PMC206

A Deep Dive into the Next Generation Process Integration

Sindhu Gangadharan, Udo Paltzer
Product Management
SAP NetWeaver Process Integration
SAP AG

October 2010

SAP TECHED 10

Disclaimer

This presentation outlines our general product direction and should not be relied on in making a purchase decision. This presentation is not subject to your license agreement or any other agreement with SAP. SAP has no obligation to pursue any course of business outlined in this presentation or to develop or release any functionality mentioned in this presentation. This presentation and SAP's strategy and possible future developments are subject to change and may be changed by SAP at any time for any reason without notice. This document is provided without a warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, or non-infringement. SAP assumes no responsibility for errors or omissions in this document, except if such damages were caused by SAP intentionally or grossly negligent.

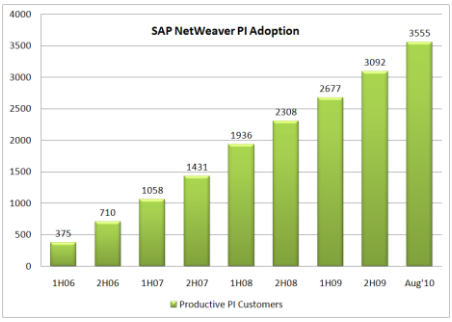
Agenda

1. SAP NetWeaver Process Integration today
2. Process Integration Next Generation
3. Summary

Agenda

1. SAP NetWeaver Process Integration today
2. Process Integration Next Generation
3. Summary

SAP NetWeaver Process Integration Adoption



SAP NetWeaver PI Adoption

- 200 new **productive** customers / quarter
- 39 % of customers use SAP NetWeaver PI 7.1
- 300+ Customer References
- Scenarios: A2A, B2B, ESB, SOA
- SAP and non-SAP integration

SAP is 2nd in market presence, tied with IBM & Oracle/BEA, and ahead of Tibco, SAG and others

DIE POST

1.2 million messages processed overnight
Replacement of BEA web Logic with SAP NetWeaver PI

EnBW

Centralized and simplified governance processes for SAP and non-SAP services

ebay PayPal

Automate processes with SAP NetWeaver PI to save payment processing costs and improve vendor relationships

Opto Semiconductors OSRAM

Leverage SAP NetWeaver PI as **Enterprise wide ESB**

DAIMLER

SAP NetWeaver PI as **integration hub:** B2B gateway, EAI and SOA middleware

PI Survey conducted by PI Special Interest Group

Survey Q1 2008

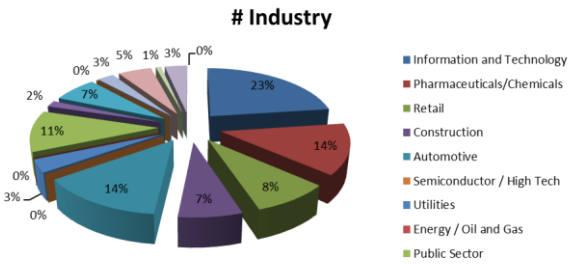
- 81 responses across the globe
- 71 questions
  - # instances; usage, business criticality,….

Survey Q3 2010

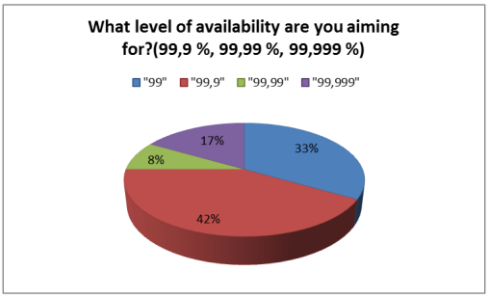
- Why?
  - Details on utilization of SAP PI /XI across the globe
  - Best practices
  - Issues / concerns
  - Strategic direction
- Who?
  - ASUG, DSAG, VNSG, Sweden, Belgium, Norway
- July – Aug 2010
  - Q3
- How?
  - Online- link will be distributed:
  - https://www.dsag.de/survey/index.php?sid=13161&lang=en

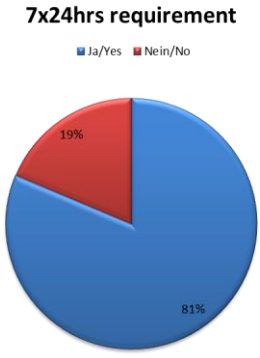
Industry

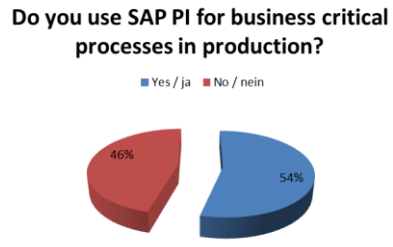
	# Industry
Information and Technology	27
Pharmaceuticals/Chemicals	16
Retail	10
Construction	8
Automotive	16
Semiconductor / High Tech	0
Utilities	4
Energy / Oil and Gas	0
Public Sector	13
Life sciences	2
Consumer products	8
Telecommunications / IT	0
Banking	3
Services	6
Defence	1
Insurance	4
other	0
total	118



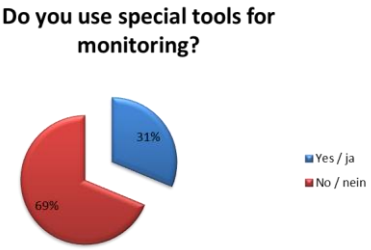
Business Criticality

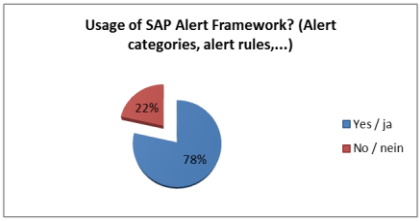






Monitoring

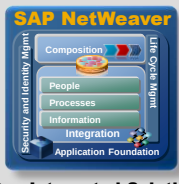




Why are customers choosing SAP NetWeaver Process Integration today?

One SOA Backbone

- ONE Platform for leveraging SAP Enterprise services, build custom services and Service enabling legacy systems
- A central Enterprise Services Repository with built-in rich semantics and content
- Strategic building block of SAP's SOA infrastructure



One Integrated Solution

- Part of an integration platform & solution
- Substantial reduction in TCO due to integrated lifecycle management and operations
- ~ 30% reduction in TCO for a leading semiconductor company after choosing SAP NetWeaver PI as their central middleware

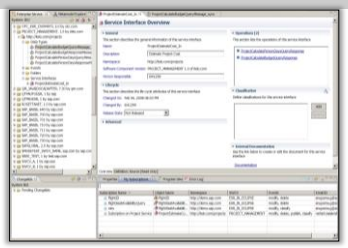
Leveraging large SAP installed base

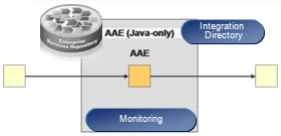
- Efficient Business Networks – within and beyond the borders of an enterprise
- Customers doing business with the large SAP installed base in their ecosystem
- Pre-delivered content and industry adapters help standardize and jumpstart implementation

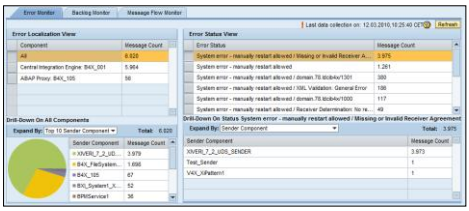
TODAY

Elevator Pitch SAP NetWeaver PI 7.3

Centralized Monitoring, Single Stack ESB, Reduced TCO







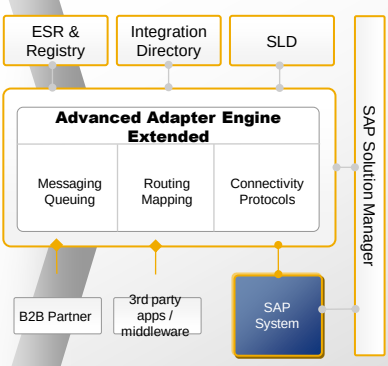
- Extended **Design Governance** support
  - User Centric perspectives in the ESR
  - Eclipse based standard editors for viewing ES Repository content

- **Single stack ESB** capabilities through Advanced Adapter Engine
  - Up to 60% less energy consumption
  - Lower footprint, easy maintenance: 1h installation*, ½ HW requirements* comp. to double stack, 90 sec restart*

- **Centralized monitoring** via SAP Solution Manager 7.1
  - Good morning page
  - Monitor multiple PI domains
  - Reduced time for root cause analysis

*Hardware dependent

Single Stack ESB



Solution Enhancements

Deployment Options
- Java-only, ESB deployment

Continuous Operations
- Integrated scenario configuration
- Programmatic configuration of assets *en masse*
- Automated XML schema validation
- Additional message persistence
- Streaming of large files
- Resource-friendly communication channels, cache; improved cluster communication

Openness
- Extended standards support for standard-based interoperability

Key Benefits

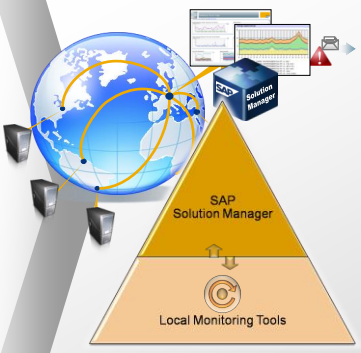
Lower Footprint
- Richer & faster connectivity and reduced sizing

High Productivity&Reliability
- Reduced implementation time
- Faster asset configuration
- Secure, compliant communication
- System robustness for smooth business operations

Cheaper Integration
- Low-touch integration in multi-vendor environment

SAP NetWeaver PI 7.3

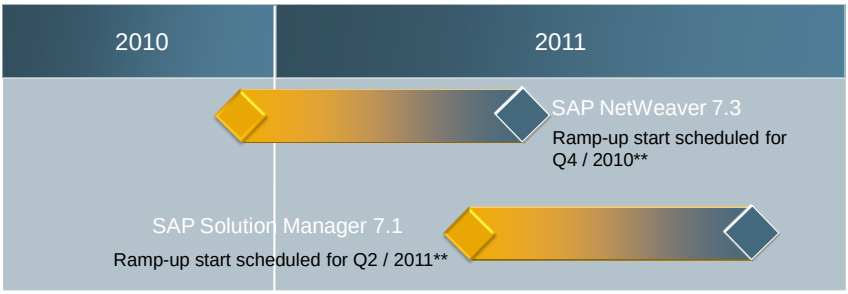
Simplified Operations



Solution Enhancements	Key Benefits
Logistics ■ Flexible upgrade paths ■ Guided installation; simplified post-installation	**Shorter Time-to-Innovation** ■ Faster and simpler upgrades
Supportability ■ Central monitoring of complex integration landscapes ■ ITIL-compliant Process Integration operations in SAP Solution Manager ■ Streamlined access to local monitoring, configuration & testing ■ Message search by business payload	**Continuous Operations** ■ Faster, best-practice based incident resolution ■ Lower cost of operating even complex deployments ■ IT Responsiveness

SAP NetWeaver PI 7.3

Planned Timeline*



Support and maintenance:

- SAP XI 3.0: Mar. 2010 (+ 3 years ext. maint.)
- SAP NetWeaver PI 7.0x, 7.1x: Dec. 2015 (+ 2 years ext. maint.)
- **SAP NetWeaver 7.3: Dec. 2017 (+ 2 years ext. maint.)**

Planned Upcoming Enhancements (*):

- Once a year via new releases, enhancement packages (EHPs)
- Further information at http://service.sap.com/pam

*Future dates are subject to change.
** Ramp ups are scheduled up to 6 months – might be closed earlier depending on fulfillment of KPIs

Agenda

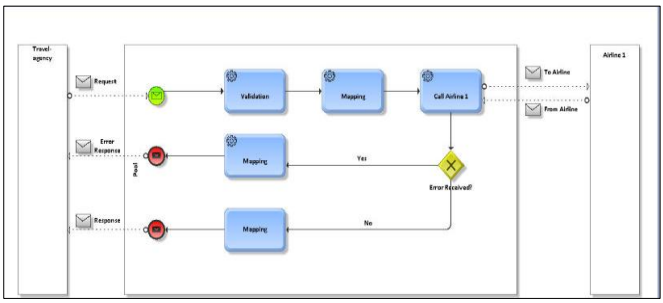
1. SAP NetWeaver Process Integration today
2. Process Integration Next Generation
3. Summary

Areas of Investment
SAP NetWeaver PI Next Generation

1 – 3 Year Roadmap

Reduce TCD: Simplified Configuration

- Next generation tooling for PI
- Simplify the overall user experience and reduce the learning curve for a novice user
- Significantly improve productivity levels for an expert user



SAP NetWeaver Process Integration – Mediated message flows today

Setting up a mediated message flow via SAP NetWeaver PI today involves

- A set of artifacts modeled in ESR – Services, Mappings, Context objects etc
- A set of configuration objects created in the Integration Directory – Party, Business systems, Routing, channels, agreements etc.
- Understanding the role of these artifacts in the message processing requires specialized expertise
- Deployment happens via cache refresh
- Testing requires specialized expertise

The target is to simplify the overall effort in this process via next generation tooling in SAP NetWeaver PI

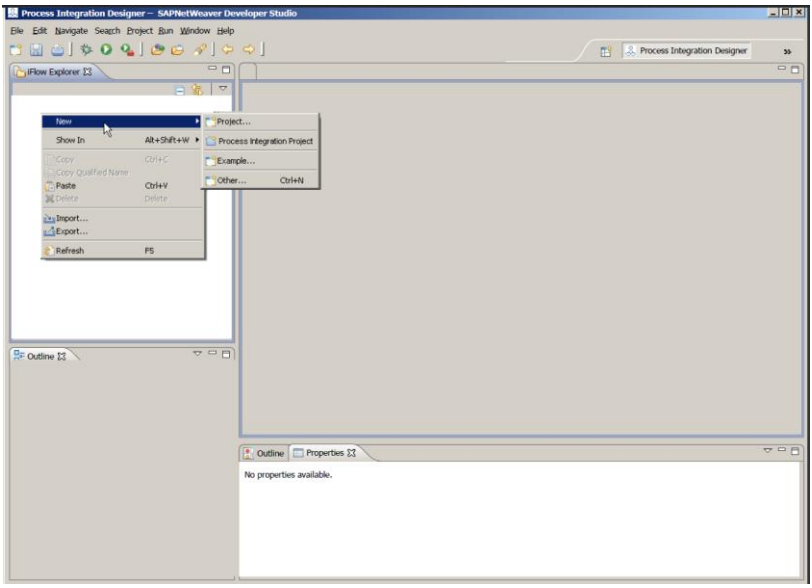
SAP NetWeaver Process Integration – Next Generation Tooling

Provide one single “face” (concept) to work with across the TCD life cycle (and later in monitoring and operations)

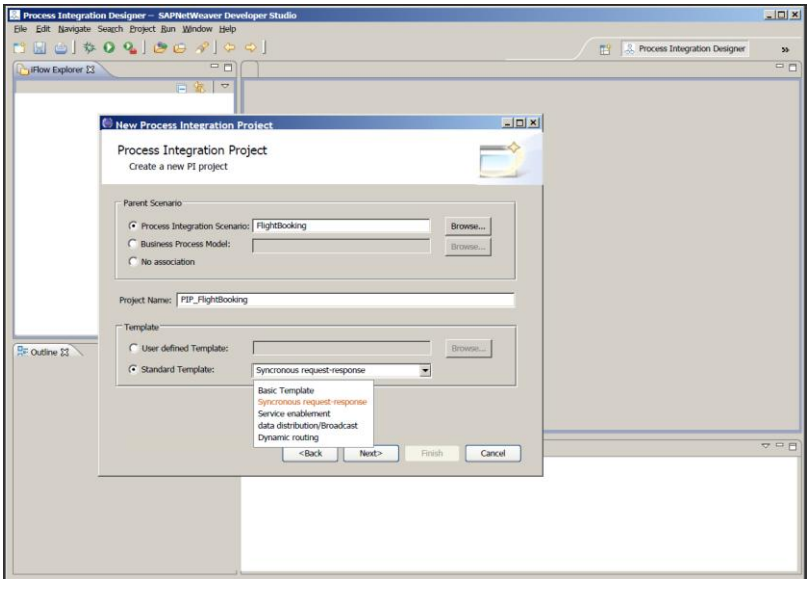
Internal working term : Integration Flows

- Graphical visualization of the processing within SAP NW PI
- Based on predefined templates and patterns
- Integration flows along with new interoperable tooling helps in end-to-end simplification
  - Modeling / Development simplification
  - Configuration simplification
  - Life cycle simplification
  - Monitoring & Operations simplification

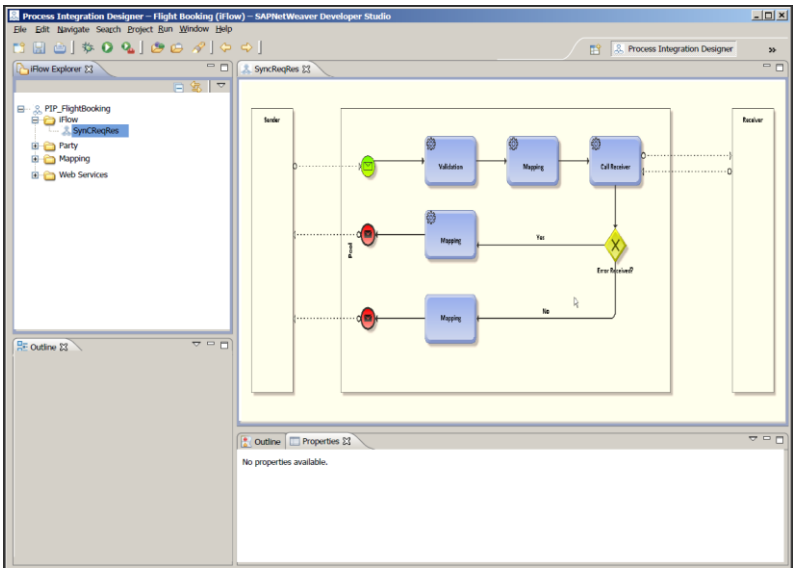
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



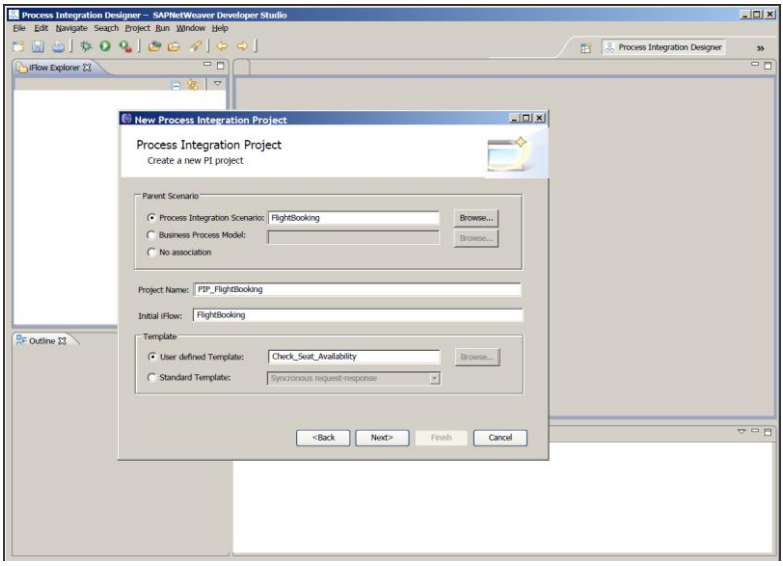
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



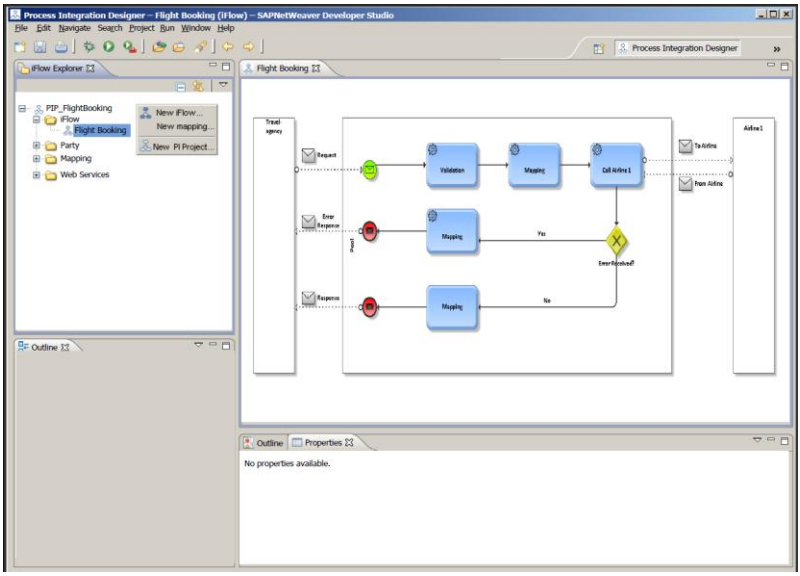
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



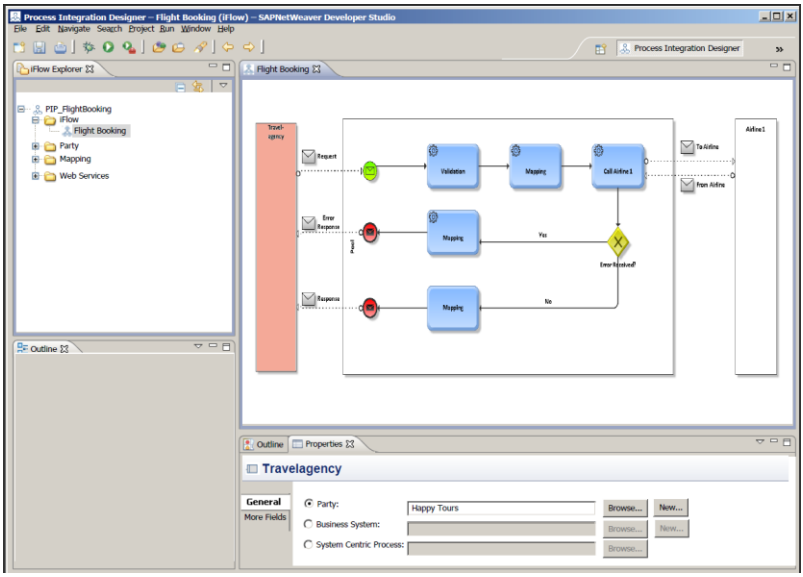
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



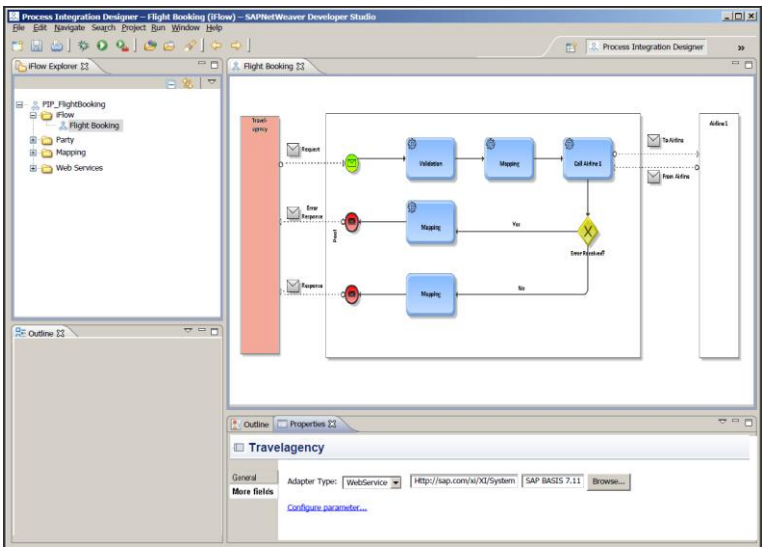
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



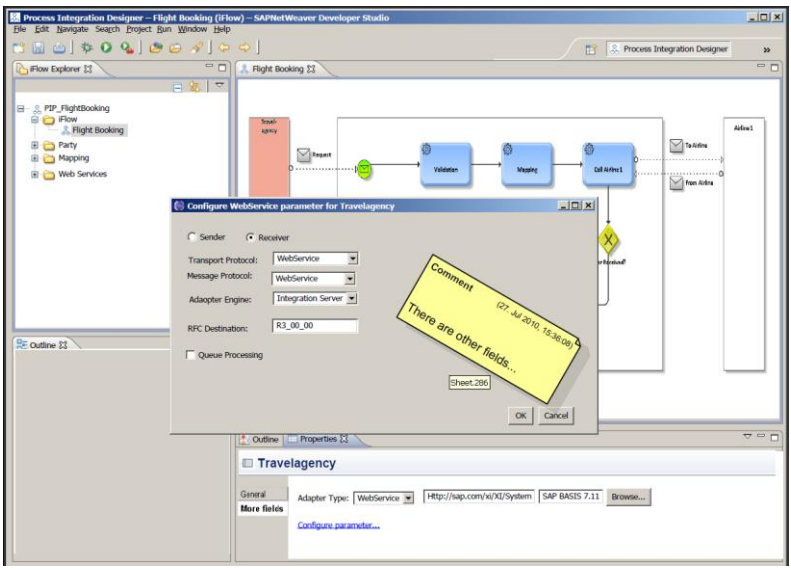
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



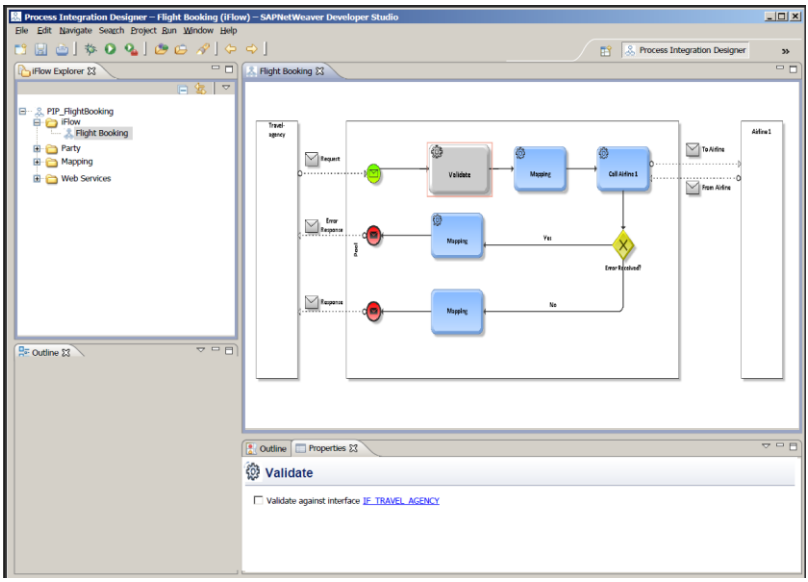
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



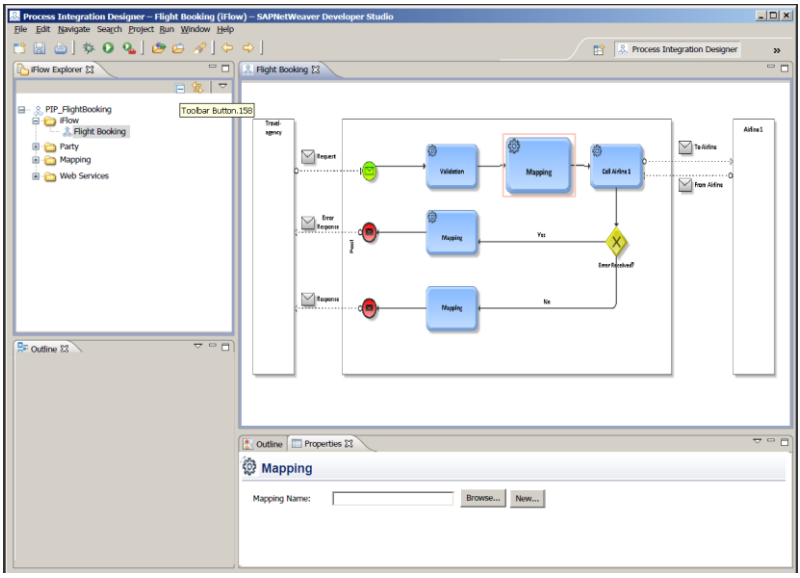
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



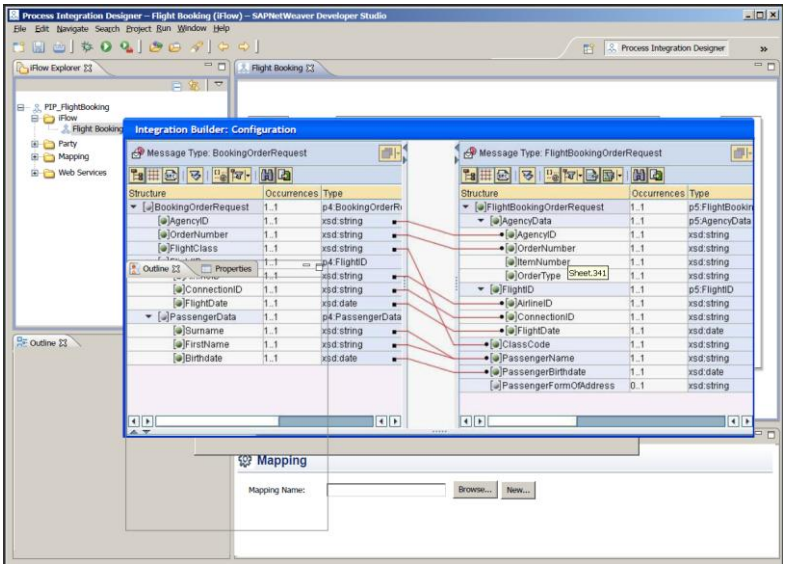
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



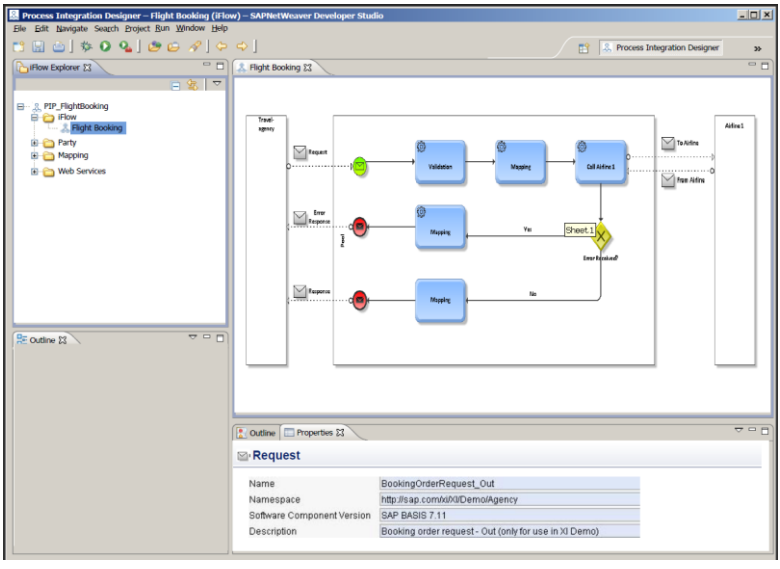
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



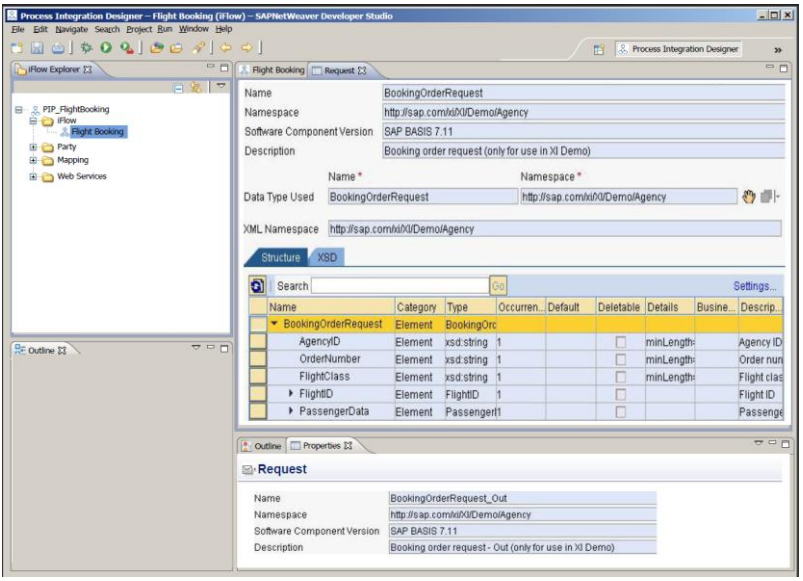
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



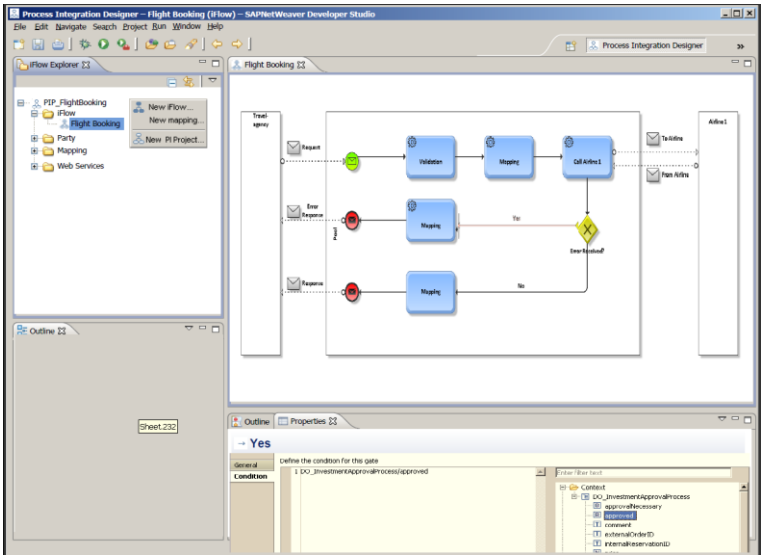
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



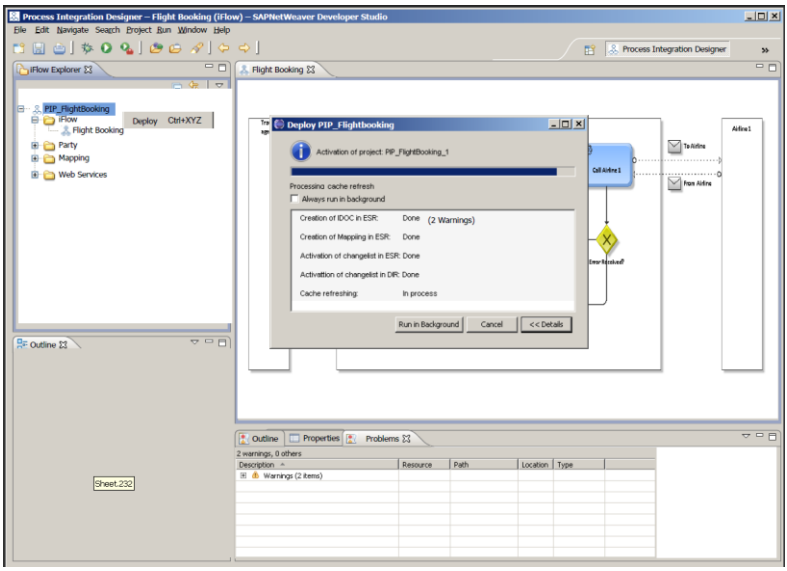
SAP NetWeaver Process Integration – Next Generation Tooling Mockup



SAP NetWeaver Process Integration – Next Generation Tooling Mockup



SAP NetWeaver Process Integration – Next Generation Tooling Mockup

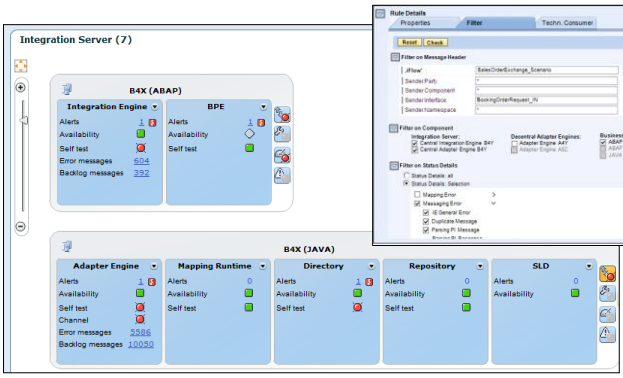


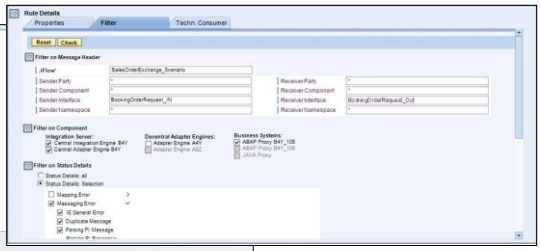
Areas of Investment
SAP NetWeaver PI Next Generation

1 – 3 Year Roadmap

Reduce Total Cost of Operations

- Tighter integration with SAP Solution Manager
- Centralized E2E monitoring and alerting via PI Workcenter in SAP Solution Manager
- Reporting based on Root-cause and workload analysis and Early Watch alert data





Reduce the cost of operating your PI landscape

1. **Central Monitoring with SAP Solution Manager**
2. Message Alerting
3. Central User Defined Message Search

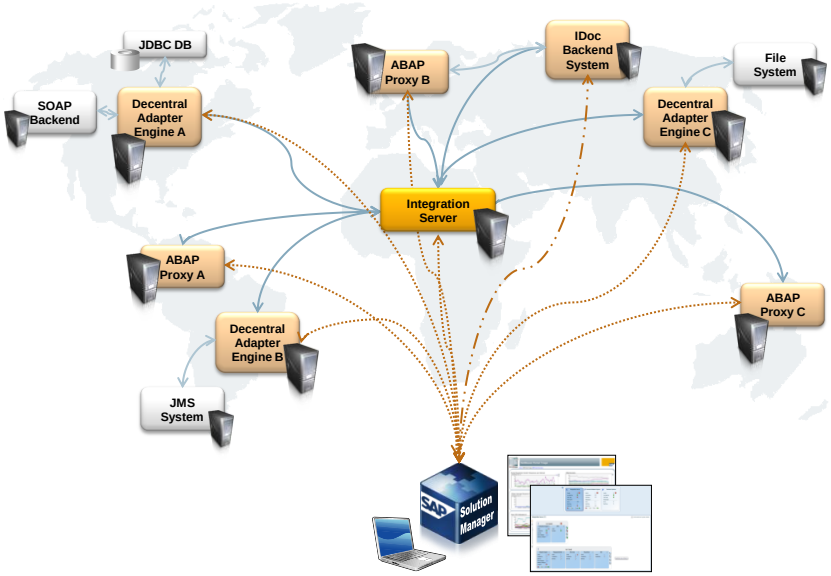
SAP NW PI Monitoring with SAP Solution Manager – Requirements & Motivation

- Growing PI landscape complexity and distribution leads to growing requirements towards a central monitoring approach
- Reduce the TCO by simplification of the operations processes e.g. providing one central entry point combining monitors for PI overall status with drill-down options up to host level
- Enable tight integration with:
  - System Monitoring and Root Cause Analysis
  - Alerting Infrastructure
  - Notification- / Incident Management
- Relieve productive systems from individual monitoring activities by a central collection of monitoring data
- Reduce the time
  - For regular system health checks
  - For hand-over procedures
  - From incident detection to root cause

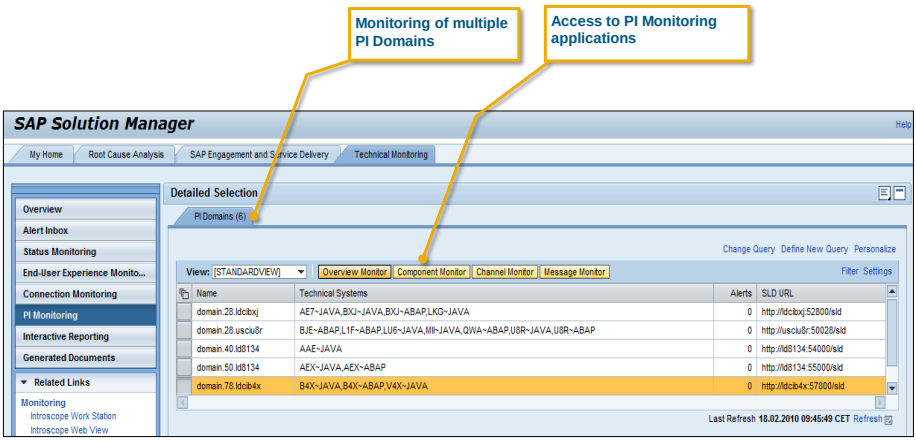
How much time and manual effort would you need to answer these questions?

- What's the overall status of all PI components of the productive PI domain? Do you have issues in the underlying technical systems?
- What's the error trend for your business critical interfaces?
- Which are the most prominent errors this year? Did these errors occur in the last 7 days? At what point in time during the day do these errors typically occur?
- What is the message backlog today? Is there a relation between the message backlog and the overall message volume?
- Business department calls you and wants to know if and since when messages stuck for their business critical interface? On which PI components did those messages fail?
- How many communication channels do have an issue and which are the relevant local monitors?
- On which PI components do you have most error messages and which interfaces are affected?
- How many messages have been received this month via communication channel "xyz"?

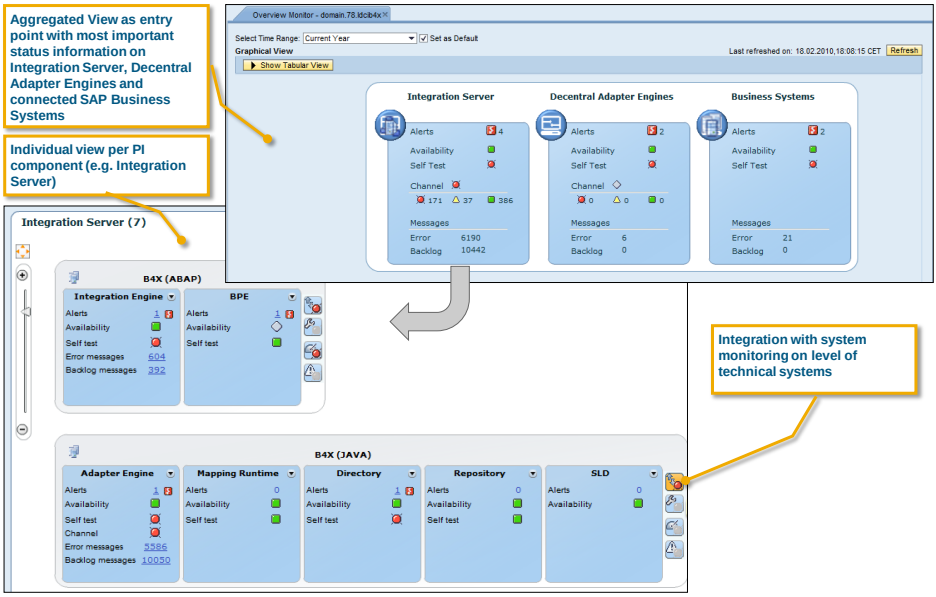
SAP PI Monitoring
Architecture & Scope



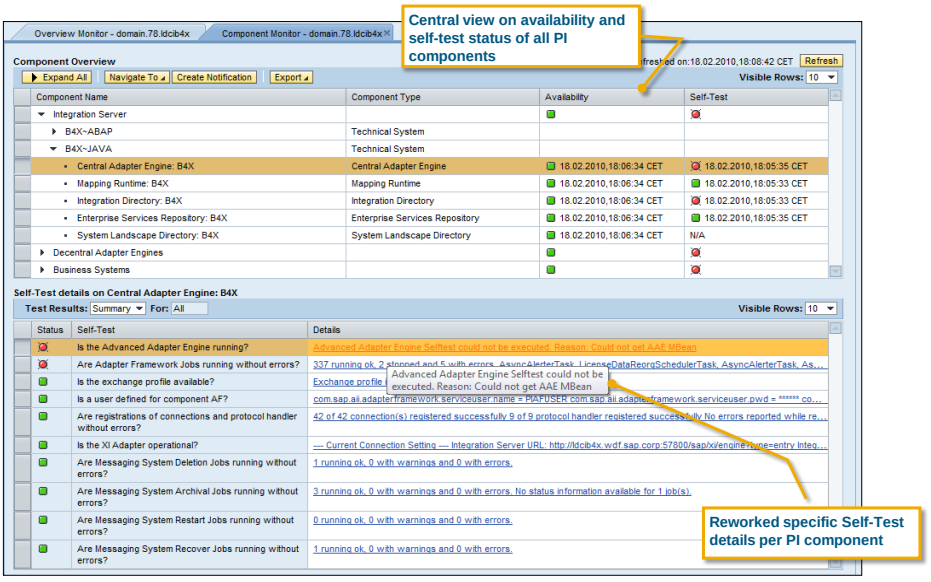
SAP NetWeaver PI Monitoring in SAP Solution Manager – PI Domain Overview



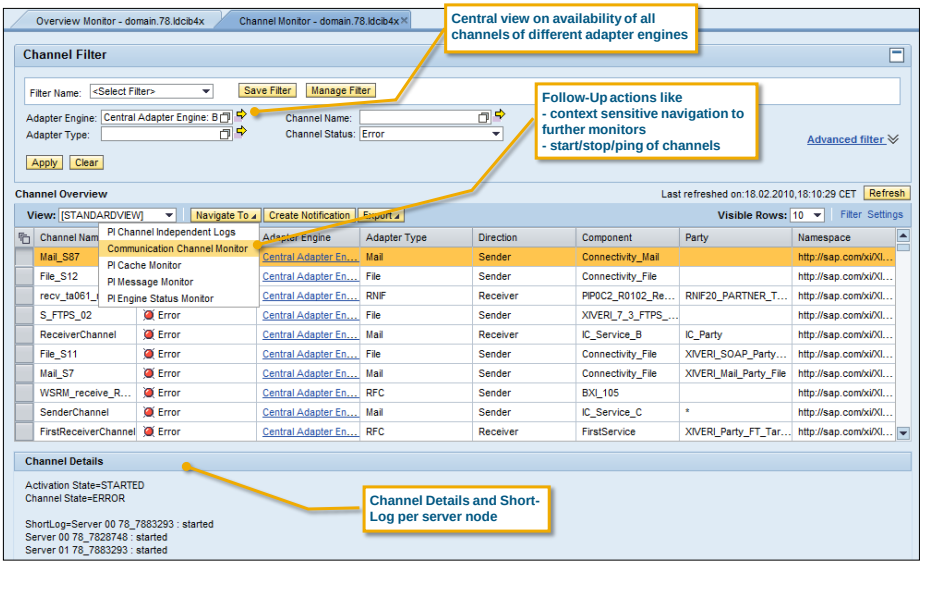
SAP NetWeaver PI Monitoring in SAP Solution Manager – Overview Monitor



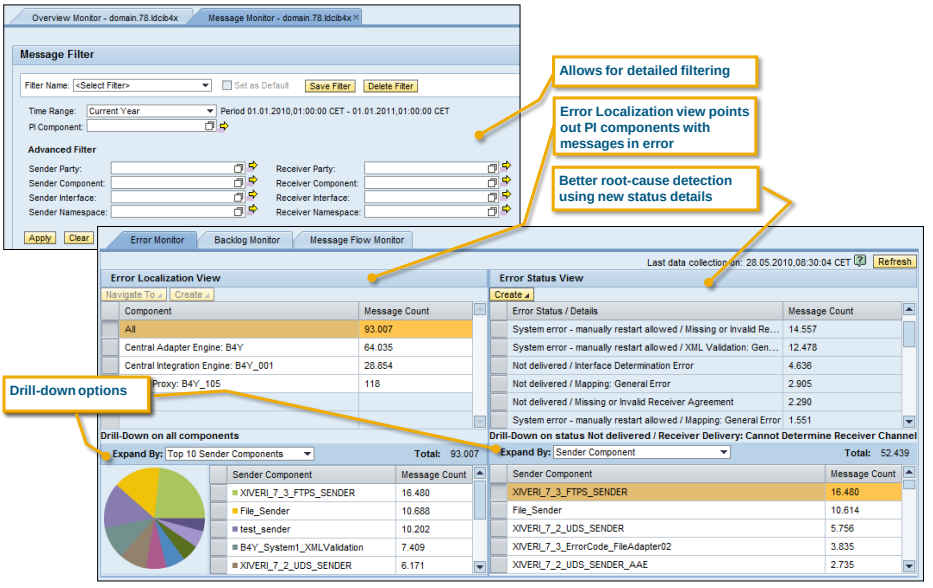
SAP NetWeaver PI Monitoring in SAP Solution Manager – Component Monitor



SAP NetWeaver PI Monitoring in SAP Solution Manager – Channel Monitor



SAP NetWeaver PI Monitoring in SAP Solution Manager – Message Error Monitor



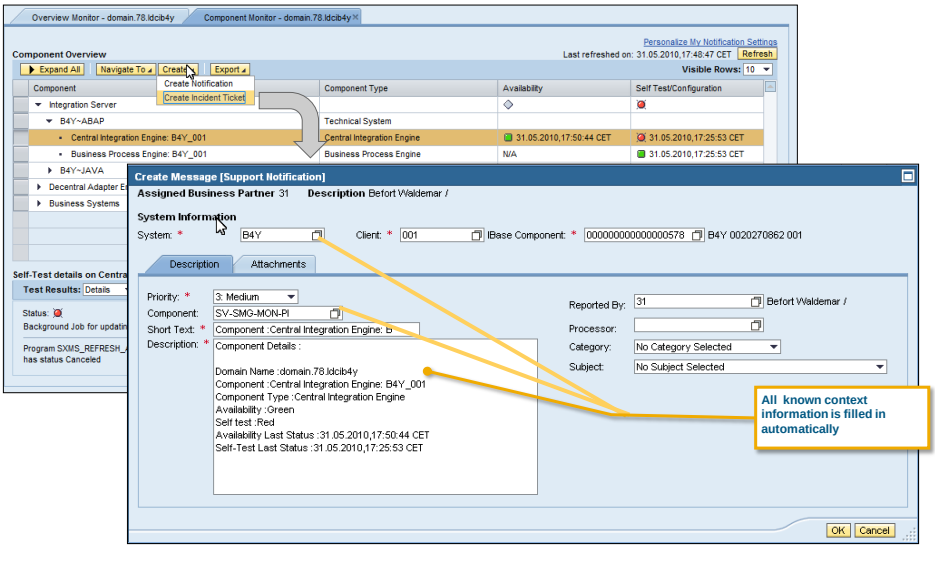
Allows for detailed filtering

Error Localization view points out PI components with messages in error

Better root-cause detection using new status details

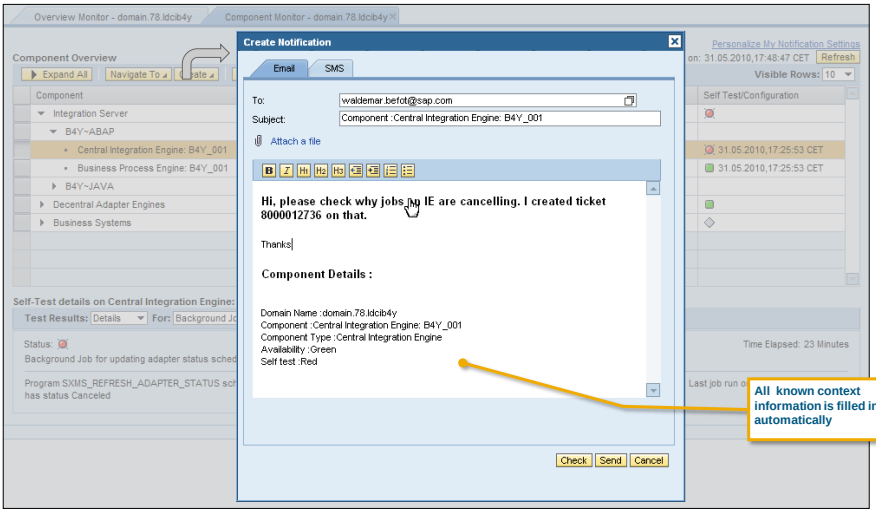
Drill-down options

SAP NetWeaver PI Monitoring in SAP Solution Manager – Integration with Incident Mgmt

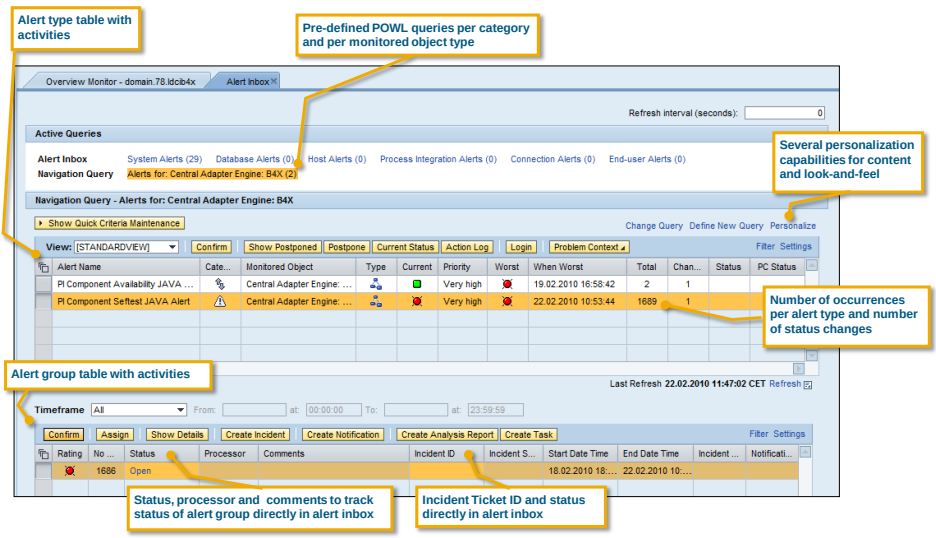


All known context information is filled in automatically

SAP NetWeaver PI Monitoring in SAP Solution Manager – Notification Management



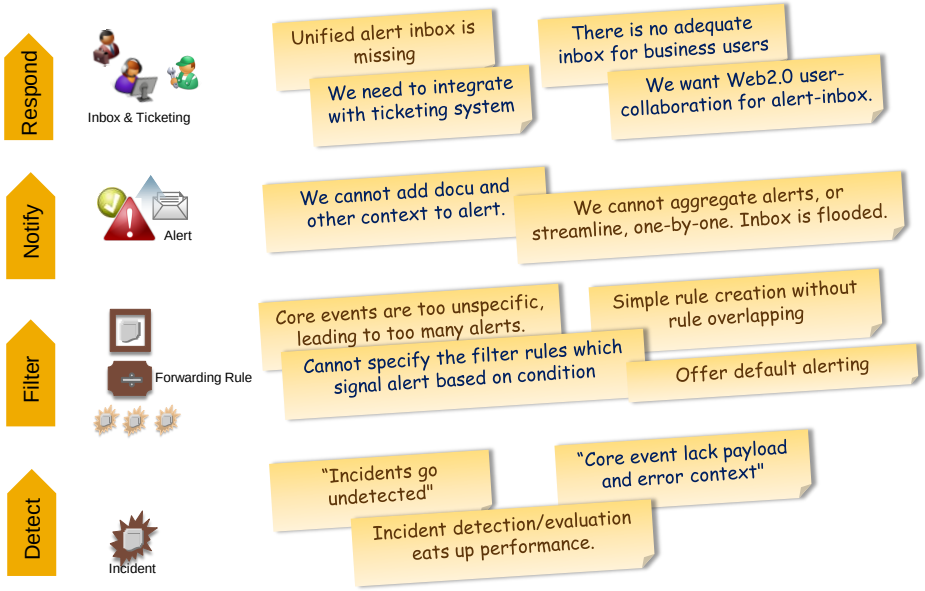
SAP NetWeaver PI Monitoring in SAP Solution Manager – Alert Inbox



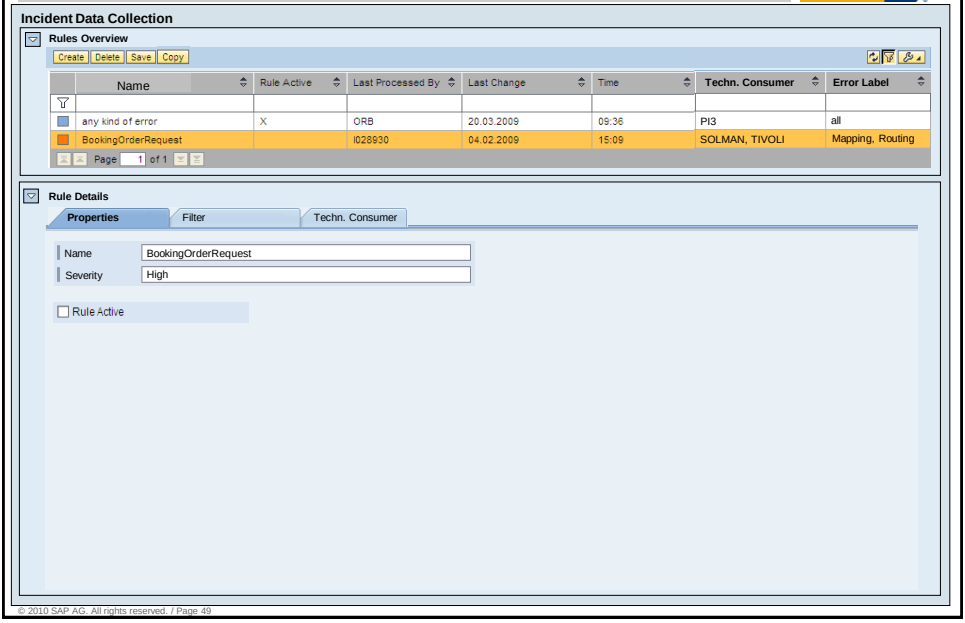
Reduce the cost of operating your PI landscape

1. Central Monitoring with SAP Solution Manager
2. **Message Alerting**
3. Central User Defined Message Search

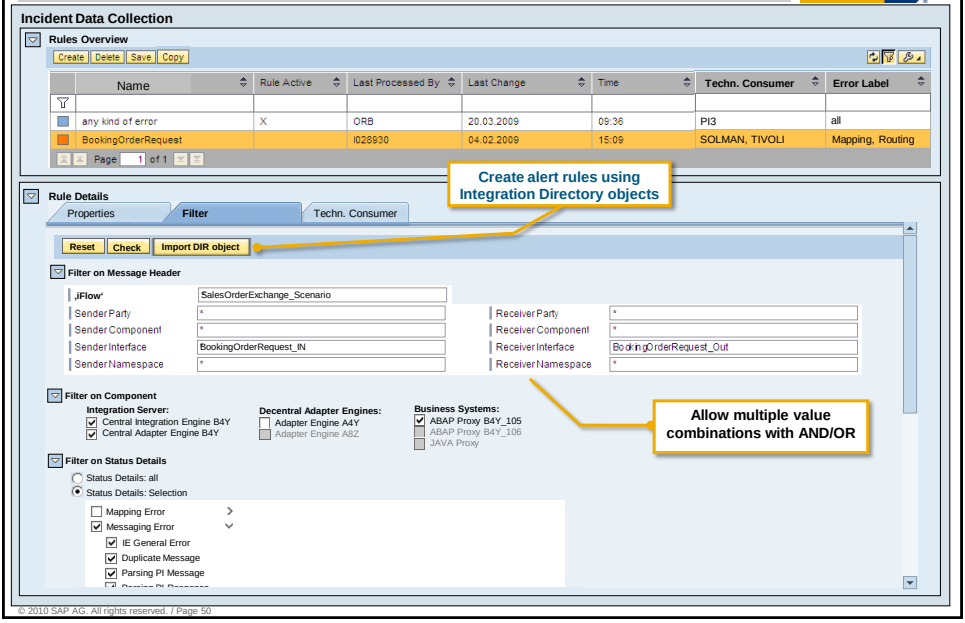
Message Alerting – Requirements (high-level)



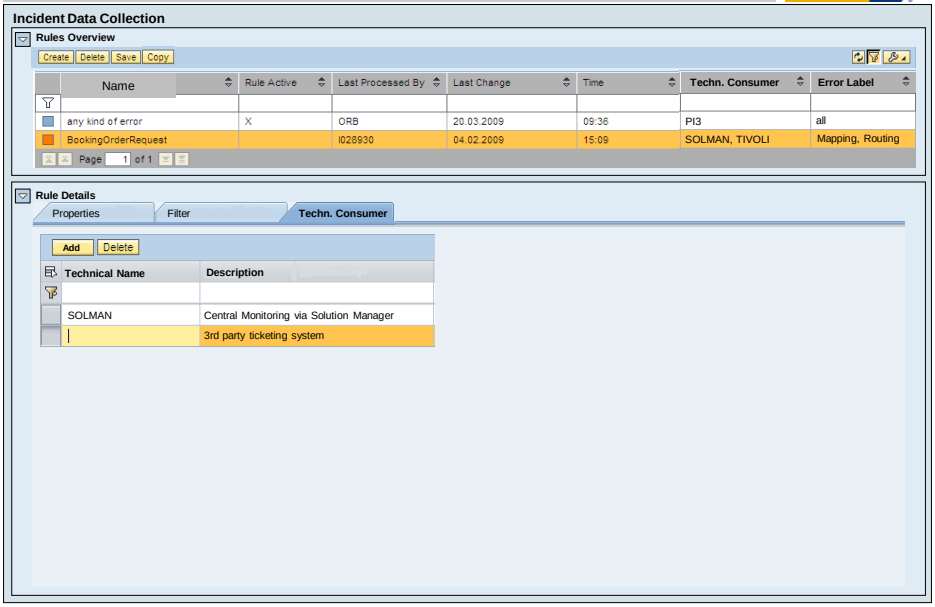
Message Alerting – Configuration Mockup (1)



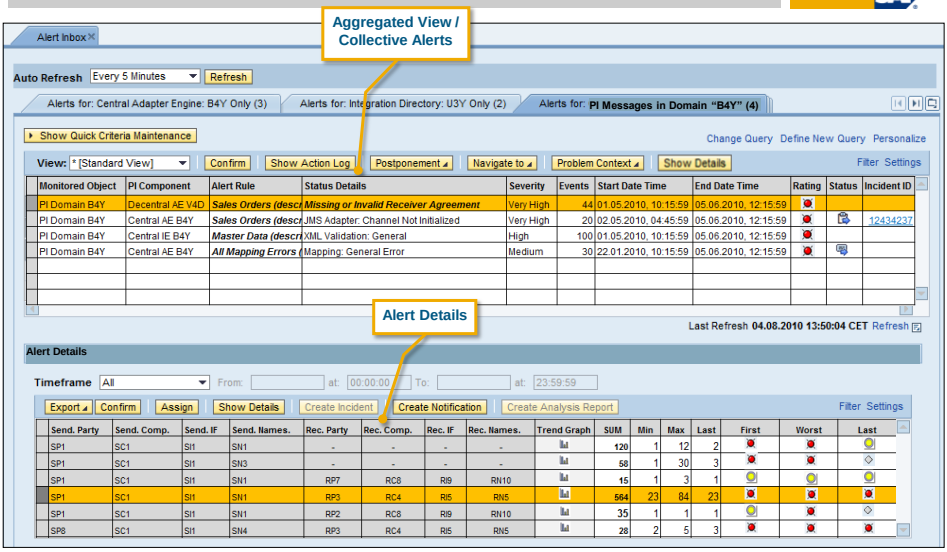
Message Alerting – Configuration Mockup (2)



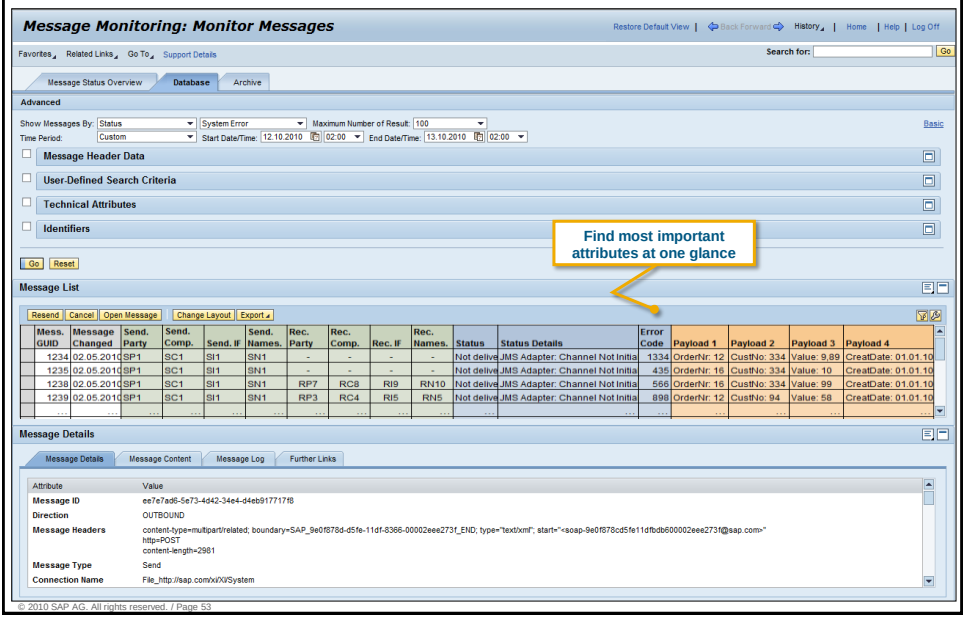
Message Alerting – Configuration Mockup (3)



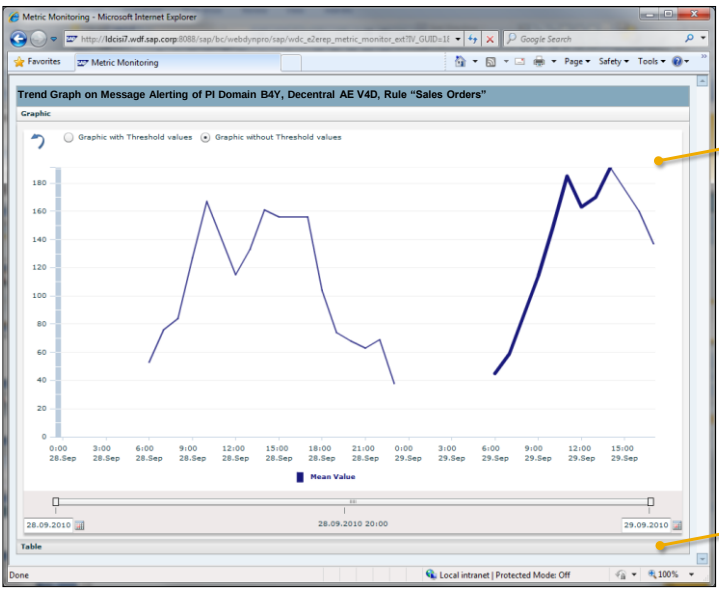
Message Alerting – Alert Inbox Mockup



Message Alerting –
New Local PI Message Monitor View Mockup



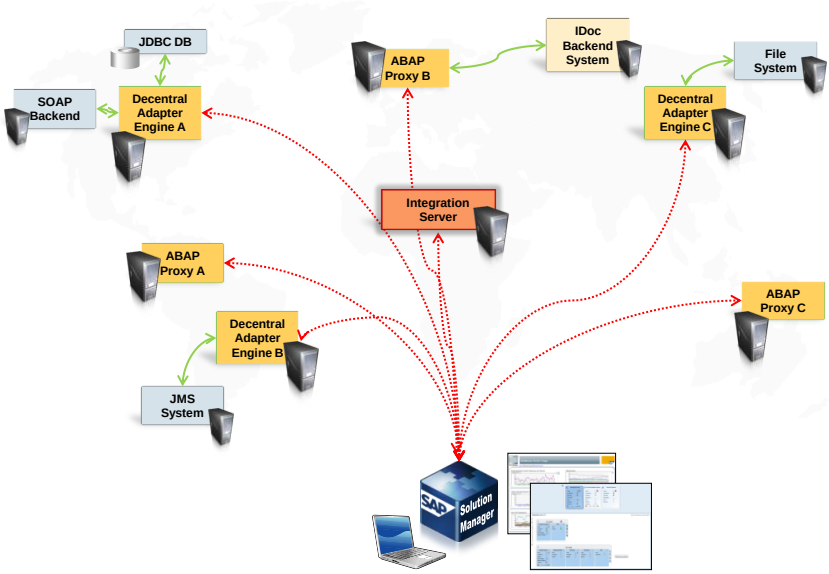
Message Alerting –
Trend Graph Representation Mockup



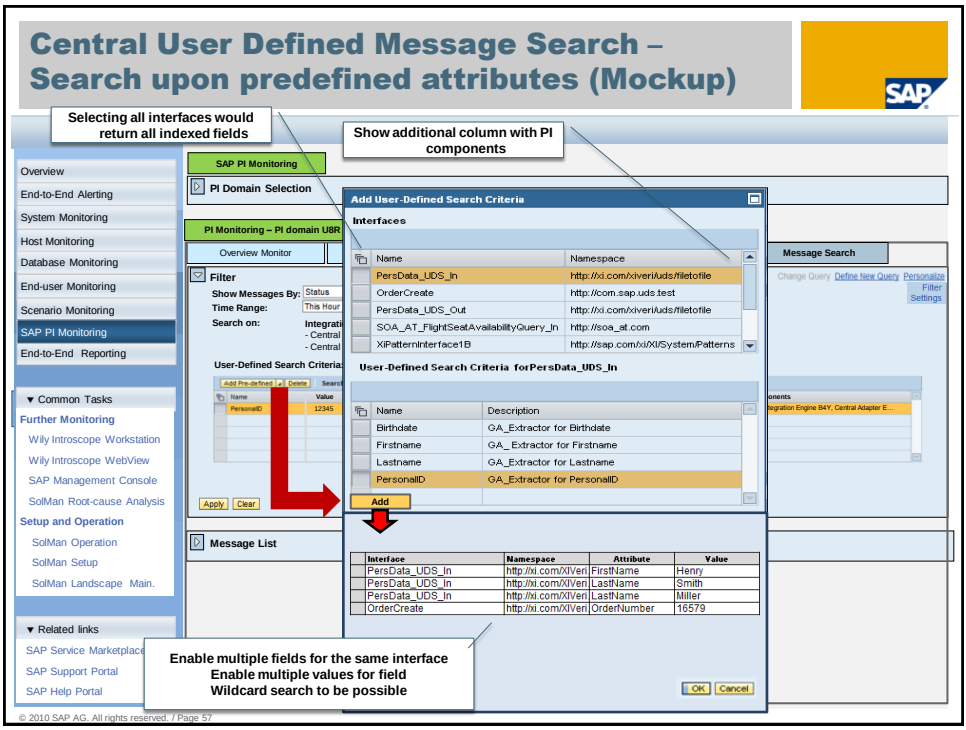
Reduce the cost of operating your PI landscape

1. Central Monitoring with SAP Solution Manager
2. Message Alerting
3. **Central User Defined Message Search**

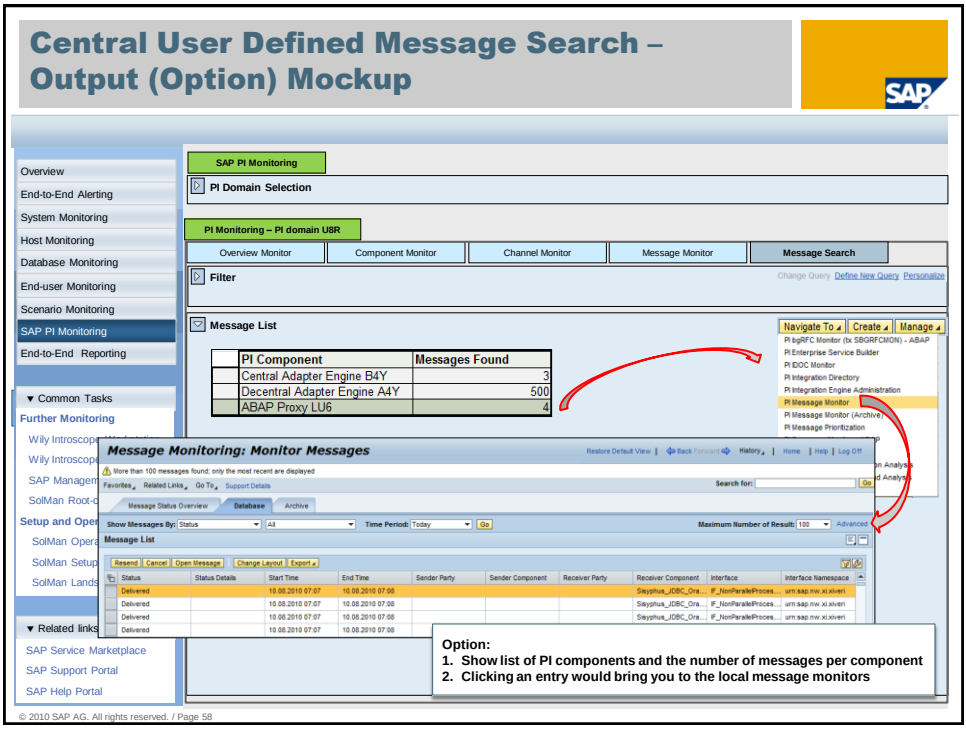
Central User Defined Message Search – Architecture (High Level)



Central User Defined Message Search – Search upon predefined attributes (Mockup)

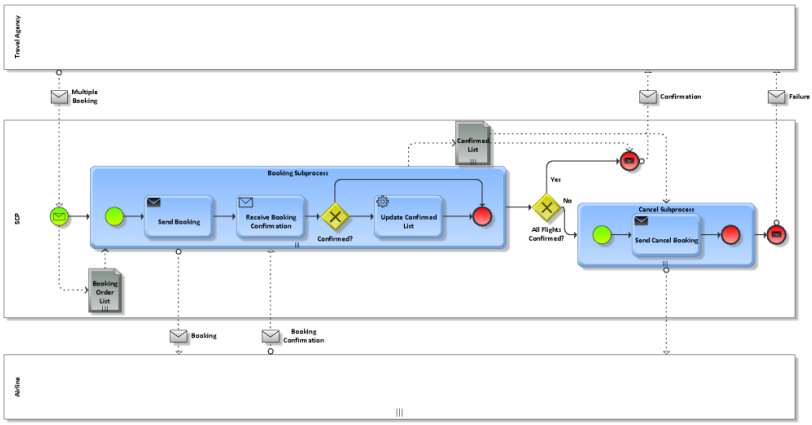


Central User Defined Message Search – Output (Option) Mockup



Reduce TCD: System Centric Process Support

- Address ccBPM scenarios coverage using the BPM core engine
- Focus on known customer use cases around stateful process orchestration use cases

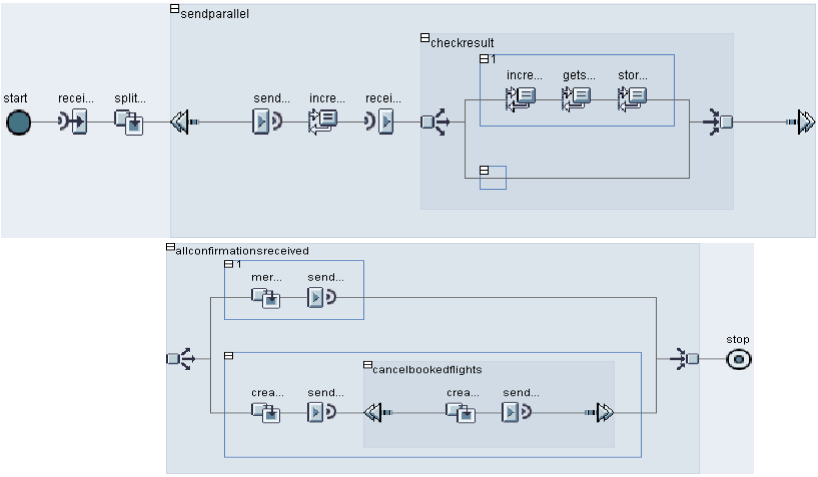


System Centric Process Support

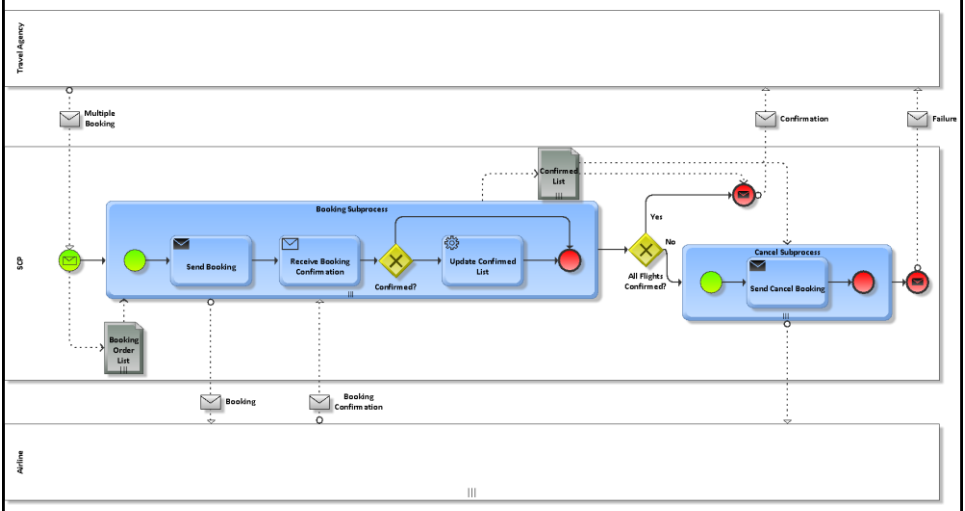
1. **Introduction**
2. Integration Pattern Examples

Definition of an Integration Process

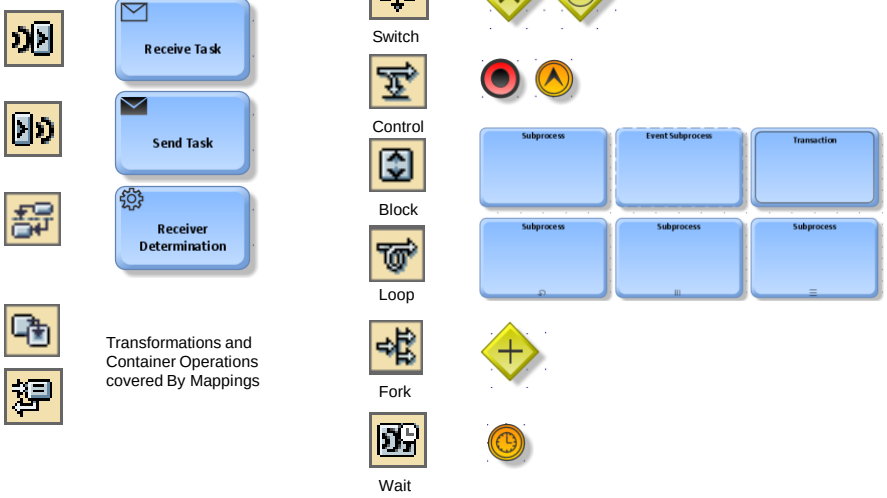
An Integration Process is composed of a specific flow of steps (including the seding and receiving of messages), during which the status of the process is persisted on the Integration Server



Example: Flight Booking Coordination Using BPMN



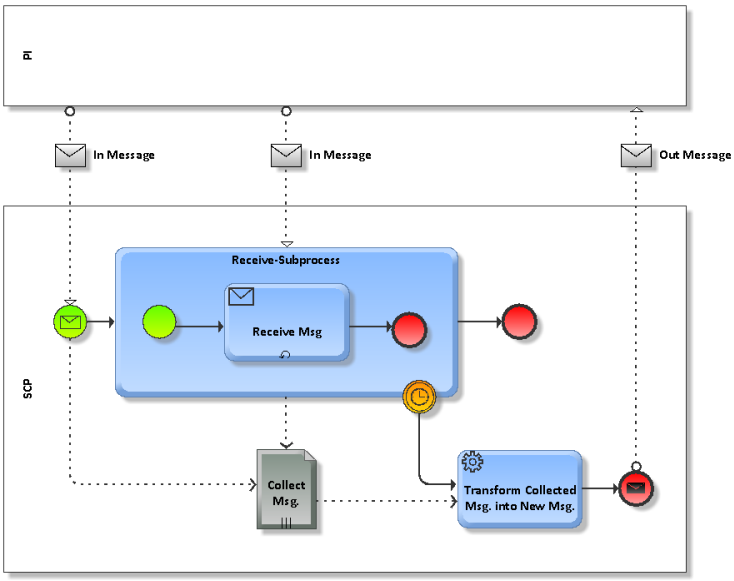
Comparing ccBPM with BPMN



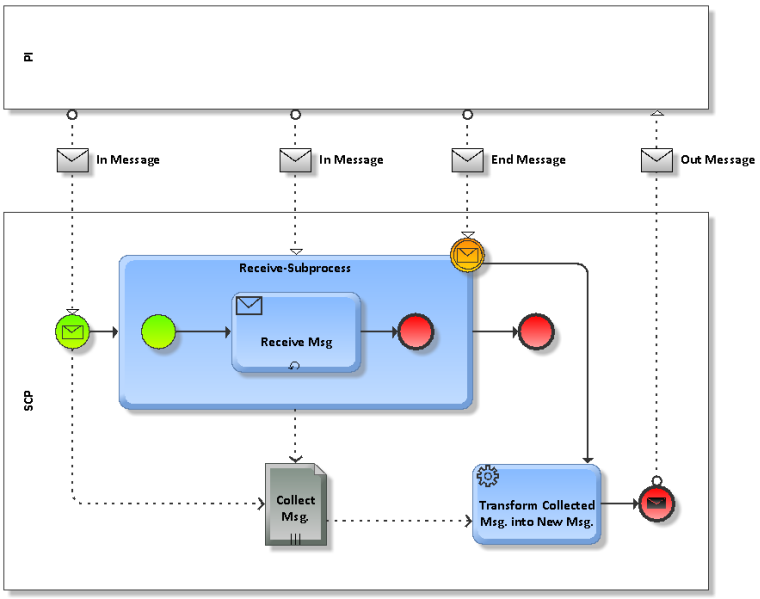
System Centric Process Support

1. Introduction
2. **Integration Pattern Examples**

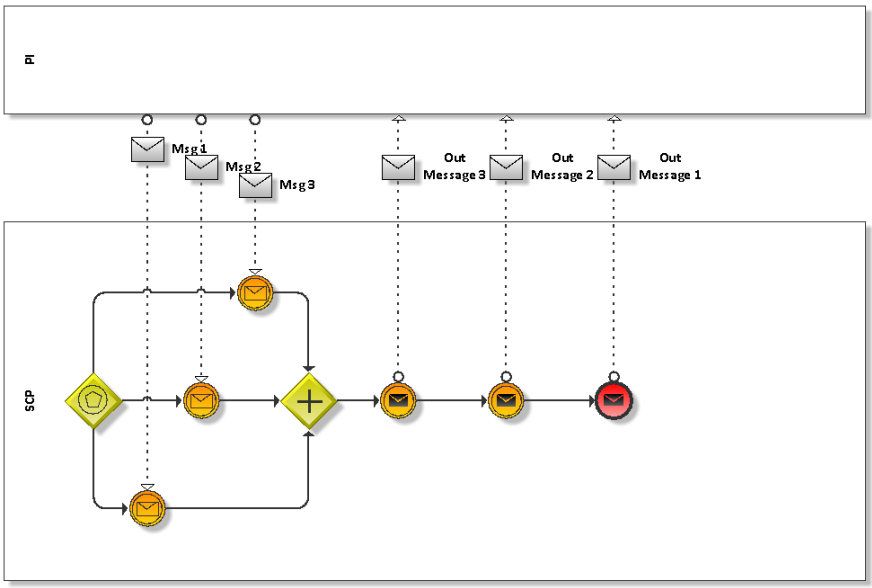
Enterprise Integration Pattern – Aggregator (1) (Stateful Pattern)



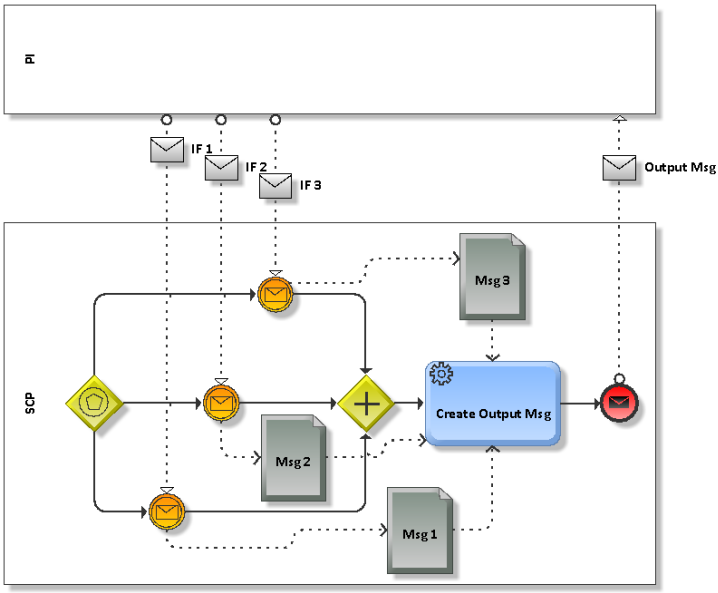
Enterprise Integration Pattern – Aggregator (2)



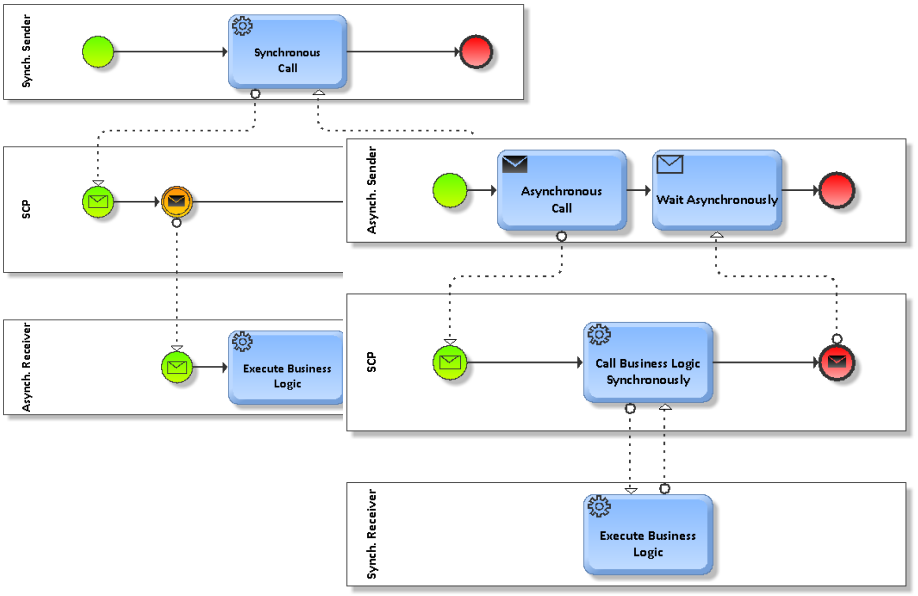
Enterprise Integration Pattern - Resequencer



BPM Pattern Collect Multiple Interfaces



Synch/Asynch and Asynch/Synch Bridges



System Centric Processes – Key Points

- System Centric Processes **orchestrate stateful integration processes** of systems, applications, and services across SAP and non-SAP environments
- The Model-driven development environment based on the BPMN-standard **improves developer productivity** for implementing System Centric Processes
- System Centric Processes allow us to gain **adaptability**, increase **reusability**, and **reduce cost**
- System Centric Processes provide **integration process patterns** to jumpstart the design and implementation of customer's integration processes
- System Centric Processes **compliment optimally Human Centric Processes** in composition scenarios

Areas of Investment
SAP NetWeaver PI Next Generation

1 – 3 Year Roadmap

Further Enhancements

Integrated SOA Stack

- Deploy both the products (PI and CE/BPM) together on a single box
- Holistically address aspects around tooling and also lifecycle management around these applications

Scalability for high volume use cases

- Look at dedicated use cases and bring in scalability of magnitude compared to the current performance
- Look at new runtime environments to further boost performance

Enhanced B2B support

- Tighter integration into partner capabilities
- Deliver key B2B capabilities out of the box in PI

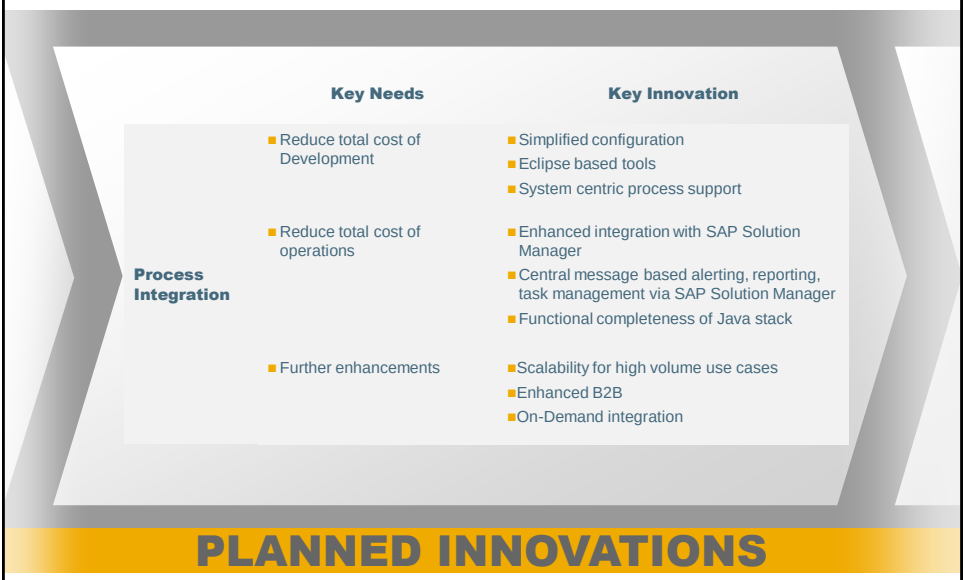
On Demand / On Premise Integration

- Enable PI to bridge the connectivity between SAP Networked applications and onPremise SAP and non SAP systems
- Introduce ready-to-use content and one-click installation of onDemand configuration to existing PI instances

Agenda

1. SAP NetWeaver Process Integration today
2. Process Integration Next Generation
3. Summary

Planned Innovations for SAP NetWeaver Process Integration: 1 – 3 year roadmap



Further Information

SAP Public Web:

SAP Developer Network (SDN): www.sdn.sap.com/irj/sdn/nw-soa

Related SAP Education and Certification Opportunities

http://www.sap.com/education/ → Training Catalog → SAP NetWeaver → PI & Business Integration

http://www.sdn.sap.com → Partnership and Certification → Integration and Certification → Process Integration

Related Workshops/Lectures at SAP TechEd 2010

PMC102	SOA Governance Overview and Roadmap	1h Lecture
PMC207	What's new in SAP NetWeaver PI?	1h Lecture
PMC214	B2B Support Today and Roadmap Moving Forward	1h Lecture
PMC262	Using the Advanced Adapter Extended	2h Hands-on
PMC263	Full End-to-End Monitoring for Your Integration Scenarios	2h Hands-on

Feedback

Please complete your session evaluation.

Be courteous — deposit your trash,
and do not take the handouts for the following session.

THANK YOU !