

POP101

Intelligent Processes on SAP HANA – Overview and Outlook

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Agenda

Overview

- Intelligent Processes & Business Operations

Process Orchestration & BPM today

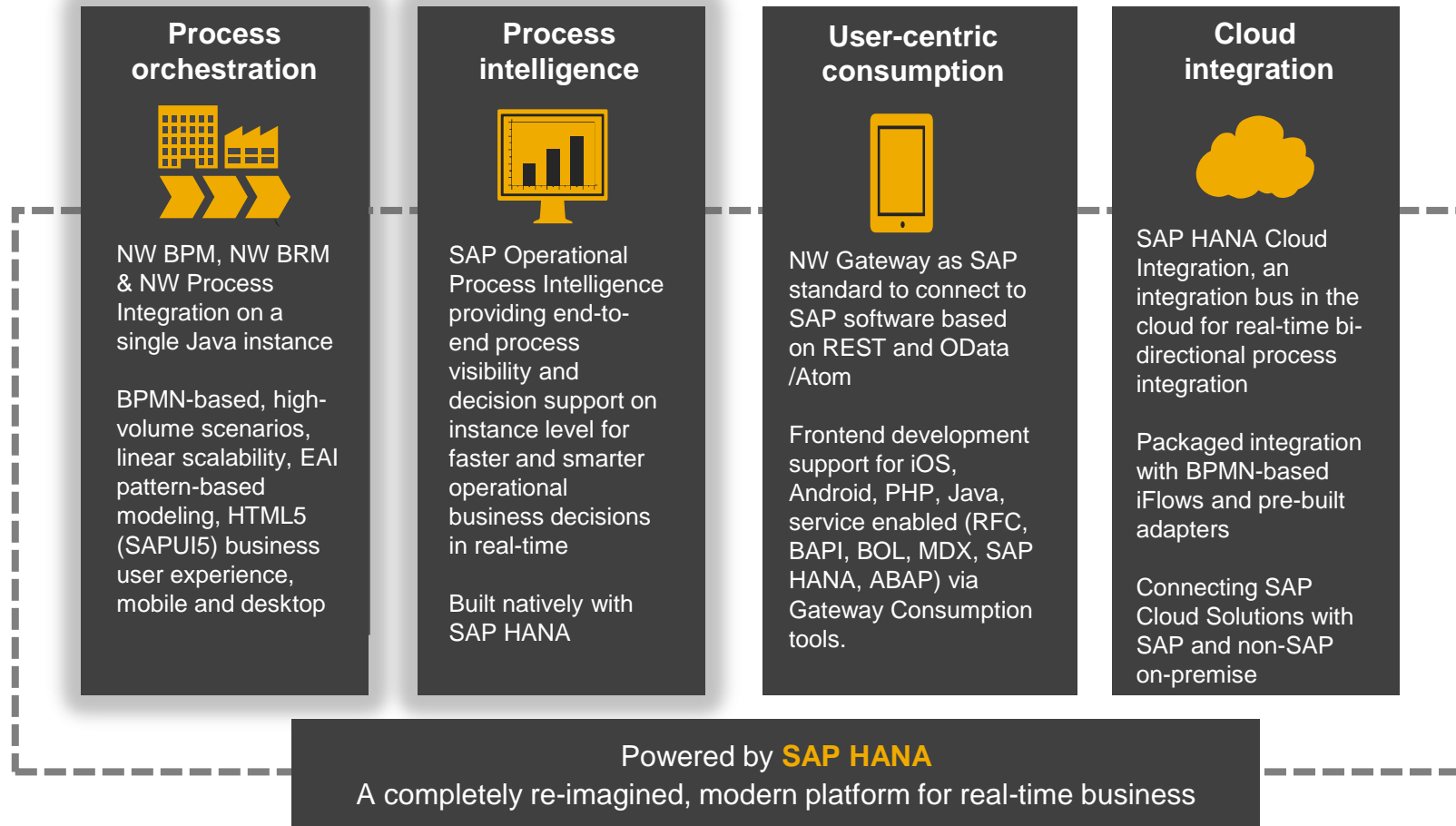
Intelligent Processes

- Today
- Planned Innovations
- Future Direction

Summary

Business Process Management

In the SAP integration and orchestration portfolio



SAP NetWeaver Business Process Management

Product description

SAP NetWeaver Business Process Management enables you to quickly automate and flexibly optimize your business processes – from simple workflows to integrated processes that span applications and organizational boundaries

Developer productivity

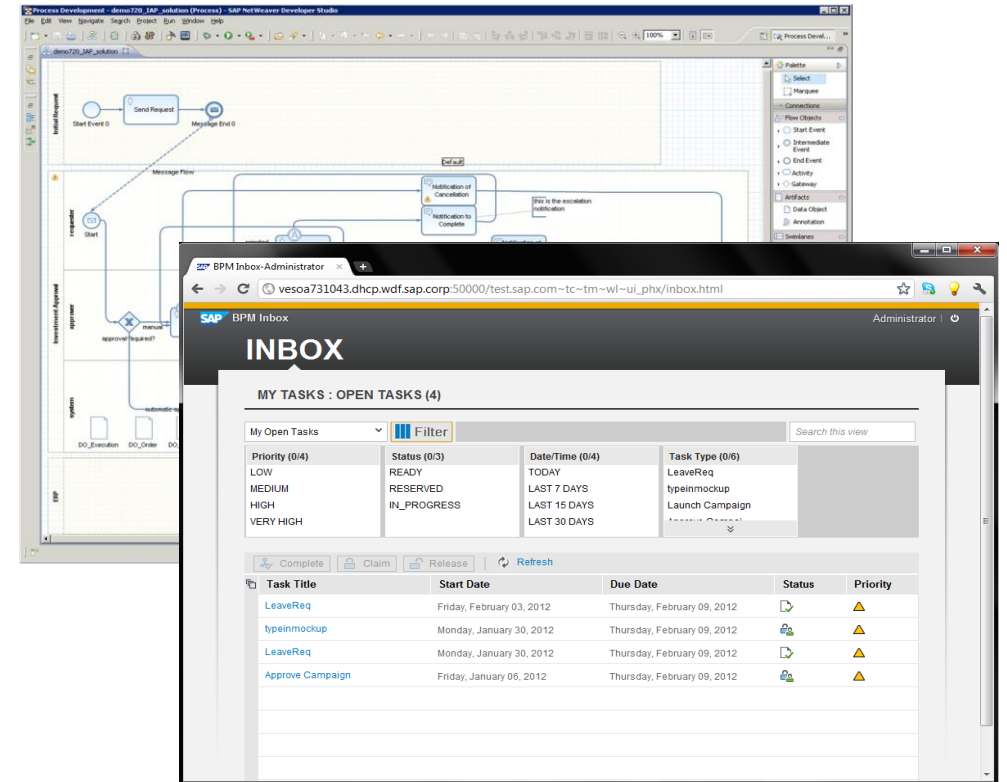
- Intuitive process modeling using BPMN standard
- Integrated business rules
- Automatically generate user interfaces from process context

Easy consumption

- State-of-the-art task inbox based on SAP UI5
- Java API access for processes and tasks
- Standard dashboards for process analytics

Integration with SAP & non-SAP systems

- Support for RFC for web service connectivity
- Process orchestration deployment option



Intelligent Business Process

Infusing Intelligence into Process Orchestration



What Is It?

- Automate and flexibly optimize business processes across applications or organizational boundaries.
- Manage business rules to ensure fast, agile, transparent, consistent enforcement of corporate policies
- Measure and adjust operational processes in real-time

What value does it deliver?

- Increased efficiency and flexibility
- Improved real-time decision support on process instance level
- Easy consumption of process analytics - easy access to tasks

Today

- SAPUI5-based BPM Inbox
- API access to tasks
- PI and BPM on a single Java instance
- Integration pattern support
- BPM as a provider & orchestrator for SAP Operational Process Intelligence

Planned

- Unified Inbox on SAP NW Gateway
- ODATA task services
- BPM / Process Orchestration on HANA
- nZDM for BPM / Process Orchestration
- Co-deployment of Process Orchestration with SAP Operational Process Intelligence on HANA

Future

- Personalized workspace (space.me) across BPM and SAP Operational Process Intelligence
- BPM Accelerators on HANA
- Intelligent processes: deep integration of process intelligence with process execution

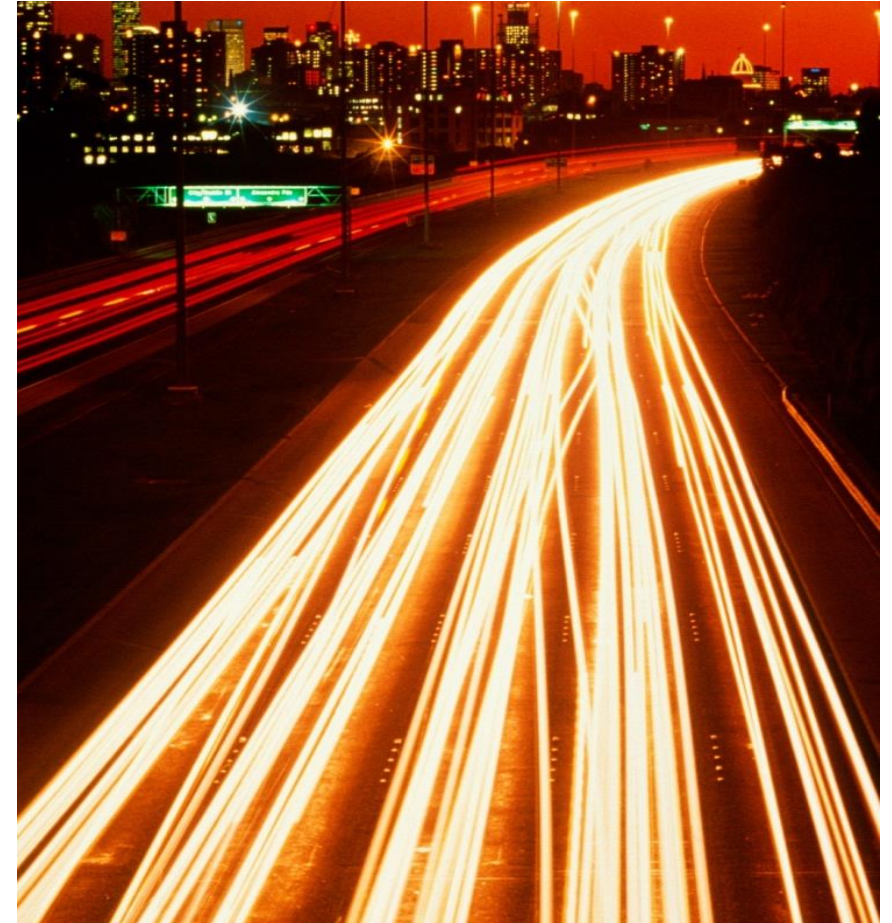
Business Process Management

Key trends and impacts in business and technology

Intelligent business operations: infusing intelligence into orchestrated, end-to-end processes

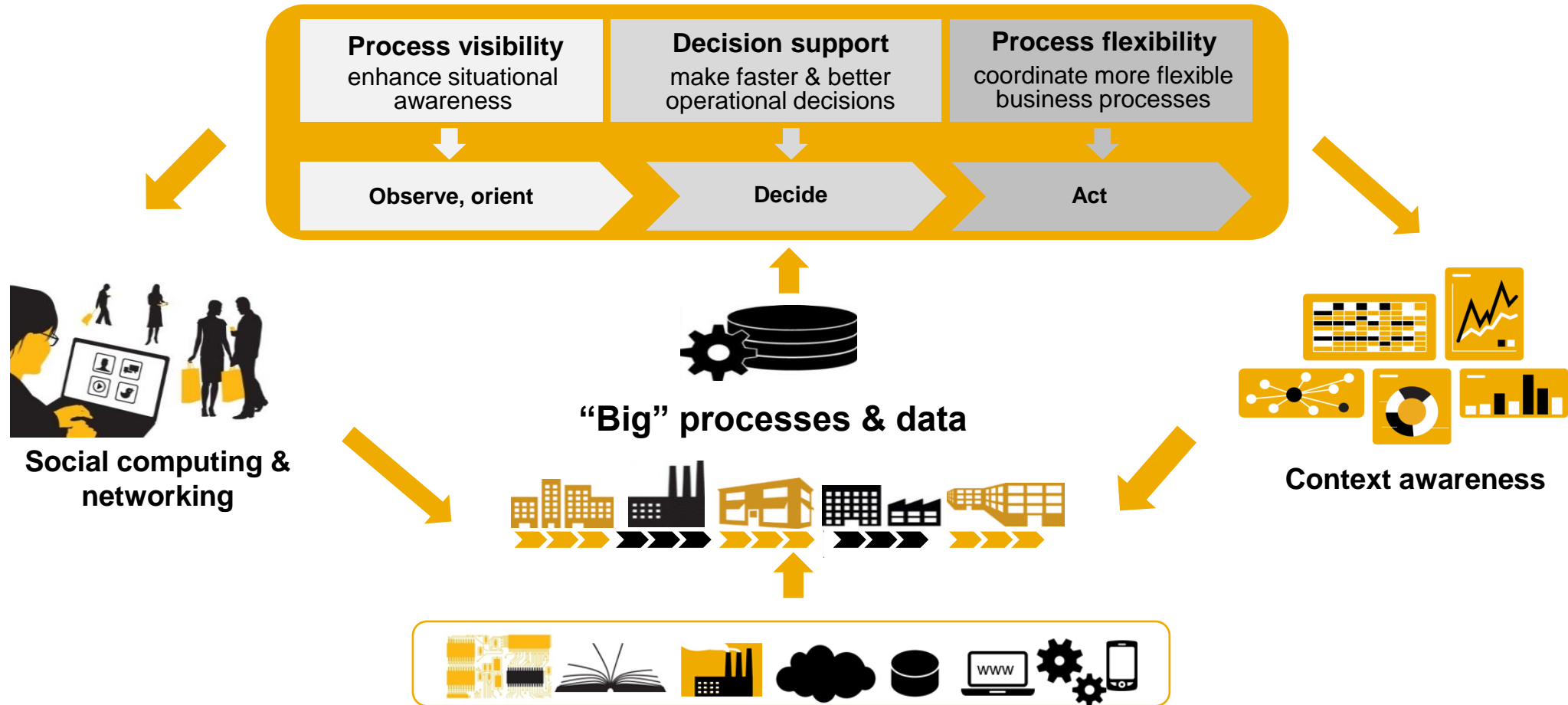
- Gain competitive advantage
- Quickly adapt to changing business dynamics
- Turn big “process” data into actionable information
- Leverage process-aware analytics
- Lead the transformation of your business
- Be proactive instead of crisis management
- Accelerate and optimize operational decisions making

“By 2016, 70% of the most profitable companies will manage their processes using real-time predictive analytics or extreme collaboration.” – Gartner Predicts 2013

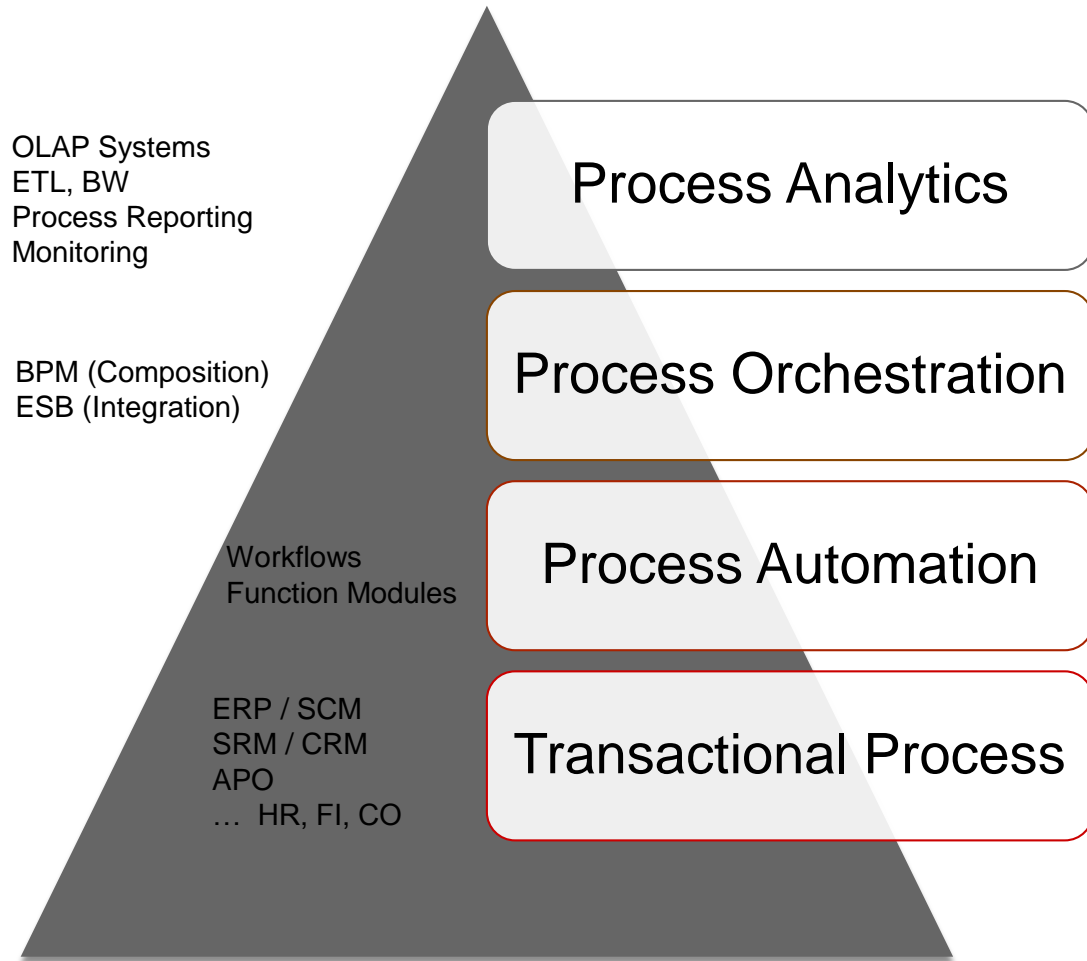


Intelligent Processes and Business Operations

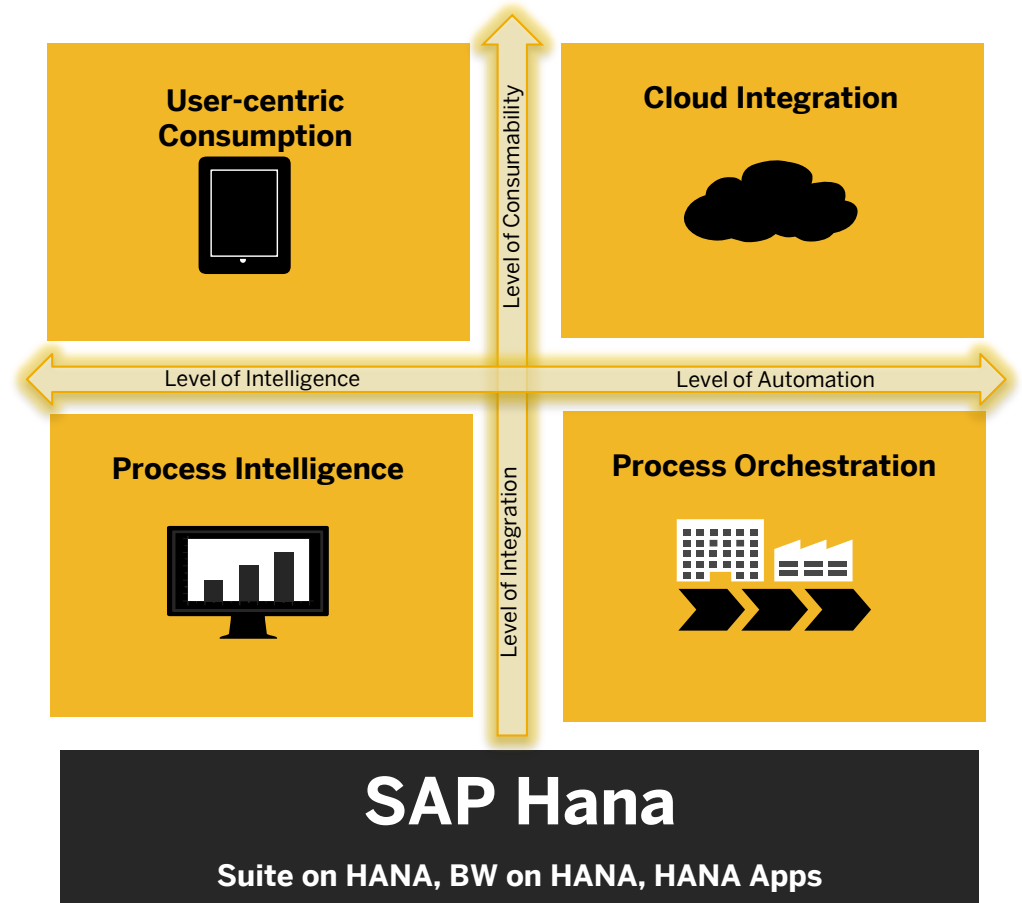
Key trends and impacts in business and technology



Continuum of Business Process Control



Traditional Maturity Model



The New World



Intelligent Processes

- Today
- Planned
- Future

SAP NetWeaver Business Process Management

New user experience

BPM inbox

Modern user experience leveraging

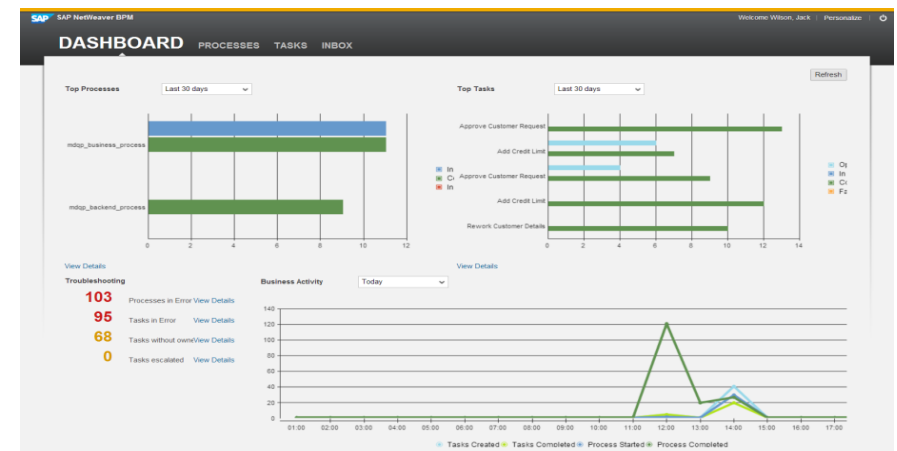
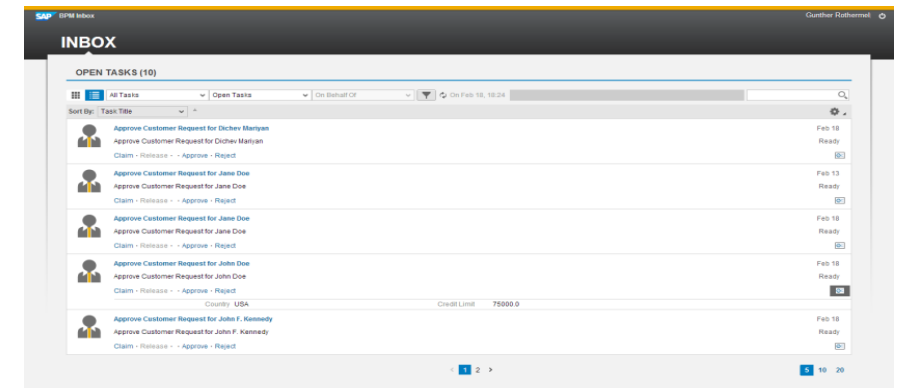
- Advanced search and filter capabilities
- Custom attributes and direct actions (e.g. approve/reject)
- Alternative stream view optimized for occasional users

Custom task UIs

- Use any Java or JavaScript framework to implement a task UI
- Interact with the process engine via Java public API

BPM analytics

- “Good morning” page for process administrators
- Check average duration, number of instances per status and instances in error
- Directly navigate to SAP NetWeaver administrator to take action



SAP NetWeaver Business Process Management

BPM inbox overview

All-new HTML5 (SAPUI5) inbox for SAP NetWeaver BPM

The screenshot displays the SAP BPM Inbox interface. At the top, the header shows 'SAP BPM Inbox' and the user 'Ram Prasad'. The main section is titled 'INBOX' and 'OPEN TASKS (10)'. It features a view selector (List/Stream), a filter toggle, a refresh button, and a free text search bar. Below these are filter options for Task Type, Priority, Status, Creation Date, and Due Date. A row of task actions (Open, Claim, Release, Approve, Reject) is visible. The main table lists tasks with columns for Task Title, Country, Credit Limit, Creation Date, Due Date, Status, and Priority. A settings gear icon allows for navigation to the substitution management screen and adjustment of the number of rows to display (10, 25, 50).

Annotations on the interface include:

- View selection (List view / Stream view)
- Filter toggle
- Refresh tasks manually
- Filter options
- Free text search
- Logged in user
- Task actions (Standard + Custom)
- Navigation to Substitution management screen
- Task attributes (Standard + Custom)
- Number of rows to display
- Navigate to task application

Task Type	Priority	Status	Creation Date	Due Date
All (1)	All (4)	All (3)	All (4)	All (4)
Approve Customer Request	Low Medium High Very High	Ready Reserved In Progress	Today Last 7 Days Last 15 Days Last 30 Days	Today Next 7 Days Next 15 Days Next 30 Days

Task Title	Country	Credit Limit	Creation Date	Due Date	Status	Priority
Approve Customer Request for Prashant Diddi	India	250000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Guru Raj	India	900000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Sudeep Das	India	800000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Kali Charan	India	700000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Basavraj Ullagaddi	India	400000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Shyam Bengal	India	5000000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Avinash Kalmane	India	300000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Sanjay Kumar	India	2000000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Naveen Seth	India	3000000.0	May 24, 2013		Ready	Medium
Approve Customer Request for Ramchandra Guha	India	100000.0	May 24, 2013		Ready	Medium

SAP NetWeaver Business Process Management

BPM inbox overview – custom attributes and custom actions

Get context information and complete tasks directly from the inbox

The screenshot displays the SAP BPM Inbox interface. The main window shows a list of open tasks under the heading "OPEN TASKS (6)". The tasks are listed in a table with columns: Task Title, Country, Credit Limit, Creation Date, and Due Date. The first task is "Approve Customer Request for Neville Moore" with a credit limit of 100,000.0. The "Approve" button is highlighted with a red box. Two popups are overlaid on the interface. The "Custom Actions" popup is titled "Define the custom actions for this task" and contains a table with columns: Name, Label, and Description. It lists two actions: "APPROVED" with label "Approve" and "REJECTED" with label "Reject". The "Custom Attributes" popup is titled "Define the custom attributes for this task" and contains a table with columns: Name, Label, Type, and Expression. It lists two attributes: "CreditLimit" with label "Credit Limit" and type "string", and "Country" with label "Country" and type "string".

Custom Actions

Define the custom actions for this task

Actions:

Name	Label	Description
APPROVED	Approve	
REJECTED	Reject	

Buttons: Add, Remove, Move Up, Move Down

Custom Attributes

Define the custom attributes for this task

Attributes:

Name	Label	Type	Expression
CreditLimit	Credit Limit	string	string(UIRequest/customer/creditLimit)
Country	Country	string	UIRequest/customer/country

Buttons: Add, Remove, Edit..., Move Up, Move Down

SAP NetWeaver Business Process Management

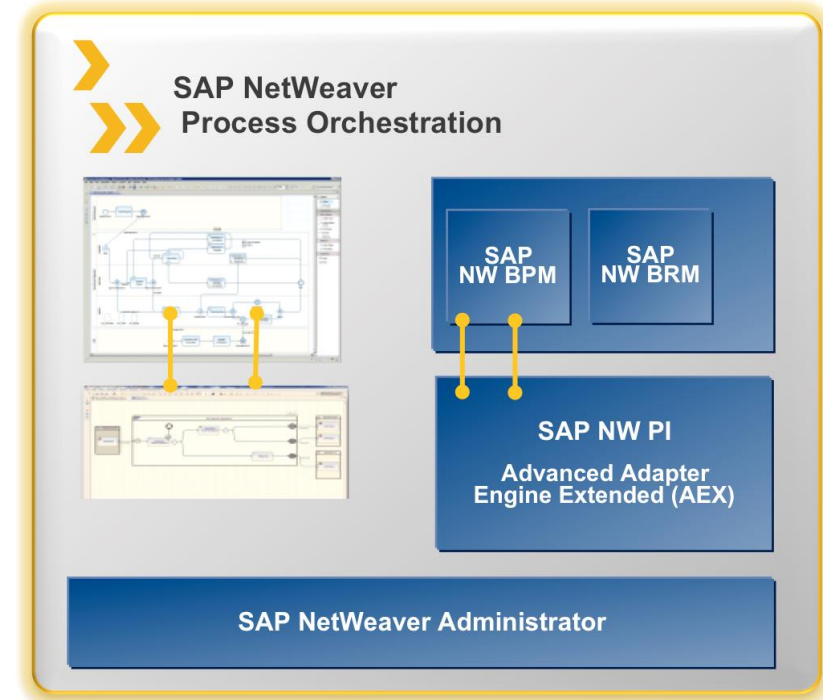
Process Orchestration deployment option

BPM, BRM and PI on a single Java instance

- Java-only installation option for BPM, BRM and PI
- Reliable message exchange using the XI 3.0 protocol
- Call PI mappings from BPM process
- Use business rules in PI
- End-to-end monitoring of processes and related messages
- Handling of large messages

Advantages

- Reduced development and operations cost
- Improved performance



SAP NetWeaver Business Process Management

Support for enterprise integration patterns for Process Orchestration










Providing best practices and guidelines on how to implement common integration and business requirements on Process Orchestration

Enterprise integration patterns

- Do help in solving recurring problems faced in the integration of enterprise applications
- See: [Enterprise Integration Patterns: Designing, Building, and Deploying Messaging Solutions](#) by Gregor Hohpe and Bobby Woolf

Enterprise integration patterns on Process Orchestration

- Blog on SCN describing how to best implement enterprise integration patterns on PI/PO
- See [SAP Process Orchestration patterns on SCN](#)

Stateful patterns	Available from this release
 Aggregator	SAP NetWeaver 7.3 EhP1 SP5
 Claim Check	SAP NetWeaver 7.3 EhP1 SP5
 Composed Message Processor	SAP NetWeaver 7.3 EhP1 SP5
 Scatter-Gather	SAP NetWeaver 7.3 EhP1 SP5
 Sync/Async Bridge	SAP NetWeaver 7.3 EhP1 SP4
Stateless patterns	
 Content Enricher (w/BPM)	SAP NetWeaver 7.3 EhP1 SP4
 Splitter (w/BPM)	SAP NetWeaver 7.3 EhP1 SP4
 Async/Sync Bridge	SAP NetWeaver 7.3 EhP1 SP4
 Pure AEX implementation of these stateless patterns: <ul style="list-style-type: none">• Content Based Router• Recipient List• Dynamic Router• Splitter• Message Filter• Content Enricher• Content Filter• Message Translator	SAP NetWeaver 7.3 EhP1 SP4

SAP NetWeaver Business Process Management

End-to-end monitoring in Process Orchestration

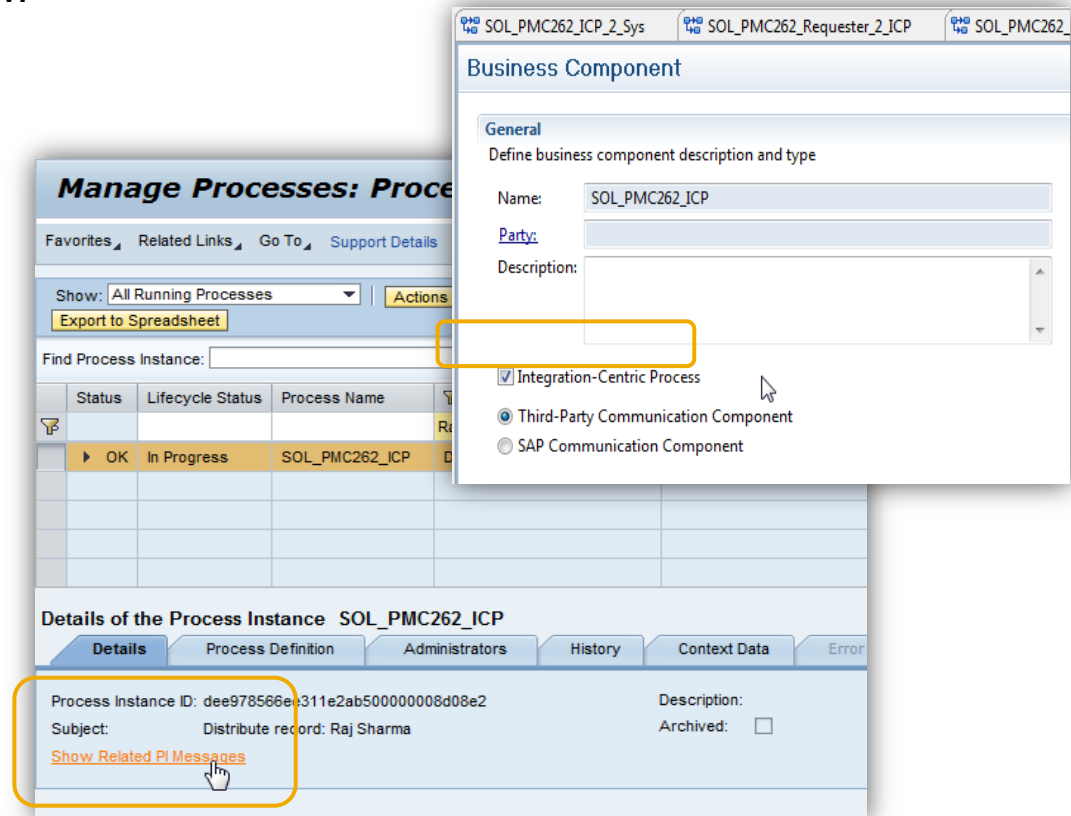
Improve TCO by monitoring scenarios across PI and BPM

Context sensitive navigation

- For a given BPM process instance, show details of all associated PI messages
- For a given PI message, show details of the associated BPM process

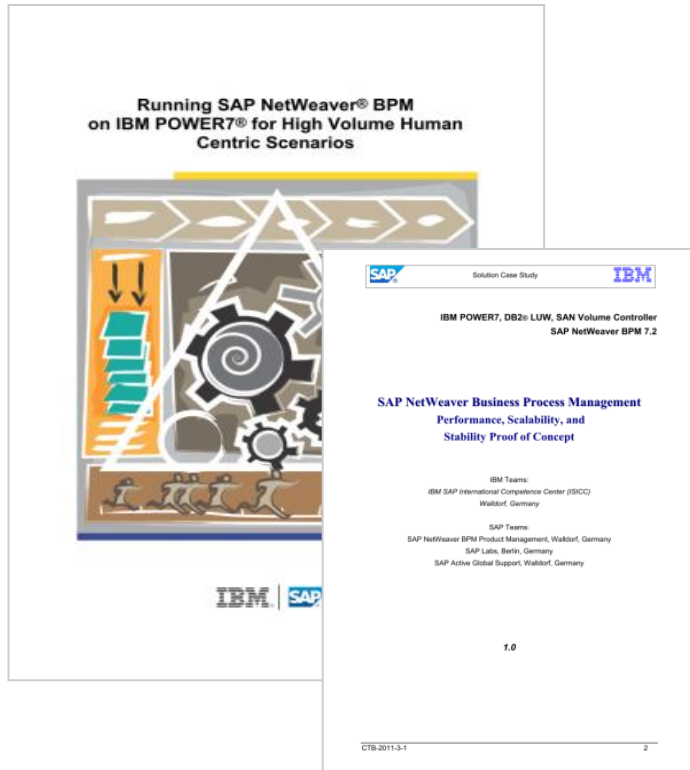
Prerequisites

- Mark the communication component as integration-centric process
- PI and BPM have to communicate with each others using XI 3.0 message protocol



SAP NetWeaver Business Process Management

BPM in high-volume scenarios*



Improved performance and reliability

Hardware	IBM Power 750
CPU cores	32
Response time	0,26 sec
Process instances/hour	~37.000
Task instances/hour	~112.000
Concurrent users	2.800

* Standard configuration template for high-volume BPM available

SAP NetWeaver Business Process Management

Integration with SAP Operational Process Intelligence, powered by HANA

Provide real-time process visibility to line-of-business users enabling faster and better-informed operational decisions

Process discovery

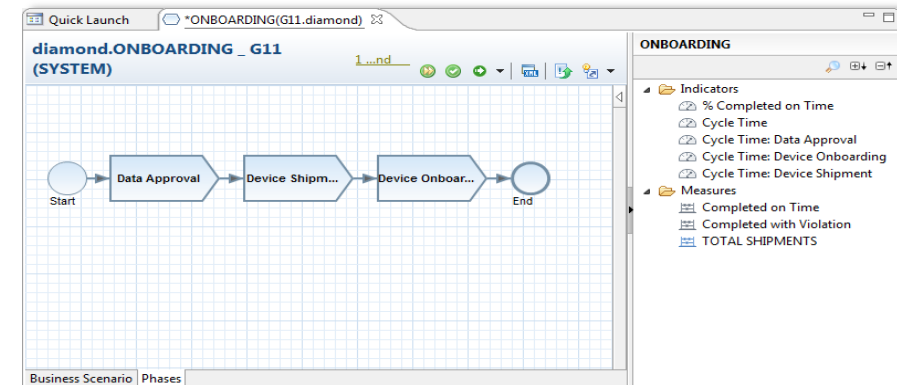
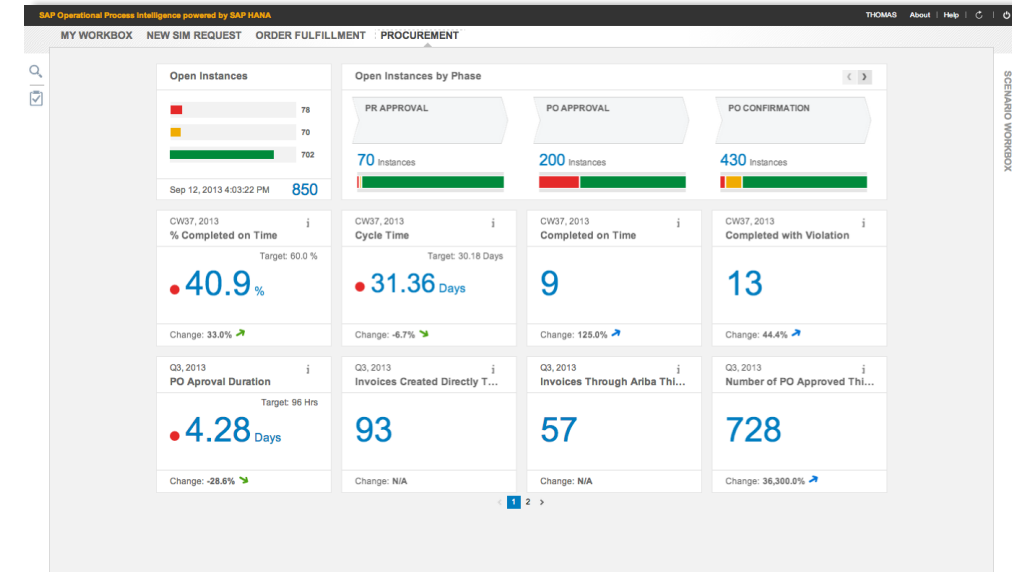
- Search and import process models directly from an SAP NetWeaver BPM system or via SAP NetWeaver Gateway
- Use process events to define business scenarios and KPIs

Runtime events

- During process execution, process events and context data are available for replication into SAP Operational Process Intelligence

Correlation

- Automatic correlation between BPM main flow and referenced sub-flows





Demo



Intelligent Processes

- Today
- Planned
- Future

Planned innovations

Inbox enhancements, unified inbox and task services

Further enhancements in BPM inbox and harmonized access to tasks from SAP NetWeaver BPM and SAP Business Workflow

Inbox enhancements

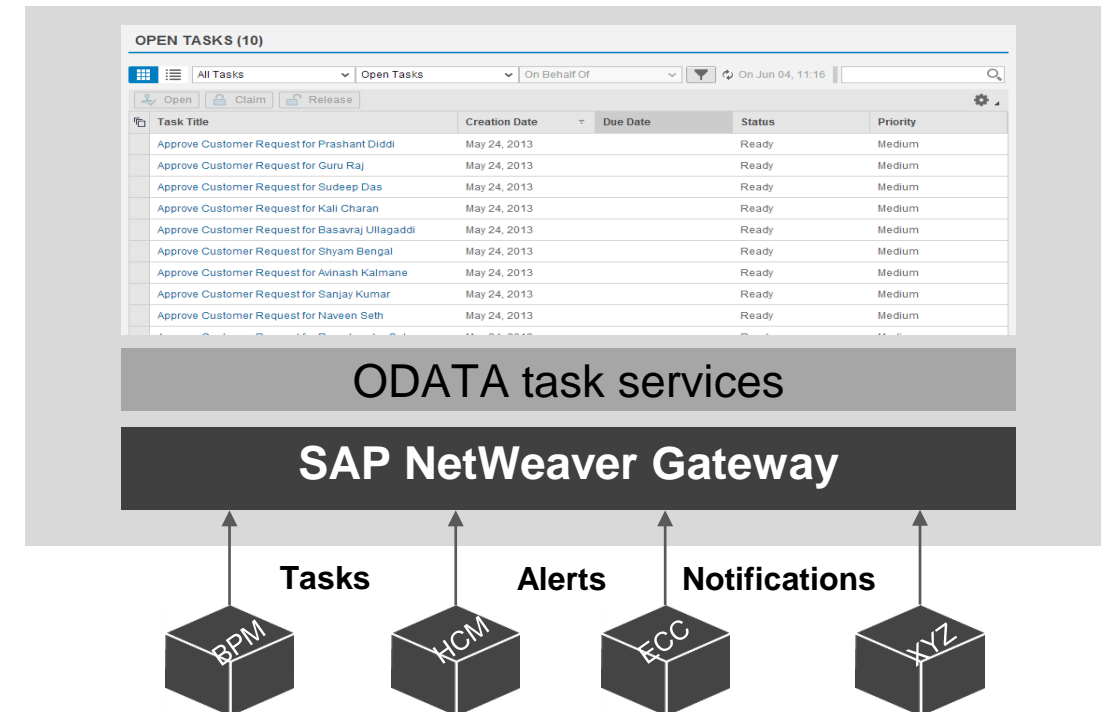
- Task initiator – users can see who created a task
- Support for user photos
- Mass approval – execute an action on multiple tasks
- Comments and attachments

Unified inbox

- Standard inbox on SAP NetWeaver Gateway to manage tasks from BPM and workflow systems
- Manage substitution rules for multiple provider systems

ODATA task services

- Access and manage tasks via standard ODATA services



PLANNED INNOVATIONS

This is the current state of planning and may be changed by SAP at any time.

Planned innovations

Further enhancements in Process Orchestration

Additional platform options and minimized system down time

Process orchestration on HANA

- SAP HANA added as supported database platform in the Platform Available Matrix (PAM)

Near-zero down time maintenance

- Applying support and enhancement packages to the Process Orchestration stack with minimal system downtime

Improved technical error handling for BPM

- Catch technical exceptions during service calls (e.g. system down, timeout) via boundary event
- Define escalation workflow to handle the exception (e.g. retry)



PLANNED INNOVATIONS

This is the current state of planning and may be changed by SAP at any time.

Planned Innovations

Intelligent processes on HANA

Process execution and process intelligence combined on HANA

Co-deployment on SAP HANA

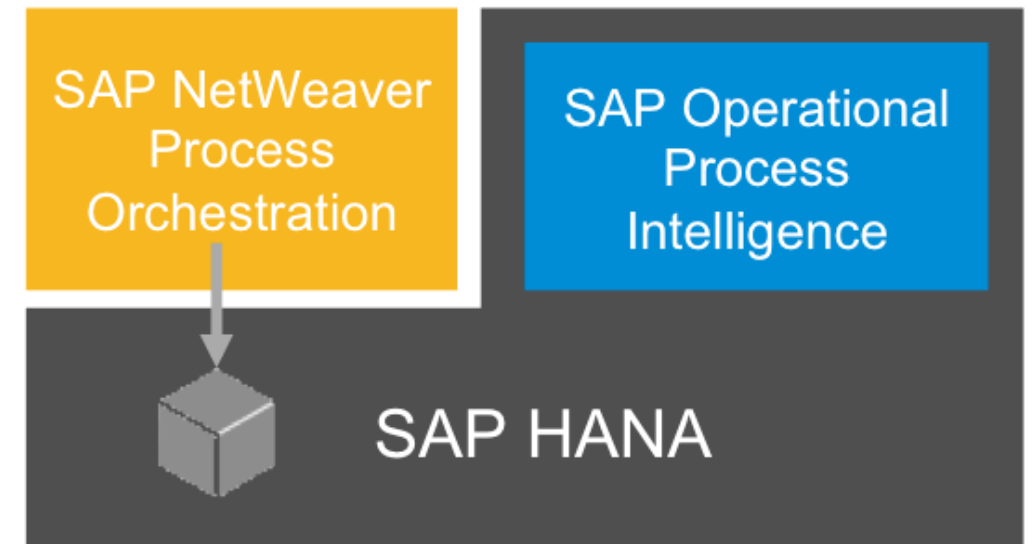
- Transactional data (processes and messages) locally available for visibility scenarios – no replication required

In-flight process intelligence

- Use actual and predicted KPIs to influence running process instances

Virtual data model

- HANA views on processes and tasks for real-time analytics and custom applications

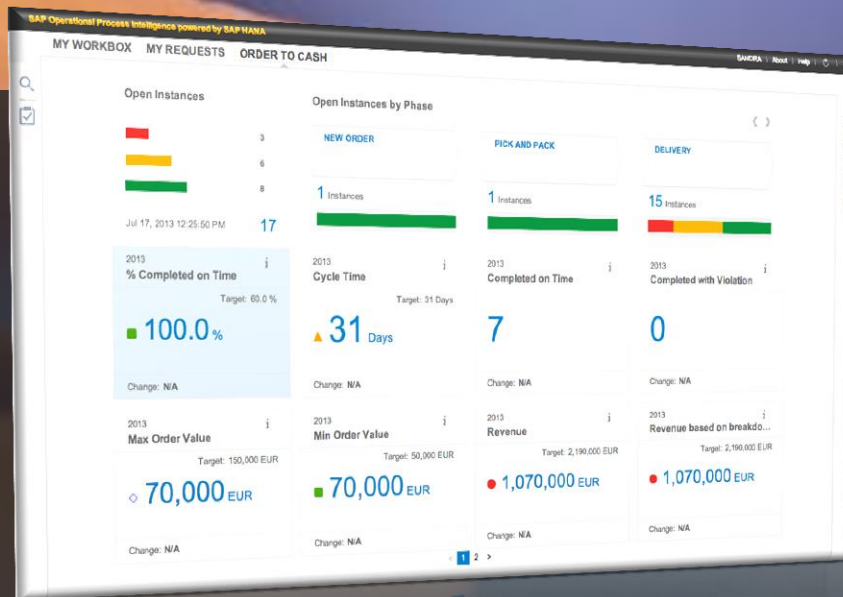


PLANNED INNOVATIONS

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Purpose of SAP Operational Process Intelligence powered by SAP HANA

Operational Decision Support in Real-time



SAP Operational Process Intelligence powered by SAP HANA empowers process participants, such as line-of-business people, solution architects and process experts to:

- Make faster and better-informed operational decisions by providing real-time process information across SAP and non-SAP systems, within and beyond the enterprise
- Safeguard critical processes by detecting situations in real-time relating to end-to-end business processes

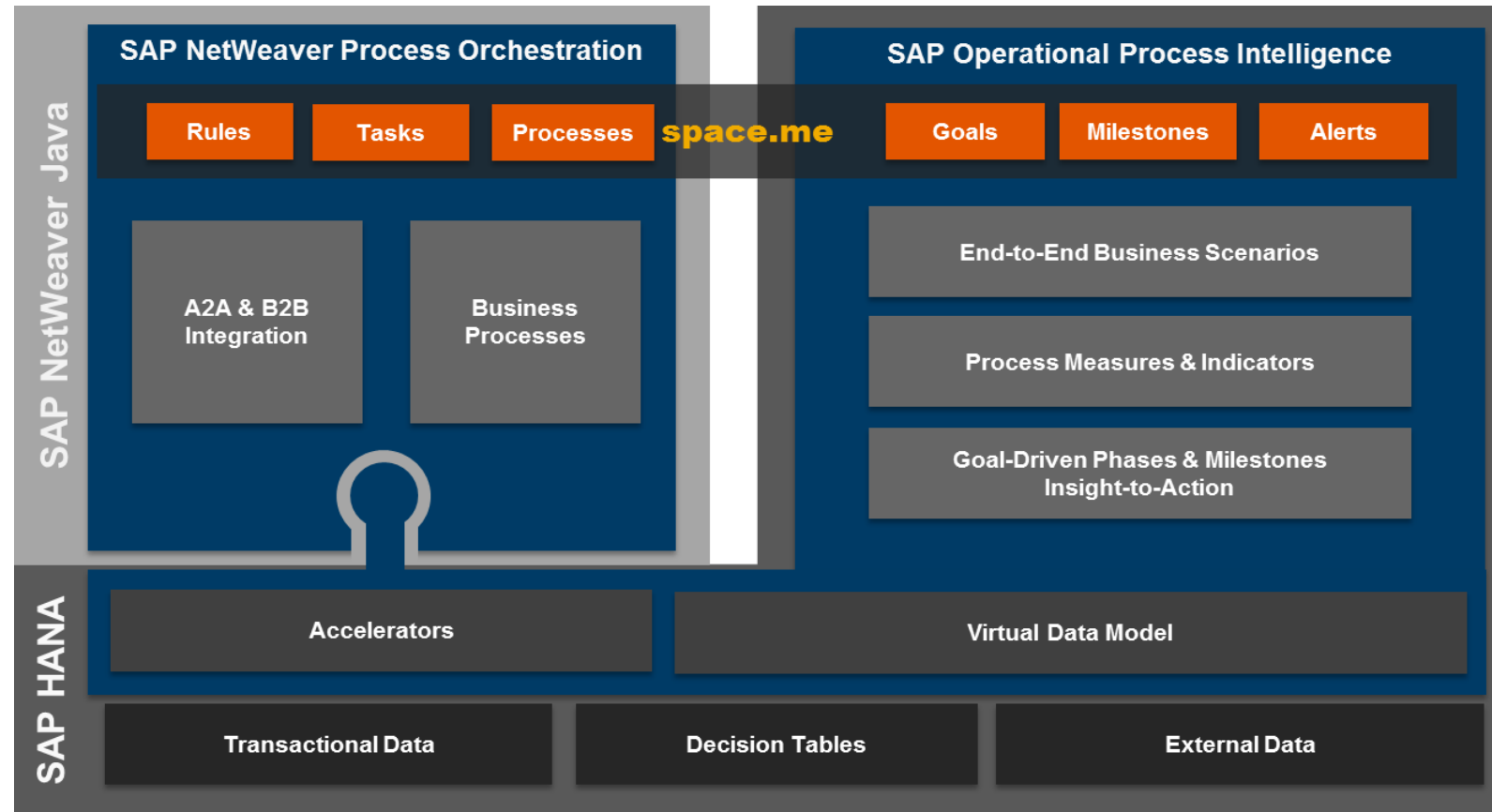


Demo

Combining orchestration with operational intelligence

Intelligent processes powered by SAP HANA

Benefit from SAP HANA, providing accelerators for specific BPM scenarios (e.g. analytics) and VDM (Virtual Data Model) for BPM. Integrated user experience for tasks, actions, alerts and notifications.



User experience

- Harmonized, integrated and personalized user experience
- All-new, modern SAPUI5-based UIs
- Responsive across devices (desktop, tablet, mobile)

New scenarios

- Closed loop between process execution and insight
- Actively driving processes towards goals, enabling navigation and integration back into process execution
- New real-time analytical applications via virtual data models

Performance & TCO

- High-performance, in-memory HANA database
- Selective optimization of performance-critical application code
- Native execution of rules on HANA database
- All data in HANA - no replication of data across multiple systems

FUTURE DIRECTION

SAP NetWeaver Business Process Management

Product road map overview - key themes and capabilities

User experience

- BPM-inbox based on HTML5
- Java API for tasks
- Build task UIs in any UI technology

Process orchestration

- SAP NW Process Orchestration installation option (PI+BPM+BRM)
- Integration pattern support
- End-to-end monitoring
- BPM for high-volume scenarios

Process intelligence

- BPM as source for SAP Operational Process Intelligence
- Standard dashboards for process owners
- Analytics API for custom dashboards

User experience

- BPM inbox functional enhancements
- ODATA task service
- Unified inbox on SAP NW Gateway

Process orchestration

- BPM and Process Orchestration on HANA
- nZDM for BPM and Process Orchestration
- Enhanced support for handling technical errors in BPM

Process intelligence

- Co-deployment option with SAP Operational Process Intelligence on HANA
 - Virtual data model for BPM
 - In-flight process intelligence

User experience

- Space.me – a unified and personalized view on processes, tasks and performance for business users

Process orchestration

- Continuous enhancements based on customer feedback
- Accelerators for HANA (e.g. BPM analytics, monitoring)

Process intelligence

- Intelligent processes – deep integration of process intelligence with process execution
- Goal-driven phases and milestones, navigation actions into business applications

Today

(SAP NetWeaver 7.4 SP02)

Planned Innovations

Future Direction

This is the current state of planning and may be changed by SAP at any time.

Summary

SAP NetWeaver Business Process Management is part of SAP NetWeaver Process Orchestration – a solid and widely adopted integration and orchestration platform

- The latest release offers additional enhancements in the BPM inbox, end-to-end monitoring across processes and messages and support for common integration patterns
- Continued improvements to user experience and additional enhancements based on customer feedback
- In the future, SAP NetWeaver Process Orchestration and SAP Operational Process Intelligence can be combined on the HANA platform for enabling intelligent business operations.

This is the current state of planning and may be changed by SAP at any time.

Further Information – Related Sessions

Related Sessions on SAP NetWeaver Business Process Management

- POP160 SAP NetWeaver BPM – Build and Run a Simple Business Process End-to-End (Hands-On)
- POP360 Advanced SAP NetWeaver Business Process Management Development (Hands-On)
- POP260 Mobilizing NW BPM Processes (Hands-On)

Related Sessions on SAP NetWeaver Process Orchestration

- POP201 A Deep-Dive into the New Features of SAP NetWeaver Process Orchestration (Lecture)
- POP261 SAP NetWeaver Process Orchestration – Build a Complete Integration Scenario (Hands-On)
- POP266 Operating SAP NetWeaver Process Orchestration in a Productive Environment (Hands-On)

Related Sessions on SAP Operational Process Intelligence

- POP102 SAP Operational Process Intelligence, powered by SAP HANA (Lecture)
- POP161 Building a Business Scenario in SAP Operational Process Intelligence (Hands-On)

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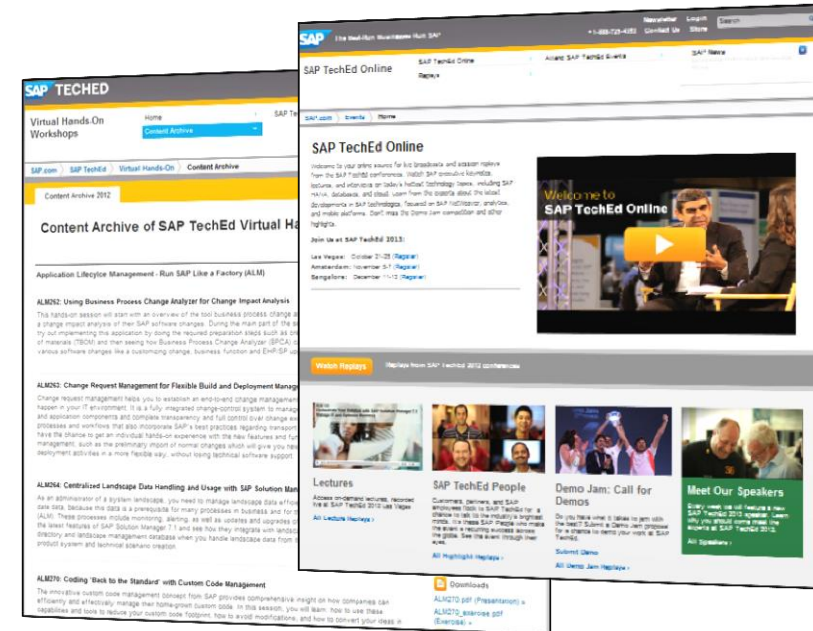
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