

Release Note - What's New in SP 2

SAP Convergent Charging

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CUSTOMER

SAP Convergent Charging 4.1 SP 2



Typographic Conventions

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

Document History

Version	Date	Description
1.0	October 2016	Initial version

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1 Introduction

Audience

- Solution and technology consultants
- System and application administrators
- SAP sales representatives

About this Document

This *Release Note - What's New* documentation lists all the features introduced in SAP Convergent Charging 4.1 SP 2.

Note

If you update a support package earlier than SAP CC 4.1 SP 2, refer to the *Release Note - What's New* documents published with the previous support package.

What's New in SP 2

The support package 2 provides the following features in your SAP system landscape:

- [Mapping of Contract Item Identifiers to Allowance Billable Items](#) (New)
- [CIF Enhancement](#) (Changed)
- [Authentication for Java Charging APIs](#) (New)
- [Longest Prefix Match for Mapping Tables](#) (New)
- [Customizing the Audit Features With Audit Domains](#) (New)
- [Large Mapping Table Support](#) (New)

For performance purposes, the support package 2 also provides the following improvements of the SAP CC architecture:

- Internal optimizations of cached structures.
- The new `WS_SERVER_QUEUE_SIZE` system parameter, which allows to configure the size of the queue that contains the requests that are performed through the Web Services technical interface. For further information, refer to the *System Parameter Reference* documentation.
- Stateful Service enhancement: A new optional mechanism to optimize interactions with the Core Database. This mechanism is based on the batching of modification queries that are linked to the stateful charging requests. The new `STATEFUL_SERVICE_SQL_UPDATE_POOL_SIZE` and `STATEFUL_SERVICE_SQL_UPDATE_MAX_BATCH_SIZE` parameters enable to configure a pool that is used to handle in a batch mode all the SQL modification queries (insertion, update, and deletion) that are linked to

the stateful requests and performed on the Core Database. For further information, refer to the *System Parameter Reference* documentation.

- Communication Channel Security enhancement: A specific fit for securing policy, It is now possible to define a list of trusted protocols and cypher suites that can be used in a landscape. The new TLS_PROTOCOLS and TLS_CIPHER_SUITES parameters have been introduced to specify a list of protocols and a list of cipher suites that can be enabled for encrypted communication by using SSL/TLS. For further information, refer to the *System Parameter Reference* documentation.
- The support of Java 8 on both the server side and graphical user interfaces. For SAP CC GUIs, the SAP JVM must be updated to the 8.1 version. To download and install the SAP JVM 8.1, refer to the *Installation Guide* documentation.
- The new version 9.7.1 of the SAP CC Introscope Agent, which is required when using the SAP JVM 8.1.
- Enhancement of the Mapping Tables that lead to the following modifications in the Core Database. For further information, refer to the *Core Database References* documentation.
 - Modification of the MATA and MARO tables
 - A new MARO_DL table that contains all rows that have been deleted from the mapping tables stored in SAP CC

Section "What's New" in SAP CC Guides

For more details about the new features of the support package 2, see the section *What's New* in the guides of SAP Convergent Charging 4.1.

Abbreviations

The following table shows the list of abbreviations used throughout this document.

Abbreviation	Meaning
CC	Convergent Charging
CRM	Customer Relationship Management
ERP	Enterprise Resource Planning
GUI	Graphical User Interface
JCo	Java Connector
WS	Web Services

2 Before You Start

SAP Hybris Billing

SAP CC 4.1 is part of the *SAP Hybris Billing* with the SAP ERP and SAP CRM components of SAP Business Suite 7 Innovation 2016.

Depending on your *SAP Industry*, you consider the following ERP applications:

- Cross Industries: SAP ERP/FI-CA (Contract Accounts Receivable and Payable)
- SAP for Telecommunications: SAP ERP/RM-CA (Contract Accts. Rec./Payable for Telecommunications)
- SAP for Utilities: SAP ERP/Contract Accts Receivable and Payable for the Utilities Industry

SAP Help Portal

SAP Help Portal is the central place to access *SAP product documentation*. Find the documentation of SAP Convergent Charging at: <http://help.sap.com/cc>.

Important SAP Notes

In the following table, the *SAP Notes* contain information for delivering and implementing SAP CC 4.1 SP 2:

Title	SAP Note	Description
<i>SAP CC 4.1 Support Package 2</i>	2315313	This delivery and information note contains information and references to documents or notes to implement this maintenance support package.
<i>Technical Implementation of SAP CC 4.1 SP 2</i>	2332433	This last-minute information contains few supplementary maintenance procedures necessary to perform your technical operations when implementing this SP in your SAP system landscape in the following cases: <ul style="list-style-type: none">• Initial installation• Upgrade from a former release (SAP CC 4.0)• Update from a previous support package of SAP CC 4.1

In the following table, the *SAP Notes* contain information for installing the initial shipment and the previous support packages of SAP CC 4.1:

Title	SAP Note	Comment
<i>Release and Information Note for</i>	2226403	This Release and Information Note (RIN) contains

Title	SAP Note	Comment
<i>SAP Convergent Charging 4.1</i>		information and references to documents or notes for installing the initial shipment stack of SAP CC 4.1.
<i>Release Restriction Note for SAP CC 4.1</i>	2249339	This Release Restriction Note provides information about release restrictions for installing the initial shipment stack of SAP CC 4.1.

Additional Information

For more information about specific topics, see the quick links in the following table:

Content	Quick Link on SAP Service Marketplace or SCN
SAP Convergent Charging (Customers and Partners)	http://help.sap.com/cc41
SAP Hybris Billing	http://service.sap.com/BRIM
Related SAP Notes	http://support.sap.com/notes
Product Availability Matrix	http://support.sap.com/pam
SAP Solution Manager	https://support.sap.com/solutionmanager

3 Mapping of Contract Item Identifiers to Allowance Billable Items (New)

3.1 Feature Overview

As of SP 2, SAP Convergent Charging is enhanced for copying an external identifier of a contract item (GUID type) sent by SAP CRM into the billable items generated by allowances.

Summary

SAP Convergent Charging could already copy an external identifier from a parent provider contract item into the billable items generated by refill and charge plans. This feature is now extended to allowance plans. Note that the parent provider contract item implements refill, charge, and allowance plans.

In the graphical user interface of SAP CC, you can also use the new property **Triggering Contract Item External Identifier** for copying the external identifier of the provider contract item sending an event to the allowance that generates the billable items through an Event-Based Trigger component.

Benefits

This enhancement improves integration between SAP CC and SAP Convergent Invoicing in an integrated SAP *Solution* scenario.

3.2 Effect on User Interfaces

Change in SAP CC Core Tool

You can view the new property **Triggering Contract Item External Identifier** in the graphical user interface of SAP CC. For example, in a Charged Item Class (figure 1):

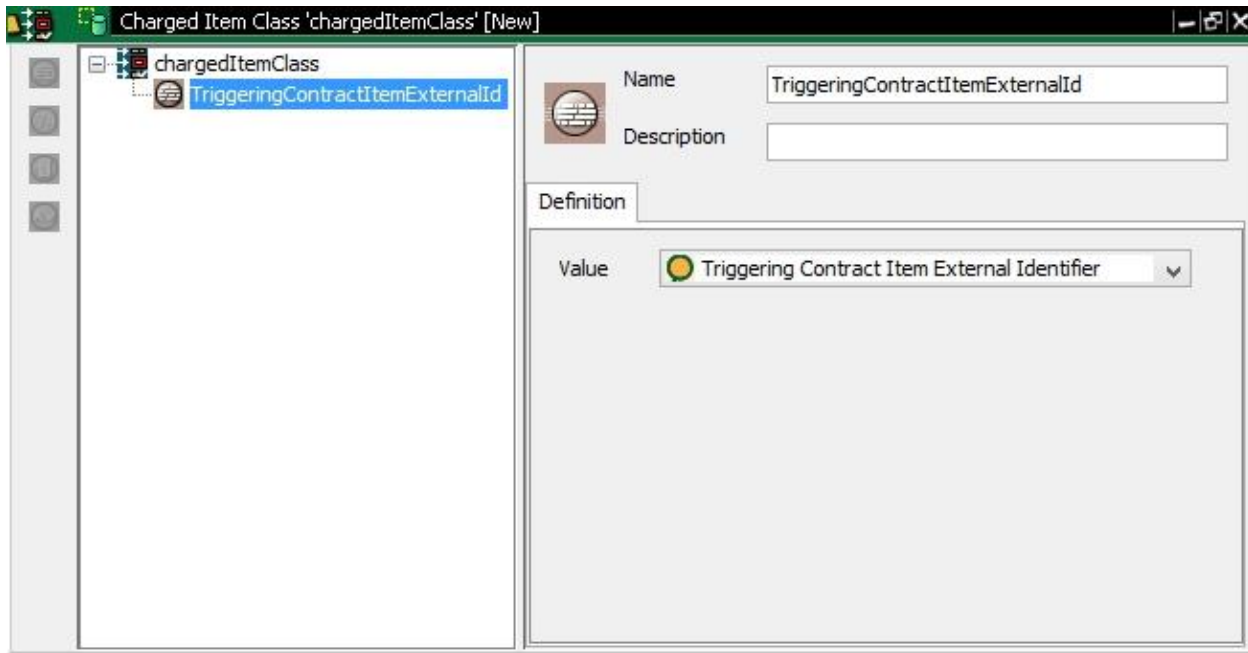


Figure 1: The new property **Triggering Contract Item External Identifier** in a Charged Item Class

4 CIF Enhancement (Changed)

4.1 Feature Overview

Summary

As of SP 2, the configuration of the Charging output Integration Framework (CIF) has evolved. The XXX_PRE_CREATE_FILE system parameter, which is used to define the policy that is related to the pre-creation of data files at rater and bulkloader level, has been enhanced. It is now possible to fine-tune the pre-creation of data files by specifying a combination of the following triggering events by using a CSV format:

- **ROLLOVER**, which means that new data files must be pre-created if:
 - The defined CIF rollover policy is reached
 - An internal exception occurred
 - A charged item class, a chargeable item class, a refill record class, or a notification type has been updated that leads to new headers in the related data files
- **STARTUP**, which means that new data files must be pre-created when warming up the following cached structures during the startup of raters:
 - Charged item classes
 - Chargeable item classes
 - Refill record classes
 - Notification types
- **CLASS_CREATION**, which means that new data files must be pre-created when a new charged item class, a chargeable item class, or a refill record class has been created in order to anticipate its use by raters.

For further information, refer to the description of the XXX_PRE_CREATE_FILE parameter available in the *SAP Convergent Charging System Parameter Reference* documentation

Benefits

This enhancement increases the global performance capabilities of the operations that are performed by the raters and bulkloaders when managing data files.

5 Authentication for Java Charging APIs (New)

5.1 Feature Overview

As of SP 2, SAP Convergent Charging is enhanced for authenticating, authorizing, and auditing (AAA) the charging client applications that use the **Message TCP** technical interface (Java Charging APIs).

Summary

In SAP CC, the feature implementation consists of:

- A new parameter **MESSAGE_API_AUTHENTICATION_REQUIRED**
- A new **Message Charging Client** user role for restricting access to the **Message TCP** technical interface

When it is enabled, this feature allows to:

- Authenticate a secure user Id and a secure password that uses a random-salted hash function (SHA256)
- Log each failed connection attempt when the **Message TCP** technical interface is connected to service clients
- Restrict access to service users to the **Message TCP** technical interface if the service users have the **Message Charging Client** role and if the user isolation feature is enabled.

Notes

- To renew the credentials of service users that use the **Message TCP** technical interface, it is recommended to create a new service user with new credentials.
- SAP CC does not support the service availability of the charging and notification services if the credentials of a service user are changed.

SAP CC components and tools have also been enhanced for authenticating service users to dispatchers: Diameter Server, BART Server, and CAT Tool. For these components and tools, you must create a new service user with new credentials, and then assign the **Message Charging Client** role to the new service users.

Benefits

This enhancement secures access to service users to the **Message TCP** technical interface.

More Information

See the following guides for more information about this feature:

- *Application Help*
- *Installation*
- *Security*
- *System Parameter Reference*

- *Primary Help of Core Tool*
- *Primary Help of CAT Tool*

5.2 Effect on User Interfaces

Change in SAP CC Core Tool

In Core Tool, you can now select the **Message Charging Client** role for restricting access to service users to the **Message TCP** technical interface (figure 1):

The screenshot shows a dialog box titled "New User #1" with the following fields and options:

- Log On:** A text input field.
- With Password:** A checked checkbox.
- Password:** A text input field.
- Catalog:** A dropdown menu set to "All Catalogs".
- Lock User:** An unchecked checkbox.
- Security Profile:** Radio buttons for "Individual User" (unchecked) and "Service User" (checked).
- Roles:** A list of roles with checkboxes:
 - Administrator (unchecked)
 - User Administrator (unchecked)
 - Customer Sales Representative (unchecked)
 - Marketing (unchecked)
 - Batch Rating Administrator (unchecked)
 - Connector Administrator (unchecked)
 - Process Manager (unchecked)
 - Remote Support (unchecked)
 - Message Charging Client (checked)

Figure 1: The **Message Charging Client** role for restricting access to the **Message TCP** technical interface

Change in SAP CC CAT Tool

In CAT Tool, you can now select the **Connection with Credentials** option to establish an authenticated connection to the **Message TCP** technical interface from the **Rating** component (figure 2) or the **Acquisition (by CC)** component (figure 3).

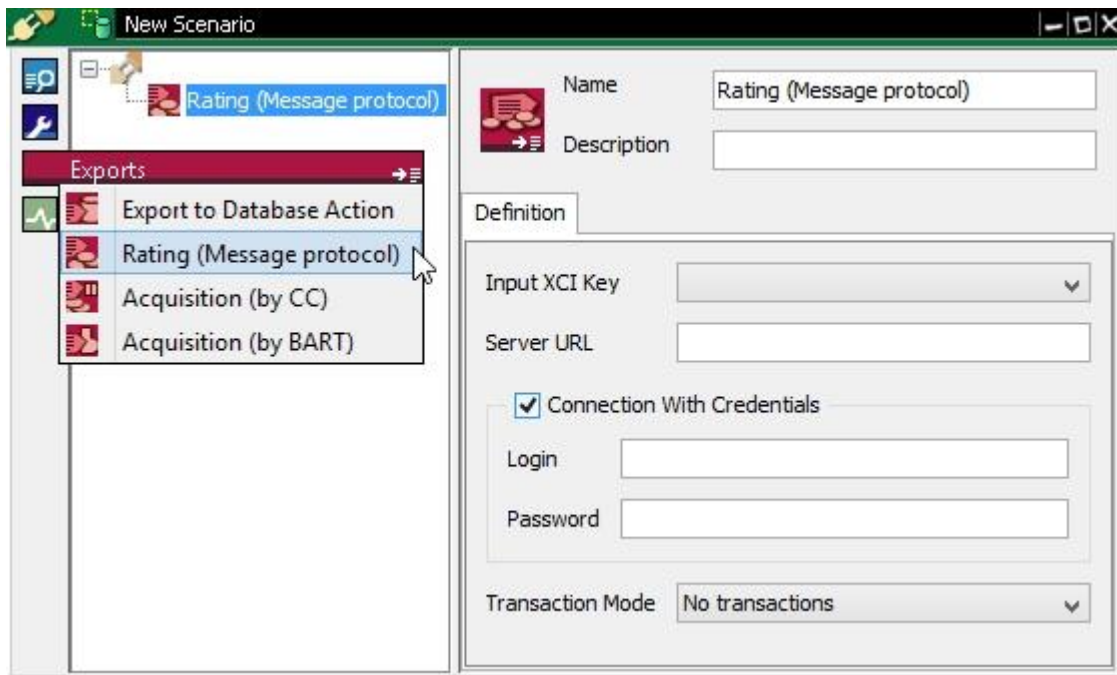


Figure 2: Connection to the **Message TCP** technical interface through the **Rating** component

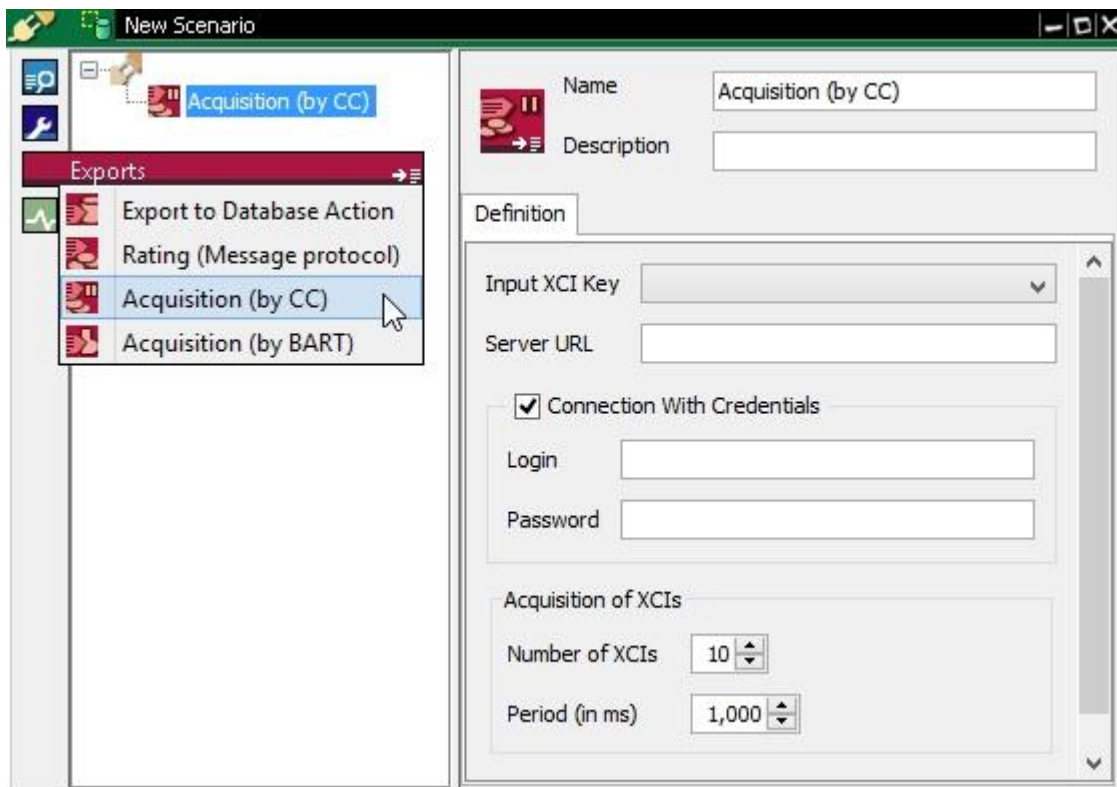


Figure 3: Connection to the **Message TCP** technical interface through the **Acquisition (by CC)** component

6 Longest Prefix Match for Mapping Tables (New)

6.1 Feature Overview

As of SP 2, SAP Convergent Charging is enhanced with the longest prefix match feature for selecting an entry in a mapping table.

Summary

In many industries such as Telecommunication, Postal, or Transportation, the zoning determination is used to charge services to customers. The longest prefix match feature enables to determine a pair of zones like cities or locations that are used by the charging process.

In the graphical user interface of SAP CC, you can now use the **Mapping Table Introducer** component to:

- Define the input column of a mapping table as a column of prefixes
- Find a row in this input column by searching for the longest prefix that matches a predefined value

Benefits

This enhancement enables to implement the zoning determination requirement.

More Information

For more information about this feature, see the *Primary Help of Logic Components* that describes the **Mapping Table Introducer** component.

6.2 Effect on User Interfaces

Change in SAP CC Core Tool

In Core Tool, you can now use the **Mapping Table Introducer** component to search for the longest prefix match in a mapping table (figure 1):

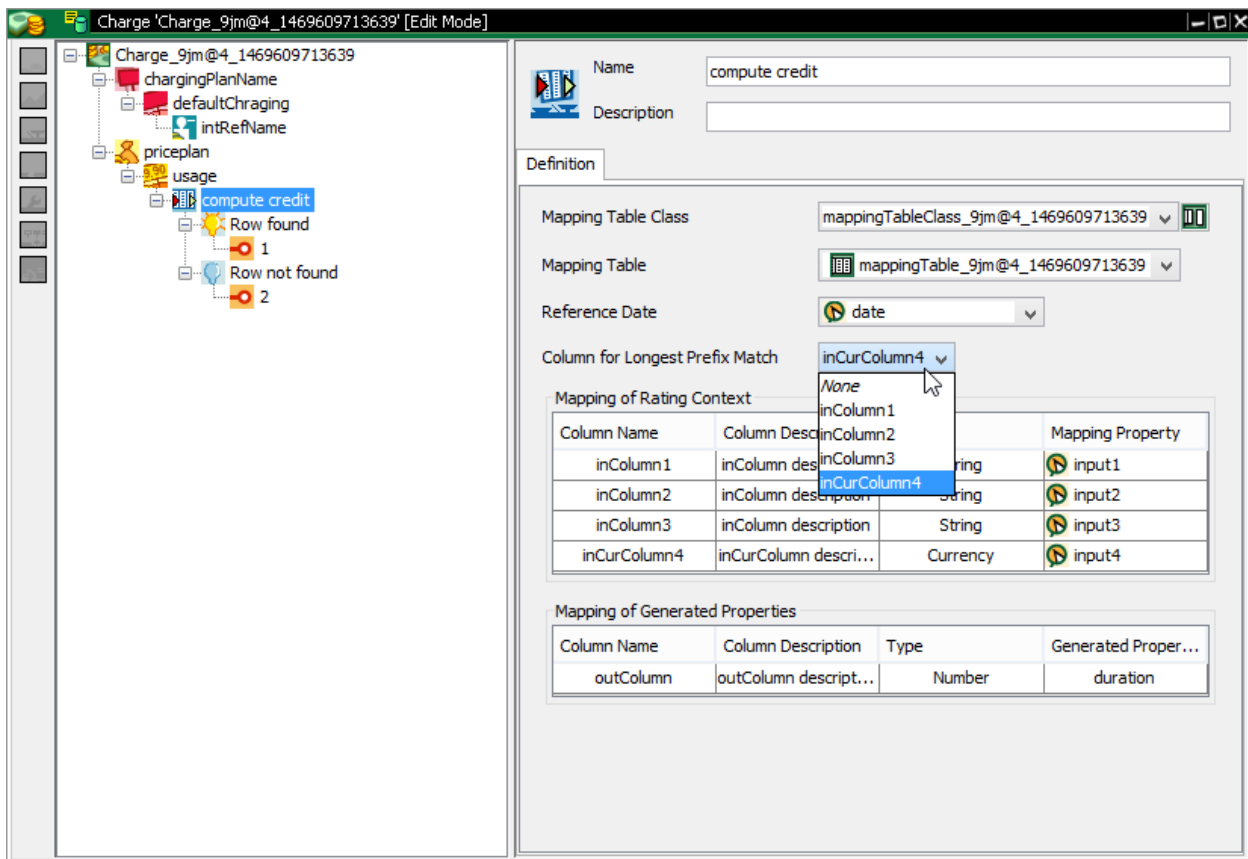


Figure 1: The **Mapping Table Introducer** component to search for the longest prefix match in a mapping table

7 Customizing the Audit Features with Audit Domains (New)

7.1 Feature Overview

As of SP 2, the auditing functions of SAP Convergent Charging are enhanced for configuring the categories of data objects and user operations that the SAP CC system audits.

Summary

SAP CC improves the *System and Data Auditing* feature for configuring the categories of user operations and data objects that can be audited in the running SAP CC Core Server systems. SAP CC provides you with two new system parameters (AUDIT_DOMAIN and AUDIT_OBJECT_DOMAIN) to customize your auditing functions.

- **User Operation Auditing:**

The SAP CC system audits the user operations that modify the system or its data. As of SP 2, you can select the operation audit domains that fulfill your business and technical requirements (security, audit level, or database storage and performance):

Operation Audit Domains	Typical Audited Operations
CATALOG	User operations that modify data objects in: <ul style="list-style-type: none">• pricing catalogs (associated to the customer services to monetize)• business and custom data such as the currencies, the public holidays, the billable item mapping objects, or the counter name dictionary
CUSTOMER	User operations that modify data objects in customer master data such as the subscriber accounts, the provider contracts, or the subscriber mapping or range tables
TECHNICAL	User operations that modify technical data such as the SAP users or the custom audit filters
ADMINISTRATION	Technical or business operations for administrating or configuring the SAP CC system such as the system parameter modification or the activation process triggering

The selected audit domains define the auditable user operations. The SAP CC system creates an audit data recording in the back-end database only for these typical operations:

- **Data Object Auditing and Object Snapshot Recording:**

The SAP CC system audits the data objects that are changed in persistent configuration data. It records basic information (object change logs) or detailed information (object snapshots).

As of SP 2, you can customize the object snapshot recording by defining the audit domains that satisfy your business and technical requirements (security, audit level, or database storage and performance).

Audit Domains	Audited Data Types
CATALOG	Objects in pricing catalogs (in Master Data) that are extended with business and custom data such as the currencies, the public holidays, or the counter name dictionary
CATALOG_TABLE_DATA	Business data tables in pricing catalogs: tier or translation tables and mapping or range tables
CUSTOMER	Customer Master Data: subscriber accounts, provider contracts, subscriptions, and accesses
CUSTOMER_TABLE_DATA	Business data tables in Customer Master Data: subscriber mapping tables and subscriber range tables
TECHNICAL	Technical data such as the SAP CC users or the custom audit filters

The selected audit domains define the auditable data objects that lead to the generation of object snapshots in audit data recordings.

Note

When customizing your system with these options, you may reconsider the initial sizing to take into account the necessary data volume in the back-end database.

Benefits

This enhancement facilitates the implementation and customizing of SAP CC. The configuration is more flexible and provides you with a better adjustment of your business and technical requirements regarding to:

- security
- audit and control level
- database storage and performance

You easily select the necessary audit domains.

This enhancement improves your user experience. It simplifies your audits and inspections in the Core Tool user interface: you view only the expected audited operations.

More Information

See the following guides for more information about this feature:

- *Application Help* about the audit concept, features, and its functions
- *Configuration Guide*
- *System Parameter Reference* about the AUDIT_DOMAIN and AUDIT_OBJECT_DOMAIN system parameters
- Primary help of Core Tool

8 Large Mapping Table Support (New)

8.1 Feature Overview

As of SP 2, SAP Convergent Charging is enhanced for supporting large mapping tables that contain up to one million rows.

Summary

On the server side, the processes of SAP Convergent Charging are now adapted for dealing with large mapping tables.

Benefits

This enhancement allows you to manipulate large mapping tables of hundreds of thousands of rows.



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