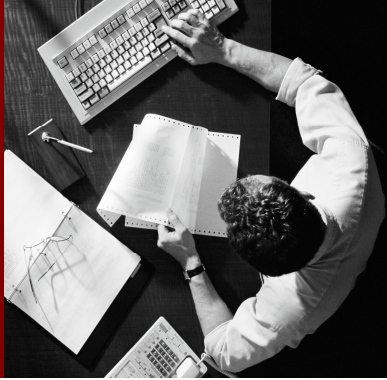




Global HANA Reporting Foundation Guide

SAP[®] Manufacturing Execution 15.2

Target Audience

- n System administrators
- n Technology consultants

Document Version 1.0 – March, 2018

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Typographic Conventions

Type Style	Represents
<i>Example Text</i>	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options. Cross-references to other documentation
Example text	Emphasized words or phrases in body text, titles of graphics and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code as well as names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.
EXAMPLE TEXT	Keys on the keyboard, for example, function keys (such as F2) or the ENTER key.

History of Changes

The following table provides an overview of the most important changes that were made in the latest versions.

Guide Version	Important Changes
1.0 (March 2, 2018)	First version

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Overview

The target audience of this guide is developers who want to create reports using *SAP ME Global HANA Reporting Foundation*.

The ME CRF component archive, `XSAC_SAPME_CRF<XX>.zip`, is available for download on SAP Service Marketplace and is shipped as a subcomponent of the SAP MFG EXECUTION (SAP ME) product.

Prerequisites

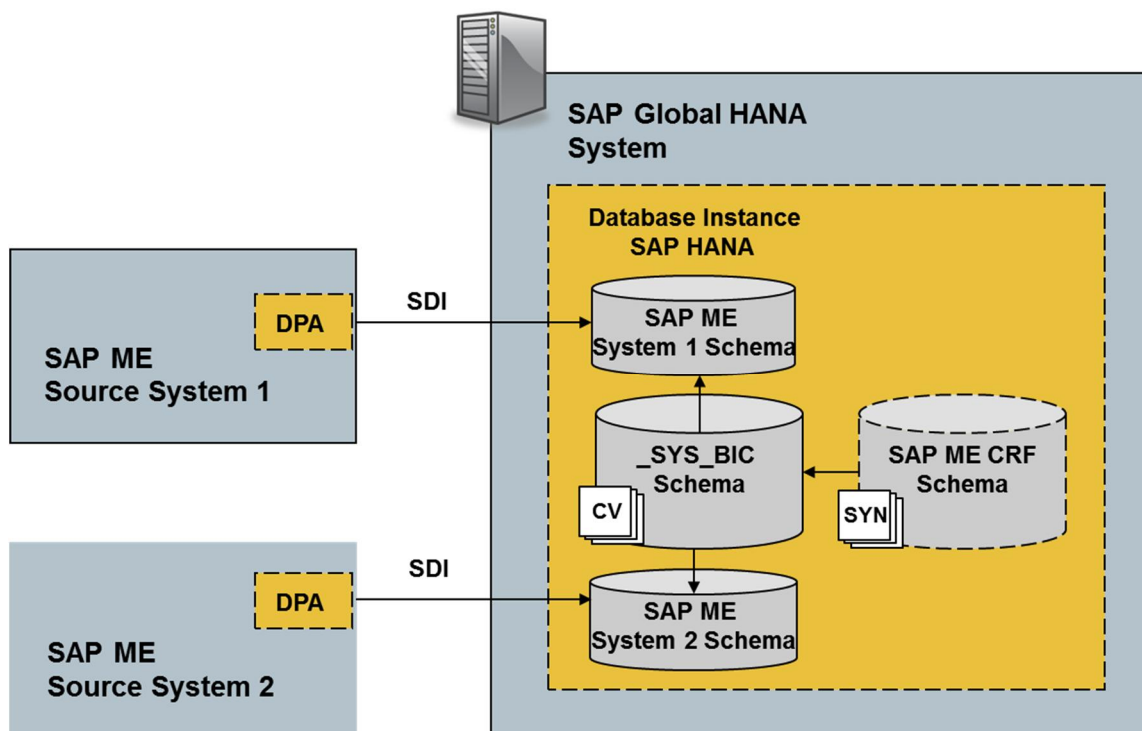
The following items must be available before you can develop reports based on ME CRF:

- A HANA system with the XSA runtime and development infrastructure installed
- SAP ME data and consolidation views
- `XSAC_SAPME_CRF<XX>.zip` installed

For more information about ME CRF installation, see *SAP ME Installation Guide*.

Development Landscape

As shown below, the data from each source database is replicated to its own HANA schema and is combined in views to create a consolidated data source for each SAP ME table. These views are called consolidation views (CV) because they consolidate data from several source databases.



Since it may not be feasible to create a dedicated landscape for development, a single landscape may be shared between test and development.

Report Development

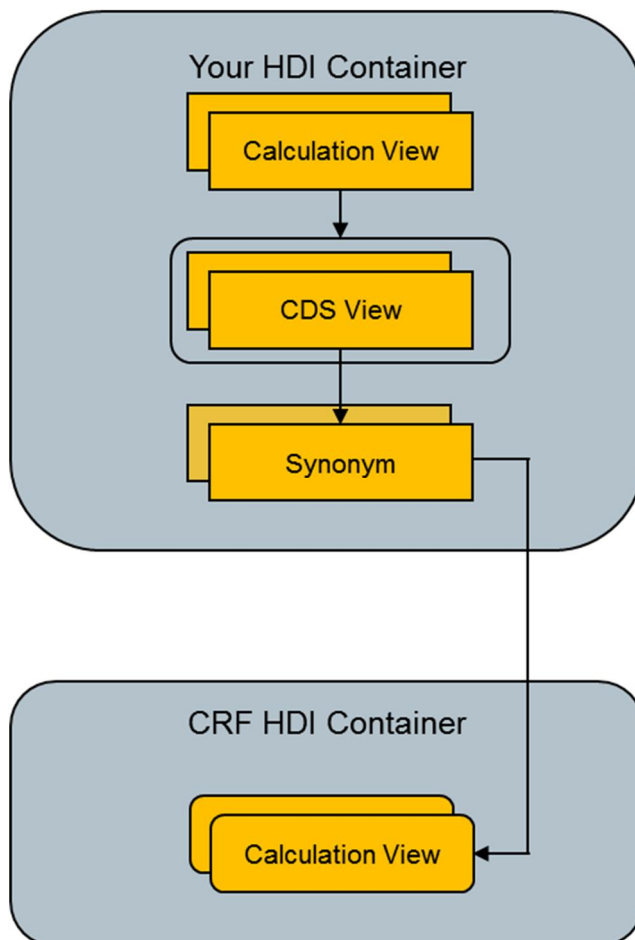
ME CRF is a HANA XS Advanced (XSA) application providing a model for creating reports based on SAP ME manufacturing data. This model is divided into a foundation layer and a report layer. The foundation layer is a set of HANA views that simplify the underlying SAP ME table schema, providing a reporting centric view of configuration and production data. Foundation views are used to create use case-specific report views. The report layer is a set of views based on the foundation layer and it provides several SFC traceability reports.

Creating Calculation Views

You use the SAP Web IDE to create a HANA database module within your multi-target application (MTA) that contains your calculation views. ME CRF views cannot be accessed directly from your calculation views because they are encapsulated in a HANA Deployment Infrastructure (HDI) container. Therefore, you must create CDS views and synonyms to consume ME CRF views.

For more information about HDI and using the SAP Web IDE to create a database module within an MTA application, see *SAP HANA Developer Guide for XS Advanced Model* at http://help.sap.com/hana_platform.

The diagram below shows the database objects that you create in your HDI container to make SAP ME data available to your calculation views:



There is a one-to-one relationship between your synonyms and each ME CRF view. For example, if you need data from the ME CRF foundation view FV_BOM, you would create a synonym pointing to FV_BOM. Additionally, you create a CDS view that exposes columns from your synonym to your calculation views. For example, the following CDS view exposes a subset of columns from FV_BOM.

```
VIEW "myproject.db::CDS_BOM" AS SELECT
  "BOM_REF", "BOM", "REVISION"
FROM "myproject.db::SYN_BOM"
```

Caution: Do not select all columns using SELECT *. The HDI deployer will not redeploy the view when a column is added or removed, making column changes unavailable to the consuming calculation view. If you need all columns, select all of them individually.

Once all data is available in your CDS views, then you can create calculation views to consume them as required by your report use cases.

Security Configuration

Because ME CRF views are deployed in an HDI container, you must configure access from your views to ME CRF views.

ME CRF defines roles that allow your HDI container's technical user to access ME CRF views:

- hana-reporting-foundation.db::ObjectOwner#: Allows your HDI container's technical user to access to ME CRF views.
- hana-reporting-foundation.db::ApplicationUser: Allows applications such as SAP HANA Runtime Tools to access ME CRF views.

These roles must be assigned in the .hdbgrants file in your application as shown in the following example:

```
"crf-container-grants": {
  "object_owner" : {
    "container_roles":["hana-reporting-
foundation.db::ObjectOwner#"]
  },
  "application_user" : {
    "container_roles":["hana-reporting-
foundation.db::ApplicationUser"]
  }
}
```

Your application deployment descriptor (.mta) must include a property key equal to the grants JSON object name so that the container roles are assigned to the technical and application users when your application is deployed. The following example sets the grants property key "crf-container-grants" as a property key for the "crf-container" resource:

```
_schema-version: '2.0'
ID: bigapple
version: 0.0.1
modules:
```

```
- name: db
  type: hdb
  path: db
  requires:
    - name: hdi-container
      properties:
        TARGET_CONTAINER: ~{hdi-container-name}
    - name: crf-container
      group: SERVICE_REPLACEMENTS
      properties:
        key: crf-container-grants
        service: ~{sapme-hdi-container-service}
```

resources:

```
- name: hdi-container
  properties:
    hdi-container-name: ${service-name}
  type: com.sap.xs.hdi-container

- name: crf-container
  type: org.cloudfoundry.existing-service
  parameters:
    service-name: DEV_USER-065yiscf7unbknh2-hana-reporting-
foundation-sapme-hdi-container
  properties:
    sapme-hdi-container-service: ${service-name}
```

Note: The `.hdbgrants` file must be located in your project under `/cfg`.

Finally, you must configure SQL Analytic privileges on your calculation views. This setting is found in the view modeler by selecting *Semantics node -> View Properties -> Apply Privileges*. If you leave this setting unspecified, there will be no restrictions.

Note: When initially creating your views you may want to leave privileges unspecified so that your application and HANA Runtime Tools (HRTT) can access data.

ME CRF View Documentation

ME CRF view definitions contain column descriptions that are available within the SAP Web IDE graphical calculation view editor.

Note: The **DESCRIPTION** column containing material descriptions has been removed from the **ITEM** table. Now the new **ITEM_T** table contains material descriptions in multiple languages. Current views do not support the **ITEM_T** table.