SAP Customer Experience

S/4HANA Conversion with Integration to SAP Cloud for Customer
Experiences from SAP internal Validation Project

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THE BEST RUN **SAP**

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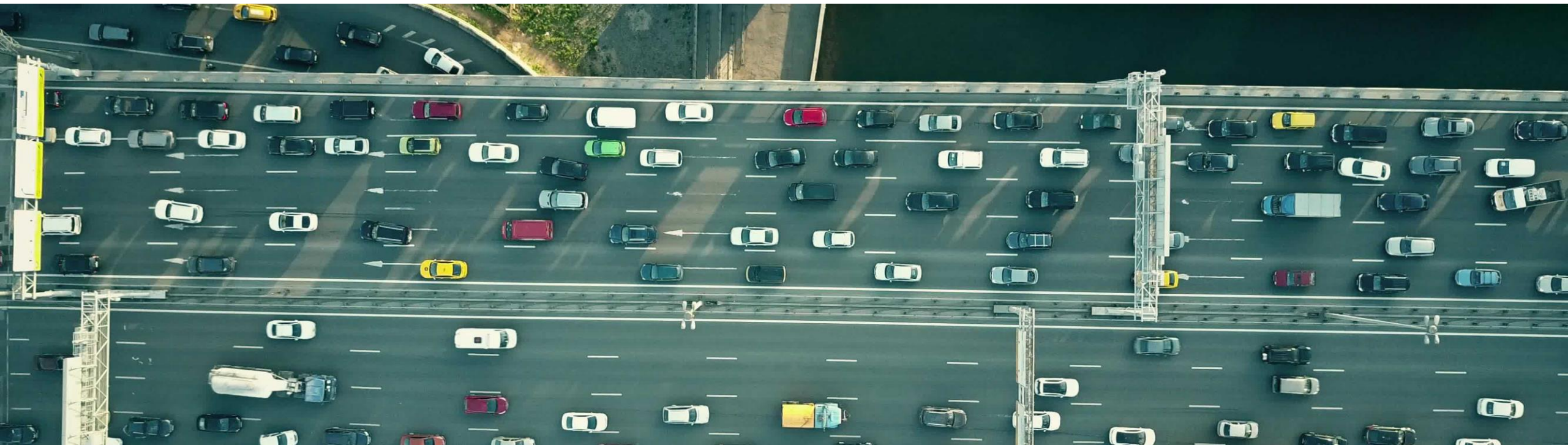69190 Walldorf, Germany

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Agenda

- Introduction and Overview on S/4HANA Conversion Project

- The conversion phases and the relevant conversion steps

- Final Assessment and major Differences

Introduction and Overview on S/4HANA Conversion Project

S/4 Conversion Project

SAP Validation requested the C4C Expert Service team to run a conversion of an SAP ERP system to S/4HANA integrated with SAP Cloud for Customer

- Project Start February 2018
- Technical and functional checks with main focus on SAP Cloud for Customer integration
- Create a task list and process description
- Experts from SAP ERP and S/4HANA performed the technical transformation steps in the on-premise system

Considerations

The conversion project was conducted on an SAP internal test landscape with a predefined functional and integration scope
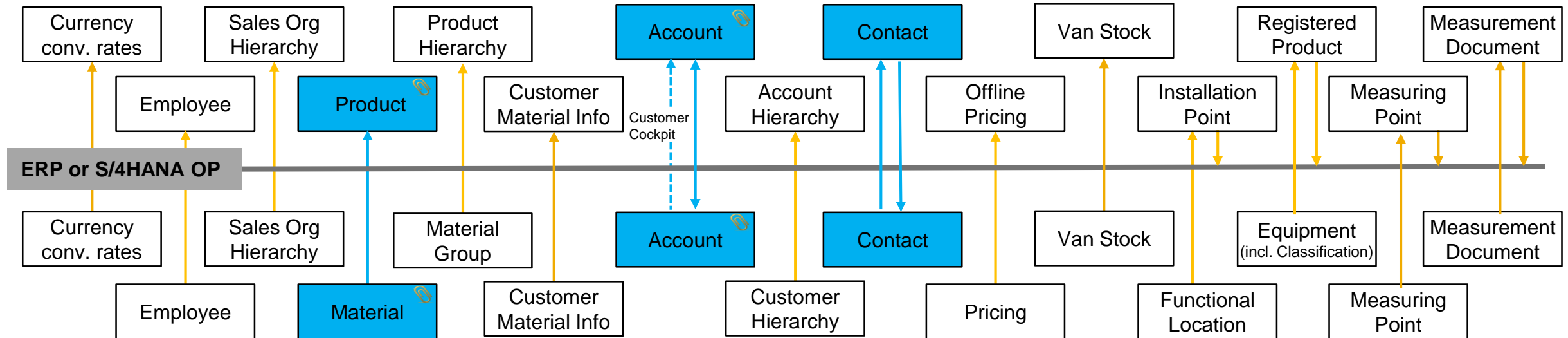
- The required steps and processes in a customer specific environment may vary from the described processes and requires dedicated and individual planning and test

- Future developments might impact the conversion activities as described

- This presentation focuses on the SAP Cloud for Customer integration and their relevant activities. The setup on the SAP ERP, S/4HANA side requires also extensive activities described in dedicated guidelines

- To plan and perform the conversion activities in a productive customer environment it is recommended to get support from SAP ERP, S/4HANA (conversion) experts and SAP Cloud for Customer expert service
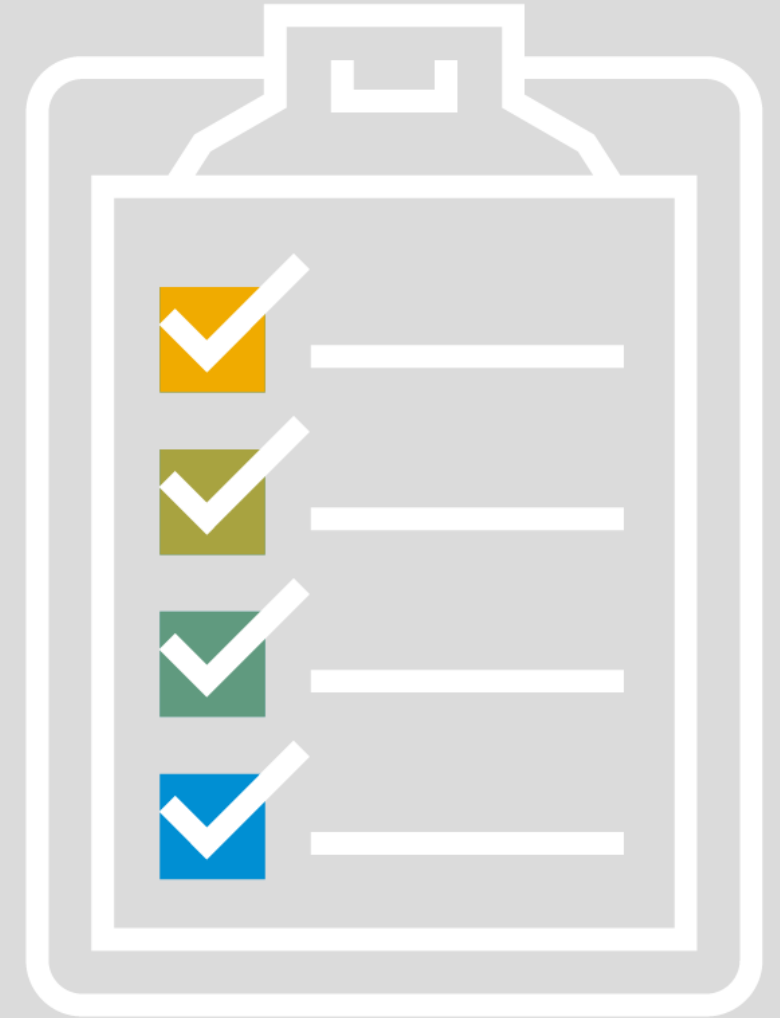
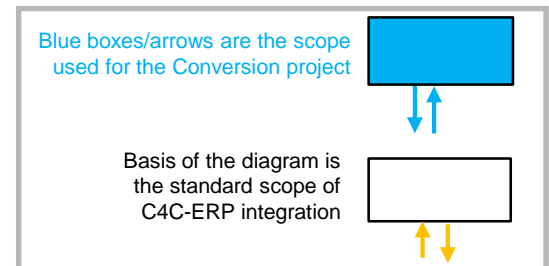# S/4HANA Conversion with Cloud for Customer Integration – Scope Overview
Master Data View

SAP Hybris Cloud for Customer

| Currency conv. rates | | Sales Org Hierarchy | | Product Hierarchy | | **Account** | | **Contact** | | Van Stock | | Registered Product | | Measurement Document |

| | Employee | | **Product** | | Customer Material Info | Customer Cockpit | Account Hierarchy | | Offline Pricing | | Installation Point | | Measuring Point | |

ERP or S/4HANA OP

| Currency conv. rates | | Sales Org Hierarchy | | Material Group | | **Account** | | **Contact** | | Van Stock | | Equipment (incl. Classification) | | Measurement Document |

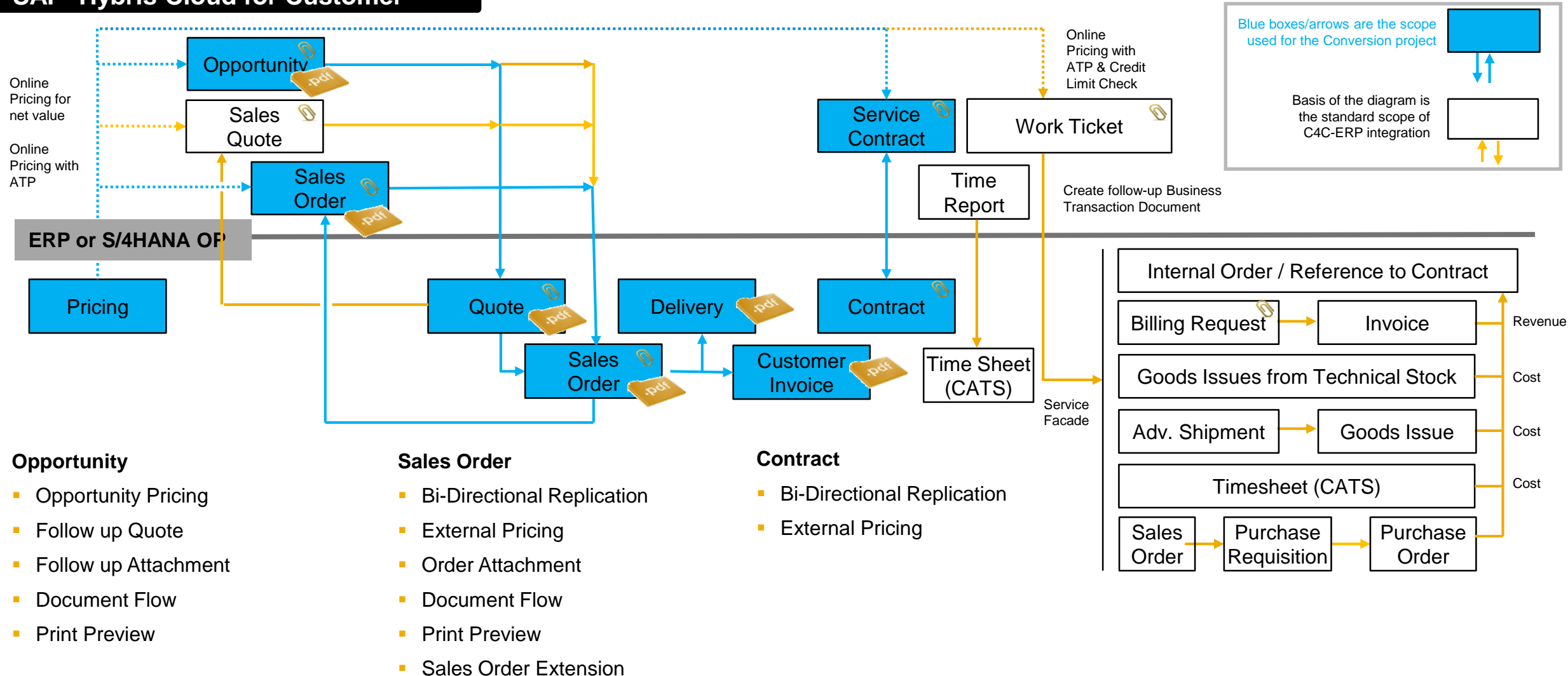| | Employee | | **Material** | | Customer Material Info | | Customer Hierarchy | | Pricing | | Functional Location | | Measuring Point | |

Accounts/Prospect

- Standard prospect block in Cloud for Customer (through scoping option)
- Prospect scenario: link ERP customer to former Cloud for Customer prospect
- Segment filter to filter out specific sales organization from account data
- Filter BAdI in ERP to filter out customer with customer Name "DoNotReplicate"
- Integration of ERP Cockpit Mashup
- Extension in the account record on both sides

Blue boxes/arrows are the scope used for the Conversion project

Basis of the diagram is the standard scope of C4C-ERP integration

S/4HANA Conversion with Cloud for Customer Integration – Scope Overview
Transaction Scenarios

SAP Hybris Cloud for Customer

Online Pricing for net value

Online Pricing with ATP

Online Pricing with ATP & Credit Limit Check

Opportunity

Sales Quote

Sales Order

Service Contract

Work Ticket

Time Report

Blue boxes/arrows are the scope used for the Conversion project

Basis of the diagram is the standard scope of C4C-ERP integration

ERP or S/4HANA OP

Pricing

Quote

Delivery

Contract

Sales Order

Customer Invoice

Time Sheet (CATS)

Create follow-up Business Transaction Document

Service Facade

Internal Order / Reference to Contract

Billing Request → Invoice — Revenue

Goods Issues from Technical Stock — Cost

Adv. Shipment → Goods Issue — Cost

Timesheet (CATS) — Cost

Sales Order → Purchase Requisition → Purchase Order

Opportunity
- Opportunity Pricing
- Follow up Quote
- Follow up Attachment
- Document Flow
- Print Preview

Sales Order
- Bi-Directional Replication
- External Pricing
- Order Attachment
- Document Flow
- Print Preview
- Sales Order Extension

Contract
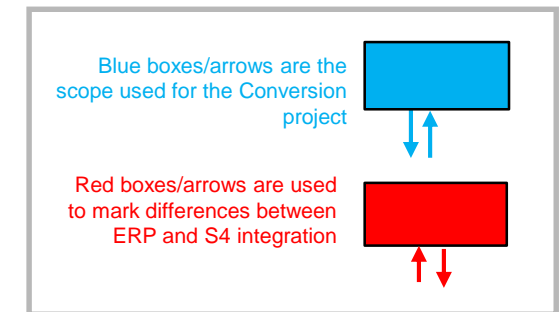- Bi-Directional Replication
- External Pricing

S/4HANA Conversion with Cloud for Customer Integration – Scope Details

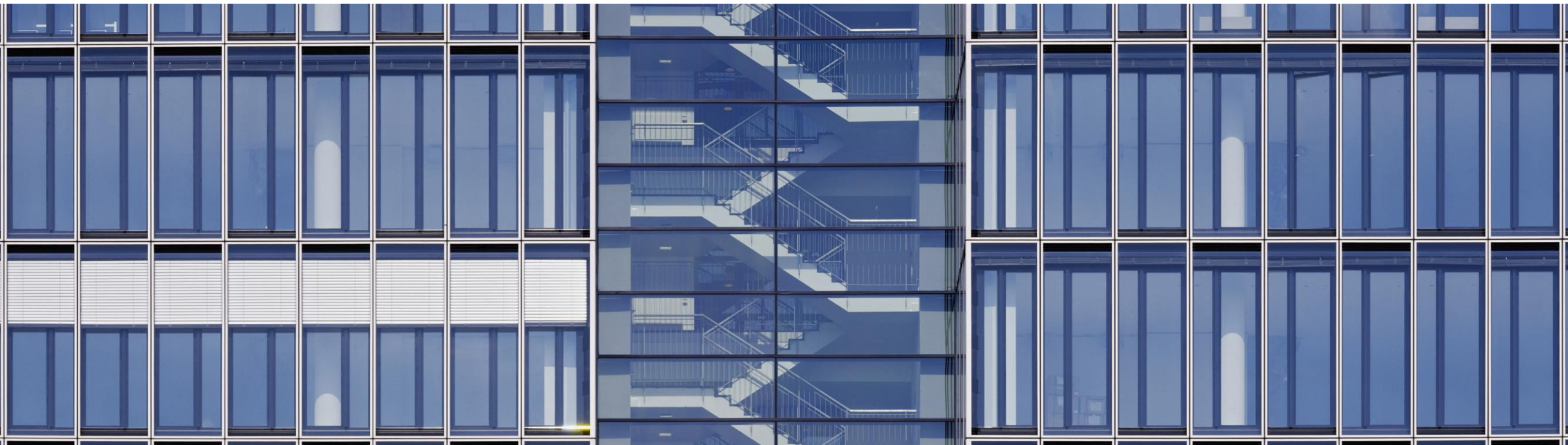## Master Data View – major differences
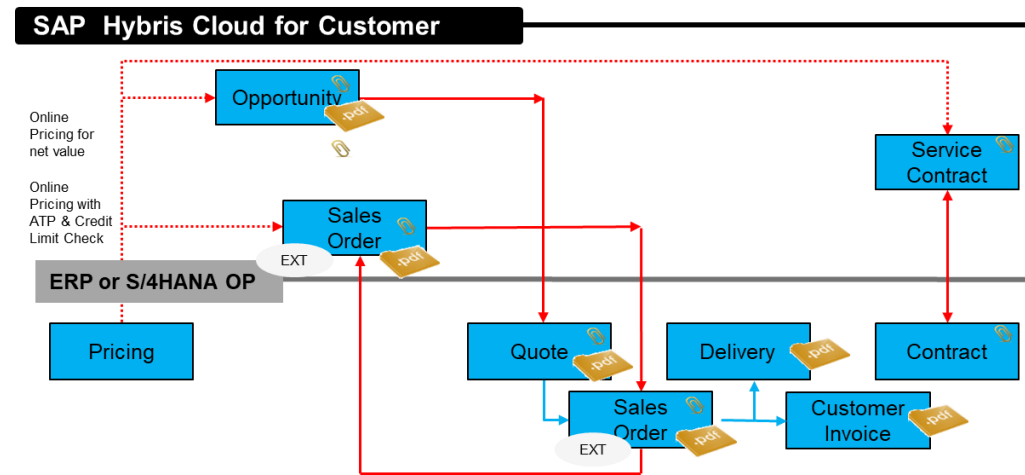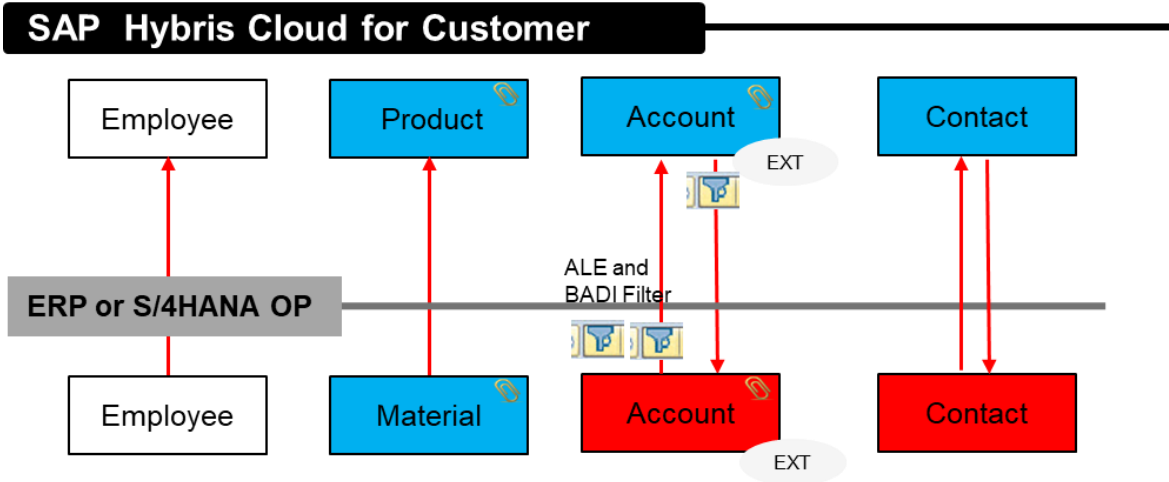
Major integration differences btw. SAP ERP and C/4Hana

- IDOC based Integration with SAP ERP customers is substituted by SOAP based Business Partner Integration
- Different Integration Framework in S/4HANA (e.g. to replace customer filter BAdIs)
- Different iFlows in the Middleware
- No ERP Cockpit available in S/4HANA
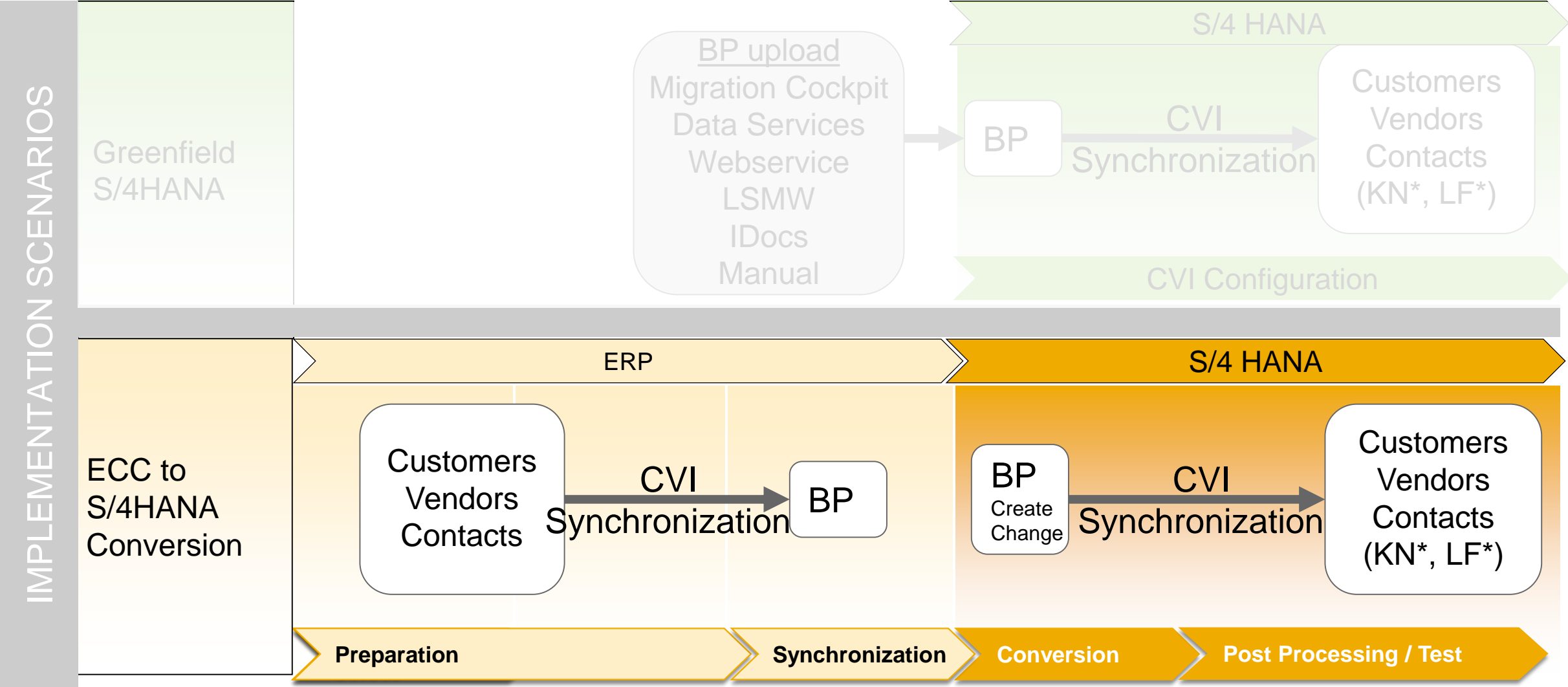- ID Mapping for Business Partner and customer in C4C in parallel

Blue boxes/arrows are the scope used for the Conversion project

Red boxes/arrows are used to mark differences between ERP and S4 integration

The conversion phases and the relevant conversion steps

Customer Vendor Integration (CVI)

Process Scenarios in S/4HANA

IMPLEMENTATION SCENARIOS

Greenfield S/4HANA

BP upload
Migration Cockpit
Data Services
Webservice
LSMW
IDocs
Manual

BP → CVI Synchronization → Customers Vendors Contacts (KN*, LF*)

S/4 HANA

CVI Configuration

ECC to S/4HANA Conversion

ERP

Customers Vendors Contacts → CVI Synchronization → BP

S/4 HANA

BP Create Change → CVI Synchronization → Customers Vendors Contacts (KN*, LF*)

Preparation — **Synchronization** — **Conversion** — **Post Processing / Test**
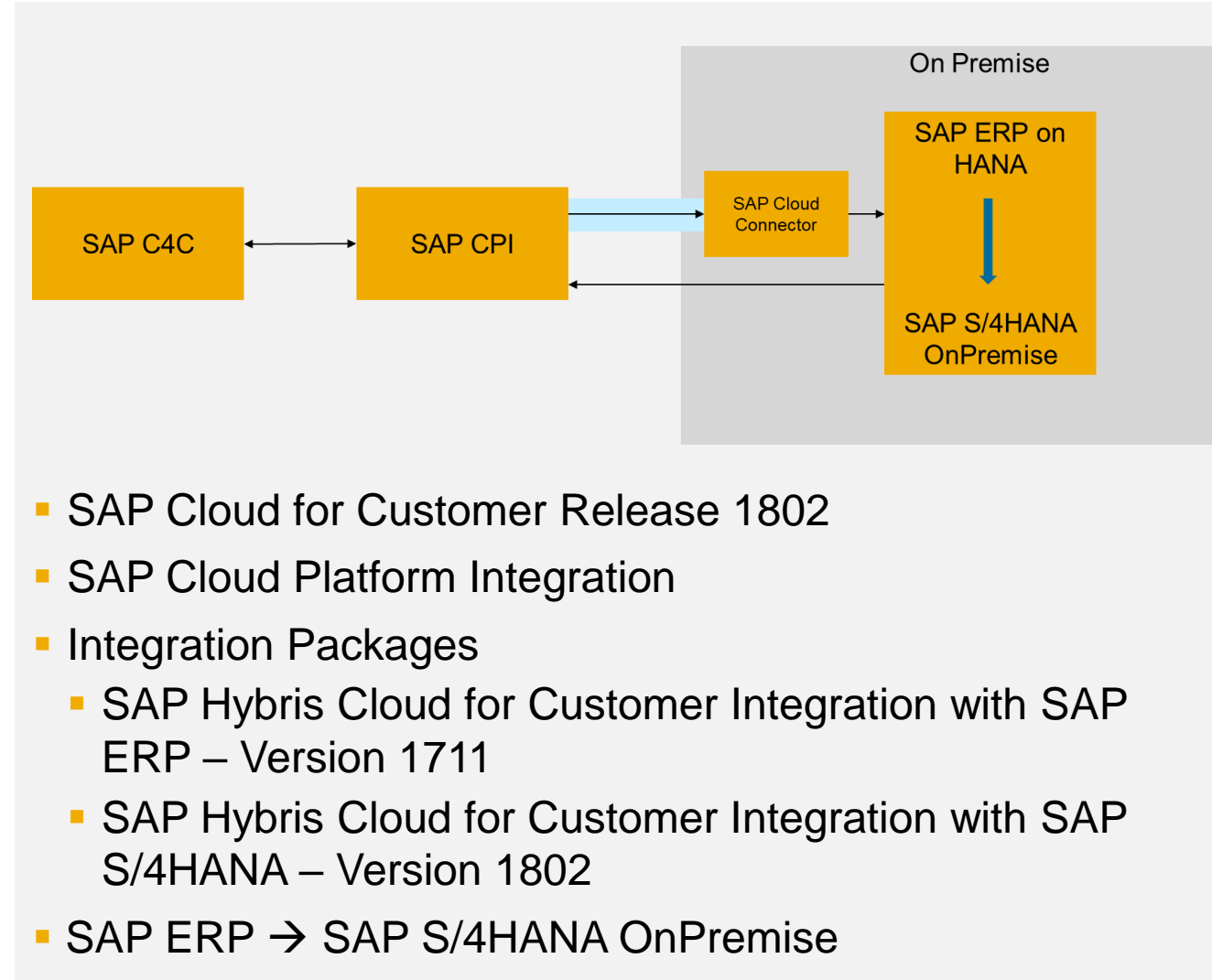
S/4HANA Conversion with Cloud for Customer Integration
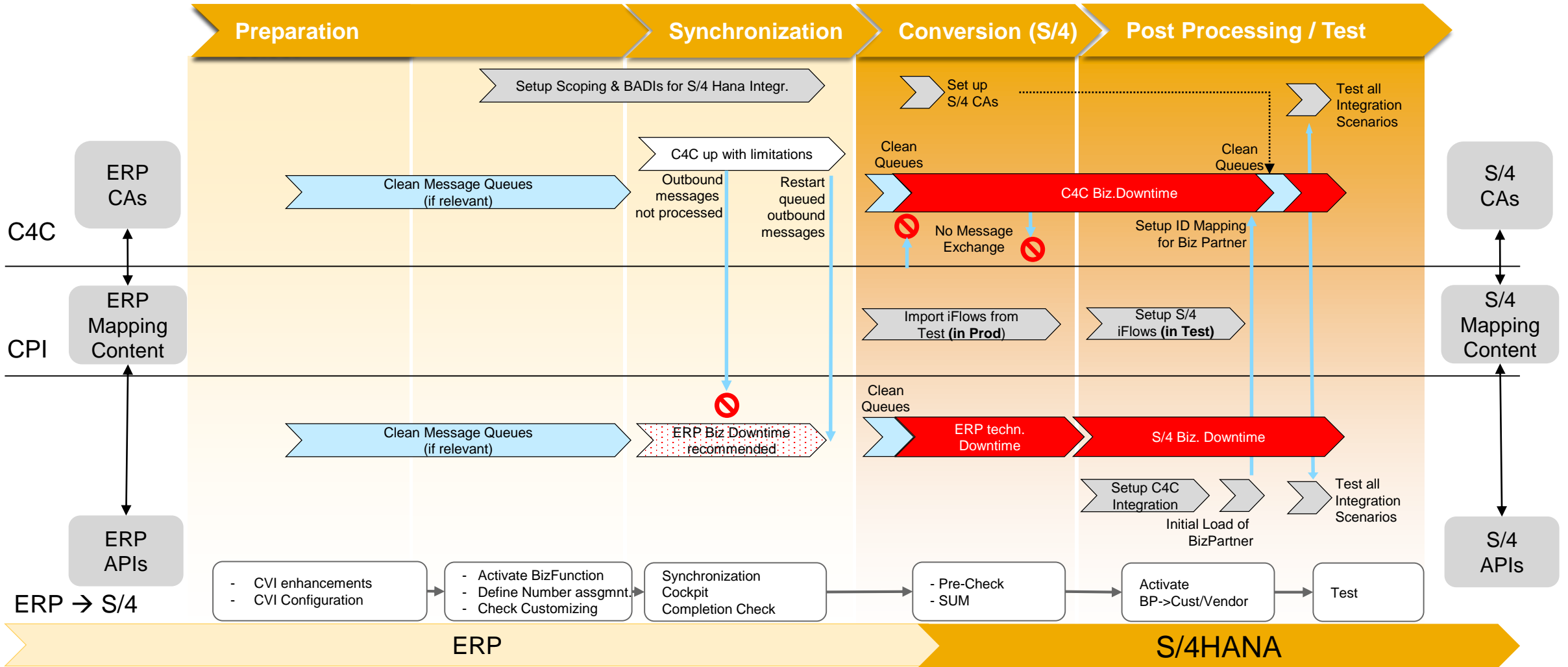## System Setup

Recommendation

Run complete transformation on a test landscape fully copied from production

- Documentation of …
  - conversion steps
  - effort and duration (especially downtimes)
  - corrective measures

… to plan and schedule productive transformation

- Adjust BAdIs and iFlows where necessary
- Test of adjusted artifacts
- Import adjusted and tested artifacts from Test to Prod

- SAP Cloud for Customer Release 1802
- SAP Cloud Platform Integration
- Integration Packages
  - SAP Hybris Cloud for Customer Integration with SAP ERP – Version 1711
  - SAP Hybris Cloud for Customer Integration with SAP S/4HANA – Version 1802
- SAP ERP → SAP S/4HANA OnPremise

S/4HANA Conversion with Cloud for Customer Integration
Process Overview

Preparation	Synchronization	Conversion (S/4)	Post Processing / Test

C4C

ERP CAs

S/4 CAs

- Setup Scoping & BADIs for S/4 Hana Integr.
- Set up S/4 CAs
- Test all Integration Scenarios

Clean Message Queues (if relevant)

C4C up with limitations

Outbound messages not processed

Restart queued outbound messages

Clean Queues

Clean Queues

C4C Biz.Downtime

No Message Exchange

Setup ID Mapping for Biz Partner

CPI

ERP Mapping Content

S/4 Mapping Content

Import iFlows from Test (in Prod)

Setup S/4 iFlows (in Test)

ERP → S/4

ERP APIs

S/4 APIs

Clean Message Queues (if relevant)

ERP Biz Downtime recommended

Clean Queues

ERP techn. Downtime

S/4 Biz. Downtime

Setup C4C Integration

Initial Load of BizPartner

Test all Integration Scenarios

- CVI enhancements
- CVI Configuration

- Activate BizFunction
- Define Number assgmnt.
- Check Customizing

Synchronization Cockpit Completion Check

- Pre-Check
- SUM

Activate BP->Cust/Vendor

Test

ERP		S/4HANA

S/4HANA Conversion with Cloud for Customer Integration

SAP ERP → Up and running

- Primarily configuration of Customer Vendor Integration (CVI) module incl. number assignment

C4C → Up and running

- Check number of unprocessed message at least in the productive system and start message clarification (in case of large number of unprocessed messages)

Preparation Phase
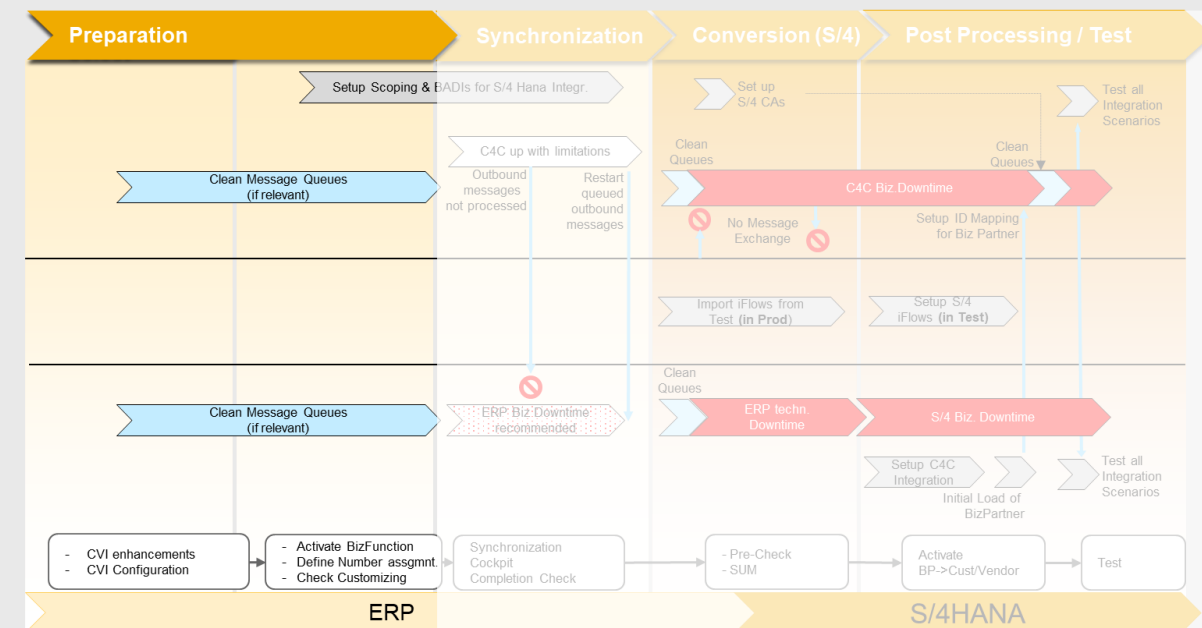
- Plan and prepare the SAP ERP & S/4HANA conversion steps along the guidelines

- Test System: Document effort, duration and issues to plan and schedule productive conversion

S/4HANA Conversion with Cloud for Customer Integration

SAP ERP → Downtime recommended
- synchronizing customers to business partners through CVI

C4C → Up and running with limitations
- No processing of outbound messages to SAP ERP. Unprocessed messages need to be re-started when SAP ERP is active again

Test System
- Document effort, duration and issues to plan and schedule productive conversion

Synchronization Phase
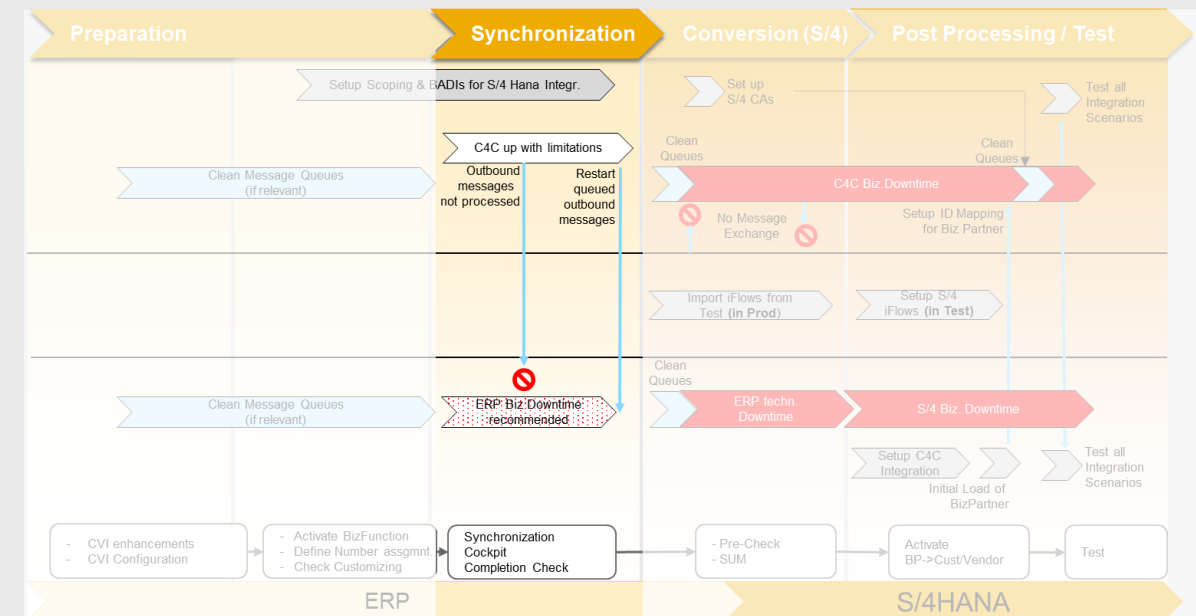
- Plan and prepare the SAP ERP & S/4HANA conversion steps along the guidelines

- Test System: Document effort, duration and issues to plan and schedule productive conversion

S/4HANA Conversion with Cloud for Customer Integration

SAP ERP → Downtime required
- Resolving unprocessed messages
- Technical transformation of the SAP ERP system to S/4HANA

C4C → Business Downtime required
- Resolving all unprocessed messages
- Disconnect Biz Users and other sources causing messages to and from C4C
- Activate scoping and BADIs for S/4HANA relevant integration scenarios (for example prospect block)
- Setup S/4 Communication Arrangements (to catch up any potential message caused by hidden processed not deactivated before)

CPI (Prod Environment only)
- Import validated iFlows from Test Environment

Conversation Phase
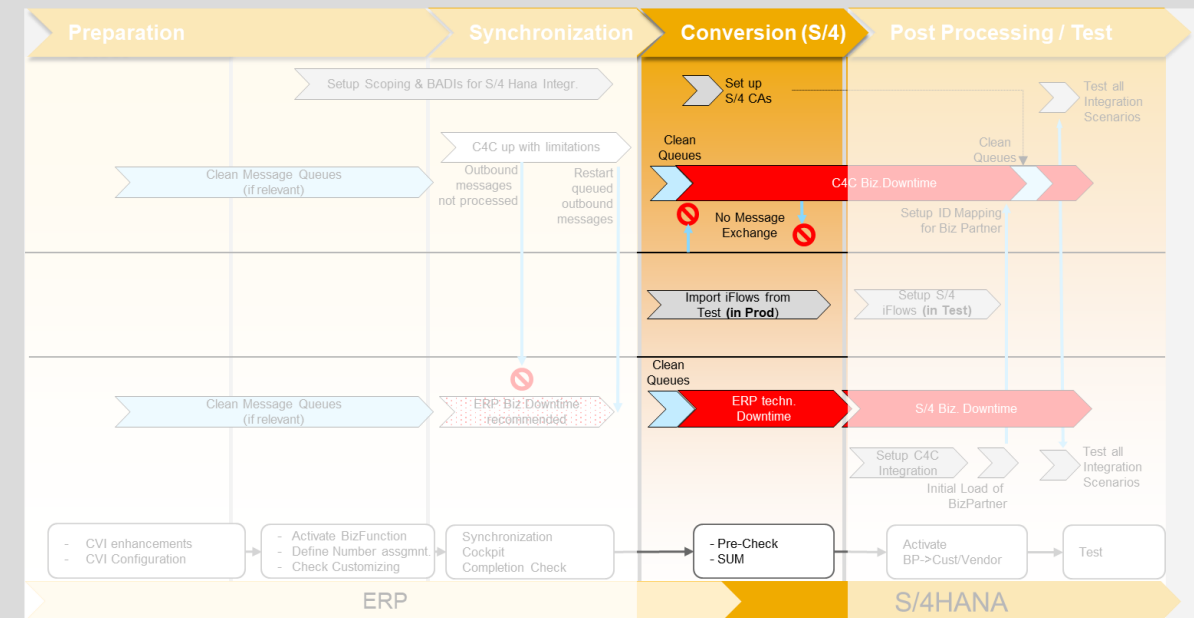
- Plan and prepare the SAP ERP & S/4HANA conversion steps along the guidelines

- Test System: Document effort, duration and issues to plan and schedule productive conversion

S/4HANA Conversion with Cloud for Customer Integration

SAP S/4HANA → Downtime required
- Activation of BP → Customer/Vender synchronization
- Setup C4C Integration
- Initiate Initial Load of Business Partner to C4C (after the integration scenarios had been re-established)
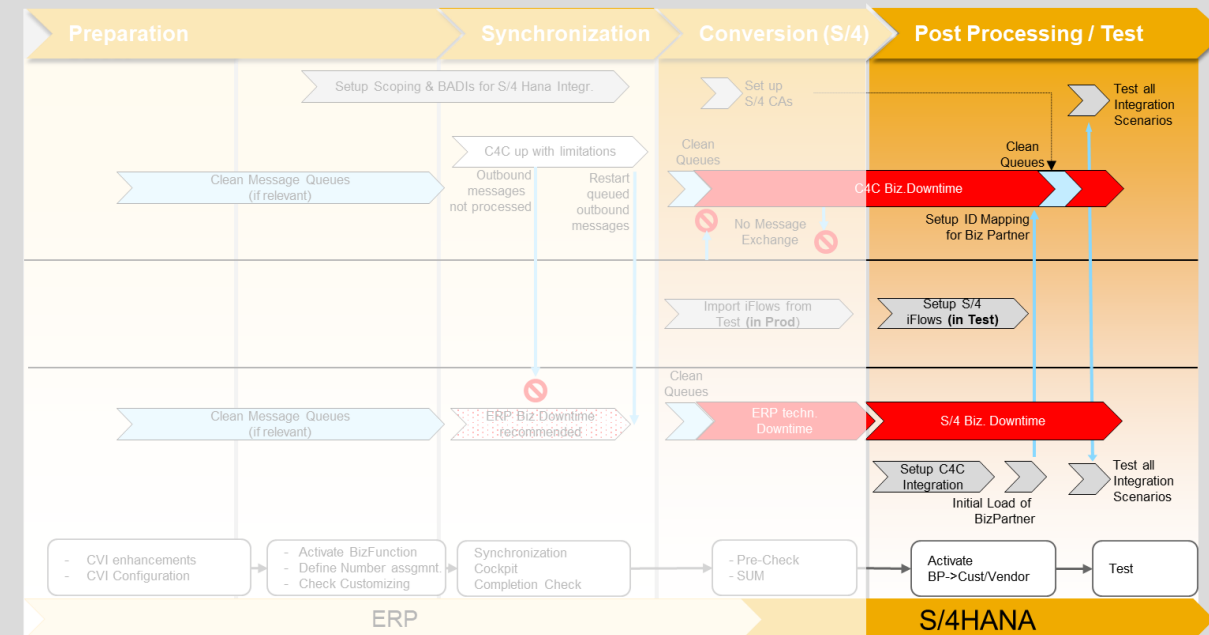
CPI (Test Environment only)
- Setup S/4HANA iFlows and implement customer specific adjustments where relevant

C4C → Business Downtime required
- Receive Initial Load of Business Partner to build up new ID Mapping

- Test integration scenarios before reactivating the systems
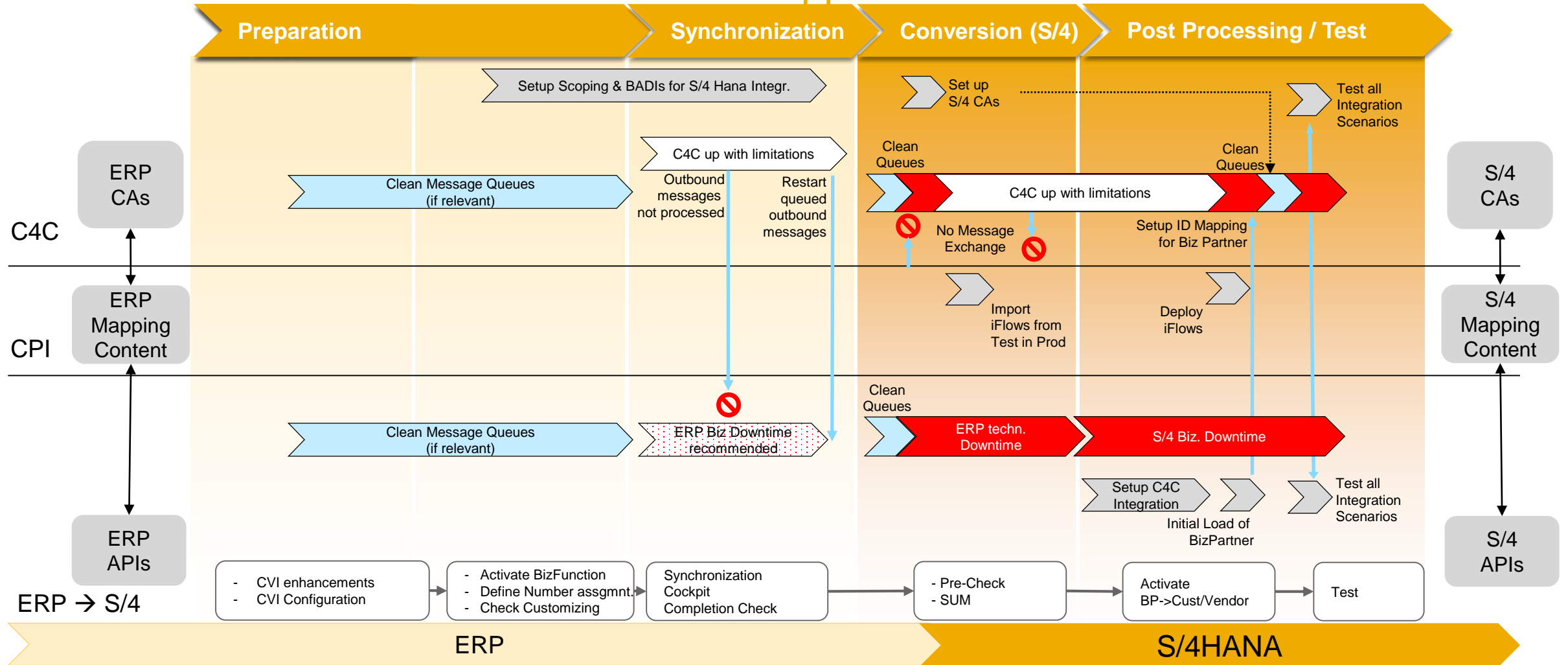
Post Processing Phase

- Plan and prepare the SAP ERP & S/4HANA conversion steps along the guidelines

- Test System: Document effort, duration and issues to plan and schedule productive conversion

S/4HANA Conversion with Cloud for Customer Integration
Reduced Cloud for Customer Downtime Approach

Preparation	Synchronization	Conversion (S/4)	Post Processing / Test

C4C

ERP CAs

- Setup Scoping & BADIs for S/4 Hana Integr.
- Clean Message Queues (if relevant)
- C4C up with limitations
- Outbound messages not processed
- Restart queued outbound messages
- Clean Queues
- Set up S/4 CAs
- C4C up with limitations
- No Message Exchange
- Clean Queues
- Setup ID Mapping for Biz Partner
- Test all Integration Scenarios

S/4 CAs

CPI

ERP Mapping Content

- Import iFlows from Test in Prod
- Deploy iFlows

S/4 Mapping Content

- Clean Message Queues (if relevant)
- ERP Biz Downtime recommended
- Clean Queues
- ERP techn. Downtime
- S/4 Biz. Downtime
- Setup C4C Integration
- Initial Load of BizPartner
- Test all Integration Scenarios

ERP → S/4

ERP APIs

- CVI enhancements
- CVI Configuration
- Activate BizFunction
- Define Number assgmnt.
- Check Customizing
- Synchronization Cockpit Completion Check
- Pre-Check
- SUM
- Activate BP->Cust/Vendor
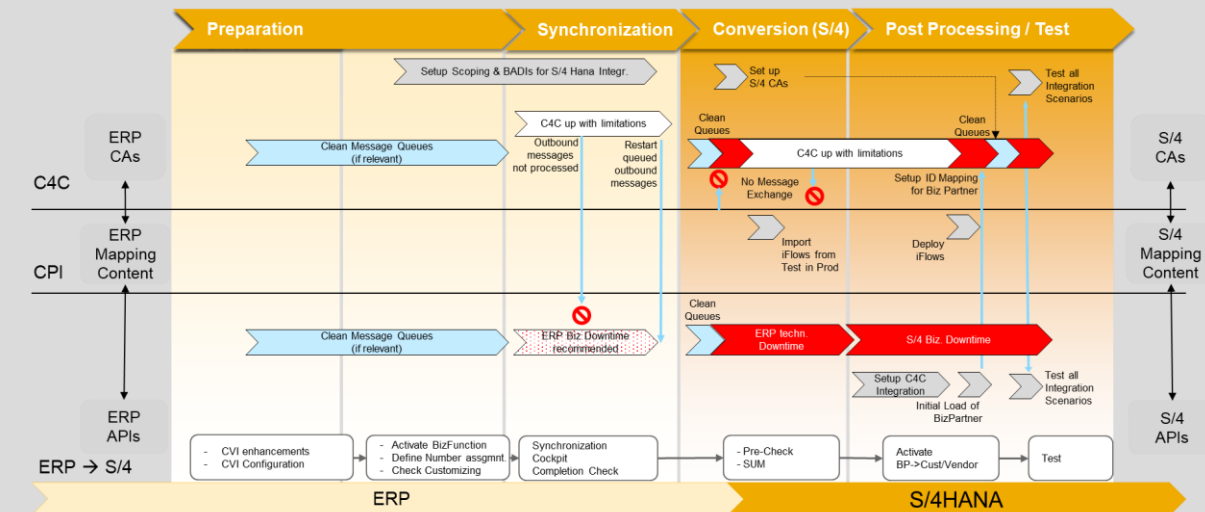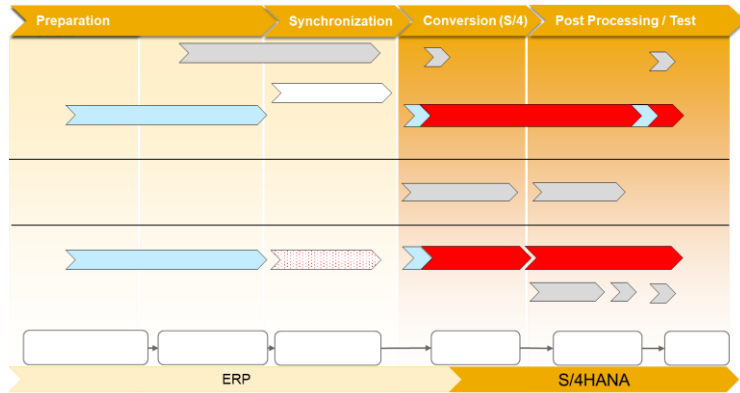- Test

S/4 APIs

ERP	S/4HANA

S/4HANA Conversion with Cloud for Customer Integration

Cloud for Customer uptime possible with limited functionality during conversion and post processing

- Set up S/4HANA Communication Arrangements in C4C to log upcoming outbound messages in the Message Monitor
- Outbound messages will not be processed
- No synchronous messages (e.g. external pricing; document flow; fact sheets, etc.)
- Some transactional documents which require confirmations remains in read-only until confirmation message is received
- Logged messages need to be restarted on chronological order when the connectivity is back
- Changes on C4C business partner must be re-done when connectivity is back (no message processing possible)

Reduced C4C Downtime

- Plan and prepare the SAP ERP & S/4HANA conversion steps along the guidelines

- Test System: Document effort, duration and issues to plan and schedule productive conversion

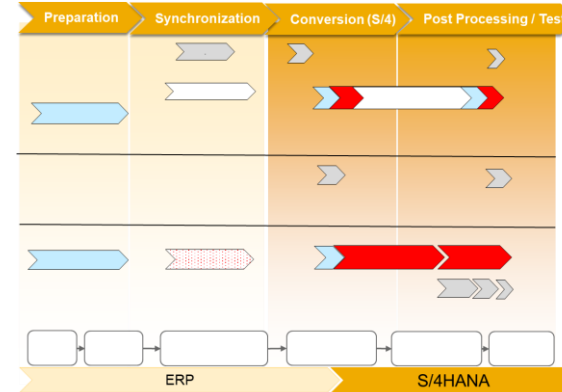# Conversion in Test vs. Productive Environment

Test

Document conversion steps
during test conversion

Some integration artifacts (e.g. iFlows, BADIs, PDI logic)
can be setup and tested in Test and imported to Prod

Prod

Some conversion phases in Prod
shorter as the necessary steps are
documented from test and artifacts
changes copied over

Final Assessment and major Differences

Final Assessment

- The conversion project must carefully be planned with expert involvement (S/4HANA, CVI, C4C Integration)
- The total transformation time depends on different factors
  - Know How
  - Customer/Vendor/BP set up complexity (e.g. number ranges)
  - Data volume
  - Customer specific enhancements/extensions
- We recommend to run the conversion with a complete set of productive data and a productive like setup in a specific test environment (Sandbox) before
  - Adjustments on integration artifacts (e.g. iFlows, BADIs) need to be tested and imported from Test to Prod
  - Conversion steps and durations need to be tested and logged during test and used to plan the productive conversion and downtime management

Main Differences encountered
from Cloud for Customer Perspective

- Business Partner Model deviates from Customer/Vendor Model
  - Numbering
  - Replication Messages and message structure for BizPartner

- The integration with the new Business Partner leads to two external IDs for accounts in Cloud for Customer which can be different
  - Some UIs and reports show only one external ID
  - In the Account/Contact UI a new facet can be added "Mapping for Integration" to see all external IDs

- ERP cockpit no longer available in S/4HANA
  - Need to be substituted by alternate S/HANA approaches (e.g. standard mashup available in C4C with 1808)

- Different Integration Framework in S/4HANA

- S/4HANA has differences in the supported integration scenarios. SAP note 2293815 – "S/4HANA Enterprise Management: Information about Integration Scenarios with SAP Cloud for Customer" lists the supported scenarios.

Links

Blog post with further details
https://blogs.sap.com/2018/09/20/s4hana-conversion-with-integration-to-sap-cloud-for-customer/

Blog post as pdf file
https://www.sap.com/documents/2018/09/925c68a9-1d7d-0010-87a3-c30de2ffd8ff.html

openSAP course on System Conversion to SAP S/4HANA
https://open.sap.com/courses/s4h11

Blog on alternate mashup integration approached to substitute ERP Cockpit with S/4HANA Fiori App
https://blogs.sap.com/2018/02/15/cloud-for-customer-mashup-call-an-erp-transaction-in-sap-gui-for-html/

SAP S/4HANA Cookbook – Customer/Vendor Integration (further updates planned)
https://support.sap.com/content/dam/SAAP/SAP_Activate/S4H.0781%20SAP%20S4HANA%20Cookbook%20Customer%20Vendor%20Integration.pdf

Conversion Guide for SAP S/4HANA 1610
https://help.sap.com/http.svc/rc/PRODUCTION/pdfe68bfa55e988410ee10000000a441470/1610%20000/en-US/CONV_OP1610.pdf

Thank you.

Contact information:

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