Crossing the Next Frontier of Business Process Management: Introducing Process Intelligence

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Today’s Presenters

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Enabling Process Intelligence with Data Mining and Analytics

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Agenda

- Process mining
- Process analytics
- Combining mining and analytics for improved process intelligence
Process Mining – Sources

BPM System

Enter customer data

Enter order

Legacy System

BPM System Event Log

ERP System

Legacy System Event Log

ERP System Event Log
## BPMS Event Log Format

<table>
<thead>
<tr>
<th>Trans. ID</th>
<th>Activity</th>
<th>Start Time</th>
<th>End Time</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>8287</td>
<td>Enter customer data</td>
<td>08:34:15</td>
<td>08:37:44</td>
<td>User jsmith</td>
</tr>
<tr>
<td>8287</td>
<td>Check credit</td>
<td>08:37:52</td>
<td>08:38:05</td>
<td>Equifax service call</td>
</tr>
<tr>
<td>1399</td>
<td>Enter customer data</td>
<td>08:37:59</td>
<td>08:44:40</td>
<td>User sjones</td>
</tr>
<tr>
<td>8287</td>
<td>Enter order</td>
<td>08:38:09</td>
<td>08:38:39</td>
<td>ERP system call</td>
</tr>
<tr>
<td>1399</td>
<td>Check credit</td>
<td>08:44:58</td>
<td>08:45:06</td>
<td>Equifax service call</td>
</tr>
<tr>
<td>4283</td>
<td>Enter order</td>
<td>08:45:01</td>
<td>08:45:35</td>
<td>ERP system call</td>
</tr>
<tr>
<td>1399</td>
<td>Enter order</td>
<td>08:45:18</td>
<td>08:45:38</td>
<td>ERP system call</td>
</tr>
</tbody>
</table>
### Combining All Event Logs

<table>
<thead>
<tr>
<th>Trans. ID</th>
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<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>8287</td>
<td>Enter customer data</td>
<td>08:34:15</td>
<td>08:37:44</td>
<td>User jsmith</td>
</tr>
<tr>
<td>8287</td>
<td>Create customer record</td>
<td>08:34:25</td>
<td>08:35:55</td>
<td>User jsmith</td>
</tr>
<tr>
<td>8287</td>
<td>Create address record</td>
<td>08:36:12</td>
<td>08:37:39</td>
<td>User jsmith</td>
</tr>
<tr>
<td>8287</td>
<td>Check credit</td>
<td>08:37:52</td>
<td>08:38:05</td>
<td>Equifax service call</td>
</tr>
<tr>
<td>8287</td>
<td>Enter order</td>
<td>08:38:09</td>
<td>08:38:39</td>
<td>ERP system call</td>
</tr>
<tr>
<td>8287</td>
<td>Check PO</td>
<td>08:38:10</td>
<td>08:38:15</td>
<td>System</td>
</tr>
<tr>
<td>8287</td>
<td>Create order</td>
<td>08:38:18</td>
<td>08:38:31</td>
<td>System</td>
</tr>
</tbody>
</table>
Generating A Process Model

Consolidated Event Log

BPM System
- Start customer data entry
- Finish customer data entry
- Check credit
- Enter order

Legacy System
- Create customer record
- Create address record

ERP System
- Check PO
- Create order
Generated Model Data
Working With Process Mining

Results

- Actual flows, not idealized models
- Frequency and duration of each path
- Optimization:
  - Detect main flows and common variations
  - Detect loopbacks and other inefficiencies
  - Detect wait times
  - Analyze variations over time
Process Analytics in a BPMS

- Executing process

- Realtime process dashboard
What You Get With Process Analytics

- Thresholds
  - Values or conditions usually indicating status change

- Alerts
  - Notification of a threshold exceeded or other condition

- Predictions
  - Projection of the timing of future events based on past events
What You Can Do With Process Analytics

- Information to support manual decisions
  - E.g., display queue sizes to help manager to reallocate work

- Data to trigger automated actions
  - E.g., spawn fraud detection process when series of events occur for same customer
Combining Mining and Analytics for More Intelligent Processes

- Use model generated during process mining as baseline for analytics
  - More complete than BPMS model
  - Can include historical data

- Feed events from all systems into analytics
  - End-to-end process view
  - Requires instrumentation on all processes
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Crossing the Next Frontier of BPM: Introducing Process Intelligence

Keith Swenson
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Fujitsu America, Inc.

February 29, 2012
Fujitsu at a Glance

- Headquarters: Tokyo, Japan
- Established: June 1935
- Net Sales: US $55 billion
- R&D Expenditure: US $2.4 billion
- Employees: 170,000 worldwide
- 3rd largest IT services provider after IBM and HP
- 6th largest Application Infrastructure and Middleware software provider
Fujitsu Interstage Customers
What is Interstage Process Analytics?

Interstage Process Analytics from Fujitsu is a product designed to provide the next generation of Process Intelligence to improve business performance.
Product Capabilities

- Seamlessly integrates Fujitsu’s leading technologies for automated process mining and discovery with business activity monitoring and analytics.

- Provides unequalled real-time visibility into end-to-end business activities to optimize business performance and agility.

- Available as a standalone product or as part of the Interstage Business Process Management Suite v12.
New Generation of Process Intelligence

Automated Process Discovery

- Evidence-based Discovery
- End-to-end Visibility
- Pinpoint Inefficiencies
- Continuous Process Optimization

Business Activity Monitoring & Analysis

- Real-time Visibility
- Drill-down Analytics
- Real-time Alerts
- Proactive Problem Identification & Resolution

Process Intelligence
Business Process Intelligence

What managers think the process is

What workers think the process is

What others think the process is

What the process really is
Key Customer Challenges Addressed

- Hidden process bottlenecks and their root causes are difficult to identify
- Manual discovery of process flows is costly, subjective, and time-consuming
- No real-time intelligence into the activities in processes flowing across systems and organizational silos
- Inability to proactively address and correct process problems in a timely manner
- Governance is impossible without end-to-end views of business activities and processes
Key Features of Interstage Process Analytics

- Includes customizable dashboards to display views of business activities and process performance
- Provides out-of-the-box role-based views and capabilities of Process Analytics that can be customized
- Offers a full Web-based client interface for monitoring configuration and dashboard design
Patented Enabling Technology: Automated Process Discovery (APD)

APD is unlike existing approaches:

- It visualizes actual processes that have taken place, not perceived or theoretical workflows
- It works from a simple data extract without the need for a permanent link to your IT

An innovative technology-based approach providing evidence-based process maps and performance metrics.

1. Event Retrieval
2. Process Generation
3. Process Visualisation

Automated Process Discovery technology

Discovery => Analysis => Optimization

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Fully web-based configuration & management

- No client tool required to be installed, monitoring can be done from any browsers.
- Out of the box role management to support collaborative work.
Benefits of Interstage Process Analytics

- **End-to-End Visibility and Intelligence of Business Processes**
  - Evidence-based process discovery, monitoring and analytics provide real-time business process intelligence
  - Analyze processes based on a multitude of attributes including cost, time, route, and user activity
  - Monitor business processes across systems without impacting production systems

- **Pinpoint and Proactively Act on Process Problems**
  - Identify potential process problems before they become actual problems and take corrective actions in a timely manner
  - Identify potential process bottlenecks and their root causes to correct them proactively
Benefits of Interstage Process Analytics

**Reduce Risk of Non-Compliance**
- Identify exceptions and non-compliant paths within business processes
- Reduce the organization’s exposure to penalties caused by compliance failure, fraud or other legal issues

**Optimize Business Performance**
- Improve business process flows and business operations
- Improve efficiency, reduce costs and grow the bottom line
Case Studies
Financial Services – IT Service Management

Industry – Financial

Description: This large global financial services institution was faced with integrating and maintaining disparate IT infrastructure platforms, reducing IT service costs, and maintaining SLA’s in an environment of multiple acquisitions.

Customer business drivers

- Reduce IT service head count by 15.2% across the board
- Reduce work effort by 20%
  - Identify inefficiencies in existing processes and arrive at efficient target processes.
- Increase automation by reducing ‘Event Monitoring’ effort by 75%
- Improve quality of service delivery and performance - as measured by customer survey
- Re-engineer core service delivery processes and re-define roles & responsibilities

Customer outcomes

- Identified training for branches and regions consistently failing to follow the intended process
- Detailed analysis of process flows including transition times, business unit, risk, severity, participant, etc.
- Developed efficient target models by applying complex business rules / simulation scenarios
- Quantified inefficiencies to translate results, improve processes and reduce work effort and cost.

Fujitsu APD Process Discovery

- Process Discovery
- Activity Analysis
- Process Modeling & Simulation
- Operational Transformation

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Manufacturer – Inventory Lifecycle Process

Customer outcomes

- Repeated steps, loopbacks in the process, and several alternate flows indicated opportunities to plug leaks in business value
- Outputs revealed invisible costs being incurring as a result of reacting to changes in orders and an opportunity to compress the time between order receipt and its shipment
- Processes for capturing certain attributes of a sales order were not followed consistently with scope for further standardization

Customer business drivers

- Reduce inventory and cycle times to meet customer requirements
- Excess inventory
- Opportunities that never convert to Bookings
- Bookings or configurations that fail to ship
- Operations needs better visibility of viable opportunities in order to support efficient inventory procurement
- Boost customer satisfaction

Fujitsu APD Process Discovery

- Repeated steps, loopbacks in the process, and several alternate flows were identified
- Visual evidence of multiple configuration changes to the order through the process indicated that the current approach was potentially impacting productivity and the cost of delivery
- The costliest process flows were identified

Description: This is a publicly traded company and one of the world’s leading suppliers of photonic systems for micro-engineering production applications. The company decided to review best practices within its organization so as to streamline the integration of new product lines, locations, and customer bases.
Manufacturer – Financial Processes

Industry – Manufacturing

Description: This national manufacturing company suffered massive turnover in their Accounting Department. Those left did not know the process or why they were losing money in certain areas.

Customer business drivers

- Document and understand the end-to-end financial processes
- Identify process inefficiencies and bottlenecks especially around scrapping and payment plans

Customer outcomes

- The Payment Plan process is fairly consistent 80% of the time
- At 100% visualized the process has more than 4050 unique flows
- The manual effort is excessive resulting in high manual costs and lengthy process time
- Scrap percentage on one of the products is as high as 36%
- The Collections process is grossly inefficient and bleeding

Fujitsu APD Process Discovery

- Process Discovery
- Activity Analysis
For more information visit us at
http://www.fujitsu.com/interstage
or email at
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Q&A Session

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Resources

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