sophisTex
sophisticated technology

sophisTex Solutions eXtended Change Management (XCM)

Solution Overview Version 2025.5

eXtended SAP S/4HANA Change Record Functionality & Conversion from PLM7 Engineering Record

sophisTex | Overview

technical & functional focus

since 2012

Expertise

- (E)PPM
- PLM
- PDMI/Integration
- Workflows, BTP
- SAP ERP & S/4HANA
- ABAP and Fiori

Team

- 40 employees
- 30+ full-stack developers

Focus Areas

- SAP PLM & PPM
- Add-on solutions & integrations
- Full-stack development
- SAP S/4HANA Transformations

Our Work

- 50% Solution & Maintenance
- 50% Customer Projects & Enablement

SAP Certified
Integration with RISE with SAP S/4HANA Cloud

SAP Silver Partner

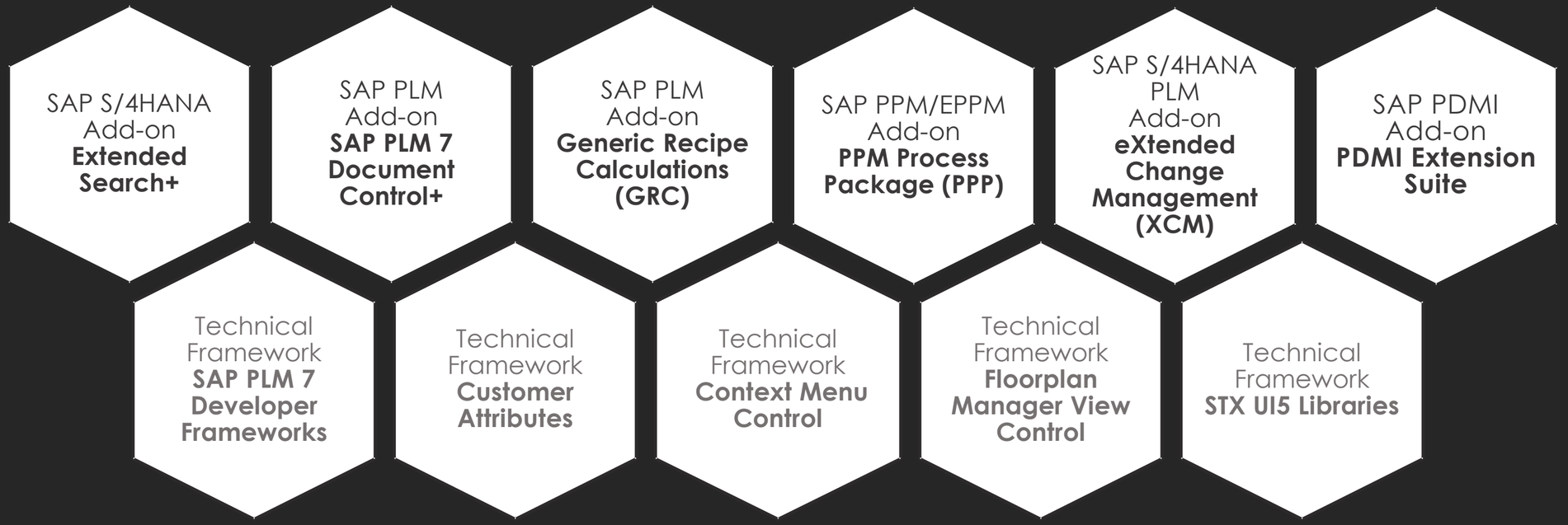
© 2025 sophisTex | PUBLIC

sophisTex | Locations

© 2025 sophisTex | PUBLIC

sophisTex | Solutions

STX Add-on solutions



STX Technical Concepts

© 2025 sophisTex | PUBLIC

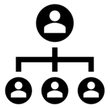
XCM | Solution Overview

sophisTex eXtended Change Management (XCM)

A powerful add-on to extend the Change Record of SAP S/4HANA following the **Clean Core** principle

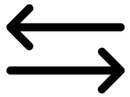
Advanced Process Route
An extended process control framework simplifies your processes

Process Builder
Simulates the end-to-end process before it gets started and allows you to add tasks and agents

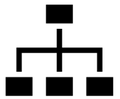


Agent Determination
Allows determination by parameter value and business org. hierarchy

Dynamic Field Control
Handles field and button properties by various header fields



Migration Cockpit
Offers transformation of ER data to CR data



Transform ACM Hierarchy
Migrates ACM hierarchy to T&R

S/4HANA CR & MDG-M Integration
Integration of CR with MDG-M to streamline the Material Creation / Change process

© 2025 sophisTex | PUBLIC

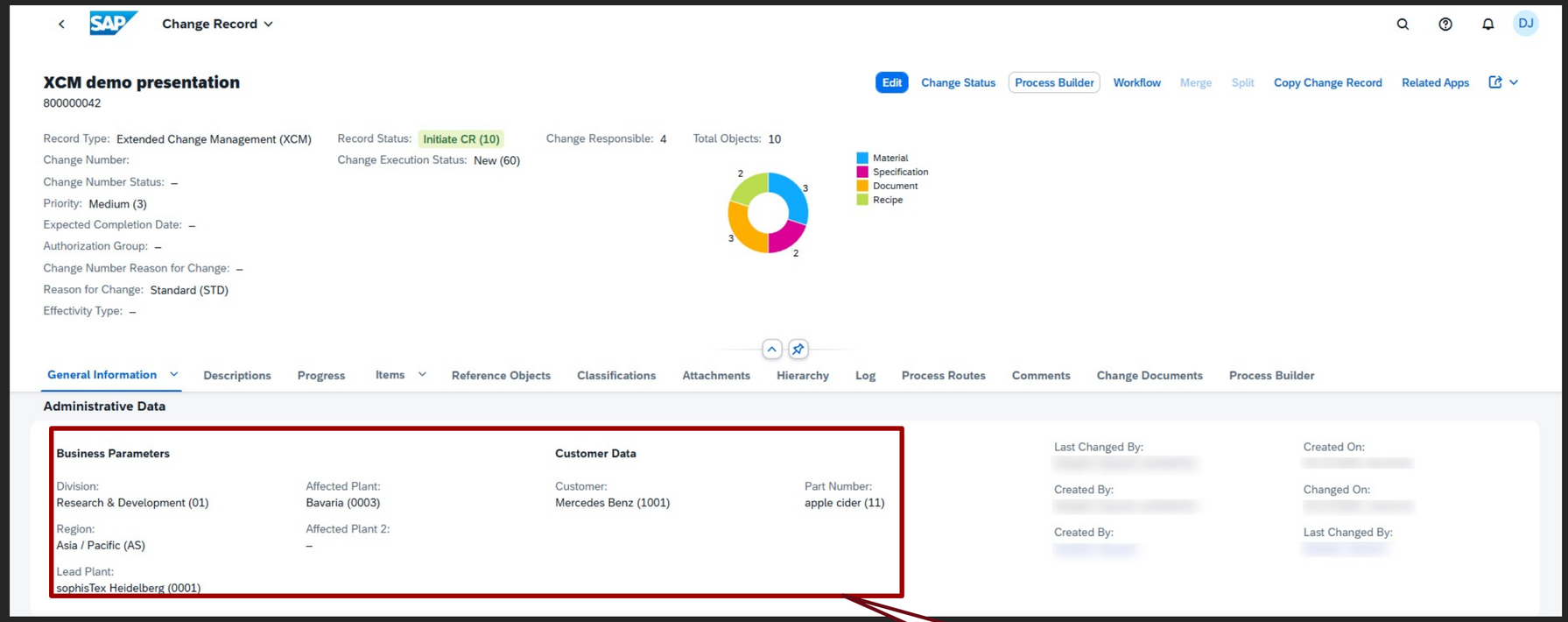
PLM CR with Custom Field using Key User Extension

Key User

Create Custom Field

Adapt UI

Design your screen fields



Custom fields are added to the CR Header

© 2025 sophisTex | PUBLIC

Process Route: Solution

Set up the Standard Process Route Customizing

Define all possible Process Tasks with Business Parameter

Define the Tasks per status based on CR Header context

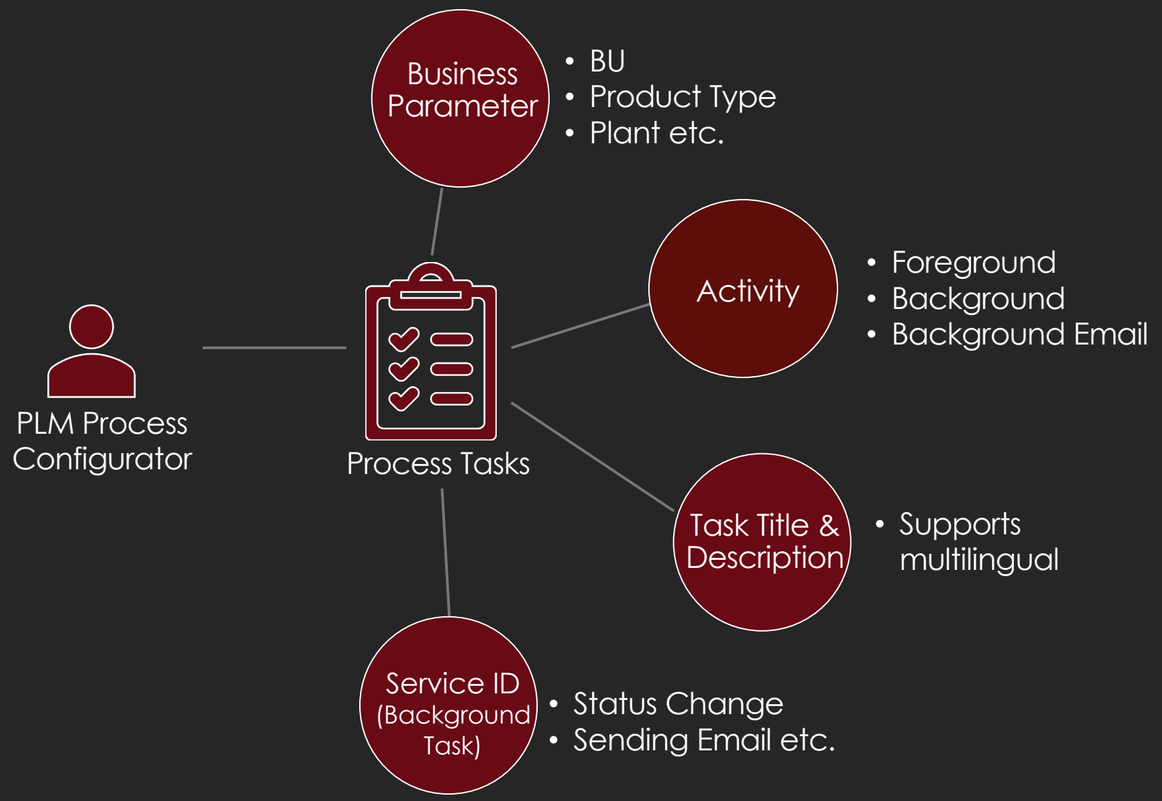
Define the Status determination rule as per CR Header context and Task decision

Activate the XCM Global Process Route Template

© 2025 sophisTex | PUBLIC

Process Route: Define Process Tasks

- XCM enhances the functionality of the Process Route Item's "Activity" by introducing a new semantic element called "Task ID." This element can include a Task Subject and Task Description, both supporting multiple languages. Additionally, it offers the option to reference tasks using parameters.
- The PLM Process Configurator allows organizations to define all necessary Process Tasks tailored to their specific Change Management requirements.



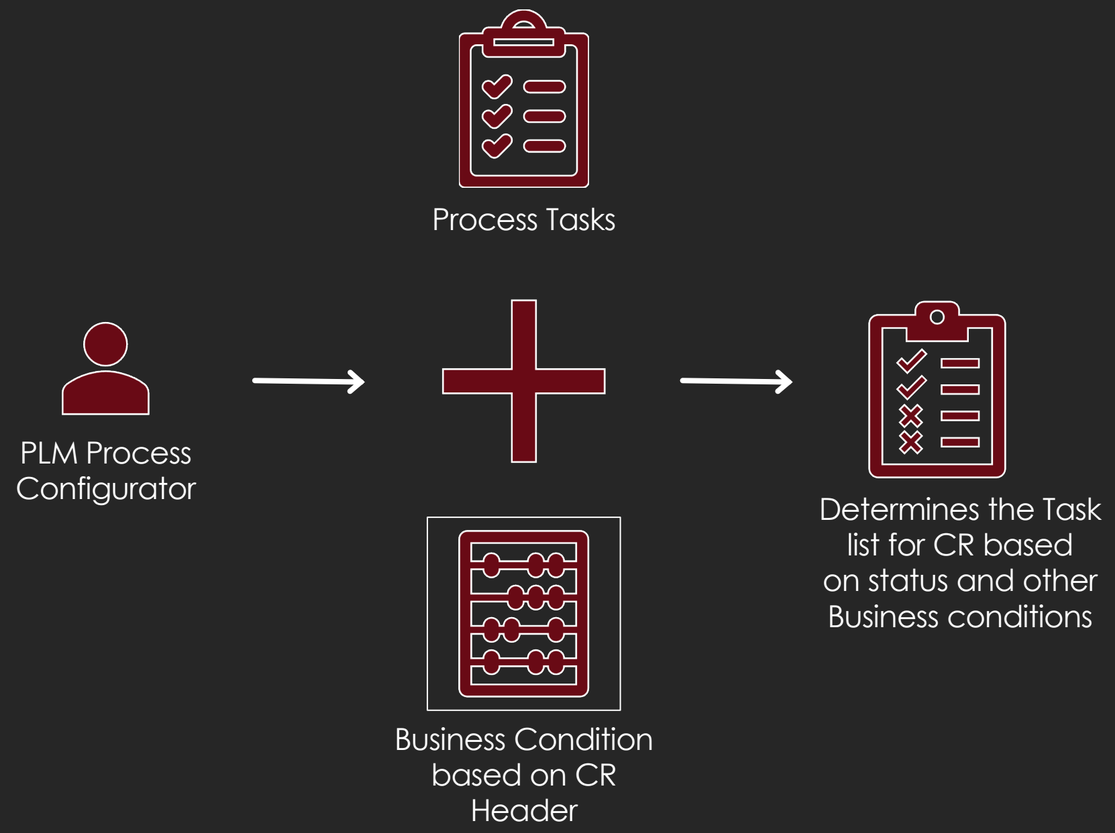
Task ID	Task Subject	Task Desc	Activity	Service ID	Parameter name	Is Email Task?
MASTER_C	Material deregistration	Material deregistration			PLANT	
REWORK	Review and Complete	Review and Complete				
STATUS_CHG	Change CR Status	Change CR Status	S_CR_STC	STATUS_CHANGE		

© 2025 sophisTex | PUBLIC

Process Route: Configure Process Tasks per status

The **PLM Process Configurator** defines the list of tasks for each status using BRF+ rules.

- Tasks are configurable per status, based on the context of the Change Record Header.
- Task sequencing can be specified, with options to execute tasks sequentially or in parallel.
- Each task includes a designated Agent Type and specific Agent.
- Tasks can be marked as optional to deactivate them for Change Records.



Advantages of the BRF+ Rule Approach over the Template Method:

- Simplifies simulation and validation of tasks determined by status and business criteria.
- Keeps templates streamlined by eliminating the need to create multiple templates for different business scenarios.
- Empowers the Business Team, such as Admins or Key Users, to configure tasks directly in production, reducing reliance on IT resources.

CR Type	Status	Decision	BU	Plant	Task	Sequence	Agent Type	Agent	Optional
S01	10		BU01	0110	MASTER_C	1			
S01	11				REWORK	1			

© 2025 sophisTex | PUBLIC

Process Route | Solution in Detail

Generic Process Route Template is created which is linked to all status of the CR

- Sequential – Background task for task creation
- Sequential – Background task for next status

Background task for task creation

- Generic implementation reads XCM BRF+ Rules for “Tasks per status”
- Creates tasks required for the status based on results of the BRF+ Rules by passing all the relevant header fields
- Business parameters are available in CR Header, reading parameters is achieved in the service function by passing data to the process route

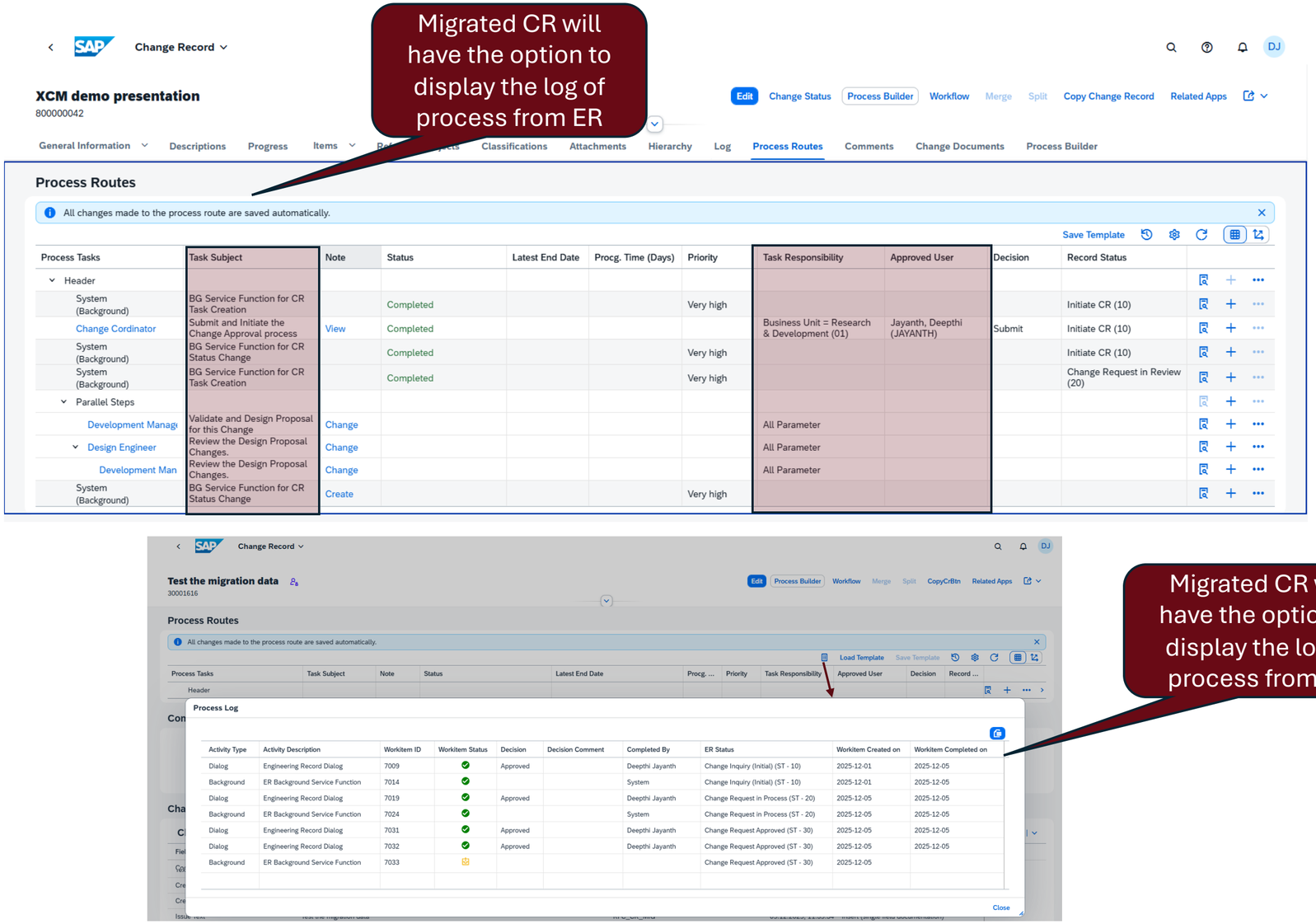
Agent Determination

- Task parameters defined for a task are used to identify agents from Teams and Responsibility Management (T&R) by navigating through the Teams hierarchy

© 2025 sophisTex | PUBLIC

Process Route | PLM CR Process Route with XCM

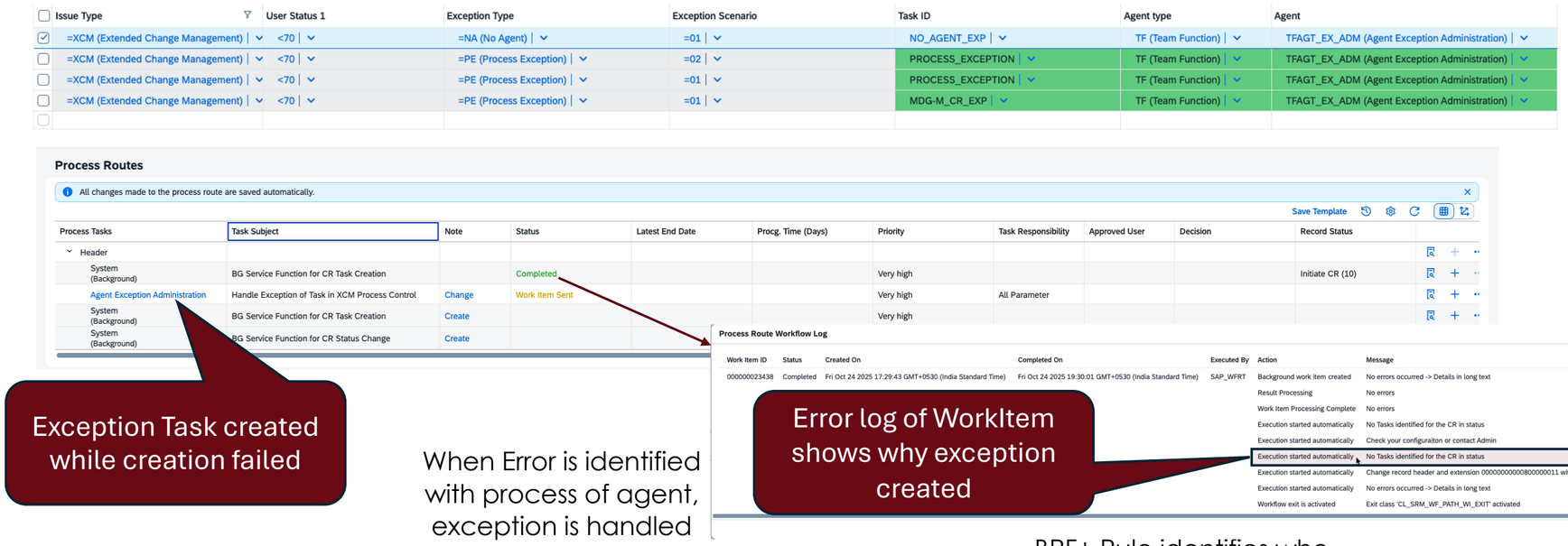
- Process tasks for the current CR status are automatically determined based on predefined rules maintained in BRF+
- Statuses of CR headers and change items (such as BOM, Material, and Document) are updated via the process route, following BRF+ rules to enhance efficiency and maintain consistency
- Graphical view is available for visualizing the workflow log
- Agents for the workflow tasks are automatically determined based on CR header values by traversing the Teams hierarchy and Responsibility definitions



© 2025 sophisTex | PUBLIC

Process Exception Handling

- Process exception and Agent Exceptions are captured during background processing
- In case of missing customizing or error in data, process exception is handled and task created to Admin to fix this issue
- In case of missing Agent, Agent exception is handled and task created to Admin to fix this issue
- Once Admin fixes and resumes the task, the background task which ended in exception is resumed again and completed



Exception Task created while creation failed

Error log of WorkItem shows why exception created

When Error is identified with process of agent, exception is handled

Background processing of workflow

BRF+ Rule identifies who should be addressed for such exception

Task resumes once Admin fixes the issue and sets the task to continue

Admin receives task to address the exception occurred

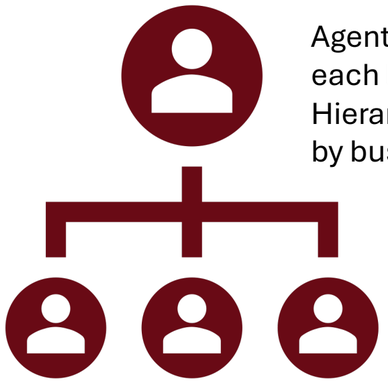
More details

Exception Handling in Process Control

© 2025 sophisTex | PUBLIC

Extension on Teams and Responsibility

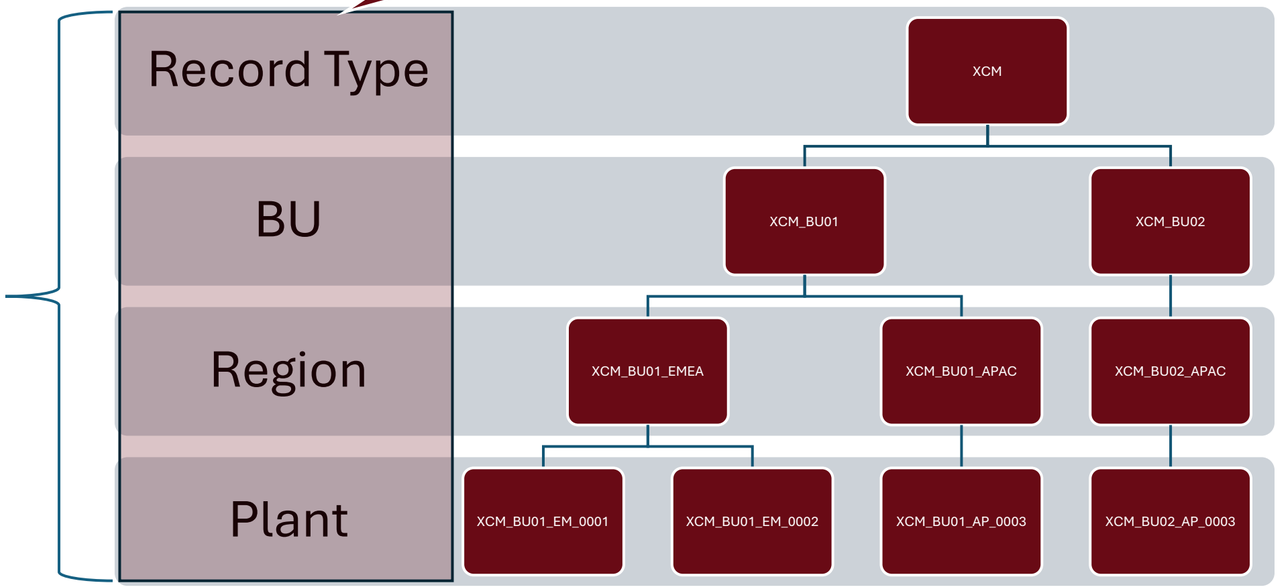
- XCM Prefers to use the Standard Teams and Responsibility for Defining Agents in Org Hierarchy
- Business Parameter is extended to Teams with its Responsibility Definition feature
- Agent Determination is extended by XCM to identify the leaf of the hierarchy based on Business Parameter Hierarchy
- Supports the user to understand from which Teams the agent was identified



Agents assigned at each level of Hierarchy classified by business function

Business Parameters in each level are mapped with Change Record Header field attached to each process Task

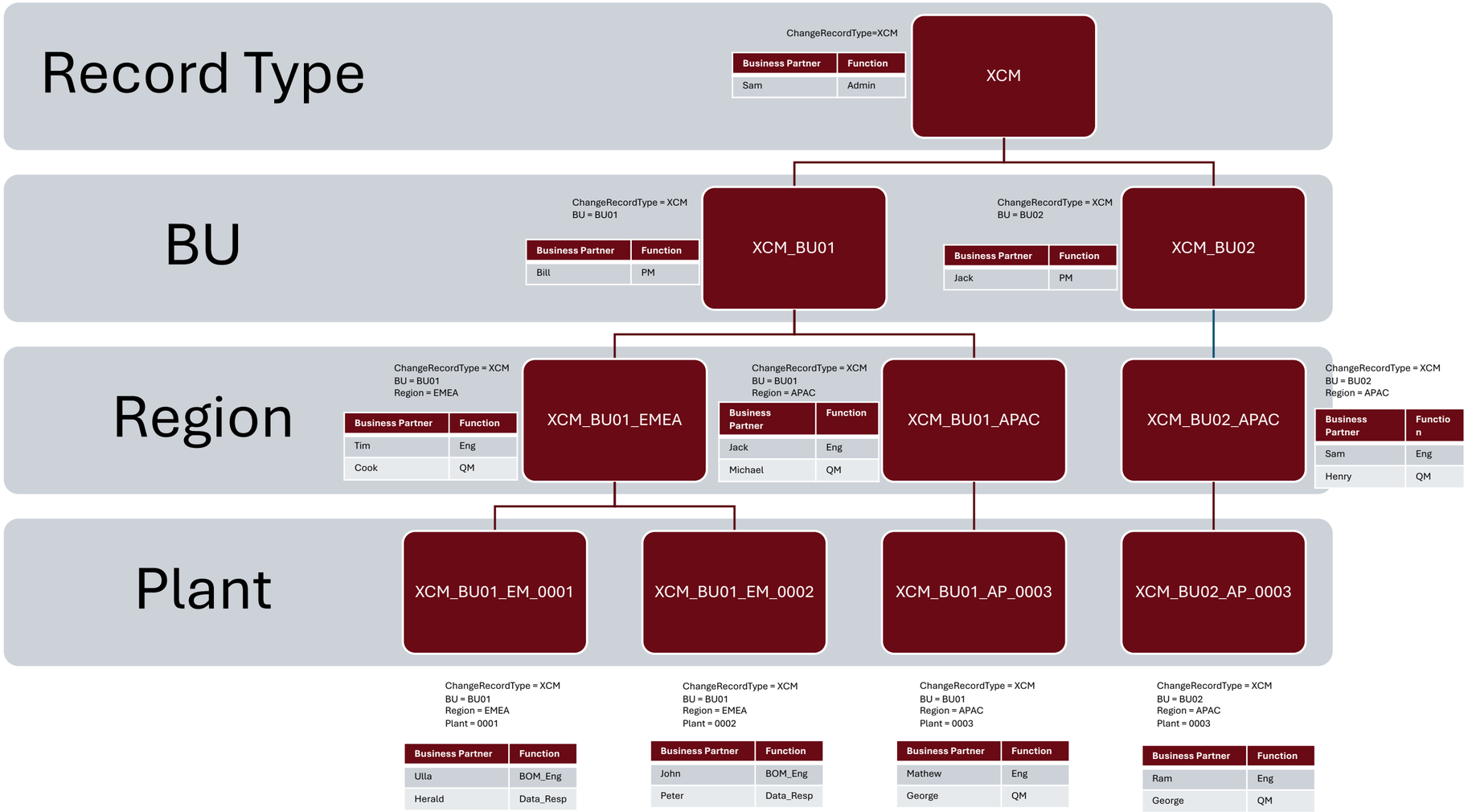
Each Level represents the Business Parameter inheriting from its previous level



© 2025 sophisTex | PUBLIC

Teams Hierarchy – Agent Determination on Leaf Level

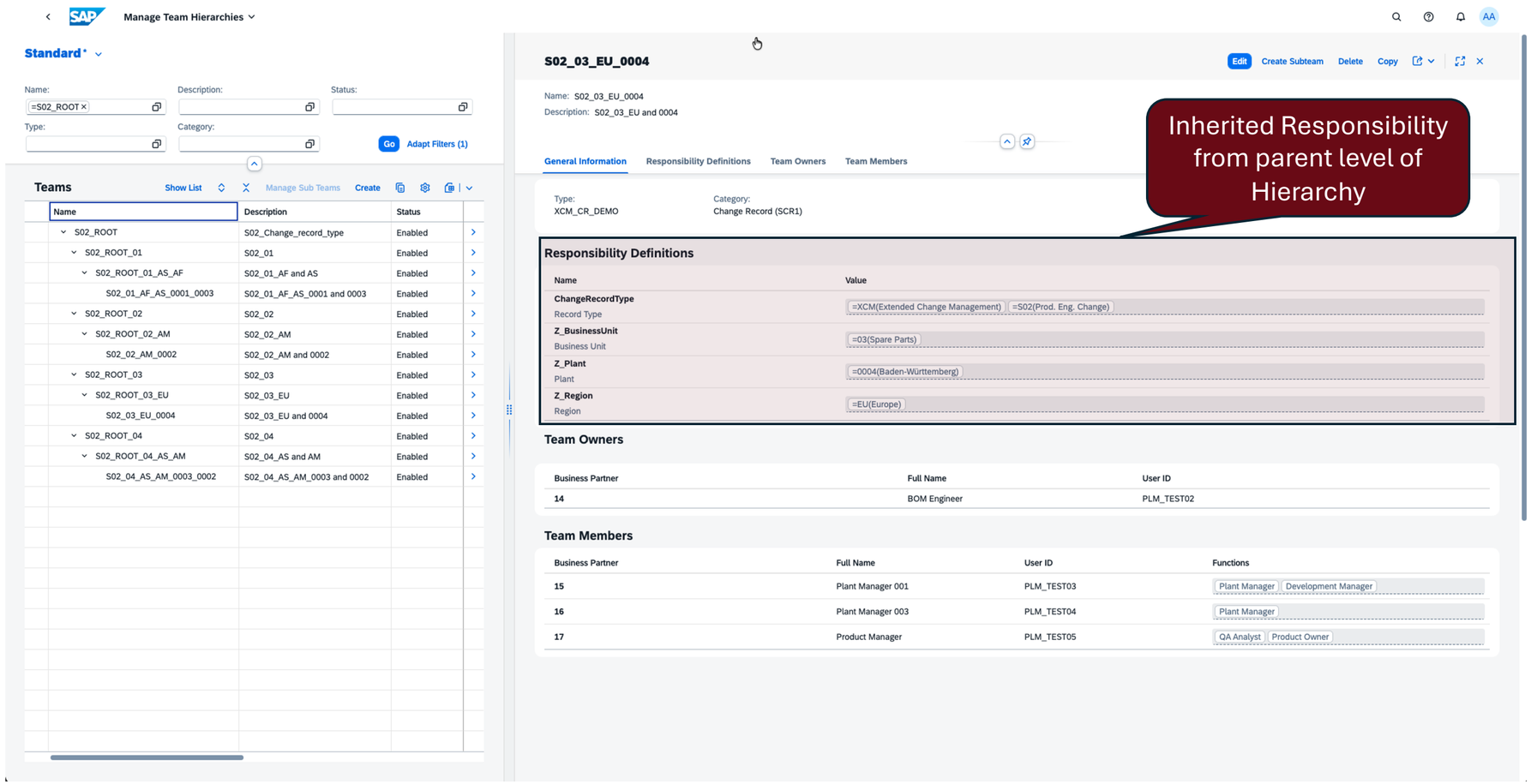
- Sample Hierarchy with Agent assigned against the right function
- Agent is determined based on most matching parameter
- Identifies leaf of each hierarchy level to fetch the right agent



© 2025 sophisTex | PUBLIC

PLM CR Teams Hierarchy with XCM

- Complex Team hierarchy can be created using Responsibility definitions within the standard Teams and Responsibility Management
- Teams can be maintained hierarchically by leveraging super and sub-teams with different responsibility parameter combinations
- This enables the determination of responsible agents for process tasks by matching CR header parameters with responsibility definitions in the Teams hierarchy
- Business Partners can be assigned to specific Functions

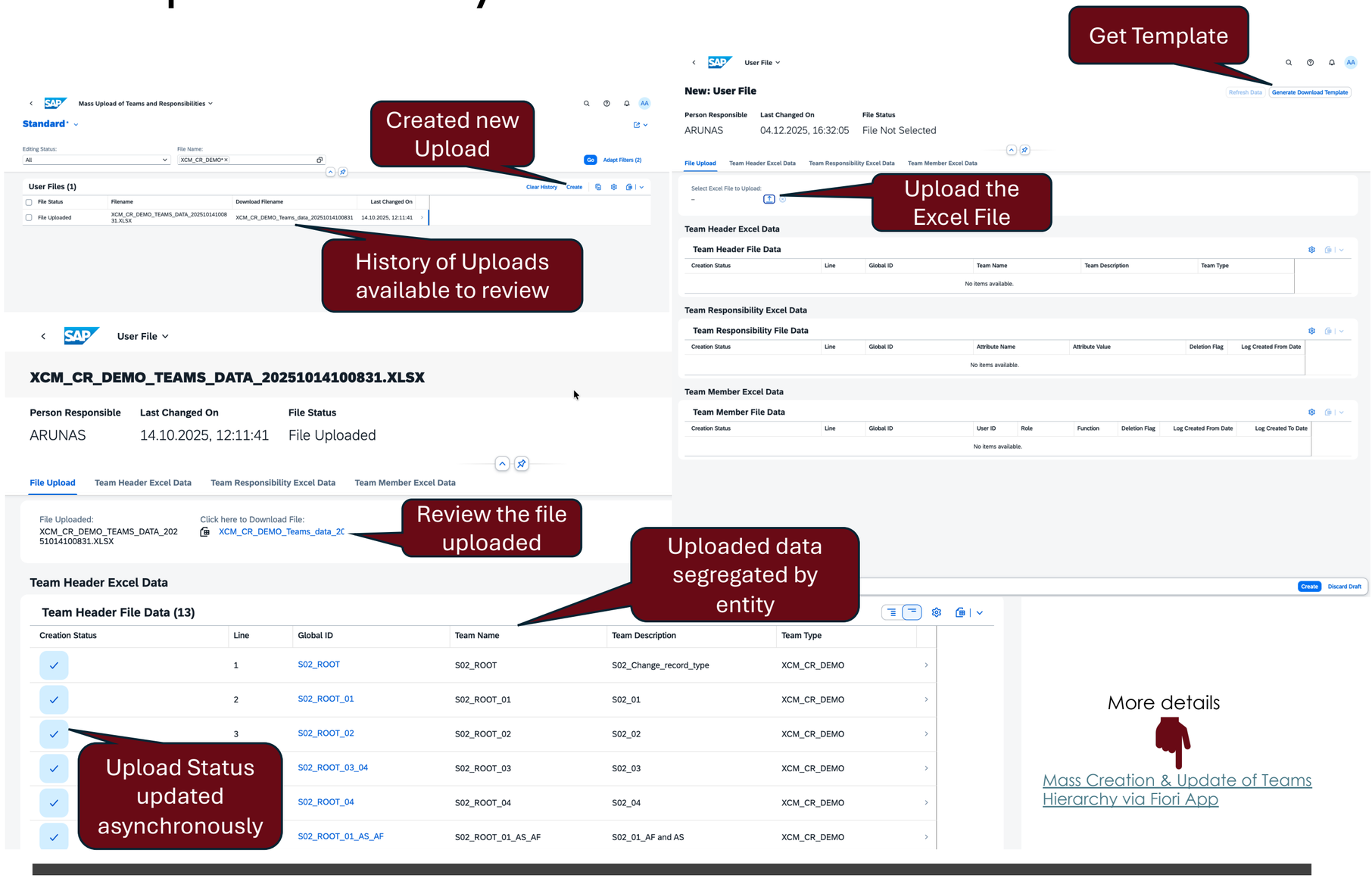


More details Agent Determination Dynamically

© 2025 sophisTex | PUBLIC

Mass Upload of Teams and Responsibility

- Existing Org hierarchy or other agent hierarchy (like ACM) could be transformed and uploaded using the Fiori based Mass upload to Teams and Responsibility app
- Download the Template, either empty or with existing data, for reuse during upload
- Upload history can be reviewed at any time
- Data is uploaded asynchronously, creating and updating Teams, and log updated to Application log



© 2025 sophisTex | PUBLIC

Process Builder

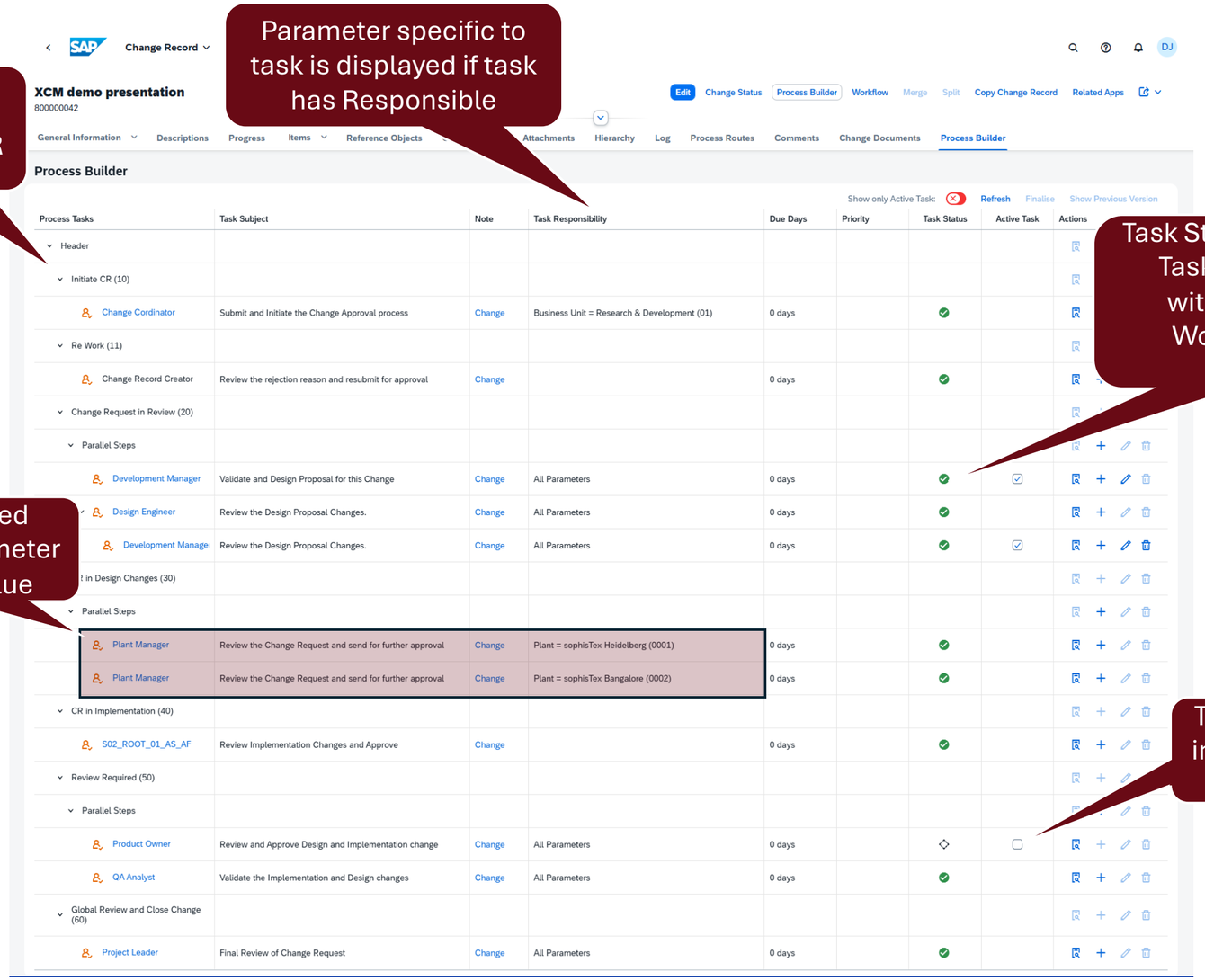
- Process Builder is a XCM application designed to simulate end to end process at the start of the CR creation and when process relevant parameter(s) are changed
- User can simulate and check the process tasks and ensure its consistency to deliver tasks to all the process responsible
- Also simulates the agent determination with option to add or remove agents
- Designed and developed to match the Process Route UI, keeping the design of Standard unchanged.

Simulate Tasks for CR	Simulates tasks for a CR by reading the configuration
Deactivation of Tasks	User has the option to deactivate optional tasks of configuration for a specific CR
Add Custom Tasks	Adding of new tasks sequential or parallel possible by the user
Agent Determination	Simulates the agent determination based on all possible agent sources of Task
Modify Agents	Additional agents are possible to be added by the user for each specific task and remove existing agents

© 2025 sophisTex | PUBLIC

Process Builder

- Sample Simulation showed in diagram
- You can skip optional tasks by disabling the active task flag for specific CR
- Task Status shows “Green” if it can be delivered as Work Item, else shows “Red” with Error on mouse over
- Single Task by parameter in configuration is multiplied by rule based on the number of values in CR for this parameter.
- Task is differentiated as “Dialog”, “Background” or “Info Email” using icons in Process Tasks column



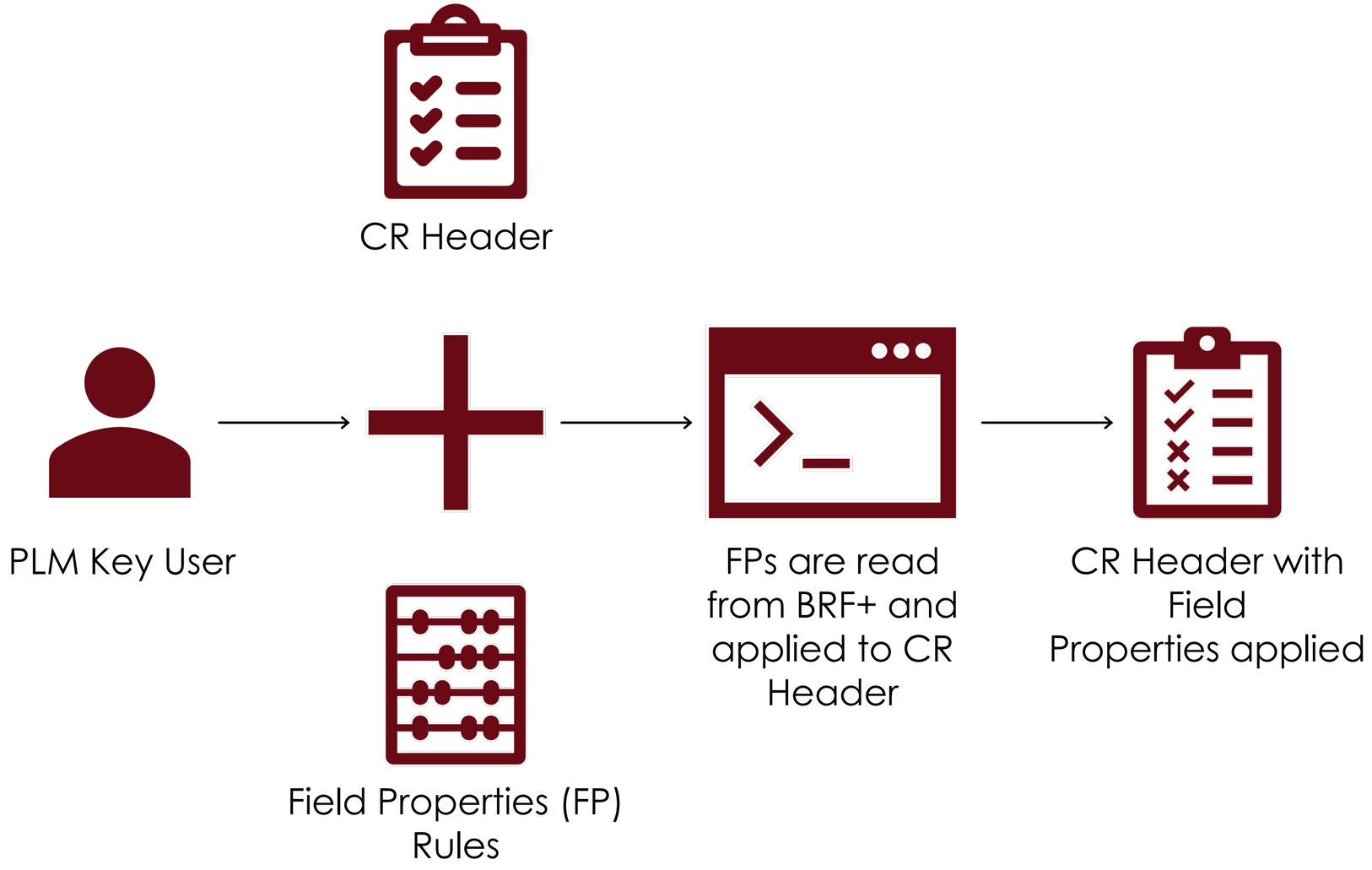
More details

Process Builder

© 2025 sophisTex | PUBLIC

Dynamic Field Control

- Standard Dynamic field property feature is restricted to handling field control by Status and Record Type
- XCM Add-on enhanced this with code and BRF+ decision table, enabling the key users to maintain the rule without any code
- PLM key user defines field properties in the BRF+ decision table based on CR header attributes
- Conditional field properties are supported based on the CR header

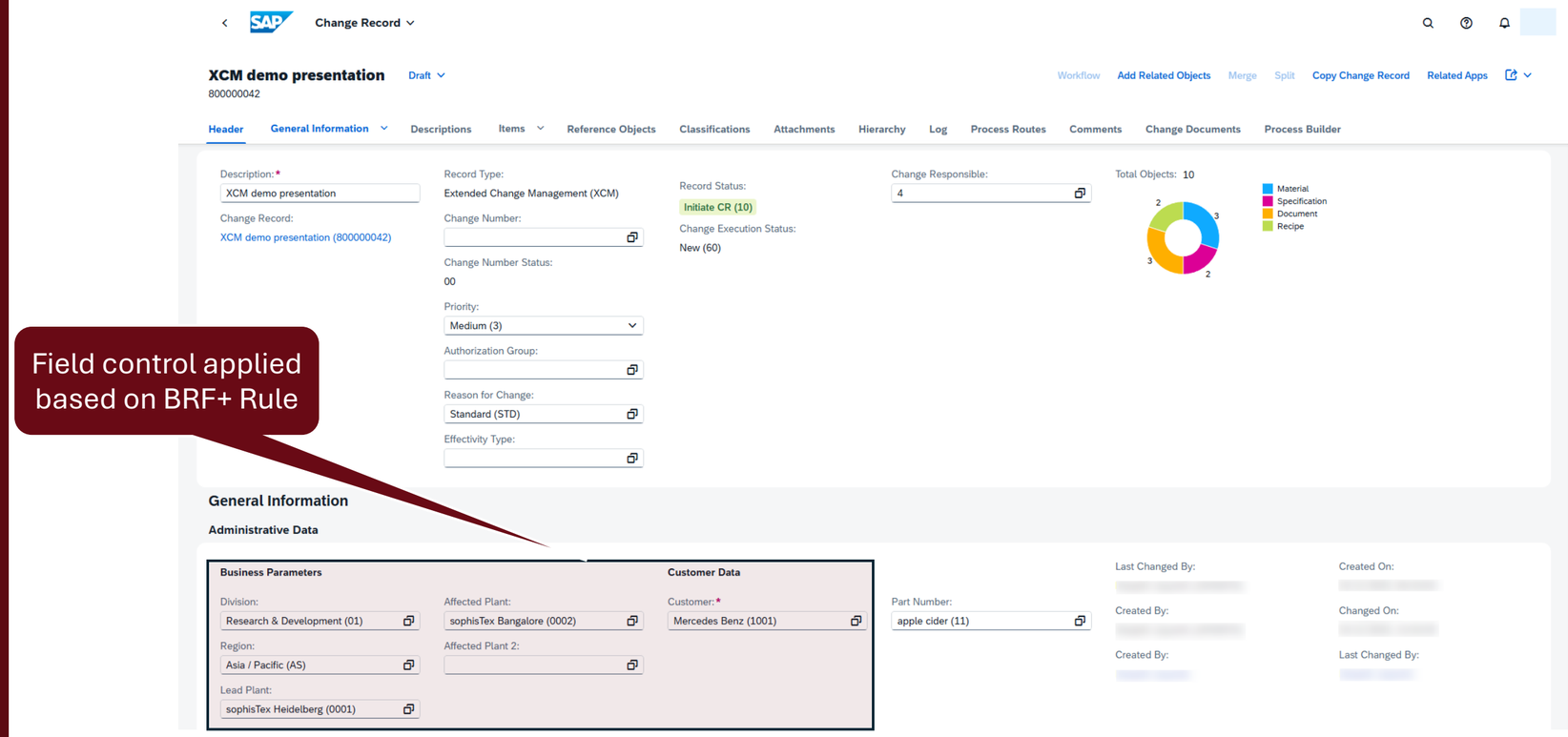


© 2025 sophisTex | PUBLIC

PLM CR Dynamic Field Control with XCM

- CR header fields can be dynamically controlled through BRF+ rules
- As shown in the screenshot, both standard and custom fields are handled through XCM's dynamic field control
- In the example here, after the CR is created, Business Parameters become mandatory
- Mandatory, Editable, Read-Only and Visible and supported field property

Record Type	Record Status	Division	Region	Lead Plant	Affected Plant	Affected Plant 2	Affected Plant 3	Change Record Reason	Node Name	Field Name	Field Property
=XCM (Extended Change Management)									FIELDS (CR field property)	ZZ1_CUSTOMER_IRT	7 (Field: Mandatory)
=XCM (Extended Change Management)				is initial	is initial				FIELDS (CR field property)	ZZ1_PLANT1_IRT	0 (Field: Hidden)
=XCM (Extended Change Management)					is initial	is initial			FIELDS (CR field property)	ZZ1_AFFECTEDPLANT2_IRT	0 (Field: Hidden)
=XCM (Extended Change Management)						is initial	is initial		FIELDS (CR field property)	ZZ1_AFFECTEDPLANT3_IRT	0 (Field: Hidden)



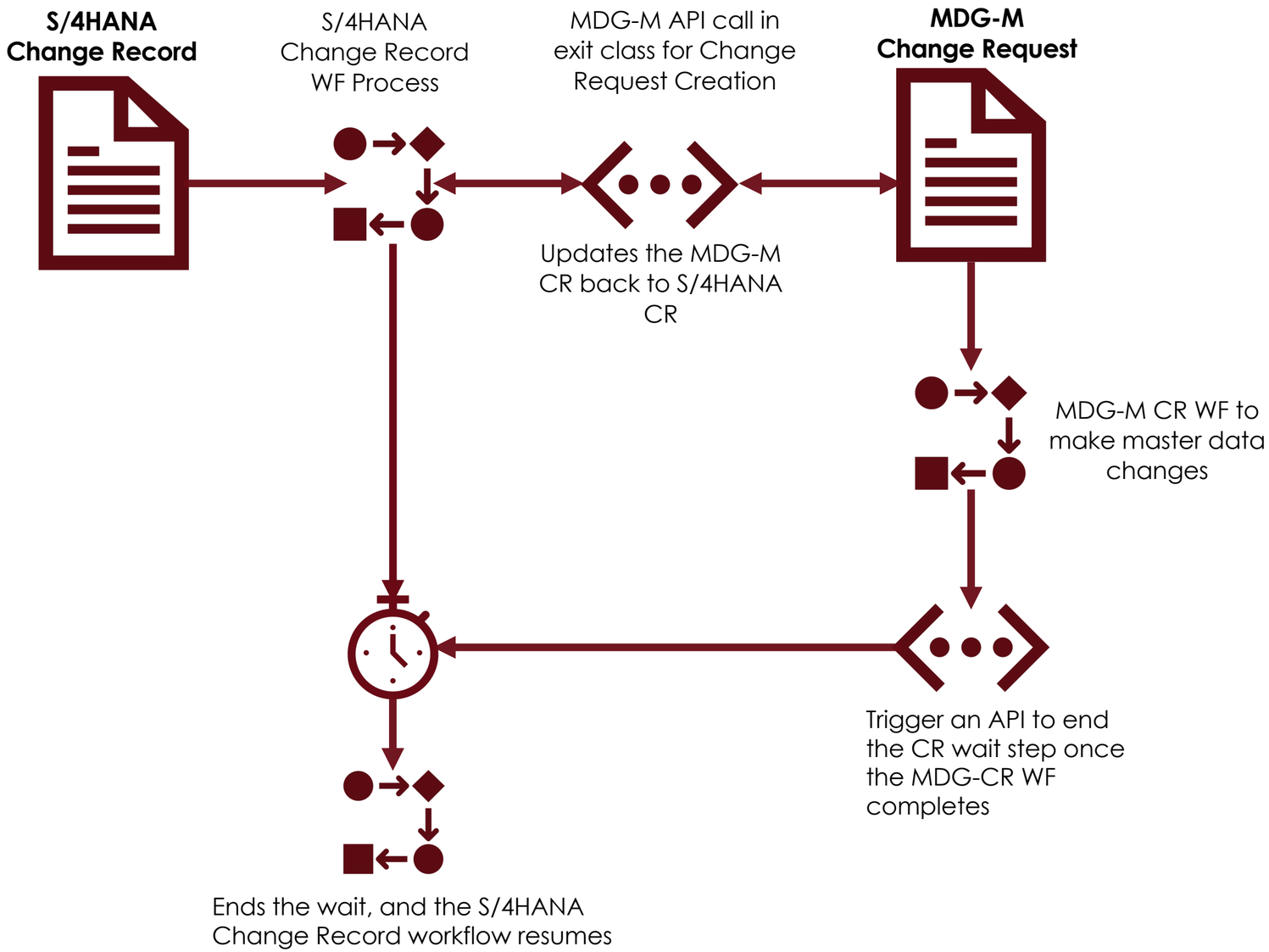
More details

Dynamic Field Control

© 2025 sophisTex | PUBLIC

S/4HANA CR & MDG-M Integration

- MDG-M integration with S/4HANA CR is not in standard, its an out of the box feature delivered through XCM
- MDG-M integration is handled through the Process Route workflow, where XCM tasks can be configured in the desired Change Record status to trigger the MDG-M process
- After the MDG-M CR is created via API, the CR number is updated back to the Change Record, and a wait step is added to the Process Route
- On completion of the MDG-M CR Process, an API call ends the wait step and the CR process continues.



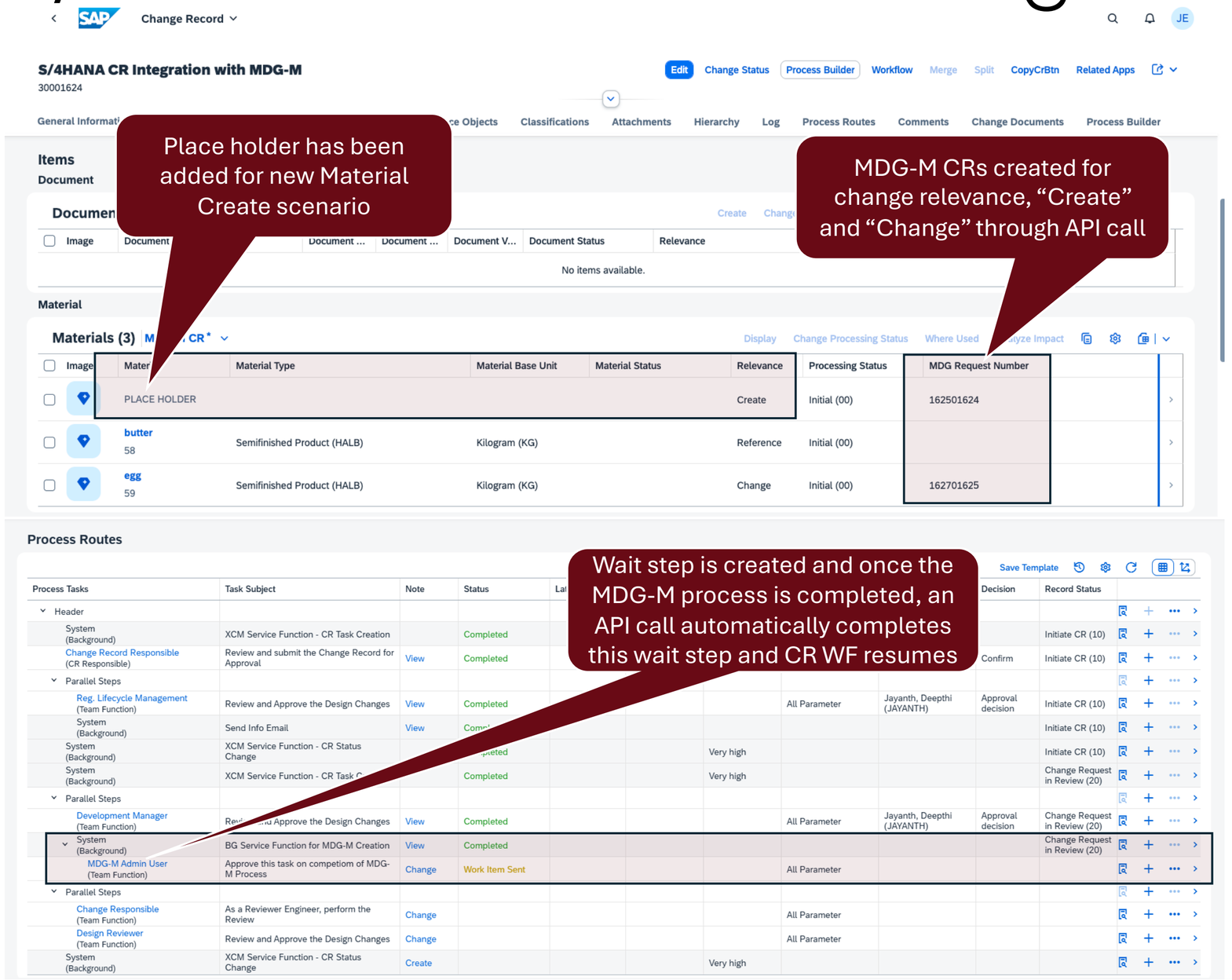
More details

S/4HANA CR integration with SAP MDG-M

© 2025 sophisTex | PUBLIC

S/4HANA CR & MDG-M Integration

- Change Record Initiates the change process, and MDG-M governs Material Master - seamless integration ensures smooth end-to-end changes
- Ensures data accuracy through governance, validations, and controlled workflows
- Improves efficiency for faster and controlled material master changes
- Reduces risk with complete audit trails, compliance checks, and consistent data
- Robust retry logic and exception exception handling

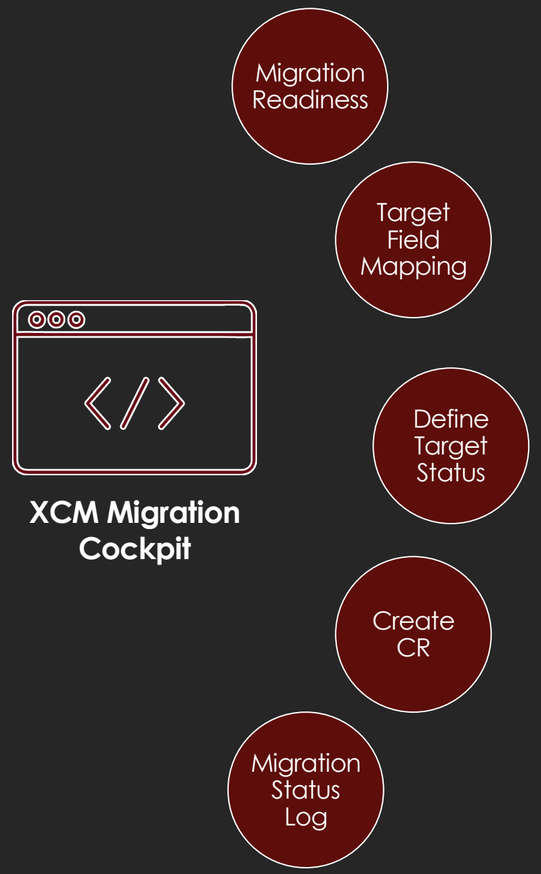


More details

S/4HANA CR integration with SAP MDG-M

© 2025 sophisTex | PUBLIC

Migration Cockpit – Component Diagram



Migration readiness checks provide a summary of the readiness

- If ER workflows have started and tasks are approved, the ER isn't ready for migration unless the user confirms and reinitiates the process from the current status.
- If the ER workflow hasn't started or no tasks are approved, it is ready for migration, creates the CR and loads the corresponding route at the CR level.

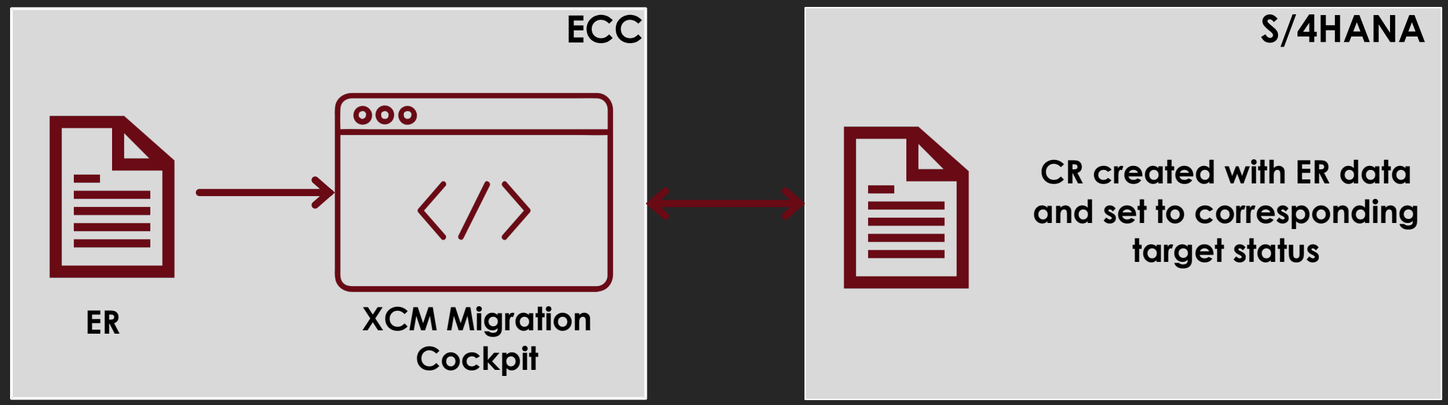
Target field mapping provides the mapping to ER and CR custom fields

Target status provides the ER to CR status mapping when status nets differ

Once all validations are successful, the CR is created

Migration status is updated back to the XCM Migration Cockpit to provide a summary of migration, reprocess tasks, and prevent duplicate CR creation.

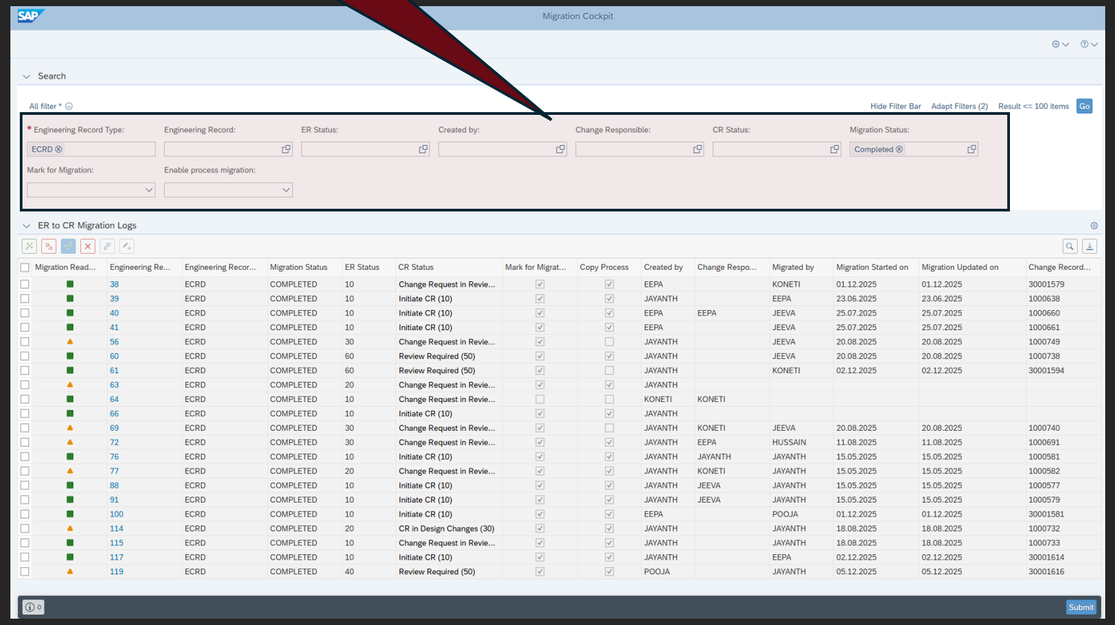
XCM Migration Cockpit also offers on-demand migration through a custom button at the ER level, allowing authorized users to migrate a specific ER to CR at any time.



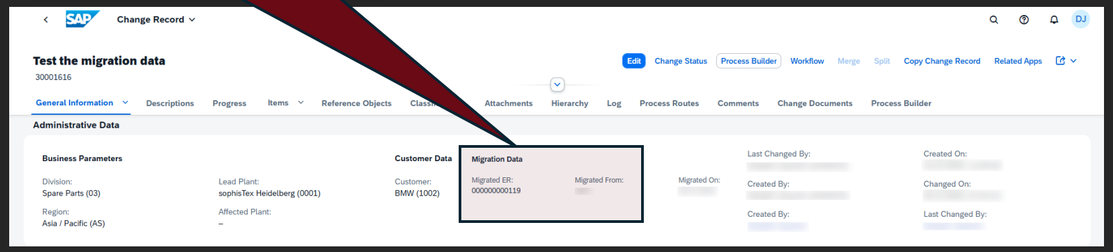
© 2025 sophisTex | PUBLIC

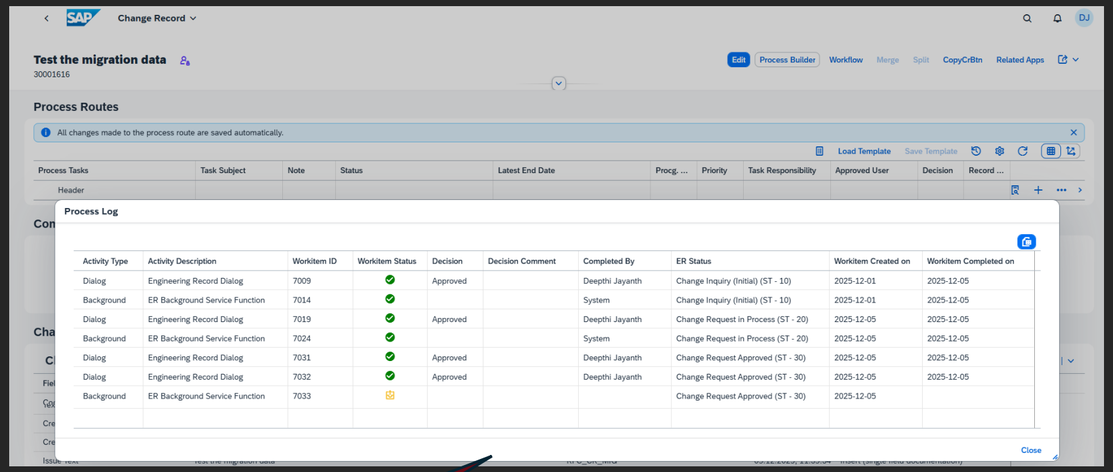
Migration Cockpit

Migration can be done for selected record using the filter in Migration Cockpit



Information of migrated data





Process Information is migrated and shown as log on demand

More details

Migration Cockpit (ER → CR)

© 2025 sophisTex | PUBLIC

Features availability matrix – PLM7 ER vs S/4HANA CR vs CR+XCM

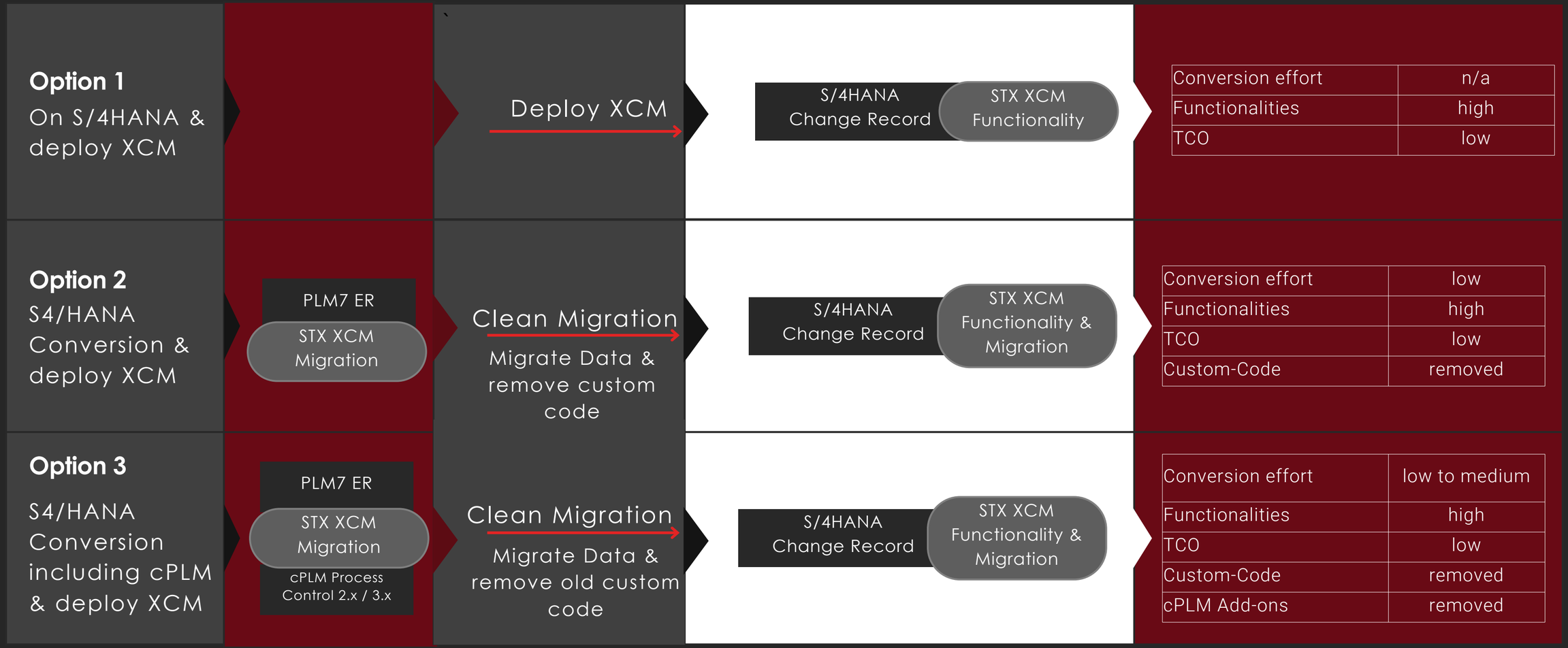
Feature	PLM7 ER - Standard	PLM7 ER + cPLM	S/4HANA CR-Standard	S/4HANA CR + XCM
Custom Fields on header area	Yes	Yes	Yes	Yes
Dynamic Field Control via BRF+	Limited to ER Type	Yes	Limited to CR Type	Fully Dynamic Possible
Auto-determine Process Route Templates for CR Status and other fields	No	Yes	Yes	Yes (But only Process tasks are determined, no templates required)
Process Route Background Tasks	No	Yes	Yes	Yes
Process Route tasks with Parameters	No	Yes	No	Yes
Task Multiplication (create same task for different plants or for other parameters)	No	Yes	No	Yes
Approval Decision Exits	No	Yes	No	Yes
Status Transition with BRF+	No	Yes	Yes	Yes
Process Route Simulator	No	Yes	No	Yes (Displays PR Steps and Agents from T&R)
Teams & Responsibility (T&R)	No	Yes, via ACM Parameters	Yes, via SAP Standard T&R, limited options*	Yes, full flexibility**
UX Experience & Performance	Old WDY screens with slow backend logic	cPLM ACM slows down further ER performance	SAP Fiori (Modern, stable, device agnostic)	SAP Fiori UX with CDS & RAP scalable solution
ER to CR Migration	-	-	No	Yes, with different Migration options

** SAP Standard offers Team and Responsibility(T&R) Management, within the standard, only the CR Type parameter supported*
*** Team and Responsibility enabled to support multiple parameters to determine Teams, Functions, and Team members, additionally supports the Teams hierarchy*

© 2025 sophisTex | PUBLIC

Deployment Options: Full Flexibility

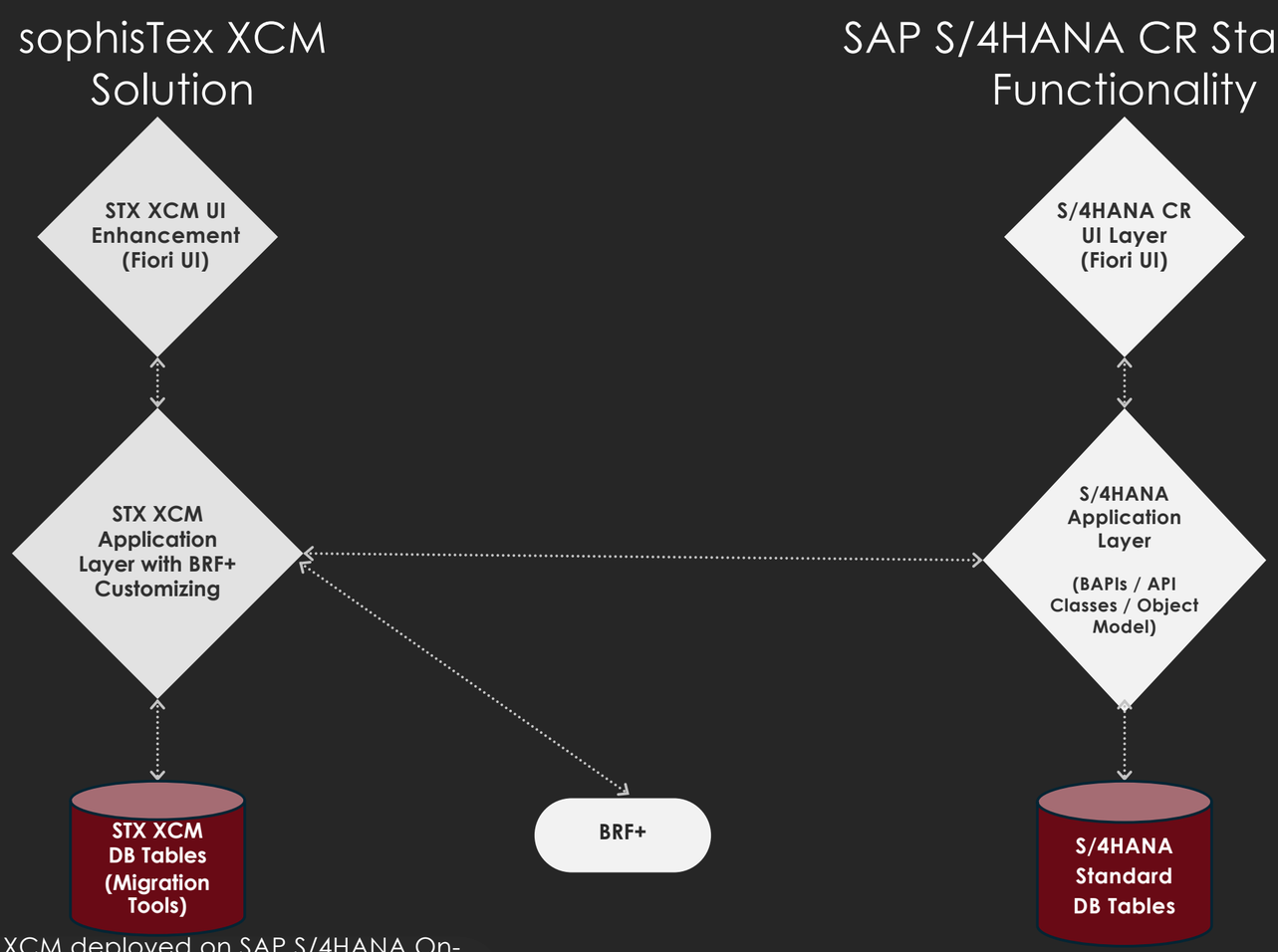
Supports S/4HANA Transformations.
Removes Custom Code, Migrates cPLM Data & replaces cPLM functionality.



© 2025 sophisTex | PUBLIC

Technical Architecture

- STX XCM is technically separated from SAP S/4HANA Standard and certified by SAP*
- All add-on functionalities are fully switchable
- STX database tables for migration functionality
- Uses SAP BRF+ for configuration
- Deployment possible on SAP S/4HANA 2023+ and on SAP ECC EhP7+ (ECC only needed for data migration)



- STX XCM deployed on SAP S/4HANA On-Premise / Private Cloud
- Migration Tools of STX XCM must be deployed on SAP ECC as well

SAP Standard Functionality on SAP S/4HANA On-Premise

* SAP certification completed in 2025

© 2025 sophisTex | PUBLIC

PLM CR with XCM

Seamless Integration with MDG-M:
The change record integrates smoothly with MDG-M, provides the flexibility to initiate the change process directly from MDG-M by creating the change record or optionally create it from the PLM “Manage Change Record” application based on your requirement

This integration is partially supported by SAP S/4HANA standard, but XCM Add-On solution provides the bi-directional integration between MDG-M and PLM CR

Optimized Team & Responsibility Management:
Existing organizational structures and agent determination functionalities can be seamlessly migrated to S/4HANA Teams and Responsibility Management. This ensures the right process participants are identified, leading to effective decision-making.

Teams Hierarchy is fully supported by S/4HANA Standard, but Automatic Process participants determination by business parameters is only possible with XCM

Targeted Process Tasks:
Change management tasks can be assigned at the plant or business unit level, ensuring the right teams are involved for efficient and structured change handling.

This is fully covered by XCM, standard process route functionality is not very flexible with a pre-configured process route functionality

© 2025 sophisTex | PUBLIC

PLM CR with XCM

Modern & User-Friendly Experience:
The S/4HANA Change Record offers a modern, flexible, and high-performance user experience, enhancing productivity for business users.

This is fully supported by SAP Standard, but XCM provides additional UIs like process simulation and extended search to enhance the user experience

Comprehensive PLM Integration:
The change record is tightly integrated with PLM objects such as Material, BOM, and Routing. All impacted objects are maintained in one place, with their statuses automatically updated in sync with the change record's progress.

Status transition of change items is fully covered by XCM

Custom fields can be added to the CR header to personalize the Change Record for your requirement

Fully supported by SAP Standard

© 2025 sophisTex | PUBLIC

sophisTex
sophisticated technology

Thank you

Contact Us

contact@sophisTex.com

sophistex.com

+4962025781540