Achieving Operational BI on a Budget

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Vice President, Product Management and Marketing

Pentaho
Agenda

- Pentaho Introduction
- Operational BI Definition(s)
- Key Challenges of Operational BI
  - Technology
  - Economics
  - Change management
- Real-world examples
- Q&A
Pentaho Introduction

- Commercial open source alternative for business intelligence (BI)
  Founded in 2004: Pioneer in Commercial open source BI
  Large referenceable customer base, wide range of BI/DW deployments
- Management - proven BI and open source veterans from Business Objects, Cognos, Hyperion, JBoss, Oracle, Red Hat, SAS
- Board of Directors – deep expertise and proven success in open source
- Widely recognized as the leader in open source BI
Operational BI Defined

- The use of business intelligence (BI) to support
- Operational workers
  “Frontline” employees - customer service reps, order entry staff, etc.
- Operational processes
  Handling a customer issue, processing orders, intra-day inventory management
- Operational goals and metrics
  Process completion / throughput – orders processed, customer cases handled
  Process quality – number of defects, customer satisfaction
Understanding the “Continuum”

- **Traditional BI**
  - High data latency (weeks, months)
  - Strategic metrics and benefits
  - “Standalone” BI application
  - Used by executives and analysts
  - Minority of employees
  - Traditional data warehouse

- **Operational BI**
  - Low data latency (hours, minutes)
  - Tactical metrics and benefits
  - “Embedded” BI application
  - Used by frontline workers
  - Majority of employees
  - Operational application or operational data store
Key Challenges of Operational BI
Technology Challenges (A Partial List)

- Information latency
  How “real-time” is real-time?
  What does “real time” cost?

- Information quality
  “garbage in, garbage out”
  Conflict of timeliness vs. quality

- Presentation and delivery
  What can users consume?

- Process integration
  Where and how does BI intersect the operational process?

- Availability and reliability
  BI as an operational system
Dilbert on Data Quality

Dogbert consults:

You need a dashboard application to track your key metrics.

That way you'll have more data to ignore when you make your decisions based on company politics.

Will the data be accurate?

Okay, let's pretend that matters.
Technology Solutions

- **Information latency**
  - Architecture for dynamic data
  - Data federation
  - Real-time / active data warehousing
  - Operational Data Stores

- **Information quality**
  - Data filtering / profiling
  - Reject erroneous data based on rules
  - Data cleansing
  - Ex. Identifying duplicate customers
  - Data integration / ETL
Technology Solutions (cont.)

- Presentation and delivery
  - Application integration
  - Desktop integration
  - Portal integration

- Process integration
  - Embedded business rules
  - External orchestration
Economic Challenges to Operational BI

- “BI for the Masses” is the oldest line in business intelligence…
- BUT traditional licensing models limit large-scale deployment
  - Per user pricing
  - Multiple modules required
  - Granular user roles (Viewer? Interactive viewer? Creator?)
  - Administrator licenses

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Economic Solutions for Operational BI

- Licensing and packaging for Operational BI Needs to accommodate
  - Nearly “frictionless” growth
  - Changes in user profiles
  - Widely-varying frontline employee costs
  - Evolution of use-cases – i.e. extranet deployments
  - Embedded and “invisible” deployment

- Envision large and growing BI success, and consider the licensing implications

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Customer Examples: Operational BI on a Budget
Pentaho at Terra Industries (NYSE: TRA)

$2B Global Nitrogen Products Leader

Key Challenges

- Aligning pricing and delivery with inventory and supply
- Obtaining an integrated view of operations across multiple disparate operational systems

Pentaho Solution

- Pentaho Reporting, Data Integration
- Sourcing data from SAP R/3, Peoplesoft, Tabware, and home-grown systems
- MySQL Enterprise

Results

- Rapid time-to-value via embedded operational reporting for front-line workers

“We chose Pentaho because it has a full range of functionality, exceptional flexibility, and a low total cost of ownership because of its open source business model. We can start delivering value to our business users quickly with embedded, web-based reporting, while integrating our disparate data sources for more strategic benefits down the road.”
“Pentaho was the clear choice for us after reviewing the alternatives from Business Objects, Oracle, and SAS. Pentaho’s flexible architecture lets us build our operational business rules directly into the BI system, and integrate easily into our IT infrastructure as well as our strategic business processes.”

Canada’s Second Largest University

Key Challenges
- Managing daily operations with a clear picture of student enrollment, performance, and staffing

Pentaho Solution
- Pentaho Open BI Suite

Results
- Ability to align University resources, staffing, and investment on a daily basis

Why Pentaho
- Flexible architecture
- Easier integration into existing infrastructure
- Cost of ownership
“We’ve advanced a major step forward for our business users by leveraging Pentaho... With professional support and a comprehensive BI offering from Pentaho, we’ve significantly upgraded our functional capabilities for a fraction of the cost of proprietary alternatives..”

North America’s Largest Family Run Four-Season Resort Company

Key Challenges
- Understanding customer behavior and customer loyalty to drive marketing programs
- Tracking food and beverage sales, labor utilization, and profit throughout the day

Pentaho Solution
- Pentaho Open BI Suite replacing Crystal Reports from Business Objects

Results
- Critical insight into customer trends to maximize results from marketing programs
- Ability to monitor operations to benchmark within and across resorts

Why Pentaho
- Breadth of functionality in open source
- Ability to deliver results quickly
- Cost of ownership
“[Open technologies] reduce the cost of software development and they reduce the time in which innovations in software can be incorporated in systems. ‘If the project is of a sufficient scale, you cannot get there without an open-source approach,’ said Dewey Houck, a senior engineer at Boeing, who spoke at a conference last month about DOD’s use of open source.”

- Government Computer News, Jan 2008, (1)

Key Challenges
- Analyzing flight data to reduce operational risk and improve training (human error is a causal factor in 70% of aviation mishaps)

Pentaho Solution
- Pentaho Open BI Suite – 70 instances
- Pentaho Training and Consulting services
- Selected after extensive evaluation of Business Objects, Cognos, and Oracle

Results
- Ability to leverage recorded electronic sensor data to reduce risk and improve crew performance

Why Pentaho
- Breadth of capabilities
- Proven success and large-scale referenceable deployments
- Dramatically lower costs

[Open technologies] reduce the cost of software development and they reduce the time in which innovations in software can be incorporated in systems. ‘If the project is of a sufficient scale, you cannot get there without an open-source approach,’ said Dewey Houck, a senior engineer at Boeing, who spoke at a conference last month about DOD’s use of open source.”

- Government Computer News, Jan 2008, (1)
Product Highlights: MySQL and Pentaho for Operational BI
Pentaho Reporting and Analysis for Operational BI

- **Reporting**
  - Access and format data from disparate sources
    - RDBMS, XML / Web Services
  - Run directly against sources or using centralized metadata layer

- **Analysis**
  - Relational OLAP architecture
  - Active Data Warehouse support
    - Controllable cache balances performance and data latency

- **Portal integration**

- **Office applications integration**
  - OpenOffice or Microsoft Office
Pentaho BI Platform for Operational BI

- The Ideal Situation = Your Process

**Your Inputs**
- Systems
  - (applications & data)
  - MySQL
- People / Users

**Your Solution**
- Logic, Template,
  - Queries, Schedules, etc.

**Pentaho**

**Your Outputs**
- Information
  - Content
- Decisions
- Knowledge

Solution-Oriented
- Processes, activities, rules, templates, queries etc
- Repository-based, portable, and package-able

Process-Centric
- Native workflow
- Can be orchestrated from outside
- Service-implemented

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Pentaho BI Platform for Operational BI

- The Ideal Situation = Your Process

**Your Inputs**
- Systems (applications & data)
- MySQL
- People / Users

**Your Application**

**Your Outputs**
- Information
- Content
- Decisions
- Knowledge

**Your Solution**
- Logic, Template, Queries, Schedules, etc.

Embeddable and Customizable
- Standalone Server or Embedded Components
- All logic is accessible
- All UI is customizable
- All output is customizable
- Small or large part of overall process
Pentaho Data Integration for Operational BI

- Traditional Extract, Transform and Load capabilities
  “One version of the truth”
  Rapid query response
- Data filtering
  Reject bad records
- “In-line EII”
  Ability to call multiple systems on-the-fly, integrate/transform data, and provide it to the application
- Robust data profiling and cleansing available through partners
Pentaho Management Services

- Simplify deployment
  Single Sign On (SSO) integration
  Style editor
- Improve reliability
  Application diagnostics
  Lifecycle management
  Audit reporting
  Automated content expiration
- Increase performance and scalability
  Clustered deployment
  Performance monitoring
Demonstration: Pentaho and MySQL for Operational BI
Pentaho Subscription

Pentaho Open BI Suite (Open Source)

Certified Software

Management Services

Professional Support

IP Indemnification
What is MySQL Enterprise?

Software solution delivered as an annual subscription.

A MySQL Enterprise subscription includes everything listed here:

<table>
<thead>
<tr>
<th>Enterprise Grade Software</th>
<th>MySQL Enterprise Server</th>
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<tbody>
<tr>
<td>Proactive Monitoring and Advisors</td>
<td>MySQL Enterprise Monitor</td>
</tr>
<tr>
<td>Maintenance and Update Services</td>
<td>Software Update Service</td>
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<tr>
<td></td>
<td>Technical Alert Service</td>
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<tr>
<td>Self-Help and Technical Support</td>
<td>On line Knowledge Base</td>
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<td></td>
<td>MySQL Production Support</td>
</tr>
<tr>
<td>Feature</td>
<td>Benefit</td>
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<td>------------------------------------------------------------------------</td>
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<tr>
<td>Enterprise-Grade Software</td>
<td>Recommended and configured for the Enterprise</td>
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<tr>
<td>Certified for popular platforms/applications</td>
<td>Most popular platforms = Confidence for deployment</td>
</tr>
<tr>
<td>Timely Service Packs and Production Hot Fixes</td>
<td>Maximum reliability and stability</td>
</tr>
<tr>
<td>Community/MySQL/3rd-Party Quality Assurance</td>
<td>The highest possible code quality</td>
</tr>
<tr>
<td>Benchmarked with thousands of connections</td>
<td>Proven for Enterprise workloads</td>
</tr>
<tr>
<td>Open Source</td>
<td>Customizable and flexibility based on open standards</td>
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<tr>
<td>24 x 7 Production Support</td>
<td>Around-the-clock protection for MySQL systems</td>
</tr>
<tr>
<td>Automated Software Update and Alert Service</td>
<td>Help for general and security updates</td>
</tr>
<tr>
<td>MySQL Enterprise Monitor</td>
<td>Ensures optimal and efficient database operations</td>
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<tr>
<td>Online Knowledge Base</td>
<td>MySQL expertise and experience at your fingertips</td>
</tr>
<tr>
<td>Legal Assurance</td>
<td>Worry-free open source development and deployment</td>
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Our Development Priorities

1. RELIABILITY
   Study: Few bugs in MySQL database.
   By Robert Lemos CNET News.com Feb 4, 2005

2. PERFORMANCE
   MySQL, Sun and BEA WebLogic Set New World Records for Speed & Price/Performance in SPEC Benchmarks

3. EASE OF USE
   15 Minute Rule
   Download, install and have MySQL up and running in 15 minutes.
MySQL HA Solutions

- Clustering & Geographical Redundancy
- Clustering Technologies
- Replication Technologies
- Well-Managed
- Unmanaged

MySQL Cluster
MySQL + DRBD
MySQL Replication

<table>
<thead>
<tr>
<th>Small Business</th>
<th>ISPs &amp; Mainstream Business</th>
<th>Data Centers</th>
<th>Banking Medical</th>
<th>Telco Military Defense</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 35 days</td>
<td>9 4 days</td>
<td>9 8 hours</td>
<td>9 50 mins</td>
<td>9 5 mins</td>
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We've Proven It!
Pentaho + MySQL = BI Success

"Pentaho provides a great solution for us..."
- UnionFidi

"Pentaho offered far better value than proprietary alternatives."
- DivX

"We selected Pentaho for its ease of use."
- MySQL

"We can start delivering value quickly with embedded, web-based reporting while integrating our disparate data..."
- Terra Industries

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Resources

- Pentaho website: [www.pentaho.com](http://www.pentaho.com)
  Demos
  Customer examples
  Software downloads
  MySQL-based sample application
  Developer forums
  Documentation

- Lance Walter, VP of Marketing
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Thank You!
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