Accounts*).

If the payment is made by debit memo, the system groups the due items on the contract account so that the refills for a prepaid account always generate a separate debit memo. The items are not combined with other receivables on the contract account.

If the system can determine a valid prepaid account using the reference, then the refill is posted. Otherwise the payment goes to clarification processing. There you can, for example, correct a reference that was entered incorrectly and then create the posting. Since the posting of a prepaid payment follows a fixed schema, it is not possible to make an individual clarification posting in dialog mode.

The posting has the following structure:

**Debit bank clearing account (from payment lot)**

**Credit credit amount on prepaid account**

If the assignment is not made until during clarification processing, then the posting is of the type 'Debit clarification account, Credit credit on prepaid account'.

Directly after the posting, Contract Accounts Receivable and Payable sends a notification to SAP CC to also effect the corresponding change in the balance on the prepaid account. In this case also, SAP CC again sends a detail record for the refill to Billing in Contract Accounts Receivable and Payable. This record contains the information that no further posting is necessary. The record merely ensures that the chronology of the transactions on the prepaid account is completely available.

#### **5.4. Other Forms of Refill**

The credit on a prepaid account can also be increased by debiting another prepaid account or by debiting the contract account belonging to it. For more information, see the section "Other Postings on Prepaid Accounts".

#### **5.5. Refills with Additional Credit or Free Units**

With the refill of prepaid credit, you can grant additional credit above the purchase amount or additional free units can be granted.

##### **Examples**

-In the case of regular monthly refills of USD 30, you award the customer an additional 30 free SMS.

-With a refill of USD 50, you increase the credit by USD 55, that is, you grant USD 5 as a bonus.

In refill plans in SAP CC, you specify the rules for when and how much additional credit or free units you grant. The information on these supplements is then a part of the detail record for the refill that SAP CC sends to Billing in Contract Accounts Receivable and Payable, so that it can make the necessary postings.

You generate the structure of this detail record individually in the project. Preconfigured interface components are available that you have to include if you use free units or supplementary amounts in your business model. The standard system allows the granting of an additional amount and up to three types of additional free units for each refill.

A credit granted in addition leads to a corresponding posting on the prepaid account and to an offsetting posting on an expense account. For each free increase of credit granted, you can enter a reason that can then be used for determining the expense account and additional account assignments.

Additional free units that you grant do not lead to any postings. Free units are managed solely by the rating and charging system.

#### **6. Refill Packages**

Alongside the increase of prepaid credit, which customers can use for the use of any services, customers can also purchase allotments of refillable units.

##### **Example**

A customer purchases an allotment of 100 SMS for USD 7.99.

Refillable units represent the type of service used optionally combined with conditions for usage.

### **Example**

You define SMS\_S (SMS usable on Sundays and holidays) and SMS\_ALL (SMS usable on any day) as refillable units, in order to offer SMS\_S for a lower price than SMS\_ALL.

A refill package specifies the price for which a customer can purchase a combination of several allotments of refillable units. An increase to the prepaid credit can also be a part of the refill package. The individual parts are referred to as components. A value that is part of the total price is assigned to each component. This value is the determining value for the postings that are necessary when a refill package is purchased.

### **Example**

You offer the refill package **STANDARD\_1** for USD 19.99 with the following components:

50 SMS\_ALL Value: 2.99 2,99

50 SMS\_S Value: 2.00 2,00

15 USD credit Value: 15.00 15,00

### **Note**

Once you have used a refill package for the first time, you can no longer change its total price or the components it contains. The system interprets the refill package both for actually performing the refill and for later generating the posting document belonging to it. Any change to a refill package between these two actions would lead to incorrect postings. If you want to make changes in the interim, use selection codes (see section 6.3).

## **6.1 Postings for Refill Packages**

The components of a refill package lead to a corresponding number of document items in the refill document. For the above example, assume that the total price is posted as a receivable on the contract account, then the posting document would look as follows (simplified, consideration without taxes):

**Debit receivable on contract account 19,99**  
**Credit credit amount on prepaid account 15,00-**  
**Revenue for SMS\_ALL 2,99-**  
**Revenue for SMS\_S 2,00-**

## **6.2 Refill Packages and Payment Lot**

It was already described that a customer can refill a prepaid account by making a bank transfer for the amount and how processing takes place in the payment lot.

Instead of the refill of a prepaid credit, you can use the same scenario also for the purchase of a refill package. What is important here is that in addition to a reference to the prepaid account, the customer also enters the refill package in the note to payee. The system then translates this entry into the new selection *Refill Package*. For the payment, the the following two selections are available:

- *Reference to Prepaid Account*
- *Refill Package*

With these two entries, you can both make the required increases in SAP CC as well as generate the appropriate postings in the payment lot.

## **6.3 Selection Codes for Refill Packages**

In the previous section, it was explained that customers can directly enter a refill package for a refill. As an alternative, you can also use *selection codes for refill packages*. You can assign various refill packages to a selection code on a time-dependent basis. You should use selection codes for refill

packages if you want to change the contents of refill packages from time to time, which is not allowed for the refill package itself, as explained in section 6.2. The following examples illustrate possible uses for selection codes:

### **Example 1**

You offer your customers a standard package for refills. Package ST1 contains 50 SMS and 50 voice minutes for USD 9.90.

Starting on January 1, 2012, you offer your customers 60 SMS and 60 voice minutes for the same price.

You create a new package ST2 with 60 units each for SMS and voice minutes. In addition, you define a selection code STANDARD that you assign to package ST1 as of January 1, 2011 and to package ST2 as of January 1, 2012. Your customers continue to enter the selection code STANDARD for their refills.

### **Example 2**

As a variation on the first example, you want to offer your customers a bonus of 10 units each for SMS and voice minutes in the period from December 24, 2011 to December 31, 2011. You define packages ST1 and ST2 as in the first example. You assign package ST1 to the selection code STANDARD as of January 1, 2011. From December 24, 2011 you assign package ST2 to it. As of January 1, 2012 you reassign package ST1.

Anywhere where you normally enter a refill package, you can enter a selection code for refill packages instead.

## **7. Other Postings on Prepaid Accounts**

In addition to the refills and usages described up to now, you can make other postings to prepaid accounts. You can process the following transactions from the SAP Easy Access screen under *Account* -> *Prepaid* -> *Process Prepaid Balance* (transaction FP40P):

- ***Refill Account***

This action supports both a simple refill of the prepaid account with an amount, as well as the purchase of a refill package. The prerequisite for this is that payment data for refilling is entered in the payment data in the prepaid account. The posting to the contract account follows the same pattern as for automatic refill (see section 5.1).

- ***Refund Credit***

With this action you can refund prepaid credit to the customer either completely or partially. The prerequisite in this case is that the data for processing the refund is entered in the contract account. The posting is structured as follows:

**Debit credit reduction on prepaid account**

**Credit credit amount on contract account**

However, the system does not post the document until Billing in Contract Accounts Receivable and Payable processes the detail record (billable item) that comes back from the rating and charging system.

- **Transfer of Credit or Receivables**

You can transfer credit or receivables from a prepaid account to a contract account and in the opposite direction. You do so using the following actions:

- ***Transfer Balance to Contract Account***

If, for example, a prepaid account is to be closed, then you can transfer the current balance of the prepaid account to the contract account for offsetting. You can transfer a credit as well as a negative balance.

- ***Transfer Credit/Receivable to Prepaid Account***

For example, if a payment on account is posted to the contract account due to an unassigned incoming payment, you can transfer this payment to the prepaid account.

On the other hand, you can transfer a receivable from the contract account to the prepaid account and offset it there against the available credit.

- ***Transfer Credit to Another Prepaid Account***

Using this action, you can transfer credit from a prepaid account to another prepaid account. The posting to the prepaid accounts is of the type 'Debit credit reduction on prepaid account, Credit credit increase on prepaid account'.

- ***Account Maintenance***

The system posts all items on prepaid accounts with clearing restriction **K**. This includes the receivables that arise from the usage of services, as well as all refills and other changes to

the credit balance. When SAP Convergent Invoicing posts new receivables, the system always then tries to perform automatic clearing with credit items.

You can also manually perform clearing between existing open items at any time in transaction FP40P.

You can also perform clearing for entire account areas or all accounts. On the SAP Easy Access screen, choose *Periodic Processing -> For Prepaid Accounts -> Automatic Clearing*.

- **Write Off Balance**

Using this action, you can write off the balance of an already closed prepaid account.

- **Reconcile Balance**

If the prepaid account is already closed, but the balance in Contract Accounts Receivable and Payable does not agree with the balance in SAP Convergent Charging, you can make an adjustment posting on the prepaid account with this action.

- **Display Postings**

Using this action, you can display the postings on a prepaid account.

## 8. Reversals and Returns

For postings to prepaid accounts, just as for almost all other postings, a reversal may become necessary. In this case, in parallel to the reversal in accounting, there also has to be a change to the credit available in SAP CC.

For returns, the procedure depends on whether the customer paid by bank transfer or by debit memo. For more information, see section 8.2.

Both for reversals and for returns, only certain posting modes are supported with prepaid accounts. It is not possible for reversals to work with the method *Create Offsetting Postings* or for returns with the method *New receivables, derived from payment*. Returns with the method *New receivables according to explicit specification* do not have a reference to the payment document, and therefore also not to prepaid postings. Therefore you should also not choose this posting mode.

### 8.1 Reversals

If a posting to a prepaid account is reversed with the transaction *Reverse Document*, that means that both the posting and the related refill have to be reversed.

The document being reversed contains all the data necessary to reverse the balance changes in SAP CC. The system automatically sends the request with this information to SAP CC with the reversal.

Based on the specifications in the refill plan in SAP CC, however, it is possible that the requested change is rejected. This can be the case, for example, if the credit should be reduced by USD 20, but currently there is only a credit of USD 5. If negative balances are not allowed or only allowed to a specific value, then the reversal can be rejected in this case.

Rejected changes are written to an error file and have to be processed. You can try to execute the change in SAP CC at a later point in time. In the example, that would be possible if the customer makes another refill in the meantime, so that the reduction of USD 20 is no longer rejected.

If it is not possible to make the change in SAP CC subsequently, you have to correct the values posted on the prepaid account. You can create an adjustment posting on the prepaid account for this purpose during error processing. The offsetting posting is made to the related contract account. In the above example, with the adjustment posting, the system would post a due receivable of USD 20 on the contract account. You can process this receivable like other receivables, for example, it can be dunned or cleared.

### 8.2 Returns

If the return refers to a received bank transfer that you posted using the payment lot, then the return posting is similar to a reversal. The refill is reversed, if possible. If that is not successful, then the methods mentioned above for error processing are available.

If the return refers to a debit memo, with which the amount for one or more refills should be collected, then Customizing for the return reason (in combination with credit exposure and number of returns) determines if, as a possible additional action, a reversal of the refill document should be carried out. You

can decide using Customizing, for example, if and when you try another debit memo, or if you reverse the refill.

If you charge the customer with additional charges dependent on the return reason, the system posts these charges as receivables on the contract account. For debit memos for refills, you can also debit the related prepaid account. You also make this decision in Customizing for the return reason.

### **8.3 Invoicing Reversal**

When you reverse a refill amount with the transaction *Reverse Invoicing Document*, the system reverses the invoicing document and the posting generated in Contract Accounts Receivable and Payable. (On the SAP Easy Access screen, choose *Invoicing -> Dialog Processing -> Reverse Invoicing Document*.) The refill itself is not reversed.

You therefore reverse an invoicing document when an incorrect posting was created for a refill. The cause for this could be, for example, incorrect settings in Customizing that led to wrong account assignments.

In that case, it is necessary to reverse the posting document, but with the aim, after correcting Customizing, of invoicing again to create a correct document.

### **9. Notifications for Prepaid Accounts**

You can send a notification for prepaid accounts when the following events occur:

- Change of status
- Credit balance goes below an agreed threshold due to usage
- Posting of a refill of prepaid credit

For each notification, the system processes the events 0995 and 0996. At event 0995, you can change or delete notifications, or add new notifications. At event 0996, you can process prepaid notifications.

In the case of a status change or going below an agreed minimum amount, the system processes the events the next time the bulkloader is executed; you can set the time intervals for this in SAP Convergent Charging.

After a successful refill, the system does not process the events until Billing in Contract Accounts Receivable and Payable processes the refill.

#### **Example**

You want to inform your customers by SMS about successful refills of prepaid credit. To do so, you implement a customer-specific function module for event 0996.

### **10. Invoices for Prepaid Accounts**

So that the invoice recipient can claim back his expenses on his taxes, you can create subsequent invoices for prepaid accounts.

### **11. Overview of All Transactions and Archiving of Detailed Data**

For each transaction on a prepaid account, the system generates a billable item, which contains the type of transaction, the time, the amount, and other detailed data. Even usages that are not priced are recorded with an amount of zero. Based on this data, you can call a chronological overview of the transactions on a prepaid account. (On the SAP Easy Access screen, choose *Account -> Prepaid -> Process Prepaid Balance*; action *Display Transactions*.)

### **12. Configuration for Billing and Invoicing**

In the previous sections, it was explained that SAP CC reports all usages, all refills, and all other balance changes on a prepaid account to Billing in Contract Accounts Receivable and Payable. This notification is made using detail records that are called billable items.

The structure of billable items is not defined by SAP; instead you specify the structure in your installation. To do so, you define several classes of billable items, which you use for different purposes,

such as usages on prepaid accounts and refills on prepaid accounts. For each billable item class, you have to select interface components, which are comprised of a group of data fields that belong together logically. The combination of all the selected interface components then determines the structure of the billable items of a class.

For prepaid processes, the following interface components are of primary importance: *Prepaid*, *Refill of Credit on Prepaid Accounts* and *Refill of Prepaid Quantities/Packages*.

## Effects on Customizing

You make the system settings for your prepaid processes in Customizing for Contract Accounts Receivable and Payable under *Prepaid Processing* in the following activities:

- *Technical Preparations*  
Here you activate automatic enhancements to system tables. These enhancements are the prerequisite for all prepaid processes.
- *Security Settings*  
Here you can define authorization levels for protecting prepaid actions.
- *Prepare Integration with SAP Convergent Charging*  
Here you prepare the system for the transfer of data from SAP CC.
- *Prepaid Account*  
Here you configure the master data of prepaid accounts.
- *Refills*  
Here you define:
  - Refill methods
  - External refill locations
  - Refillable units
  - Refill packages
  - Reasons for free refills
  - Selection codes for refill packages
- *Specifications for Posting Refills and Withdrawals*  
For all posting transactions that are for refills or their reversal, you define the account determination and determination of additional account assignments here.
- *Payment Processing*  
Here you enter parameters for automatic payment processing for refills.
- *Closing Activities*  
You specify here what postings should be made at what point in time for closed prepaid accounts that still have a remaining balance.

## Further Settings

Since the processing of prepaid transactions is also incorporated in already existing processes and their Customizing, you must make the following additional settings for your prepaid processes:

### Refills Using Bank Transfers

For refills made using bank transfers (processing with payment lot), make the following settings in Customizing for Contract Accounts Receivable and Payable:

- *Basic Functions -> Open Item Management -> Specify Selection Categories*  
Here you specify the character with which you can select in a payment lot by a prepaid reference (such as a telephone number). Enter *PREPR* as the field name.  
If you want allow the use of refill packages, then specify an additional character. Enter *REFPK* as the field name here.
- *Business Transactions -> Payments -> Processing Incoming and Outgoing Payments -> Define Interpretation Rules for Note to Payee*  
Here you configure the interpretation of the entry in the note to payee. The aim, for a text such as "Please refill package STANDARD for number 0176-88888888", is for the system to be able to recognize the telephone number 0176-88888888 and the refill package STANDARD and to translate them into corresponding selection criteria.  
You can most easily identify the telephone number by entering a number pattern to be used.  
You identify the refill package in a similar way, except you do not enter a pattern but instead a fixed

value (in the example, STANDARD) as the upper and lower limit.

## Returns

In the case of a return, dependent on the return reason and other criteria, you can decide:

-If you take back the related refill

- If charges that you charge to the customer are deducted directly from his or her prepaid credit. You make the settings for this for the returns activities. To do so, choose *Business Transactions -> Returns -> Configure Returns Reasons*.

## Settings for Billing and Invoicing

Billing and invoicing process both usage of services and the refilling of prepaid accounts. The corresponding configurations can be found in Customizing for Contract Accounts Receivable and Payable under *Integration -> Billing in Contract Accounts Receivable and Payable* and *Integration -> Invoicing in Contract Accounts Receivable and Payable*.

When configuring billable item classes, it is particularly important that you define suitable classes for your prepaid processes that make it possible to transfer the data from SAP Convergent Charging to Billing in Contract Accounts Receivable and Payable. You should create separate classes for usage and refills. Both classes have to contain the interface component *Prepaid*. The class for refills must contain the interface component *Refill of Credit on Prepaid Accounts*. If you want to use refill packages or refillable units, the class for refills must also contain the component *Refill of Prepaid Quantities/Packages*.

## 1.8.16 Requests (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the fields *Quantity* and *Base Unit of Measure* in requests.

Also you can specify in Customizing that earmarked funds, which the system generates when posting requests with tax, receive special items for taxes. The earmarked funds items for the taxes receive the same account assignments as the tax items in the FI-CA document (and likewise in the general ledger).

In this context, if you reference already existing earmarked funds in a request, you have to enter the earmarked funds items for the net amount and the tax amount.

### Effects on Customizing

#### Earmarked funds with separate tax item

If you want to create earmarked funds for each request item, or want to reference earmarked funds that contain a separate item for the tax amount, set the EF w. Tax indicator in Customizing for Contract Accounts Receivable and Payable under *Basic Functions -> Requests -> Define Request Categories*.

## 1.8.17 Tax Posting and Tax Report (New)

### Use

#### Tax Reporting Date in Accounting Document

As of SAP enhancement package 6 for SAP ERP 6.0, you can use a new alternative for filling the Tax Reporting Date (VATDATE) field in the document header of accounting documents as follows:

- You can specify in Customizing for Contract Accounts Receivable and Payable for each companycode that the system fills the field either with the document date or posting date of the accounting document generated during the transfer. This ensures that tax reporting also considers the accounting documents from the general ledger transfer from Contract Accounts Receivable and Payable.

In this case, the tax reporting date is stored neither in the documents nor in the totals records of Contract Accounts Receivable and Payable. Instead, the tax reporting date is only set in the document header of the accounting document during the transfer to the general ledger.

- You can fill the tax reporting date in the document header of the FI-CA document. However, you cannot set the tax reporting date manually. Instead you have to add it using a customer-specific module at event 0062. In this case, Contract Accounts Receivable and Payable stores the tax reporting date in the document header and in the totals records, and it can be used by the EC sales list.

In the transaction for changing accounting documents, you can also change the date later.

#### *Exchange of tax on sales/purchases code for credits*

As of SAP enhancement package 6 for SAP ERP 6.0, during posting of documents, you can use event 0067 to replace the tax on sales/purchases code of G/L items according to your own logic or country-specific logic. In this way, you can, for example, meet the legal requirements for handling tax on sales/purchases for credits.

Event 0067 is executed when the document to be posted has the following properties:

- The document is not statistical and it is not a down payment.
- The tax on sales/purchases code is filled.
- The document is not cleared.
- The balance of credit memos and receivables is less than zero (credit memo).

The calculation basis of the newly determined tax on sales/purchases code is not allowed to differ from the calculation basis of the original tax on sales/purchases code. That means that the percentage rate must be the same.

## **Effects on Customizing**

### **Tax Reporting Date in Accounting Document**

In Customizing for Contract Accounts Receivable and Payable under *Organizational Units -> Set Up Company Codes for Contract Accounts Receivable and Payable* in the field Tax Date, specify for your company code the date that should be used for filling the tax reporting date during the transfer to the general ledger.

If you make an entry here, you override any Customizing settings made in Customizing for Financial Accounting (New) under *Financial Accounting Global Settings (New) -> Tax on Sales/Purchases -> Basic Settings -> Define and Check Tax Reporting Date*. This means that you therefore have the option of specifying a different rule for filling the tax reporting date for documents from Contract Accounts Receivable and Payable.

## 1.8.18 Enhanced Withholding Tax Calculation (New)

### **Use**

As of SAP enhancement package 6 for SAP ERP 6.0, the options for calculating vendor withholding tax were enhanced for the following processes:

- Payment run
- Manual postings
- Automatic clearing
- Manual clearing
- Posting using interfaces

You activate the extended withholding tax calculation for each company code. In company codes in which the extended withholding tax calculation is active, the following two events are called in the processes mentioned:

- 0176 (Adjust tax base amount for withholding tax)

In event 0176, you can adjust the base amount for withholding tax per item. In doing so, all characteristics of the item are available to be used as a calculation base, so that you can also calculate the withholding tax base amount independently of the amount of the item.

- 0177 (Add to and adjust withholding tax supplements)

In event 0177, you can add to and correct the determined withholding tax supplements. Here also all characteristics of the item are available to be used as the calculation base. Changes are made exclusively using the withholding tax supplements, for which you have already entered with an appropriate percentage rate in Customizing. You cannot change the tax entered for the withholding tax indicator itself.

If you enter a percentage rate for a withholding tax supplement in Customizing, this acts as a default, from which the system departs only in special cases that you provide for in event 0177. For your installation-specific or industry-specific special cases, you have to provide adjusted records at event 0177 that contain the tax rate and tax amount valid for the special case. The system then overwrites the records calculated on the basis of the system settings with the adjusted records. The system writes the originally determined percentage rate and the tax amount for documentation purposes in the two new fields PRLQS (provisional withholding tax) and PRLPZ (provisional percentage rate) in table DFKKQSR. However, the system fills the fields PRLQS and PRLPZ only if there is an adjustment, and not for new records.

If the extended withholding tax calculation is active, it is not only available in the standard processes mentioned; you can also use it in your own programs. To do so, you have to include the function module FKK\_WITHH\_CONTROL\_EVENT\_0177 in the given program. This additional step is necessary, since the system often calls the modules for calculating withholding tax multiple times, for instance during the selection of open items, then during the document check, and finally during document posting. This can have undesired effects, for example, if you calculate the withholding tax with dependence on other items of the same document.

#### Note

Note that the following restrictions exist for items with extended withholding tax calculation:

- Only complete clearing is allowed, no partial clearing.

- In the case of manual clearing, the group of items to be cleared is only allowed to contain one item with extended withholding tax.
- In the payment run and in the automatic clearing run, you can only use the parallel processing object GPART.

### Effects on Customizing

To activate the extended withholding tax calculation, set the Extended Withholding Tax Active indicator for the company codes you want in Customizing for Contract Accounts Receivable and Payable under *Organizational Units -> Set Up Company Codes for Contract Accounts Receivable and Payable*.

You make system settings for withholding tax supplements in Customizing for Contract Accounts Receivable and Payable under *Basic Functions -> Withholding Tax -> Define Withholding Tax Supplement* and Define Allowed Entries for Withholding Tax Supplements.

## 1.8.19 Write-Offs (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can, when writing off documents, inherit the G/L account assignment characteristic PAOBJNR (profitability segment number (CO-PA)) from the document to be written off.

### Note

As of SAP enhancement package 2 for SAP ERP 6.0, you can inherit the G/L account assignment characteristic PAOBJNR (profitability segment number (CO-PA)) using the installation-specific event 5030 (as a modification). This modification remains untouched by the upgrade to SAP enhancement package 6 for SAP ERP 6.0. That means, that if you have implemented logic in the installation-specific

event 5030, this continues to be processed during write-off.

## Effects on Customizing

The prerequisite for inheritance is that you entered the value **1** (*Inherit item that is to be written off*) for the derivation of the CO account assignment. You make this entry in Customizing for Contract Accounts Receivable and Payable under *Business Transactions -> Write-Offs* in the activities *Define Specifications and Default Values for Write-Off* and *Define Specs and Default Values for Mass Write-Offs*.

## 1.8.20 Archiving in Billing (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can use the following new archiving functions: *Parallel archiving of billing documents (archiving objects FKKINVBILL)* and *invoicing documents (archiving objects FKKINVDOC)*

The archiving of billing documents and invoicing documents are now available as mass activities. As a result, you can process the documents in parallel in multiple runs.

The system executes the scheduled jobs immediately when the mass activity is started. The same prerequisites apply for this archiving as for the generation of archive files for FI-CA documents in archive administration (SARA). You can access the transactions on the SAP Easy Access screen under:

- *Periodic Processing -> Archive Data -> Billing Documents (in Parallel)* and *Invoicing Documents (in Parallel)*
- *Invoicing -> Archive Data -> Billing Documents (in Parallel)* and *Invoicing Documents (in Parallel)*

*Archiving and parallel archiving of billed items*

The archiving object FKKBIXBIT4 is available for archiving billed items. You archive billed items from the SAP Easy Access screen under:

- *Periodic Processing -> Archive Data -> Billed Items* and *Billed Items (Parallelized)*
- *Billing -> Archive Data -> Billed Items* and *Billed Items (Parallelized)*

You can see the prerequisites for archiving in the documentation of archive administration for the archiving object FKKBIXBIT4.

*Archiving of prepaid accounts (archiving object FI\_MKKPPAC)*

The archiving object FI\_MKKPPAC is available for archiving prepaid accounts. You can archive prepaid accounts by choosing from the SAP Easy Access screen *Periodic Processing -> Archive Data -> Prepaid Accounts*. You can see the prerequisites for archiving in the documentation of archive administration for the archiving object FI\_MKKPPAC.

*Archiving of provider contracts (archiving object FI\_MKKCAVT)*

The archiving object FI\_MKKCAVT is available for archiving provider contracts. You can archive provider contracts by choosing from the SAP Easy Access screen *Periodic Processing -> Archive Data -> Provider Contracts*. You can see the prerequisites for archiving in the documentation of archive administration for the archiving object FI\_MKKCAVT.

## Effects on Customizing

### Archiving Billed Items

You can define a residence time for billed items in Customizing for Contract Accounts Receivable and Payable under *Integration -> Invoicing in Contract Accounts Receivable and Payable -> Archiving*.

### Archiving Provider Contracts

Enter the residence times and activate the archiving information structure for provider contracts in Customizing for Contract Accounts Receivable and Payable under *Basic Functions -> Provider Contract -> Archiving*.

## Archiving Prepaid Accounts

Enter the residence times and activate the archive information structure for **prepaid accounts** in Customizing for Contract Accounts Receivable and Payable under *Prepaid Processing -> Prepaid Account -> Archiving*.

### 1.8.21 Displaying Billable Items (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, there is a report you can use to display billable items regardless of their processing status. On the SAP Easy Access screen, choose *Billing -> Display -> Billable Items*.

In addition to the individual selection of billable items, in which you can include all processing statuses of billable items, SAP also provides predefined selection variants for the different processing statuses. Along with the processing status, you can also limit your selection further by master data, source transactions, as well as all parameters in the active billable item classes in the system.

The system displays the items that meet the selection criteria in the form of a list. In the list display, you can click on an entry in the appropriate column to display the following objects:

- Business partner
- Contract account
- Billing document
- Invoicing document

You can also display the billable items belonging to a source transaction.

By clicking on the icon that indicates the processing status of a billable item in the list, you can analyze the item further. Depending on the processing status of the billable item, the system starts one of these programs:

- Analysis of Raw Data
- Analysis of Billable Items
- Analysis of Billed Items

### 1.8.22 Reversal of Billable Items (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, you can reverse billable items to:

- Reverse one-off charges from SAP Customer Relationship Management in SAP Convergent Invoicing
- Process billable items in SAP Convergent Invoicing, for which SAP Convergent Charging has performed rerating  
During rerating, SAP Convergent Charging determines new prices for already priced items, and transfers these and the new items to SAP Convergent Invoicing. To offset this, SAP Convergent Invoicing reverses the billable items that have become invalid.

Reversal is supported for all statuses of billable items. The system excepts not yet billed items (*Raw 0 @B3@* and *billable items 2 @B5@*); they receive the status *Raw Excepted* (1 @B6@) or *Billable Excepted* (3 @B2@). In contrast, already billed items (4 @B4@ and @B1@) remain. To compensate for them, the system creates billable offsetting items with reversed plus/minus signs.

#### Effects on Customizing

You make system settings for reversing billable items in Customizing for Contract Accounts Receivable and Payable under *Integration -> Billing in Contract Accounts Receivable and Payable -> Reversal of Billable Items* in these activities:

- *Make Basic Settings*  
For each application area and origin, you enter what status a billable item must have so that it can be reversed.
- *Enter Processing Rules*

Here you enter:

- Which exception reason the system uses for the reversal of billable items if the reversal process does not explicitly supply a reason
- At what point in time the system processes the reversed items

## 1.8.23 Managing Billing Periods (New)

### **Use Enhancement of Scheduling**

As of SAP enhancement package 6 for SAP ERP 6.0, scheduling of SAP Convergent Invoicing was made more flexible as regards the specification of the billing date. You can now, after the introduction of the provider contract, assign the billing cycle at a level below the contract account.

You can use the billing cycle in the provider contract to specify the billing date. If a billing cycle is entered in the contract account, then this applies initially both for billing and for invoicing. For billing, however, you can enter a different billing cycle in the provider contract than in the contract account.

It is thereby possible to execute billing - cycle-based - with a different frequency than for invoicing. For example, billing can take place on a weekly basis and invoicing every two weeks. For more information on this, see Scheduling.

The *Scheduling* field was renamed as *Selection Characteristic for Scheduling*. The relevant Customizing activity is now called *Define Selection Characteristic of Scheduling* instead of *Define Scheduling*. In the determination of the rules for specifying the billing and invoice date, this field is now optional.

The determination of the billing date and invoicing date now takes place as standard cycle-based at the end of the period, if a billing cycle is entered in the contract account or provider contract and no differing rules for scheduling have been entered.

### **Effects on Customizing**

You enter the rules for scheduling in Customizing for Contract Accounts Receivable and Payable under:

- *Integration -> Billing in Contract Accounts Receivable and Payable -> Basic Data -> Scheduling -> Assign Rules for Determining the Billing Date*
- *Integration -> Invoicing in Contract Accounts Receivable and Payable -> Invoicing -> Invoicing Processes -> Scheduling for Invoicing -> Assign Rules for Determination of Invoicing Date*

You define the selection characteristic for scheduling in Customizing for Contract Accounts Receivable and Payable under:

- *Integration -> Billing in Contract Accounts Receivable and Payable -> Basic Data -> Scheduling -> Define Selection Characteristic of Scheduling*
- *Integration -> Invoicing in Contract Accounts Receivable and Payable -> Invoicing -> Invoicing Processes -> Scheduling for Invoicing -> Define Selection Characteristic of Scheduling*

## 1.8.24 Billing Integration for DSM in Contract Accounts Receivable and Payable (New)

### **Use**

As of SAP enhancement package 6 for SAP ERP 6.0, the switch *ISU\_DSM\_EHP6* is available for Demand Side Management (DSM) in business function *Utilities, Billing in Contract Accounts Receivable and Payable 2 (ISU\_INV\_PP\_2)*. This allows you to integrate Billing in Contract Accounts Receivable and Payable (FI-CA) with SAP Customer Relationship Management (SAP CRM).

You can define billing request items (BRIs) in SAP CRM and transfer them to Billing in FI-CA as billable items containing DSM-specific information required for billing. The item category assigned to the BRIs from SAP CRM is mapped to a billing process and subprocess in FI-CA. You use the billing

process and subprocess to select the billable items when you create a billing document. As the item category for the BRIs is dependent on certain settings in the program, you can use the billing subprocess in FI-CA to control the selection of billable items indirectly based on the program type, program profile, and process type. You can then continue processing in Invoicing in Contracts Account Receivable and Payable.

New Menu Entries in the SAP Easy Access Menu

New menu entries are available in the SAP Easy Access menu for DSM billing functions under *Utilities Industry > Contracts Accounts Receivable and Payable > Billing*.

### Effects on Customizing

You map the item category for the BRIs to billing processes and subprocesses in Customizing activity Define Billable Items Classes.

The standard Customizing for Billing and Invoicing applies. For more information, see SAP Solution Manager, business scenario *Demand Side Management*.

### See also

For more information about Demand Side Management, see the release note for the business function *Demand Side Management (CRM\_UT\_DSM\_1)* in SAP CRM.

## 1.8.25 ISU\_INV\_PP\_2: BF Utilities, Billing in Contract Accounts Receivable and Payable 1 (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Business Function *Utilities, Billing in Contract Accounts Receivable and Payable 1* (ISU\_INV\_PP\_2) is available.

With this business function, you can do the following:

- Map prepaid processes

#### Note

These prepaid processes do not refer to meter-related processes in SAP Utilities, but to processes that are triggered from a Balance Management System (SAP Convergent Charging) (for example, refilling credit and clearing that credit using telecommunications services).

- Use the following master data objects in an integrated scenario with SAP Customer Relationship Management (SAP CRM), Contract Accounts Receivable and Payable, and SAP Convergent Charging (SAP CC):
  - Business partner
  - Contract account
  - Prepaid account
  - Provider contract
  - Product
- Create an overview of the interfaces between Contract Accounts Receivable and Payable and SAP Convergent Charging in Customizing
- Allocate the billing cycle in the provider contract to determine the billing date and therefore use it one level below the contract account
- Reverse billable items in order to:
  - Reverse one-off charges from SAP CRM in SAP Convergent Invoicing
  - Process billable items in SAP Convergent Invoicing, for which SAP CC has performed a re-rating.
- Display billable items in an overview regardless of their processing status
- Archive prepaid accounts and provider contracts
- Archive billing and invoicing documents at the same time using mass activities
- Integrate Billing in Contract Accounts Receivable and Payable (FI-CA) with SAP Customer

Relationship Management (SAP CRM) by transferring billable items with specific information about *Demand Side Management* from SAP CRM.

**Note:**

You can only use the functions relating to Demand Side Management in combination with the SAP CRM business function *Demand Side Management* (CRM\_UT\_DSM\_1).

FI-CA Billing (SAP Convergent Invoicing) is not integrated with IS-U Billing and Invoicing.

For more information, see the following release notes:

- Prepaid Processing
- Distribution of Master Data
- Integration with SAP Convergent Charging
- Master Data Objects: Provider Contract, Product
- Managing Billing Periods
- Reversal of Billable Items
- Displaying Billable Items
- Archiving in Billing
- New Events
- Integration of Billing for DSM in Contract Accounts Receivable and Payable (New)

**See also**

SAP Library for SAP ERP on SAP Help Portal at <http://help.sap.com/erp> under *SAP ERP Enhancement Packages -> ERP Central Component Enhancement Package 6 -> Business Functions (SAP Enhancement Package 6 for SAP ERP 6.0) -> Business Functions in SAP ERP -> Industry Business Function Sets -> Utilities -> Utilities, Billing in Contract Accounts Receivable and Payable*.

## 1.8.26 ISU\_CA\_2: BF Utilities, Contract Accounts Receivable and Payable 2 (New)

**Use**

As of SAP enhancement package 6 for SAP ERP 6.0 (IS-UT 606), the business function *Utilities, Contract Accounts Receivable and Payable 2* (ISU\_CA\_1) is available.

With this business function, you can do the following:

- When writing-off documents, inherit the general ledger account assignment characteristic number for profitability segments (CO-PA) (PAOBJNR) from the document to be written off
- Carry out enhanced withholding tax calculation in the following processes:
  - Payment run
  - Manual posting
  - Automatic clearing
  - Manual clearing
  - Posting using interfaces
- Fill in the tax report date field (VATDATE) in the document header of Financial Accounting documents that you generate when you transfer totals records from Contract Accounts Receivable and Payable to General Ledger Accounting (FI-GL)
- When posting documents in event 0067, exchange the VAT code of the general ledger items according to a customer-specific or country-specific logic

- Enter quantities and base units of measure in requests
  - Define in Customizing that earmarked funds, which the system generates when posting requests with tax, contain separate items for the tax portion
  - Define events as BRFplus functions (if intended for this purpose by SAP)
  - As part of the integration with SAP Dispute Management in Contract Accounts Receivable and Payable:
    - Navigate to a dispute case in the CRM system if it was generated from a CRM dispute case
    - Navigate from the list of dispute cases to documents, invoicing documents, invoicing document items, and billable items
  - Replicate collective bill accounts in SAP Customer Relationship Management (SAP CRM)
  - Record the totals posted to the general ledger as a result of the transfer posting runs for delayed revenues
  - Use predefined master data selections when updating collection strategies
  - Use BRFplus during dunning by collection strategy
  - Use posting area views
  - Archive documents in parallel
  - Display a separate selection screen in the account balance
  - As part of the integration with SAP Credit Management:
    - Transfer commitments for billable items and items that have been billed but not yet invoiced from Billing in Contract Accounts Receivable and Payable to SAP Credit Management
    - Ensure that commitments that report to an external billing system as well as Contract Accounts Receivable and Payable are only taken into account once
  - Manually enter, change, and display the barcodes of your suppliers' Boletos when posting receivables in Contract Accounts Receivable and Payable in the respective document items
  - Use the BPEM (Business Process Exception Management) functions for the bill receipt check
- For more information, see the following release notes:

-Write-Offs

-Enhanced Withholding Tax Calculation

-Tax Posting and Tax Report

-Requests

-Generation of BRF Functions for Events

- Integration with Financial Customer Care and Dispute Management for Contract Accounts Receivable and Payable
- Integration with Customer Relationship Management
- Delayed Revenues
- Collections Management
- Posting Area Views
- Archiving in Billing
- Account Balance
- Integration with SAP Credit Management
- Brazil: Boletos
- New Events
- BPEM Integration for Bill and Payment Advice Note Processing

## See also

SAP Library for SAP ERP on SAP Help Portal at <http://help.sap.com/erp> under *SAP ERP Enhancement Packages -> ERP Central Component Enhancement Package 6 -> Business Functions (SAP Enhancement Package 6 for SAP ERP 6.0) -> Business Functions in SAP ERP -> Industry Business Function Sets -> Utilities -> Utilities, Contract Accounts Receivable and Payable 2.*

## 1.9 IS-U-WA Waste Management

### 1.9.1 ISU\_WASTE\_3: Index Pricing (new)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606), Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) you can map business processes where waste material prices are obtained from an external service provider. By activating the billing block in a contract featuring index pricing, the automatic processing of the debit memo request after order confirmation is stopped.

If the current prices are maintained, you can allocate the new price to all relevant debit memo requests through the automatic pricing and release these requests for processing with transaction EWAPRICE. The effort for mass corrections is thereby considerably reduced and wrong invoicing is prevented.

#### Note

In order to create a contract with index pricing, you need a configurable material with classes and characteristic assignment. A characteristic could be e.g. *Medium index pricing*.

#### Effects on Existing Data

This functionality has no influence on existing data.

#### Effects on Customizing

With the BAdIs Application enhancement for reviewing debit memo requests and Enhanced selection screen for transaction EWAPRICE you can adjust the transaction with custom lists and fields. For additional information see also the BAdI documentation.

#### See also

For additional information see also the application help of the transaction EWAPRICE.

### 1.9.2 ISU\_WASTE\_3: Intercompany activities allocation in the CO-Cockpit(new)

#### Use

As of SAP EhP 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606), Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) you can allocate activities cross-company in the CO-Cockpit.

The intercompany activity allocation enables the posting of services between different company codes. However, the activity allocation remains within a controlling area.

The documents are automatically split in costs and revenue. The data are captured separately and will not be offset against each other. The intercompany activity allocation is an enhancement to the existing functionality of the internal activity allocation in the Controlling-Cockpit.

#### Effects on Customizing

There is no additional customizing required. The standard implementation of the BAdI Enhancement CCOC allows for the automatic split as to costs and revenue.

In order to deactivate the split, you can check the value *Do not split* in the field *Split booking* in Activate CO-Integration for Controllingcockpit in the *IMG*

## 1.9.3 ISU\_WASTE\_3: Business Function Waste & Recycling 3 (new)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606) the Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) is available. This business function can be used by all waste and recycling companies.

When activating the new business function you will be able to use additional functions of the well-accustomed *SAP Waste and Recycling* solution to map your business processes. The subcontractor processing enables you to easily record and settle third-party services (transport services, waste disposal services) in the system. Moreover, the invoicing of waste materials based on index pricing and the related mass processing of debit memo requests is supported. The integration of new default values for weighbills reduces the data acquisition effort in the waste disposal order cockpit while increasing operational efficiency.

The business function *Waste & Recycling 3* (ISU\_WASTE\_3) includes the following functions:

- **Subcontracting**

The subcontractor processing supports business processes during which some services are rendered by third-party companies (e.g. the transport or the disposal of waste). *SAP Waste and Recycling* supports the mapping of these subcontractor processes by an automatic creation of the related purchase orders and goods receipt postings, if required. Purchasing contracts are used to define the data relevant for the purchase order. These purchasing contracts can be assigned to a waste disposal order, an order item or a weighbill. When confirming orders in the waste disposal order cockpit, the data of the purchasing contract are linked to the confirmed quantities and finally the purchase order is created.

- **Inter-company activity allocation of the Controlling-Cockpit**

The inter-company activity allocation of the Controlling-Cockpit enables you to settle costs between several companies of one company group having separate balance sheets. (intercompany posting). The intercompany activity allocation allows for intragroup cost posting settlements. The documents are automatically split in costs and revenue. The data are thereby separately recorded and are not offset against each other. The cross-company allocations is an enhancement of the intracompany activity allocation in the Controlling-Cockpit.

- **Index pricing**

Index pricing supports business processes during which the price of a waste material is obtained from a third-party service provider. By activating the billing block in a contract featuring index pricing, the automatic processing of the debit memo request after order confirmation is stopped. If the current prices are maintained, you can allocate the new price to all relevant debit memo requests through the automatic pricing and release these requests for processing. The effort for mass corrections is thereby considerably reduced and wrong invoicing is prevented.

- **Default values for weighbill**

The integration of additional default values in the weighbill considerably reduces the effort for data acquisition in the waste disposal order cockpit. The following values are carried forward or set by default when creating a weighbill on waste disposal order or item level:

-Billing indicator

-Transaction type *receipt*

-Weighing date (gross weighing) from waste disposal order or order item

-Waste from waste disposal order or order item

-Waste disposal facility from waste disposal order or order item

For additional information see also Release-Information:

ISU\_WASTE\_3: Subcontracting (new)

ISU\_WASTE\_3: Intercompany activity allocation in the Controlling-Cockpit

ISU\_WASTE\_3: Index pricing (new)

ISU\_WASTE\_3: Default values for weighbill (new)

### Effects on Existing Data

In order to be able to use the business function *Waste & Recycling 3* (ISU\_WASTE\_3), the following business functions must be activated:

- *Waste & Recycling 2* (ISU\_WASTE\_2)
- *Utilities, Contract A/R a. A/P 2* (ISU\_CA\_2)

### 1.9.4 ISU\_WASTE\_3: Default values weighbill (new)

#### Use

As of SAP EhP 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606), Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) additional default values for the weighbill are integrated. If a weighbill is created on waste disposal order or order item level in the waste disposal order cockpit, additional values will be carried forward.

The following values will be carried forward or set as default:

- Billing indicator
- Transaction type *receipt*
- Weighing date (gross weighing) from waste disposal order or waste disposal order item
- Waste from waste disposal order or order item
- Waste disposal facility from waste disposal order or order item

### 1.9.5 ISU\_WASTE\_3: Subcontracting (new)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606), Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) you can map business processes that include third-party services (e.g. transport or disposal of waste).

*SAP Waste and Recycling* supports the automatic creation of the related purchase orders and the goods receipt postings, if required. Purchasing contracts are used to define the data relevant for the purchase order. These purchasing contracts can be allocated to a waste disposal order, order item or weighbill. When confirming the order in the waste disposal order cockpit, the data of the purchasing contract are linked to the confirmed quantities and the purchase order is created.

With transaction EWASUBCNTRCONF you can specify which documents are to be created with confirmation and how subcontractors shall be processed.

The following settings are available:

#### -General settings

- documents to be created (purchase order and goods receipt)
- origin of purchase order date

- origin of goods movement date
- document category
- document type
- movement type

These settings can individually be defined for all levels (waste disposal orders, order items, weighbills) Note: if these settings are defined under *General settings* only, they are valid on all levels. If the settings are individually defined on e.g. waste disposal order level, they are only valid for this level. For all other levels the settings defined in the general settings apply.

- **Settings on waste disposal order level (transport service)**

Here, you can add the partner role as well as the equipment category for the subcontractor processing on waste disposal order level. Moreover, you can check the field for the automatic calculation of the purchase quantity.

Additionally, you can activate the automatic search for purchasing contracts (for transport services). The search is based on the vendor assigned to the vehicle and the transport service material defined in the configuration. If more than one matching purchasing item is found, the item with a matching quantity unit is selected.

- **Settings on waste disposal order item level (transport service)**

Here, you can add the partner role as well as the equipment category for the subcontractor processing on waste disposal order level. Moreover, you can check the field for the automatic calculation of the purchase quantity.

Additionally, you can activate the automatic search for purchasing contracts (for transport services). The search is based on the vendor assigned to the vehicle and the transport service material defined in the configuration. If more than one matching purchasing item is found, the item with a matching quantity unit is selected.

- **Settings on weighbill level (disposal services)**

Here, you can define which waste disposal facility is used by the subcontractor to dispose off the waste. The facility can be defined by a third-party facility indicator or through the vendor assigned to a facility.

Additionally, you can activate the automatic search for purchasing contracts (for disposal services). The search is based on the vendor assigned to the facility and the criteria for material determination defined in the configuration. If more than one matching contract item is found, the item with a matching quantity unit is selected.

Moreover, you can check the field for the automatic calculation of the purchase quantity. If neither this field is checked nor the purchase quantity entered during confirmation, the net weight or waste volume is taken from the weighbill.

During the confirmation process an additional tab *Subcontr.* is displayed in the waste disposal order cockpit. After confirming the waste disposal order item, all relevant data of the subcontractor processing and the created documents will be displayed on this tab.

## Effects on Existing Data

The business partner stored in the system (partner role vendor) has to be assigned to a vehicle or a waste disposal facility to make sure that during order confirmation and usage of these objects in orders and weighbills the service rendered is defined as subcontractor service.

This function enhances the tables:

-EWA\_ORDER\_HEAD (*Header table of the waste disposal order*)

-EWA\_ORDER\_OBJECT (*Item table of the waste disposal order*)

-EWA\_ORDER\_WEIGH (*Weighing data table of the waste disposal order*)

with the following fields:

-EBELN\_SC (*Purchasing document*)

-EBELP\_SC (*Item*)

-MBLNR\_SC (*Material document*)

-MJAHR\_SC (*MatDocYear*)

## Effects on Customizing

In order to be able to use the subcontractor processing, the following confirmation fields for waste disposal orders and weighing data records have to be set in the customizing for the *waste and recycling industry* under Define confirmation type:

- KONNR\_SC (*Purchasing contract*)
- KTPNR\_SC (*Purchasing contract item*)
- BSTMG\_SC (*Purchase quantity*)
- BSTME\_SC (*Purchase quantity unit*)

To enhance the subcontractor processing apply BAdI Subcontracting Enhancement.

## See also

For additional information see also the application help of transaction EWASUBCNTRCONF.

## 1.9.6 IS-U-WA-PC Processing

### 1.9.6.1 ISU\_WASTE\_3: Subcontracting (new)

## Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities Waste & Recycling* (IS-UT 606), Business Function *Waste & Recycling 3* (ISU\_WASTE\_3) you can map business processes that include third-party services (e.g. transport or disposal of waste).

*SAP Waste and Recycling* supports the automatic creation of the related purchase orders and the goods receipt postings, if required. Purchasing contracts are used to define the data relevant for the purchase order. These purchasing contracts can be allocated to a waste disposal order, order item or weighbill. When confirming the order in the waste disposal order cockpit, the data of the purchasing contract are linked to the confirmed quantities and the purchase order is created.

With transaction EWASUBCNTRCONF you can specify which documents are to be created with confirmation and how subcontractors shall be processed.

The following settings are available:

### -General settings

- documents to be created (purchase order and goods receipt)
- origin of purchase order date
- origin of goods movement date
- document category
- document type
- movement type

These settings can individually be defined for all levels (waste disposal orders, order items, weighbills) Note: if these settings are defined under *General settings* only, they are valid on all levels. If the settings are individually defined on e.g. waste disposal order level, they are only valid for this level. For all other levels the settings defined in the general settings apply.

### - Settings on waste disposal order level (transport service)

Here, you can add the partner role as well as the equipment category for the subcontractor processing on waste disposal order level. Moreover, you can check the field for the automatic calculation of the purchase quantity.

Additionally, you can activate the automatic search for purchasing contracts (for transport services). The search is based on the vendor assigned to the vehicle and the transport service material defined in the configuration. If more than one matching purchasing item is found, the item with a matching quantity unit is selected.

- **Settings on waste disposal order item level (transport service)**

Here, you can add the partner role as well as the equipment category for the subcontractor processing on waste disposal order level. Moreover, you can check the field for the automatic calculation of the purchase quantity.

Additionally, you can activate the automatic search for purchasing contracts (for transport services). The search is based on the vendor assigned to the vehicle and the transport service material defined in the configuration. If more than one matching purchasing item is found, the item with a matching quantity unit is selected.

- **Settings on weighbill level (disposal services)**

Here, you can define which waste disposal facility is used by the subcontractor to dispose off the waste. The facility can be defined by a third-party facility indicator or through the vendor assigned to a facility.

Additionally, you can activate the automatic search for purchasing contracts (for disposal services). The search is based on the vendor assigned to the facility and the criteria for material determination defined in the configuration. If more than one matching contract item is found, the item with a matching quantity unit is selected.

Moreover, you can check the field for the automatic calculation of the purchase quantity. If neither this field is checked nor the purchase quantity entered during confirmation, the net weight or waste volume is taken from the weighbill.

During the confirmation process an additional tab *Subcontr.* is displayed in the waste disposal order cockpit. After confirming the waste disposal order item, all relevant data of the subcontractor processing and the created documents will be displayed on this tab.

## Effects on Existing Data

The business partner stored in the system (partner role vendor) has to be assigned to a vehicle or a waste disposal facility to make sure that during order confirmation and usage of these objects in orders and weighbills the service rendered is defined as subcontractor service.

This function enhances the tables:

-EWA\_ORDER\_HEAD (*Header table of the waste disposal order*)

-EWA\_ORDER\_OBJECT (*Item table of the waste disposal order*)

-EWA\_ORDER\_WEIGH (*Weighing data table of the waste disposal order*)

with the following fields:

-EBELN\_SC (*Purchasing document*)

-EBELP\_SC (*Item*)

-MBLNR\_SC (*Material document*)

-MJAHR\_SC (*MatDocYear*)

## Effects on Customizing

In order to be able to use the subcontractor processing, the following confirmation fields for waste disposal orders and weighing data records have to be set in the customizing for the *waste and recycling industry* under Define confirmation type:

-KONNR\_SC (*Purchasing contract*)

-KTPNR\_SC (*Purchasing contract item*)

-BSTMG\_SC (*Purchase quantity*)

-BSTME\_SC (*Purchase quantity unit*)

To enhance the subcontractor processing apply BAdI Subcontracting Enhancement.

**See also**

For additional information see also the application help of transaction EWASUBCNTRCONF.

## 1.10 IS-U-IDE Intercompany Data Exchange

### 1.10.1 ISU\_AMI\_3: Connection of Monitoring to the Upload of Profiles (New)

#### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), Business Function *Utilities, Advanced Metering Infrastructure 3* (ISU\_AMI\_3), you can use monitoring of AMI communication after the profile data (time series) has been uploaded to view detailed information about the upload.

Monitoring is activated as a default setting.

If you are using the service operations

- UtilitiesTimeSeriesERPIItemBulkCreateRequest\_In
- UtilitiesTimeSeriesERPIItemBulkCreateConfirmation\_Out
- UtilitiesTimeSeriesERPIItemBulkChangeRequest\_In
- UtilitiesTimeSeriesERPIItemBulkChangeConfirmation\_Out

respectively to upload profiles to your SAP system and confirm the upload performed, you can define monitoring of these processes as follows:

- Log all AMI messages
- Only log AMI messages about errors
- Do not log any AMI messages

You make settings for the service operations *UtilitiesTimeSeriesERPIItemBulkCreateRequest\_In* and *UtilitiesTimeSeriesERPIItemBulkCreateConfirmation\_Out* in the enhancement spot ISU\_SPOT\_SE\_TIMESERS using the BAdI ISU\_SE\_TSITEMCRTBLKRCI\_ASYN and method INBOUND\_PROCESSING.

You make settings for the service operations *UtilitiesTimeSeriesERPIItemBulkChangeRequest\_In* and *UtilitiesTimeSeriesERPIItemBulkChangeConfirmation\_Out* in the enhancement spot ISU\_SPOT\_SE\_TIMESERS using the BAdI ISU\_SE\_TSITEMCHGBLKRCI\_ASYN and method INBOUND\_PROCESSING.

You can use the transaction *Monitoring of AMI Communication* (EAMIMON01) to check the status of the data exchange process and all associated information and messages for the object types *Profile* and *Profile - Bulk Message*. You can also access a profile directly from this transaction and display the corresponding messages.

The field *Outbound Message* indicates here whether processing was successful for each profile. You can use the *PI Monitor* field to view specific XML messages about a profile and edit entries in the field *Display PPO* (Display Post Processing Office) directly in Forward Error Handling (FEH).

#### Effects on Existing Data

The existing monitoring transaction EAMIMON01 remains unchanged.

#### See also

For more information about the service operations described here, see the release note Enterprise Services for SAP Industry Solutions Utilities (New).

For more information about monitoring of AMI communication, see SAP Library under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities -> Advanced Metering Infrastructure -> Monitoring of AMI Communication*.

For more information about uploading profiles, see SAP Library under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities ->*

*Advanced Metering Infrastructure -> AMI Functions -> Edit Advanced Meter Measurement Data -> Edit Profiles -> Upload Profile Data.*

## 1.10.2 ISU\_CA\_2: BPEM Integration for Bill and Payment Advice Note Processing (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE), Business Function *Utilities, Contracts Accounts Receivable and Payable 2* (ISU\_CA\_2), you can use BPEM (Business Process Exception Management) functions for the bill receipt check.

The transactions Monitor Bill/Payment Advice Note Processing (INVMON) and Mass Process Bill/Payment Advice Note Processing (INVMASSPROC) (*SAP Easy Access -> SAP menu -> Utilities Industry -> Intercompany Data Exchange -> Bill and Payment Advice Note Processing -> Monitor Bill/Payment Advice Note Processing* or *Mass Process Bill/Payment Advice Note Processing*) make your logs available under the new process code **EDER0004** BPEM for subsequent processing.

### Effects on Customizing

Deactivate the new BPEM business process EDER0004 in Customizing for *Financial Accounting* under *Contract Accounts Receivable and Payable -> Basic Functions -> Enhanced Message Management -> Specifications for Logging -> Activate Business Processes*. Enter the business process EDER0004 and in the column *Record Processes* enter the fixed value **Deactivated**.

## 1.10.3 ISU\_MCOMM\_3: Basic Process for Sending / Receiving Profile Values

### (New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE) business function *Utilities, Market Communication 3* (ISU\_MCOMM\_3), the new data exchange basic processes **EXPPROFBLK** and **IMPPROFBLK** are available.

- The new basic process EXPPROFBLK supports the sending of profile values and load shapes with and without a day offset using the bulk service *UtilitiesTimeSeriesERPItemBulkNotification\_Out* that is also available with this release (for more information, see the release note *EnterpriseServices for SAP Industry Solutions Utilities (New)*).
- The new basic process IMPPROFBLK supports the receiving of profile values using the bulk service *UtilitiesTimeSeriesERPItemBulkNotification\_In* that is also available with this release. The data exchange framework has also been enhanced so that the *mass activity framework* can be used. This means that execution of data exchange tasks can be distributed between several processes that run in parallel (for more information, see the release note *Mass Activity: Generate/Execute Data Exchange Tasks (New)*).

When these developments are combined, mass export and import of profiles to participants in a deregulated market is possible.

### See also

For more information, see the documentation for the methods in the interface IF\_ISU\_DATEX\_PROCESS\_BULK and in the SAP Library under *SAP ERP -> SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities -> Intercompany Data Exchange -> Deregulation Functions -> Technical Reference to Deregulation Functions -> Technical Reference to Data Exchange Processes -> IDoc and Enterprise Service-Based Data Exchange Processes*

-> *Standard Basic Processes (ES-Based)* -> [...].

## 1.10.4 ISU\_MCOMM\_3: Mass Activity: Generate/Execute Data Exchange Tasks(New)

### Use

As of SAP enhancement package 6 for SAP ERP 6.0, Industry Extension *Utilities, Waste & Recycling* (ISU\_UTIL\_WASTE) business function *Utilities, Market Communication 3* (ISU\_MCOMM\_3), you can perform and execute data exchange tasks

- in parallel so that you can process data quantities efficiently (using the transactions EDATEXGENMA and EDATEXEXECUTEMA respectively),
  - Perform bundling during execution so that data packages can be sent more efficiently (transaction EDATEXEXECUTEMA),
  - use Enterprise Services, for example to send profiles to market partners.
- You can use these transactions that are based on the FI-CA mass activity framework to generate intervals (time series) from which jobs can subsequently be created to generate or execute data exchange tasks. The parallel processing object used here is ANLAGE.

The selection scope for both mass activities corresponds to the selection scope for individual processing (transaction EDATEXGEN and transaction EDATEXEXECUTE).

The following applies to the EDATEXEXECUTEMA transaction (but not to the EDATEXGENMA transaction): A separate lock is available for the fields *Data Exchange Process*, *Third Party Service Provider* and *Own Service Provider*. Even if you execute the transaction *Monitoring of Data Exchange Tasks*, the system evaluates the locks so that it is not possible to process the same data exchange tasks simultaneously. The locks that are normally used at the level of individual data exchange tasks are suppressed in the mass activity to prevent a potential overflow of the lock table.

We do not have any recommendations about the optimum number of intervals to be created and number of jobs to be executed in parallel in the mass activity. These numbers have to be determined by the appropriate tests.

Error messages that occur for mass activities can be processed further using Business Process Exception Management (BPEM). See the notes in the documentation for both mass activities for more information here.

### Note:

Mass activity transactions make their logs available for subsequent processing under the new process code **EDER0004** BPEM.

**Deactivate** the new BPEM business process EDER0004 if necessary in Customizing for **Financial Accounting** under *Contract Accounts Receivable and Payable -> Basic Functions -> Enhanced Message Management -> Specifications for Logging -> Activate Business Processes*. Enter the business process EDER0004 and in the column *Record Processes* enter the fixed value *Deactivated*.

### Effects on Existing Data

The existing individual processing transactions *Generate Data Exchange Tasks* (EDATEXGEN) and *Execute Data Exchange Tasks* (EDATEXEXECUTE) remain unchanged and can still be used.

### See also

For more information, see the documentation for the transactions that you can access from the respective transaction by choosing the path *Help -> Application Help* and in the SAP Library under *SAP ERP ->*

*SAP ERP Enhancement Packages -> Enhancement Package 6 -> Industries in SAP ERP -> SAP Utilities  
-> Intercompany Data Exchange -> Deregulation Functions -> Processing Data Exchange -> Data  
Exchange -> Data Exchange Tasks.*