SAP NetWeaver Process Integration 7.1
Introduction to Business Activity Monitoring Infrastructure

SAP NetWeaver Regional Implementation Group
SAP NetWeaver Product Management
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1. Introduction
2. BAM Concept and Status
3. Summary
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Main Customer Challenges

- I am not aware of significant business needs that are relevant for me before it is too late.
- Events are not actionable today – Is this just another wave of notifications that we have to deal with?
- Events are not tangible for business users – What kinds of business events are managed in my landscape today? Where and how do I set up new scenarios?
- Missing “chattiness” of today’s applications and systems – Events remain unnoticed or without sufficient context.
- The unknown – Do event-driven architectures affect my service-oriented architecture (SOA) strategy? What kind of event management capabilities do I really need?
Event-Driven Architecture – Fundamental Principle

Event-Driven Architecture (EDA)
- A software architecture paradigm
  - Defining a methodology how loosely coupled systems can be engineered to sense and respond to events
  - Events – state change of a business object in, for example, a process context
  - Event-driven applications comprise event providers and event consumers
- Event consumer
  - Subscribes to services of an event manager
- Event provider
  - Raises and publishes events to the event manager

![Event Provider](image)
![Event Consumer](image)

Event Provider

Event Consumer

Event Subscription

Event
**Event-Driven Architecture – Applied**

**Benefits**
- Gain new level of transparency
- Enable dynamic and collaborative business processes
- Steer task-centric user interaction
- Anticipate and resolve significant business events
The Promise of Event-Enabling Business Applications

Visibility Beyond Function

BEFORE
- Silos and functions
- Single disparate events
- Many alerts, single event resolution
- Poor process context

AFTER
- Process visibility
- Filtered and aggregated events
- Business-driven event resolution
- Rich process context
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Evolution of Business Process and Event Management

SAP NetWeaver

1995

2002

2004

SAP PI

UWL/ ccBPM

Business Process Management
Business Task Management
Business Activity Monitoring Infrastructure

Roots of Process Technology

Business Process Modeling
SAP Reference Model
Workflow Management
SAP Business Workflow
EAI (Messaging)
SAP Exchange Infrastructure (XI)
Process automation
Cross-component BPM (ccBPM)
Forms-based process control
SAP Guided Procedures
Business Objects, Services and Events (SOA)
Business Event Management (BEM/SAM)

SAP Reference Model

SAP Business Workflow/ Events

SAP NetWeaver Process Integration 7.1
Business Activity Monitoring

A framework (technical infrastructure) that enables users to

- Act on significant events and take the correct action in the right work context
- Monitor, measure, and improve the efficiency of business processes
What's new?

- Event Resolution Cockpit
  - Central context storage
  - Event Resolution Templates to guide users context-sensitively through problem inspection and resolution

- Process Milestone Monitoring
  - Event-based monitoring of key process milestones
  - Subscription and handling of business process events
  - BPM modeling (BPEL)

- Process Efficiency
  - Analysis of efficiency of processes
  - Based on milestone monitoring

- Embedded Event Infrastructure
  - Infrastructure, embedded in mySAP Business Suite applications
  - Enables collecting, pre-filtering and publication of events for inter-system usage across SAP and Non-SAP systems

BAM combines existing and new functionality into a consistent framework for SAP, ISV’s and customers.
Milestone Monitoring is already available as of SAP Exchange Infrastructure (XI) 3.0 (SAP NetWeaver2004). Sap NetWeaver PI7.1 provides new functionalities which makes user much convenient to define a milestone monitoring process.

Event Resolution part is a prototype and not released to customer.

Process Analysis is delivered with SAP NetWeaver 7.0 BI Content Add-On 2.

Event Infrastructure is available as of SAP_Basis 620.
Event Infrastructure

- Infrastructure embedded in mySAP Business Suite applications
- Enables collecting, pre-filtering, and publication of events for cross-system use across SAP systems
Milestone Monitoring Process subscribes from which events it should be notified.

Local events (sales order is created etc) will be sent to Milestone Monitoring Process via Event Infrastructure.

**Event enabling**
- Propagate significant events beyond the application system boundaries ("chattiness")

**Scenario characteristics**
- BAM listener as passive component needs to be notified
- Applications are communicative – raise events
Propagating Local Events to Global Events

Transaction SWF_BAM:

- Embedded Event Infrastructure
  - Infrastructure embedded in mySAP Business Suite applications.
  - Enables collecting, pre-filtering, and publication of events for cross-system usage across SAP and non-SAP systems.

- Available as of SAP_Basis 6.20.

- For details please refer to SAP Note 879121.
Here you have two possibilities:

- Link event to message proxy to publicate event to SAP NetWeaver Process Integration. Message proxy should be defined within PI. You can also use condition to filter events before they are published to SAP PI, for example, if a sales order is changed and the sales order value > 1000 Euros, this event should be published to SAP PI.

- Link event to alert category which is defined with the SAP central alert framework (transaction ALRTCATDEF). Meaning that if an event is occurring then an alert can be triggered. The same as event linkage to message proxy, you can use conditions to select a certain events to trigger an alert.
Process Milestone Monitoring

- Event-based monitoring of key process milestones
- Subscription and handling of business process events
- BPM modeling (BPEL)
- Building consistent business process instances across different application system
- Providing rich business context information
- Basis for process efficiency analysis

- BAM Infrastructure leverages the ccBPM capabilities to define Milestone Monitoring Process.
The BAM sales order process should be defined as a Monitoring Process.

This process consists of:

- Three steps: receiving sales order + receiving purchase order + sending purchase order item
- One step group: receiving goods receipt + transformation (alert context mapping) + BAM alerting
- Condition statement: if PO quantity does not match goods receipt quantity, then raise an alert
Process Efficiency Analysis

- Process reporting with SAP NetWeaver Business Intelligence
- Based on the data of Process Milestone Monitoring

Process instance data can be loaded into SAP NetWeaver BI for reporting purpose.

With the delivered standard business content for workflow/process, process efficiency analysis can be undertaken:

Examples:
- How many processes of type ‘xyz’ were executed?
- What is the average processing time for a process (step)?
- How many steps of type ‘xyz’ were executed by org unit ‘abc’?
- How many approval processes are in (application defined) status ‘abc’?
- How many processes are concerned with purchase orders of value > 10,000€?
Here is an example about process efficiency analysis which are implemented with SAP NetWeaver Business Intelligence and SAP NetWeaver Visual Composer.
Agenda

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BAM is a capability, not a piece of software
SAP understand BAM as a capability which
- enables user to act on significant events within the right work context
- monitor, measure and improve process efficiency
Current SAP’s BAM offering provides strong BAM Infrastructure:
- Embedded Event Infrastructure enables collecting, pre-filtering, and publication of events for cross-system use across SAP systems
- Process Milestone Monitoring enables subscription and handling of business process events and also building consistent business process instances
Process Efficiency Analysis provides process related reporting with SAP NetWeaver BI.
Event Resolution as a part of BAM is not released to customer yet.