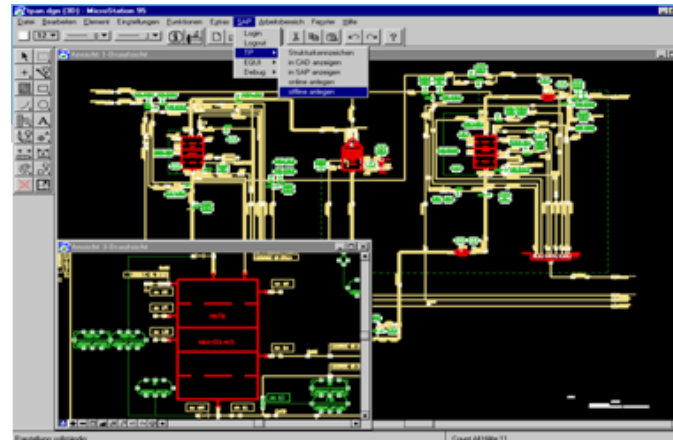


# Graphic WCM Planning

Release R/3 Enterprise 4.7, PLM Extension 1.1

WCM GmbH

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# Motivation

## ■ Requirement

- Planning of lockout/tagout procedures can be supported by a graphic planning tool as it provides a better overview especially in case of complex lockout/tagout procedures.
  - Full illustration of the underlying technical assets.
  - Clear visualization of the relevant operational conditions.
- Two scenarios:
  - Detailed planning of the work clearance document and its items in SAP-WCM plus control and (if applicable) adaptation of the planning via the graphic planning tool.
  - Rough planning of the work clearance document (e.g. only header, but no item data) in SAP-WCM plus detailed planning via the graphic planning tool.
- Example: Integration of SAP-WCM with a CAD system

## ■ Follow-up action

- For the integration of any planning tool, SAP-WCM provides a specific RFC interface (*WCGF\_WCD\_DIALOG*) being called when triggering an adequate menu function during processing of a work clearance document.



## Two related settings in the SAP system

- Activation in WCM Customizing:

In the application profile of the designated planning plant, it is necessary to

- activate graphic WCM planning and to
- maintain the name of the RFC destination

- Definition of the der RFC destination:

In SM59, a respective RFC destination must be defined to setup the connection as soon as the RFC interface (*WCGF\_WCD\_DIALOG*) is called.

# Let's take a look at the application profile ...

Table View Edit Goto Selection Utilities System Help

## Change View "Maintain Application Profile": Details

New Entries

Planning plant 1000 Werk Hamburg

Valuation  
 WCM Operations  
 Electric Signature

**Validity**  
Appl. Validity 365 Day(s)  
WCD Validity 365 Day(s)

**Field Selection**  
 Fld Sel. Application  
 FldSel. WCD

**User-Specific Settings**  
 USp. Application  
 USp. WC Document

**Automate**  
 Release for Exec.  
 Confirm Completion  
 Close Application

**Prerequisite for Issuing Release for Execution**  
Traffic Light Green

**Lockout/Tagout**  
 Graphic WCM Planning  
Destination WCM\_WCD\_RFC

**Checks**  
Ref. Obj. Check Check (standard setting)  
TimeCheck Crit. Check oper. condition and oper. type (standard setting)  
ConflictVerific Notes are displayed (standard setting)  
Crit.TstCyChk Check (standard setting)  
UnCheckCrit. Check (standard setting)

**Multiple Tag**  
Multi-Use Crit. Tech. object, oper. group, oper.condition and oper. type

# ... and at the definition of the RFC destination

**RFC Destination WCM\_WCD RFC**

Connection Test Unicode Test

RFC Destination: WCM\_WCD RFC

Connection Type:  TCP/IP Connection Description

Description 1  
Description 2  
Description 3

Administration Technical Settings Logon & Security MDMP & Unicode Special Options

Activation Type

Start on Application Server  Registered Server Program

Start on Explicit Host

Start on Front-End Work Station

Registered Server Program

Program ID: WCM\_WCD RFC

Start Type of External Program

Default Gateway Value

Remote Execution

Remote Shell

Secure Shell

CPI-C Timeout

Default Gateway Value

Specify Timeout: 60 Defined Value in Seconds

Gateway Options

Gateway Host: usciq43 Delete

Gateway service: sapgw36

Connection to RFC destination via TCP/IP

RFC destination = Registered server program

ID of registered server program

Message server + system number for connection setup by server program



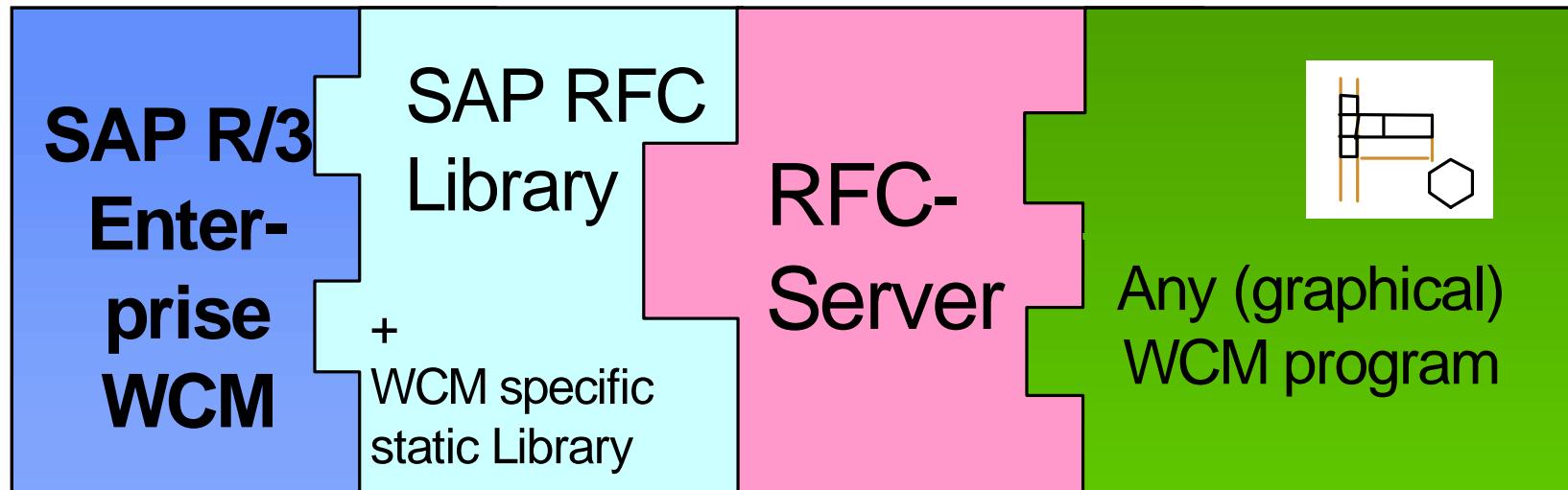
## Details for maintaining the RFC destination

- Type of RFC connection/destination: *TCP/IP*.
- Logical name of RFC connection/destination: *WCM\_WCD\_RFC*.
- Description of the RFC connection/destination: Any; let's write *WCM: RFC server work clearance document (WCD)*.
- Activation type: *Registered server program*
- Program ID of server program: *WCM\_WCD\_RFC*.
- Gateway options: These are depending on the chosen SAP R/3 system:
  - Gateway host: Identifying prefix of the respective message server (the server can be found in the properties of the SAP system in SAP Logon), e.g. *usciq43* for message server *usciq43.wdf.sap.corp* of SAP-internal test system Q43.
  - Gateway service: Typically, string *sapgw* is maintained, followed by the number of the system in SAP Logon, e.g. *sapgw36* for SAP-internal test system Q43.
- **NB:** As long as the registered server for an RFC connection has not been started (which means in particular that no connection to the SAP system has been setup), the connection test in SM59 will issue errors.

## Integration by means of an individual RFC server

- The physical integration via the RFC interface is supported via an individual *RFC server* working as middleware between SAP WCM (planning of a work clearance document) and any external system (visualization and/or planning of lockout/tagout procedures).
- The RFC server consists of two components:
  - *Generic component - Static WCM server library:*  
This library (WCMRFC.LIB) is provided by SAP-WCM. It
    - contains WCD-specific RFC functionality for easy implementation of an individual RFC server and, in doing so,
    - encapsulates relevant RFC basis functionality as provided by the standard RFC library (LIBRFC32.DLL).
  - *Individual component - Executable RFC server program:*  
This program has to be developed additionally (e.g. by a third party) to set up the integration of SAP-WCM to the respective external system. It shall be based on the static WCM library.

# Integration by means of an individual RFC server





## Remarks on the integration between both systems

- The RFC interface is designed for an integration triggered by SAP-WCM exclusively.
- As soon as the RFC interface is called from the R/3 work clearance document, R/3 transfers control to the RFC server.
  - Particularly, the central processing (method *RFProcessData*) for RFC data has to make sure that control is transferred back to SAP as soon as the external system has finished processing of the WCD (and further processing shall be done by SAP-WCM).
  - To any given point of time, only one of both sides may have control on processing of one and the same WCD.
- The identification of technical objects (within a work clearance document) must take place via their status object numbers. This means that if the external system is working with object keys, the server may have to provide an additional database table providing a mapping between the external object keys and the status object numbers.

## Simplified demo example: File-based RFC server

### ■ Idea:

- Simulation of the external system and its processing of WCD data via text files.
- Exchange of data between SAP system and text files (i.e. the external system) by means of a WCM server, that
  - waits for WCD data from the SAP system and saves them in text files on receipt (equates to sending of WCD data to the external system),
  - waits for WCD text files to be maintained (equates to the processing of WCD data by the external system) and sends them to the SAP system on appropriate confirmation by the user.

# Questions and Answers



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