

WebSphere | BPM and WODM

Business Process Management Introduction for Business Partners, Istanbul

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SLIDE 5

The wS portfolio consists of 4 main pillars with another pillar – enterprise – that overlaps with each of these.

Integration is about mediating data, service reusability, platform integrity, and cloud.

Connectivity is about governance, connections to third parties and customers, and messaging.

Foundation is about transaction processing, resource utilization, caching, service development, and mobile development

BPM is about service & process orchestration, business rules & events, monitoring, collaboration, visibility, and process governance

SLIDE 7

From the organization's perspective, there are three key questions coming full circle to tackle the constants of complexity, chaos and change. And then you realize that the organization's most important asset – its people are the ones who have to answer for these questions. The people who have to do the work, make decisions, serve customers and continuously improve. In other words, be productive

SLIDE 8

On the left is a typical scenario where work is not well coordinated or controlled, there is no visibility to the process that spans humans and systems, too many touch-points with the enterprise systems and with that, naturally issues related to access, traffic, integrity and accuracy. So a good way to think about BPM is that of a layer that addresses these 6 trouble spots and provides business benefits that can be measured. The layer sits in between people and systems; it prioritizes work and gives you visibility and control; and when your processes evolve and change, you can quickly affect that change through business rules, assignments and deployment

SLIDE 9

These are the essential capabilities of BPM. Do you have to have all them at once? No. Should you have all of them – it depends on the functional areas, the criticality of processes, and the maturity of your BPM – in short, it depends on your needs. But each capability addresses specific needs and adds value to the overall platform. These organizational perspectives are not merely theoretical. They are in fact rooted in strategic goals

SLIDE 10

When we look at the spectrum of processes across say, 3000 companies – we find a collection of processes, many of which are low to medium complexity, the ones we call 'Excel over email'. These are in the 'long tail' of this graph. They tend to be ad-hoc, manual, and where most of the work effort lies. Then we have processes with less than 200 steps represented by the green bars – they are somewhat complex but nothing compared to the high volume/high transaction complex processes shown by the red bars. Automated processing of millions of banking or trading transactions is an example of a complex process. To address this spectrum, we have Blueworks Live and Business Process Manager.

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One important benefit of using a BRMS in conjunction with BPM is the ability to allow Decision Services to be used across multiple business processes (as well as other systems that utilize the same rules). This benefit is especially important when considering keeping mission-critical business decisions up-to-date and synchronized across processes as internal policies and external regulations change. A WebSphere ILOG BRMS Decision Service allows for a change once, impact everywhere implementation of business rules, while providing full governance of automated decisions and ensuring that they meet the organizations requirements and objectives.

SLIDE 12

When >> *Business Event Processing (BEP, WebSphere Business Events)* is a sense and respond technology. BEP executes a continuous evaluation of events from multiple sources in an attempt to detect events or patterns of events that occur or do not occur as expected that represent situations to which the business wants to respond. BEP maintains the state to detect event patterns over varying time frames. BEP is primarily focused on situational awareness by detecting patterns in overall flow of events in the enterprise. Answers the question, has a pattern occurred which requires action?

What >> *Business Rule Management System (BRMS, WebSphere ILOG JRules BRMS)* uses a rules-based approach for stateless reasoning for the purpose of making a decision or recommendation. BRMS implements decisions given snapshot views of data, calculates one or more values representing best course of action.

WBE can use the decisions taken in JRules to affect both the logic used in WBE or the actions it sends:

Recommended integration approach:

- Use the Hosted Transparent Decision Service in ILOG Rule Execution Server
- Configured as a data source in WBE Design Data

Alternately, integration via JMS and the WBE connectors remains an option

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Today, many IBM BPM customers only use the native rules capability for their process applications. They are able to get to a functional process using flow and routing type rules directly in IBM BPM. However, as their process applications expand in capability, it is logical that they might want to move the rules to WODM for better management and execution capabilities.

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While every company is different, there are many common business problems across companies, and across industries, that Decision Management can help solve. To talk about these common challenges, we'll put them into three big buckets. 1) Those that help increase revenue, 2) Those that help ensure compliance, and 3) Those that help manage risk.

Accurate real-time decisions have many benefits within an organization. We see three major types of automated decisions.

1) First is identifying opportunities to increase revenue and profitability. This includes decisions that are used by marketing and sales to make targeted offers based on customer profiles, demographics, and analytic models. These offers can take into account hundreds of variables, business rules, and analytical models, in order to make individualized offers appropriate to each customer.

2) The second type of automated decision is around consistency and compliance. There are many examples of this in the financial, insurance, and government sectors. One of the key goals of claims validation, for example, is straight through processing, or the ability to process a claim without manual intervention. While we automate this process, we don't want to compromise the quality of the business decisions. In fact, we want to improve the quality of claims validation, while simultaneously speeding up response time, which saves money and improves customer satisfaction. The same is true for other compliance-related examples of decision management, such as eligibility determination or payment processing.

3) The third type of automated decisions are those that help reduce manage and reduce risk. Credit decisioning is one really good example, as is fraud detection and insurance underwriting. A good government example is border control, which may be concerned with either the people or goods that cross a country's borders. Decision management is also very good, in conjunction with embedded sensors, at helping monitor the physical infrastructure. We have examples of everything from trains to bridges to smart meters that use decision management to monitor and act on the information flowing from embedded sensors.

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This slide shows three examples of how Rules and Events are used together to improve corporate payment notifications.

roblem:

Managing B2B payments made by multiple corporate payers is challenging given the number of payers, their payment authorization limits and the complex approval requirements.

A precise notification capability is needed to keep the transactions flowing smoothly, but meeting internal approval and spending policies.

The *left third* of the slide shows corporate (B2B) payers and their payment requests:

- Grey arrows: Business events, in this case, corporate payment requests from multiple payers
- Green arrows with red dots: Payment requests that match a pre-defined pattern
- Box with red dots (event correlations) refer to payment request patterns detected using the business events capability.

The *middle third* of the slide shows business rules and business event logic –

- The green text: The pre-defined event pattern of interest
- The blue text: The business rules that are triggered, based on the event pattern in green

The *right third* of the slide shows the comprehensive business decision that can be made by the combination of rules and events in the middle third of the slide

Scenario 1: Payment request approval

Detect: The payer makes a payment request greater than \$500K, the pre-set limit for approvals.

Decide: Payments over the pre-set limit need to result in an approval process. Having established that an approval needs to occur, the system triggers the right set of business rules to decide the level of authority needed to approve this transaction.

Respond: The request is routed to an approving accountant, who can review the request and make the payment approval.

Scenario 2: Approving cumulative payments

Detect: It is fairly typical to have many payment requests to the same company, as it may be a preferred vendor. However, reviewing in real-time the amount spent with a vendor over a specified time period is important to comply with corporate regulations. Seeing that over \$5M has been paid to a single vendor within a week means that all these payments must be verified.

Decide: Knowing that the cumulative payments are reaching a threshold, the system triggers the set of business rules to determine what the approval or review process should be and who has the right level of authority for the amount.

Respond: The division finance controller is identified as having the right authority level. A notification is sent to the controller to review the spending policy with the business unit, to ensure that corporate limits are managed correctly.

Scenario 3: Duplicate invoice payments

Detect: Multiple payments may be processed for a single invoice. It could be due to two payers processing the same invoice, or other activity that needs to be investigated.

Decide: The duplicate pattern event pattern triggers the set of business rules to determine how the situation should be handled. It is passed on to the fraud department for action.

Respond: The fraud department verifies the duplicate payments and sends it to the blocked invoice team to cancel the duplicate payment, while it investigates further.

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This slide shows three examples of how Rules and Events are used together to provide real-time support for transportation logistics and timely equipment maintenance.

Problem:

Transportation networks, specifically railway cargo delivery services must handle several challenges to operate efficiently. Given the interconnected nature of rail services a delay in a single train can have a cascading effect on others, resulting in delays in cargo delivery. In addition, enhancing the safety of these continually operating trains is an important consideration. Acting at the earliest signs of fatigue in key components can lead to immense safety benefits.

The *left third* of the slide shows various trains operating in the rail network and the geo-spatial location information that they continually send:

- Grey arrows: Business events, in this case, geo-spatial location information
- Green arrows with red dots: Geo-spatial location information that match a pre-defined pattern
- Box with red dots (event correlations) refer to geo-spatial location patterns detected using the business events capability.

The *middle third* of the slide shows business rules and business event logic –

- The green text: The pre-defined event pattern of interest
- The blue text: The business rules that are triggered, based on the event pattern in green

The *right third* of the slide shows the comprehensive business decision that can be made by the combination of rules and events in the middle third of the slide

Scenario 1: Location alerts

Detect: A train approaches the pre-defined, 30-mile perimeter of a station.

Decide: Once a train's imminent arrival is determined, the business rules are triggered to process the train's projected arrival time.

Respond: The train's precise estimated time of arrival is updated.

Scenario 2: Preemptive maintenance to enhance safety

Detect: Several key components on a train are in a constant state of structural stress and their collective fatigue characteristics can determine if safety tolerances are being exceeded. Overheating wheel bearings are a common cause of train derailment. Heat sensors on bearings provide streams of data on their operating performance and a pattern of high readings from a collection of sensors can trigger an unsafe situation.

Decide: Knowing that the safety parameters are approaching a threshold; the system triggers the set of business rules to determine the likely probability of derailment.

Respond: Having established the likely potential of derailment, the system responds by calling into maintenance scheduling software, to get the train out of service as soon as possible.

Scenario 3: Timely cargo delivery

Detect: The interconnected nature of rail networks means that a single train delay can have the cascading effect across the network and can disrupt the timely delivery of cargo. The system is able to

detect the consequences cargo delivery if several trains are late, or a single train causes other trains to be late.

Decide: Once the delay pattern is detected, business rules are triggered to identify high priority cargo on the delayed trains. Modifications to cargo routes may be necessary to ensure that cargo with a high quality of service can be delivered on time.

Respond: High priority cargo is intercepted on delayed trains and the cargo is re-routed.

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Organizations adopt BPM for a variety of different reasons, but no matter what the specific process challenge is, BPM delivers real business value. Organizations just starting out with an initial project typically benefit from greater efficiency. As business value is realized and the project is extended into a program, additional value is realized, usually in the form of effectiveness and the ability to work smarter. Extending BPM across the enterprise for transformation yields additional business value in the form of agility.