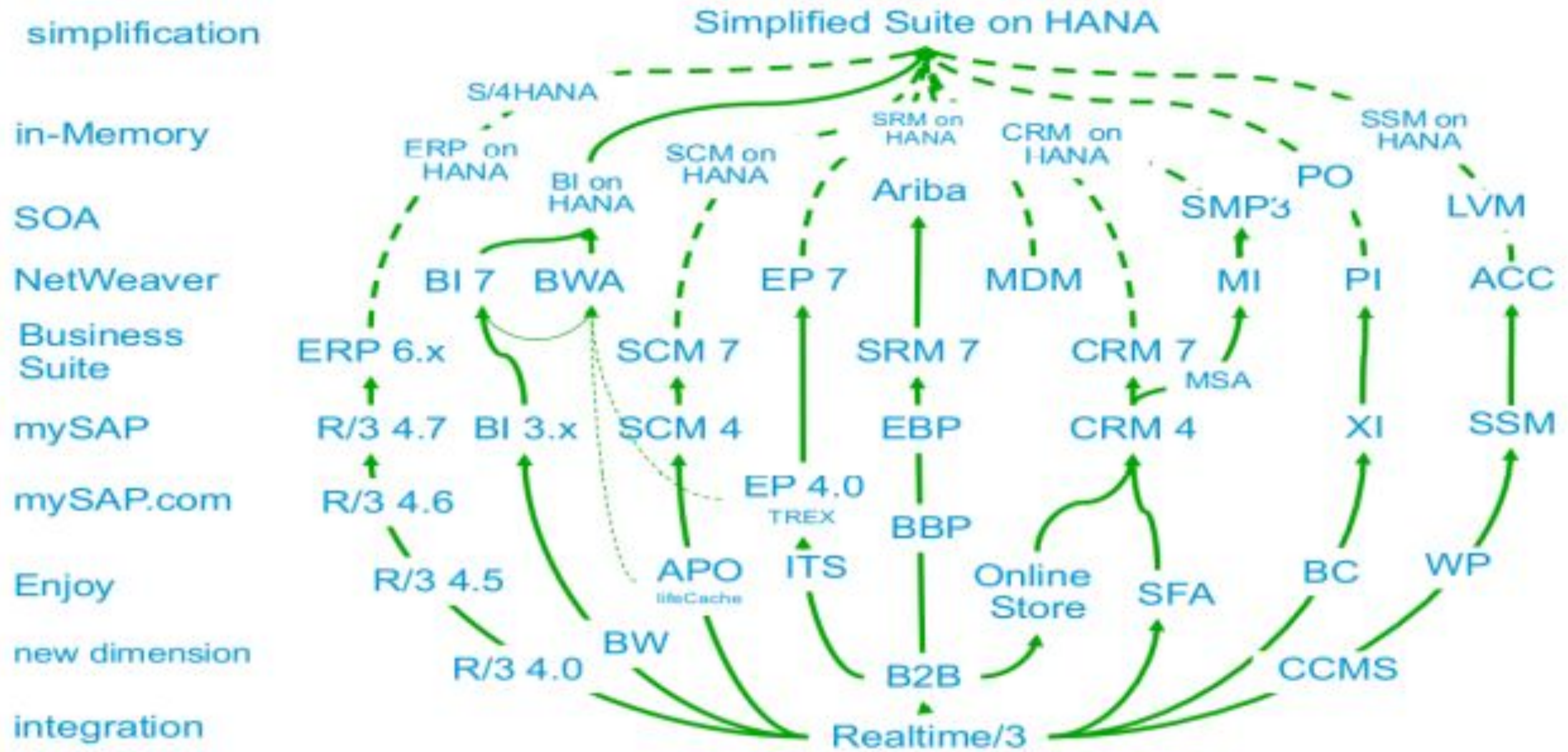




# SAP Architecture Overview

Markus Koch  
Partner Enablement Manager EMEA

# The history of SAP products



# SAP Product Strategy

- SAP Business Suite
  - complete function set, all processes undefined
  - on-premise
- SAP Business All-In-One
  - same software, standard processes pre-defined
  - on-premise
- SAP Business by Design
  - same software, all processes pre-defined
  - hosted
- SAP Business One
  - different software bought by SAP, Basic functions only
  - hosted, targets small businesses only



Complexity of customer  
business processes

# SAP Business Suite

7  
7i2010  
7i2011

6.04  
6.05  
6.06

## ERP

enterprise resource planning

- ECC
- BW
- XSS
- Portal
- ...

7  
7.01  
7.02

## CRM

Customer relationship mgmt

- ...

7  
7.01  
7.02

## SCP

supply chain mgmt

- ...

7  
7.01  
7.02

## SRM

supply relationship mgmt

- ...

7  
7.02  
7.02

## PLM

Product lifecycle Mgmt

- ...

Solution Manager

See also <http://service.sap.com/pam>



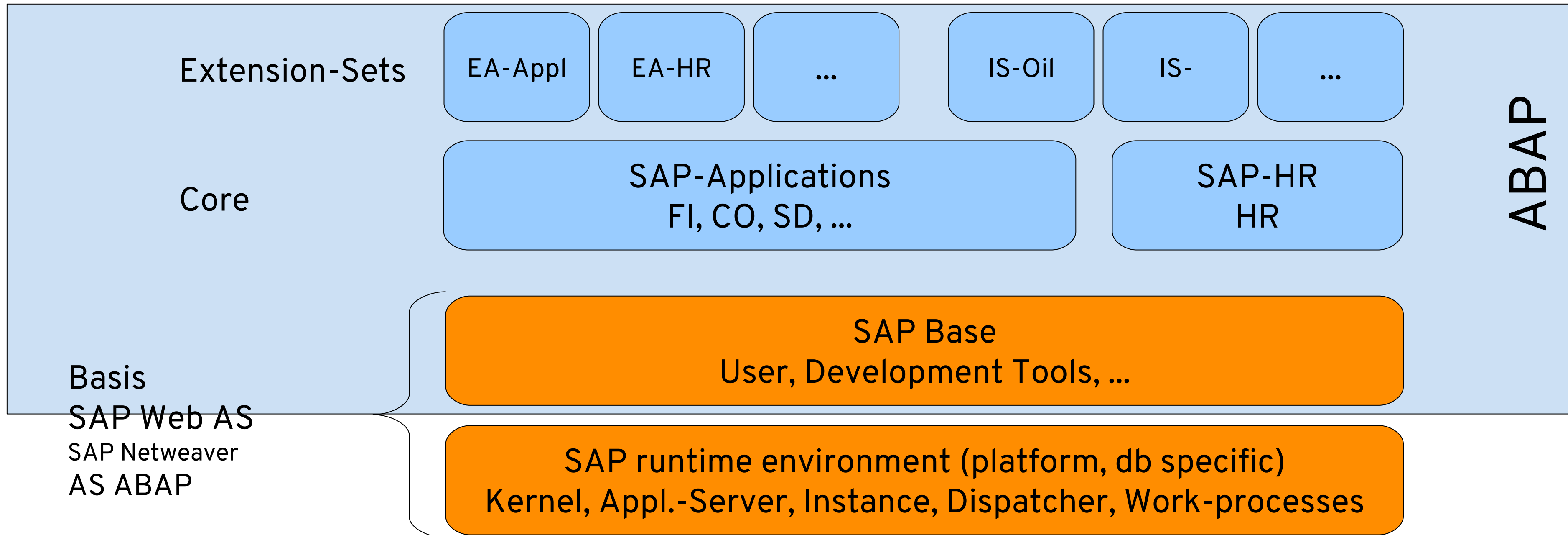
# SAP Solution types

- ABAP
  - typically Business related components
  - z.B. ECC, BW
- JAVA
  - typically technically related components
  - e.g. XSS, Portal
- Dual Stack
  - e.g. Solution Manager, PI (XI)
- native programmed/ bought software
  - e.g. T-REX , HANA



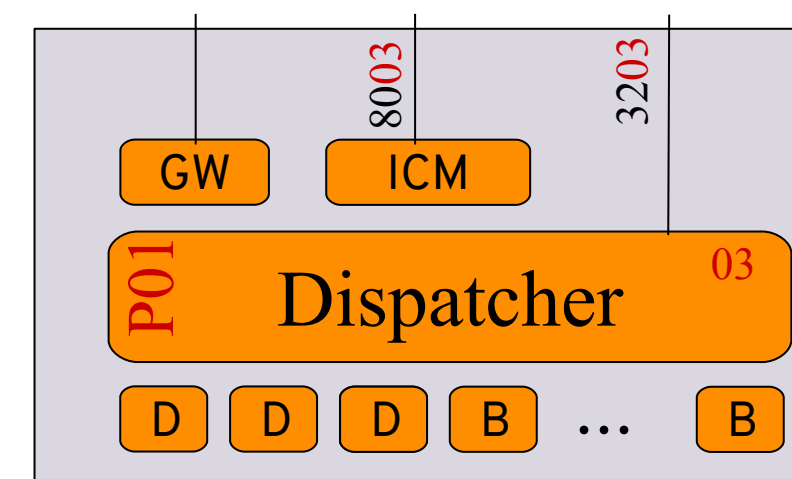
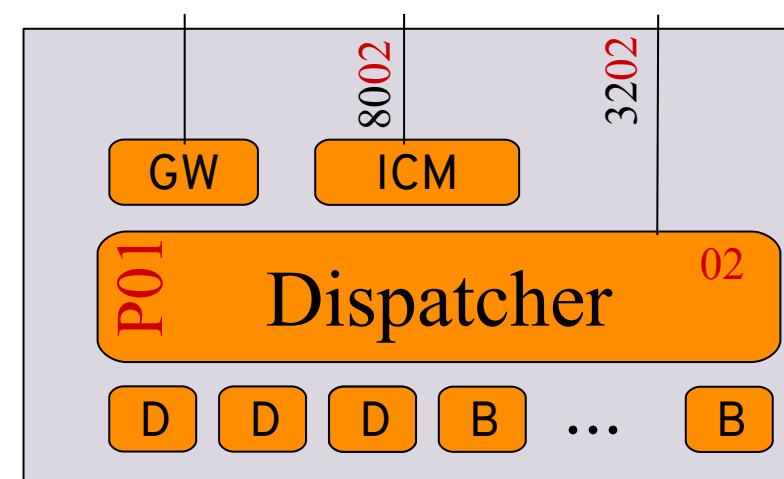
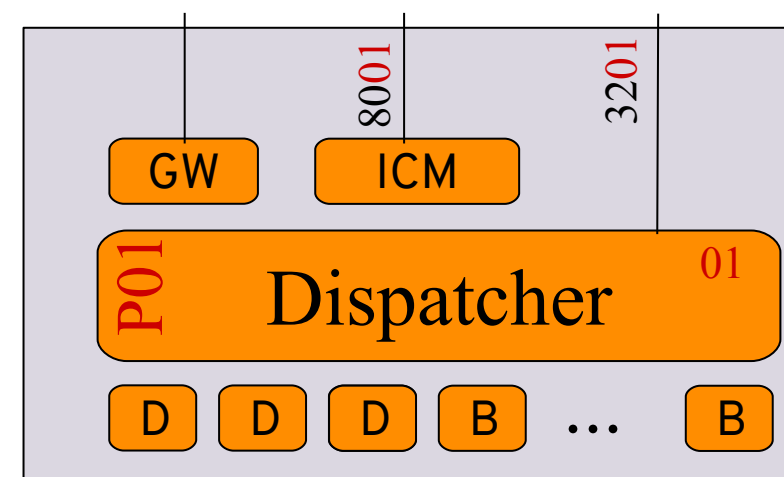
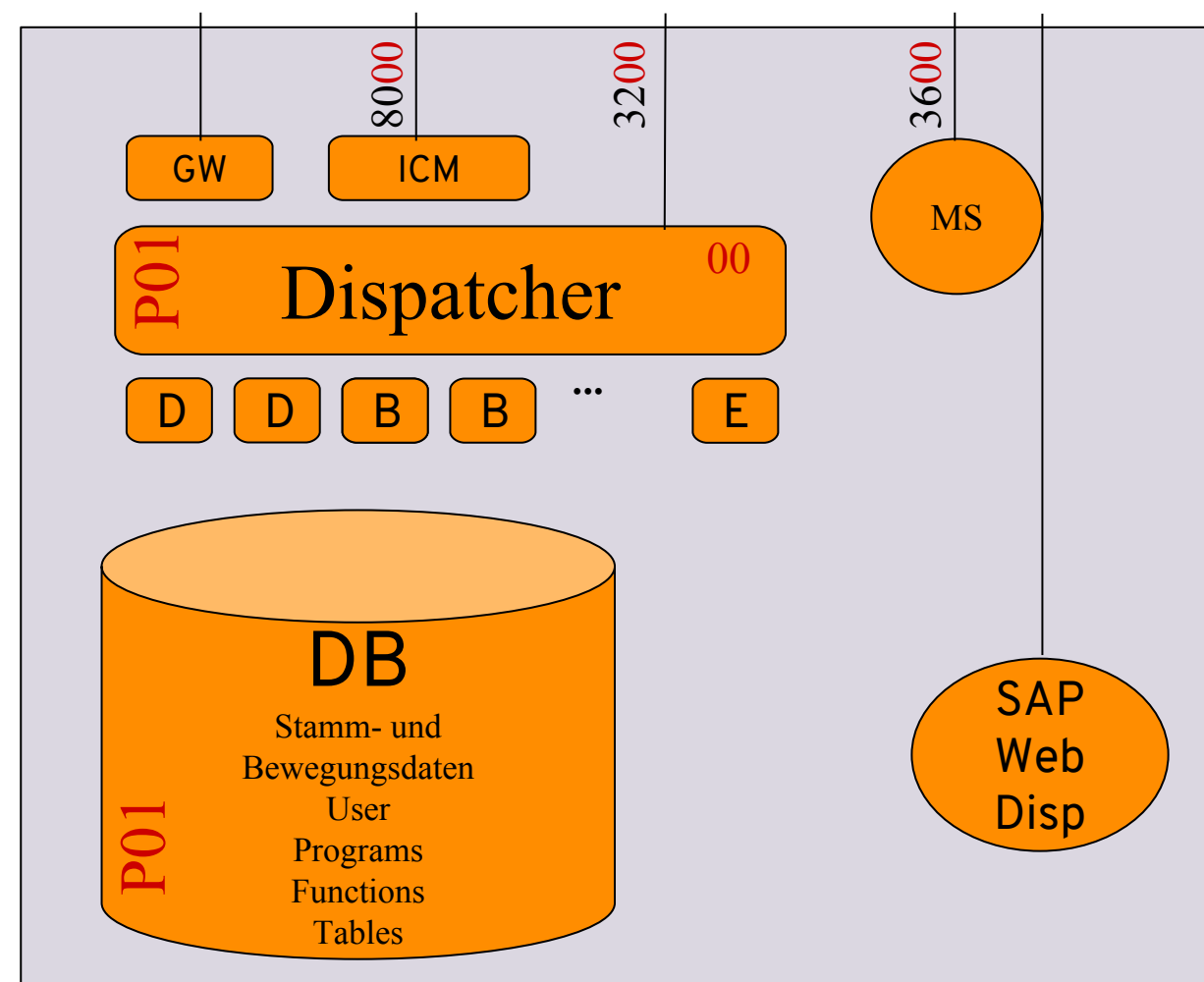
# ABAP Stack

Example: ECC (R/3)

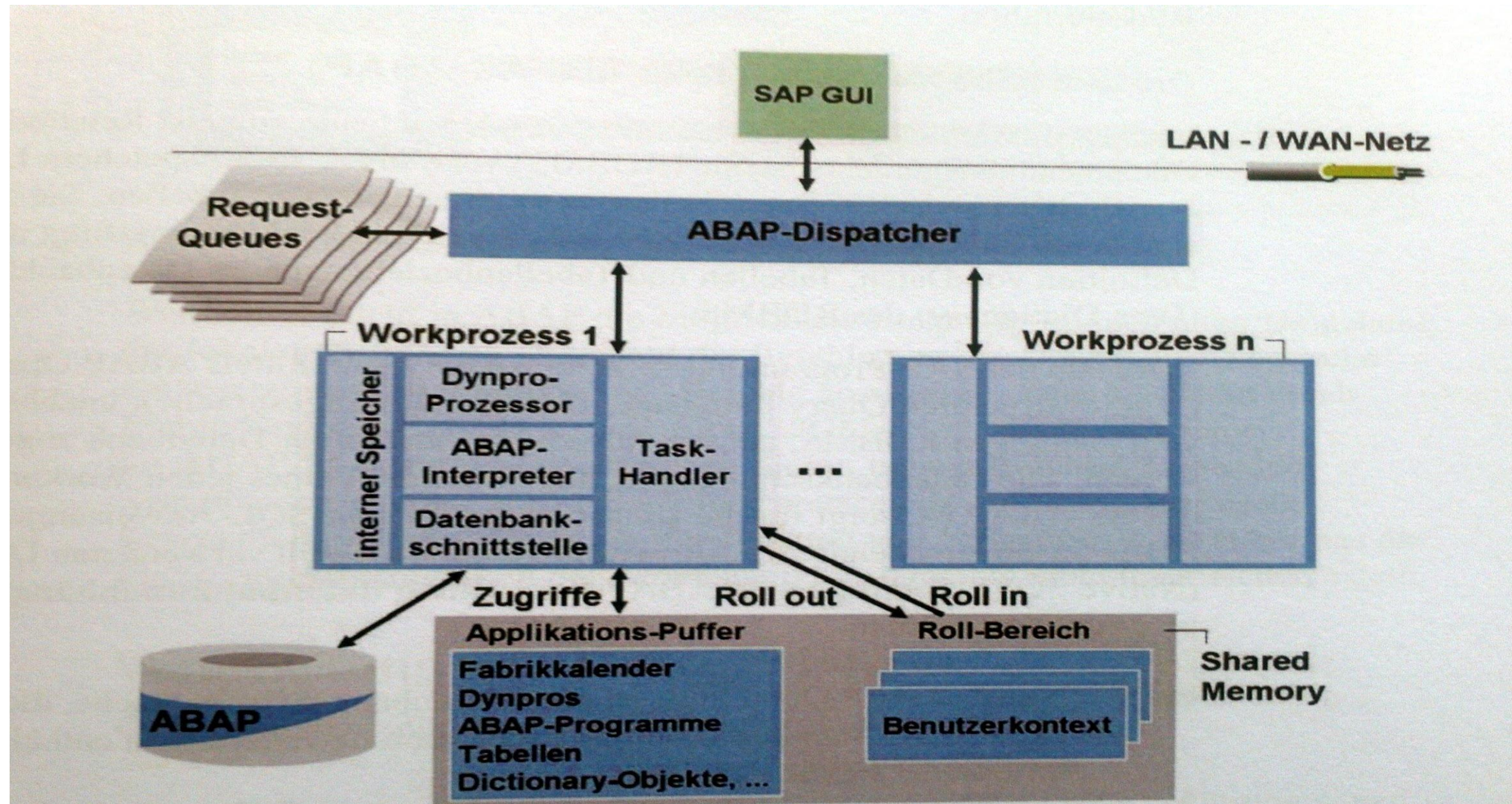


# ABAP Solution Architecture

Example: ECC

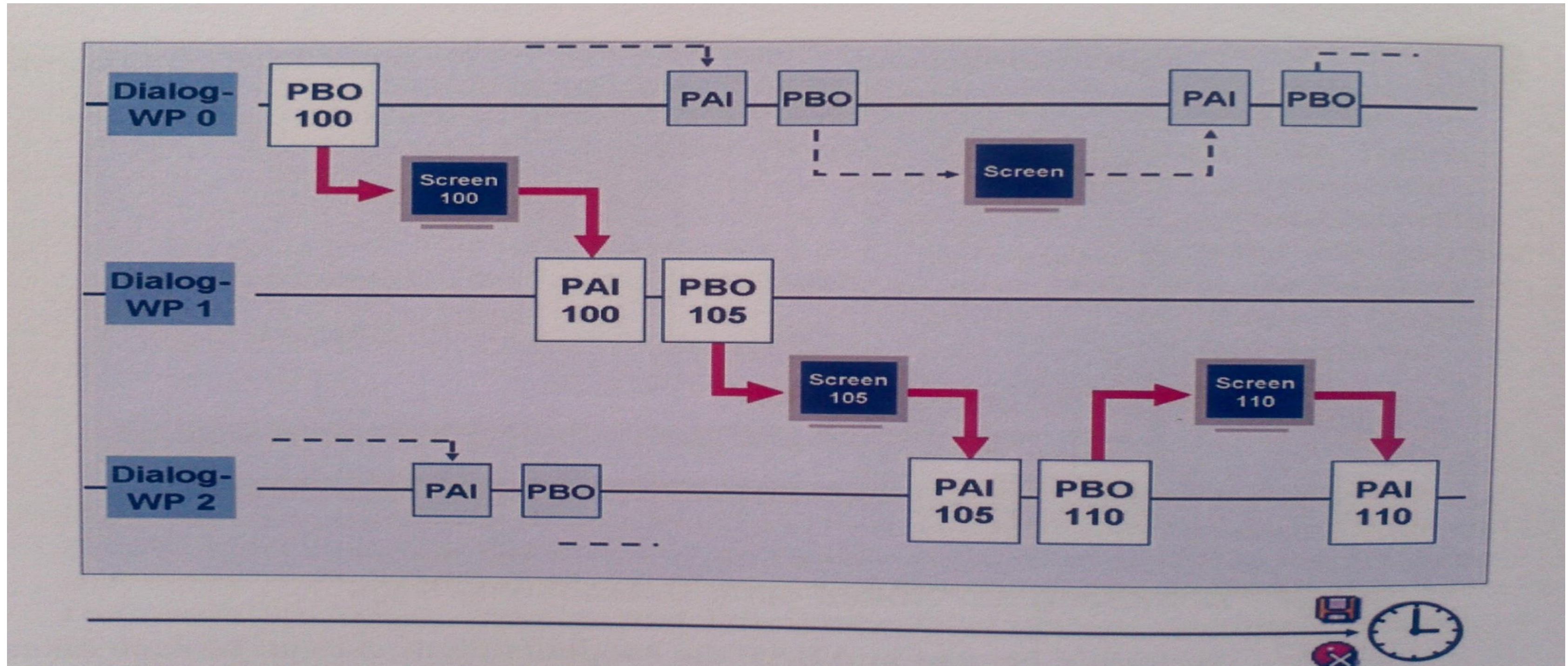


# ABAP Dialog Step





# ABAP Dialog Step



# ABAP Batch Processing

- Analog to Dialog Step
- No interaction possible, but need to answer questions upfront needs to be possible
- Every program that is able to run in Batch can also work interactively.
- Should be avoided because Dialog process can be blocked while program is running

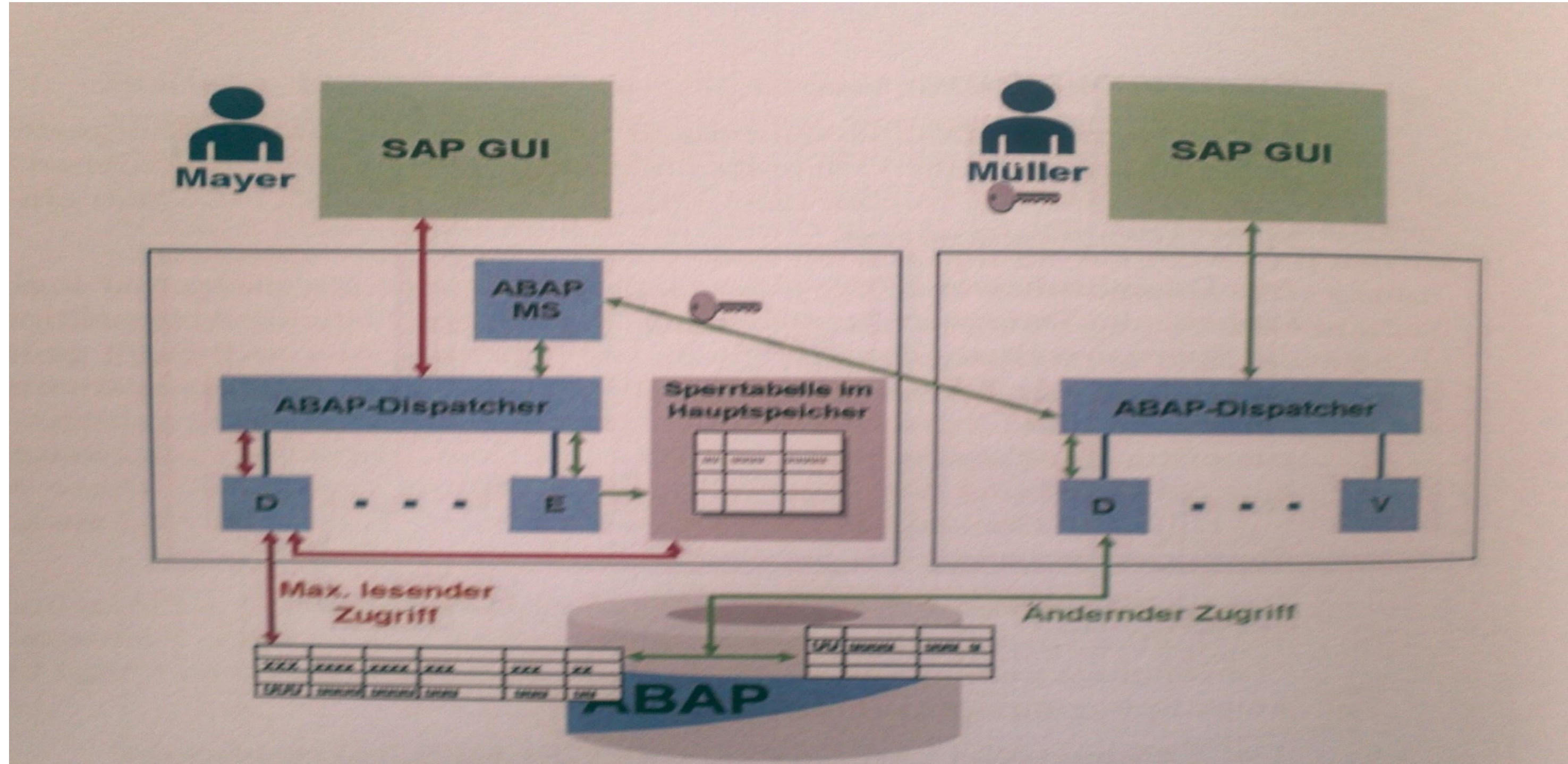


# other ABAP work processes

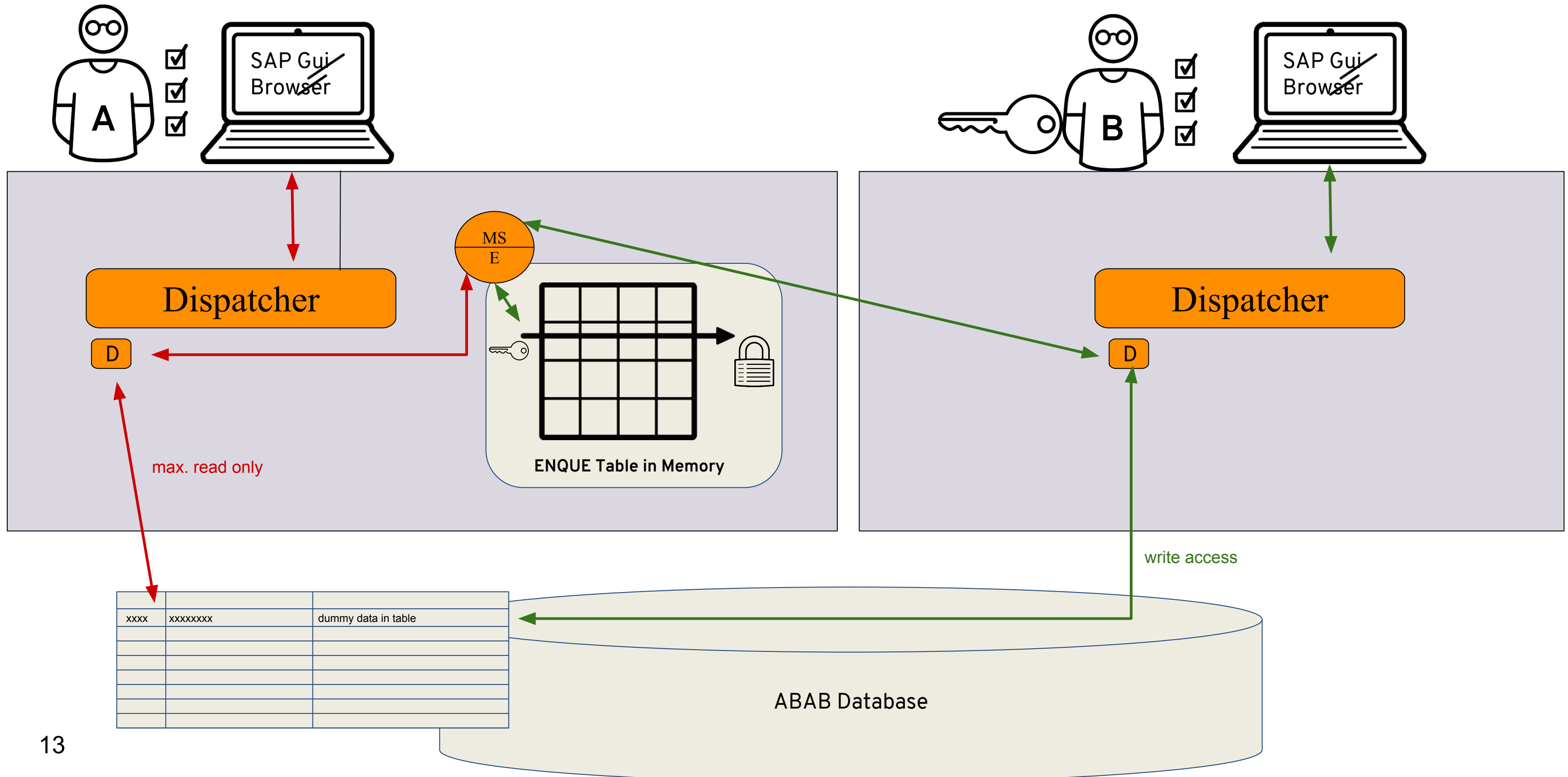
- SPL (spool)
- # depends on printing demand
- print preparation can be done by OS or SAP
- ENQ (enqueue lock mgmt.)
- Needs to run on central instance



# Enque Lock Process



# Enque Lock Process

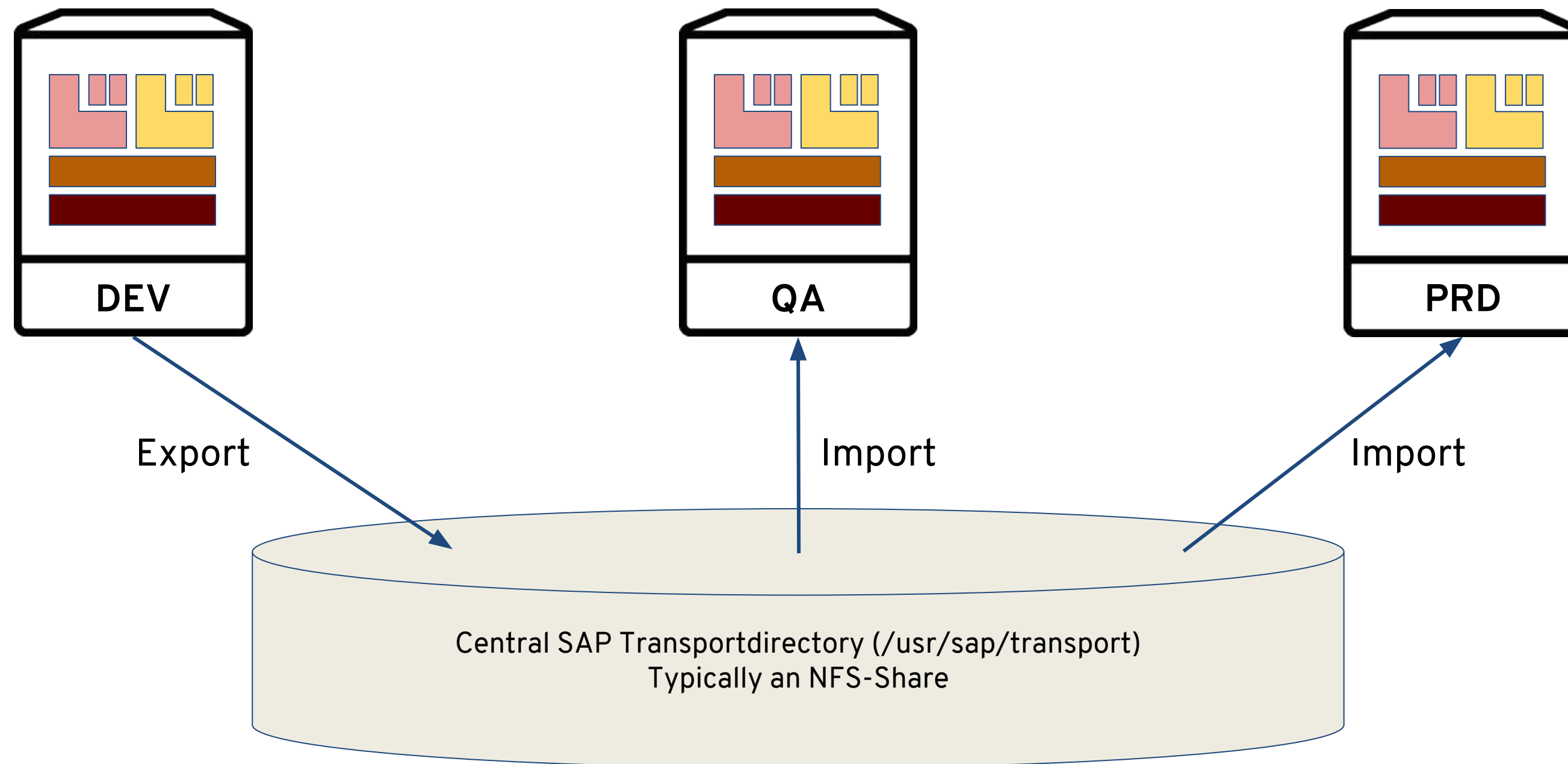


# Need to now for HA designs

- When the central instance should run in HA environment, ENQ has to be started separately
- MS (messaging server) and ENQ (enqueue server) are called SCS (SAP central services)

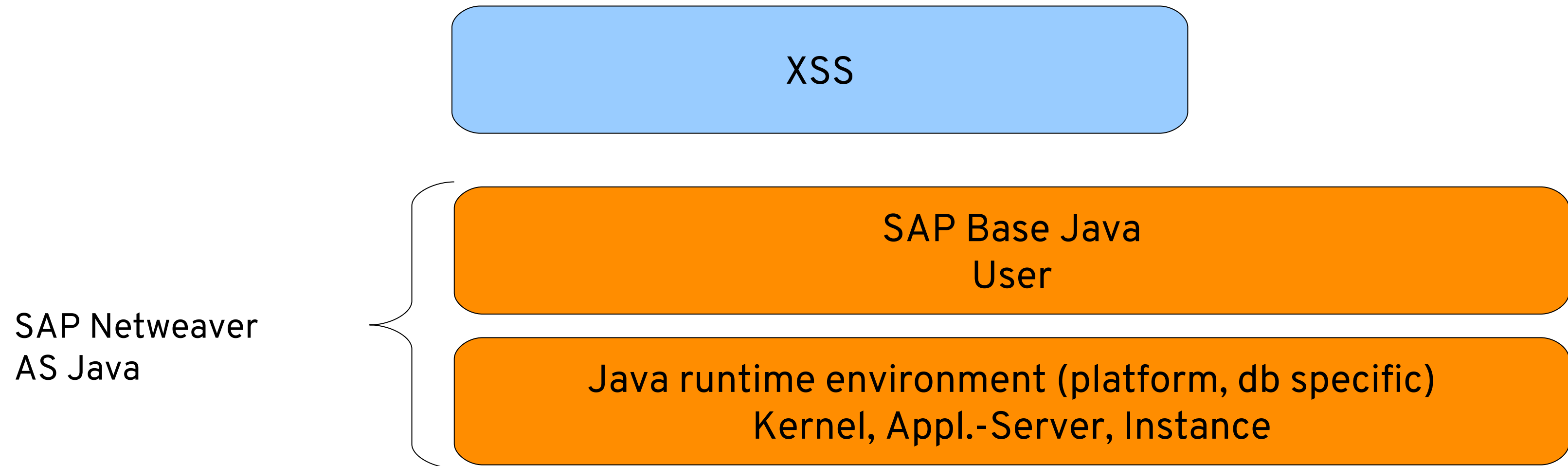


# ABAP update processes



# JAVA Stack

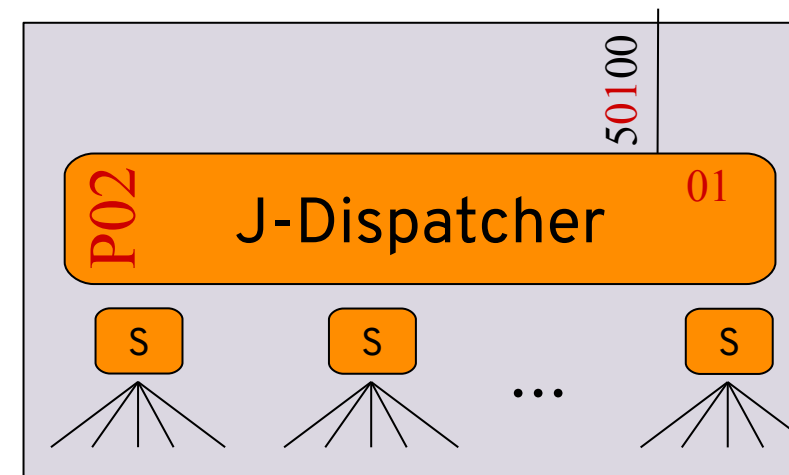
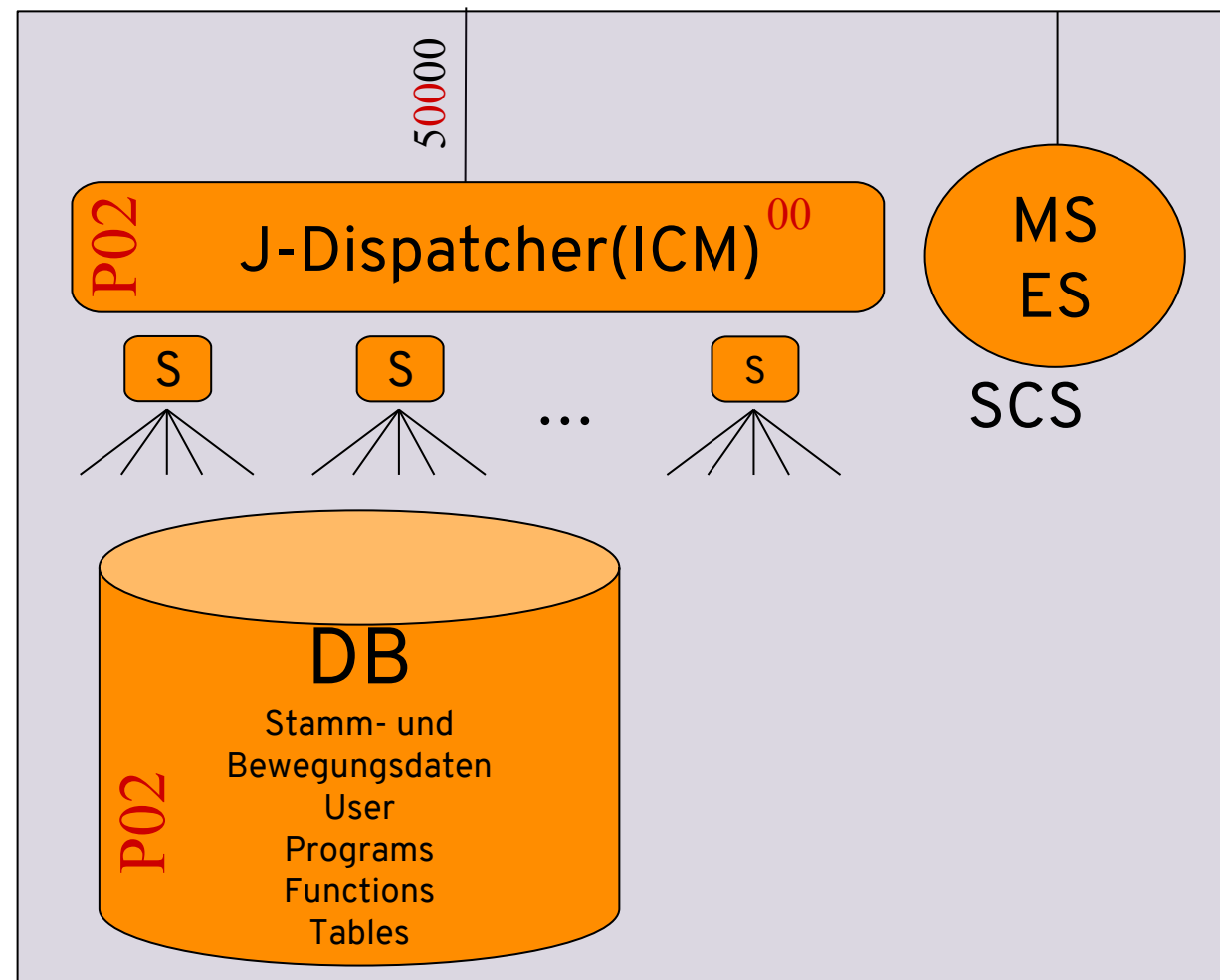
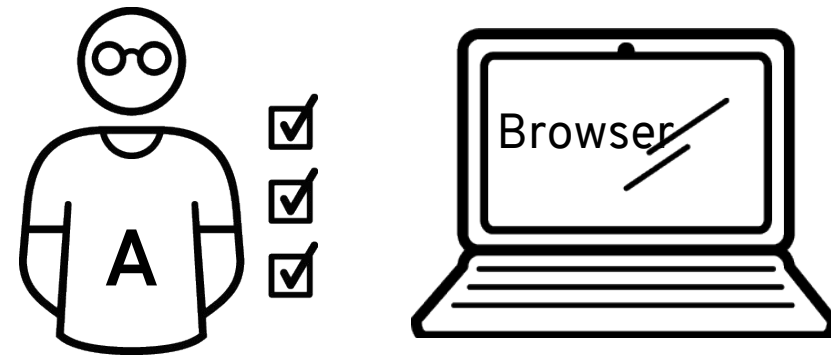
## Example: XSS



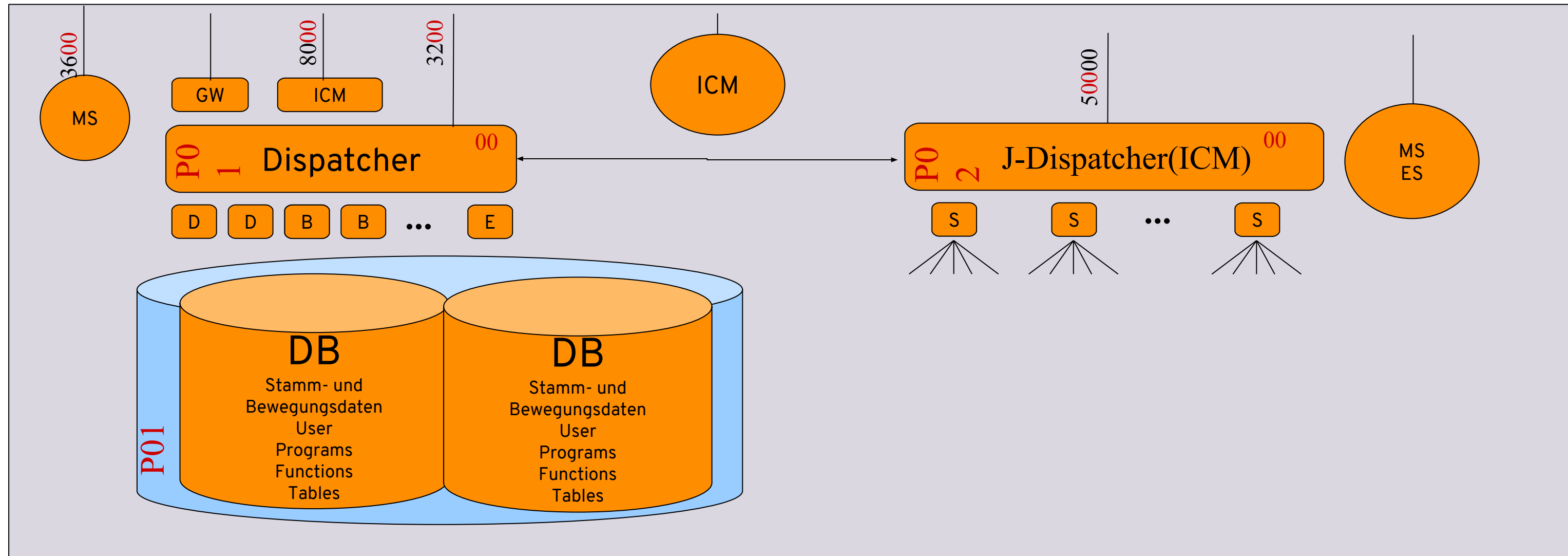


# Java Solution Architecture

## Example: Portal



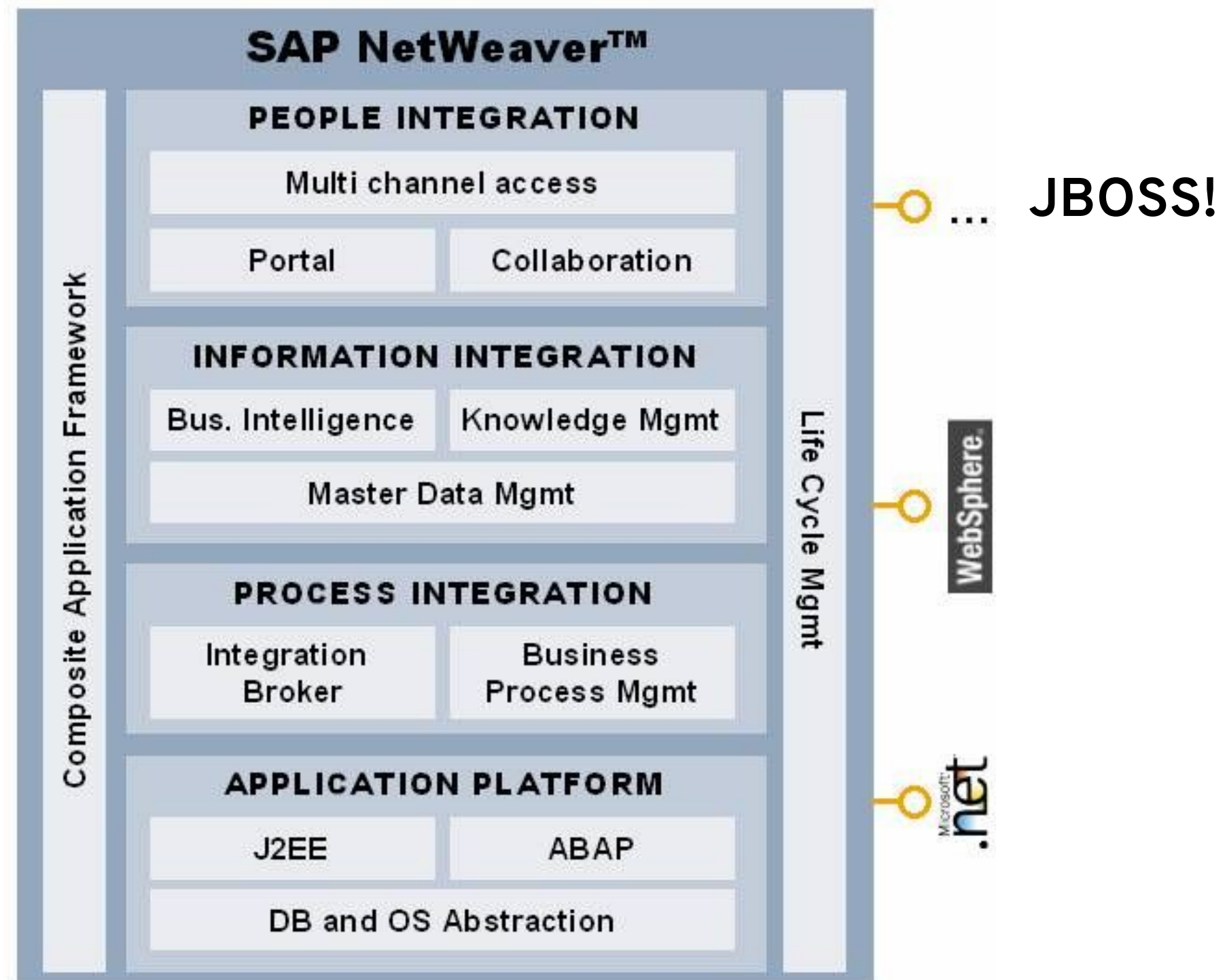
# Dual Stack



**NOTE:** With HANA two databases are required

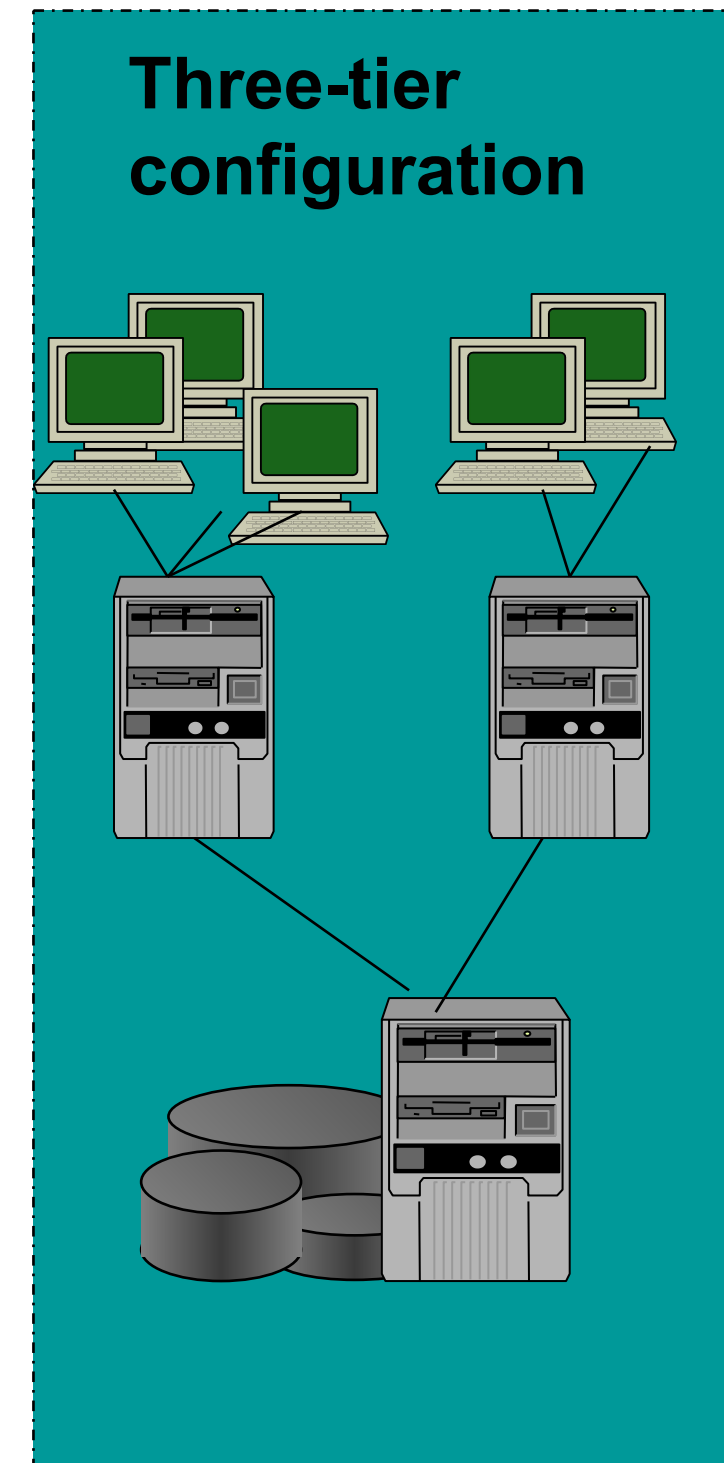


# SAP Netweaver Architecture

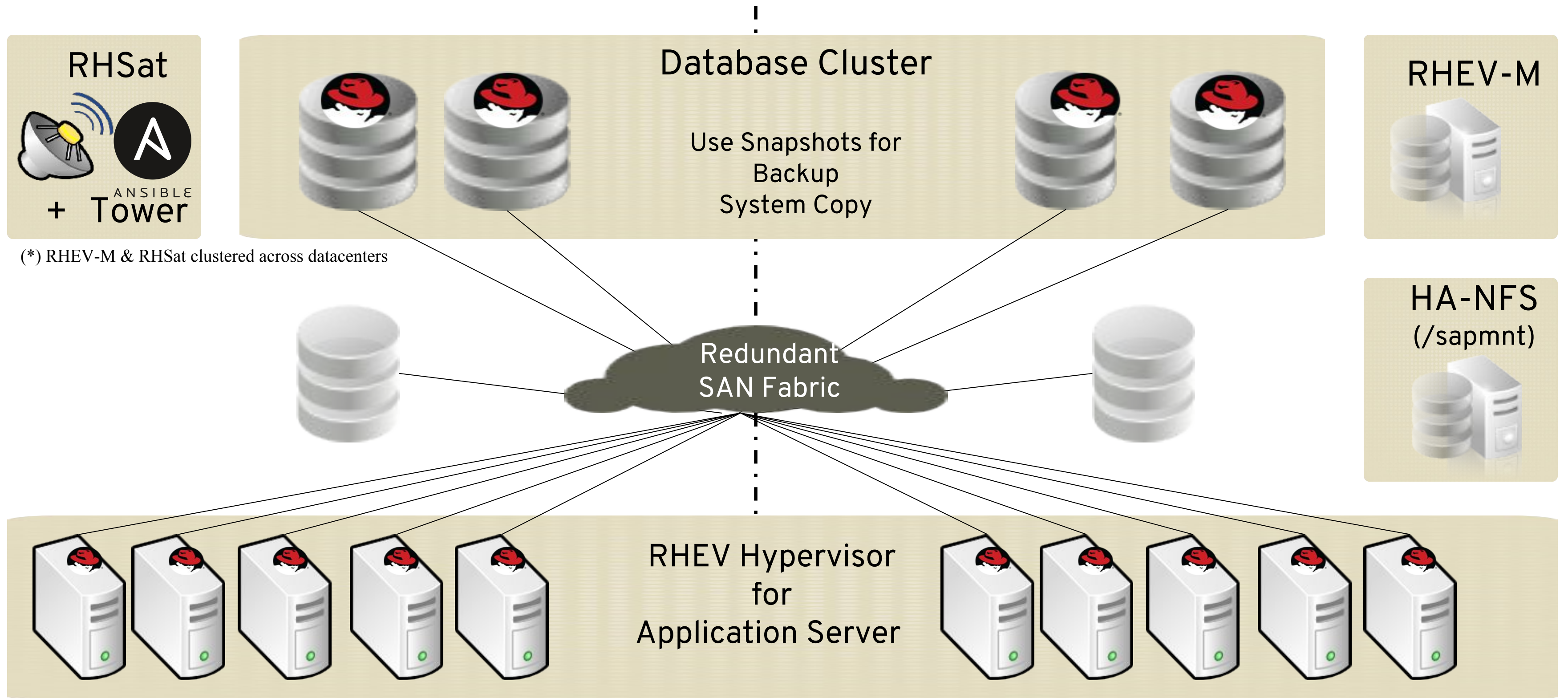


# SAP Installation Concept

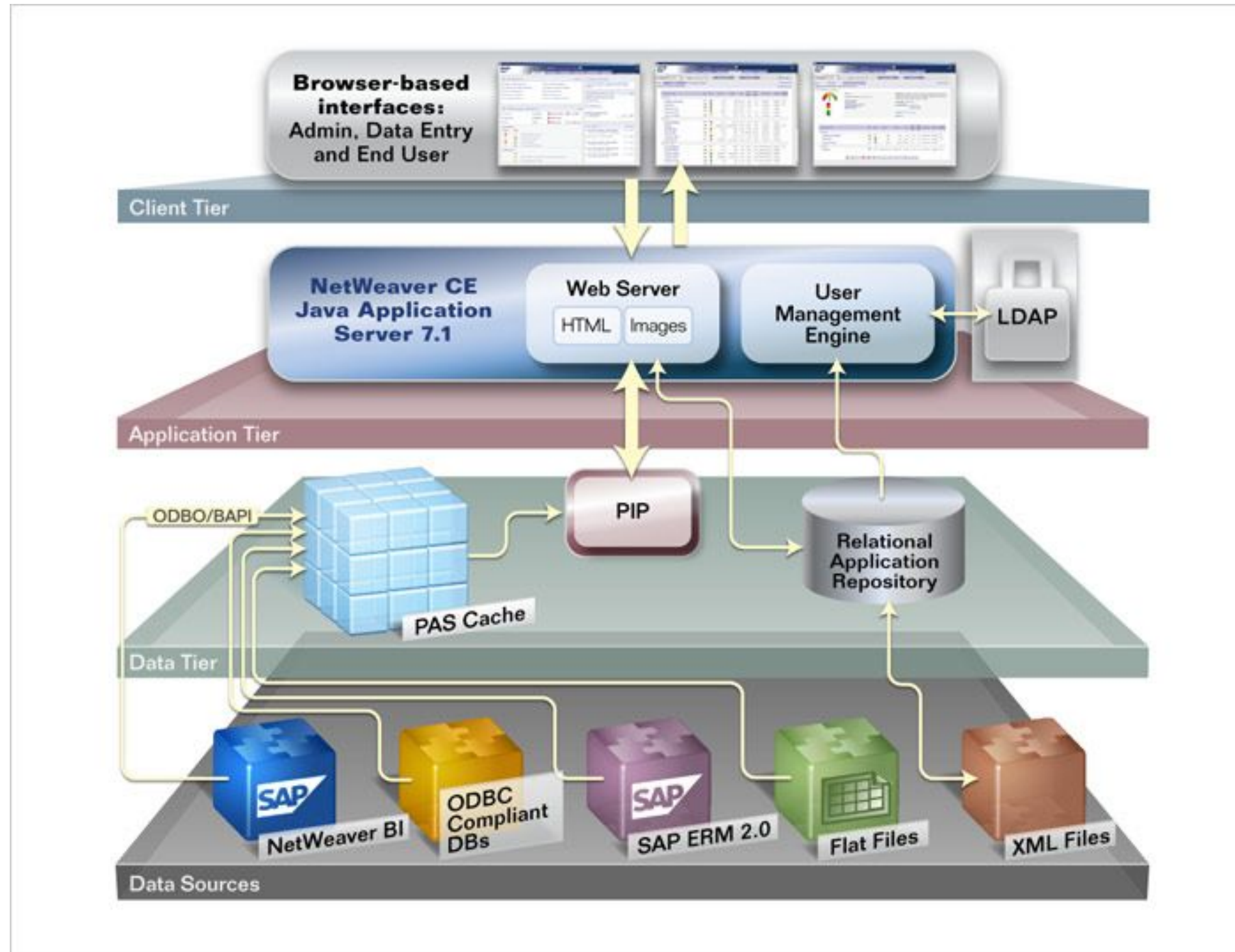
- Install OS
- Install DB (e.g. Oracle RDBMS)
- Install Central Instance
- Install Database Instance
- Install Dialog instance (Application Srv)
- Install SAP GUI



# SAP Architecture Example (on-premise)



# SAP Architecture Example



# Anforderungen an Cluster Knoten

## Cluster Consistency Management

- Damit die vom Cluster verwalteten Software Komponenten (SAP, DB) auf jedem Cluster Knoten gestartet werden können, müssen alle Knoten absolut identisch aufgesetzt aufgesetzt werden:
  - gleiche Kernel Parameter
  - gleiche Boot Parameter
  - gleiche User IDs / Group IDs
  - gleiche User Limits
  - gleiche OS Services / Deamons
  - gleiche OS Pakete (rpms)
  - gleiche Software Versionen
  - gleiche (DB-) Client Software
  - gleiche System-Ports

Bis auf ganz wenige Ausnahmen (hostname, IP, common server certificate, etc.) MUSS alles andere identisch sein.



# Certified Cluster Solutions



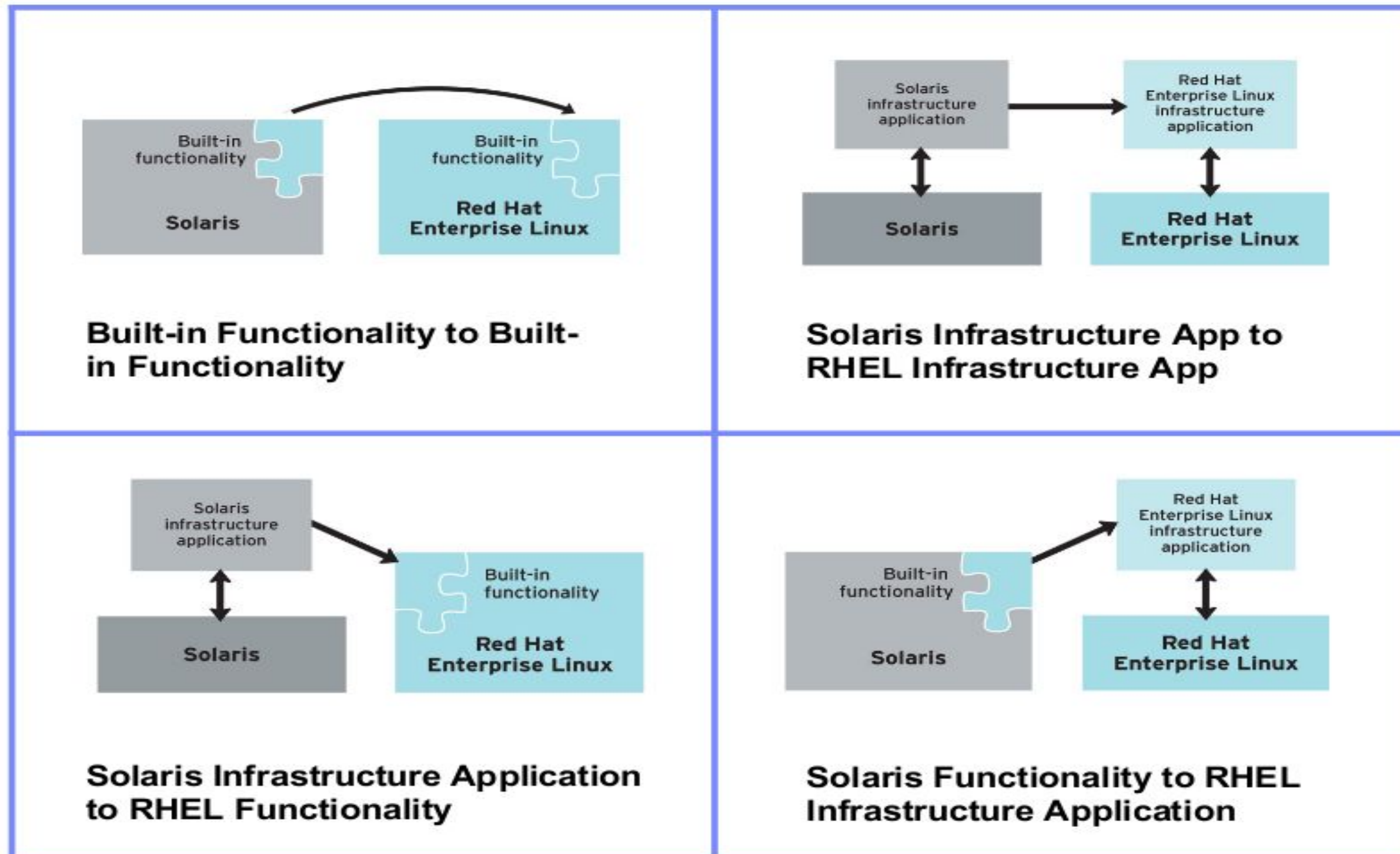


# Migration Reasons to RHEL

- Introduction of SAP HANA, S/4 HANA, Digital Transformation
- Cost Reduction (hw, sw lic, OS support, power)
- Changing Business Requirements with the same or lower budget
- Mergers & Aquisitions
- SW/HW replacement
- Consolisation
- performance/stability
- Introduction of new technology, e.g.virtualization
- Vendor Lock-in avoidance



# caution: typical migration scenarios





# THANK YOU



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