Building a BusinessObjects Shared-Services Environment

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Credit Suisse First Boston
Building a BusinessObjects Shared-Services Environment

Three years ago, Credit Suisse First Boston's team was tasked in building and maintaining a global shared service to support diverse and strategic BI initiatives across multiple regions and product lines. CSFB now supports 60 different reporting applications with over 3,000 users running on a common infrastructure owned and supported by a single global service organization. See the organizational and technical challenges that CSFB overcame. Learn the critical steps required to deploy a global BI service, such as defining organizational role definitions, cost transparency and charge backs, virtual application silos, and integration with an enterprise-level job control system.

- Miami, Monday November 7, 1:45pm
Topics

- Project overview
- Shared-Services model
- Project organization
- Shared-Services funding
- Technical architecture
- Virtual application silos
- Value-added components
- Q&A
Credit Suisse First Boston (CSFB) is a leading global investment bank
  • Serves institutional, corporate, government and high net worth clients

CSFB's businesses include:
  • Securities underwriting
  • Sales and trading
  • Investment banking
  • Private equity
  • Alternative assets
  • Financial advisory services
  • Investment research
  • Asset management

CSFB is a proven leader across the spectrum of investment banking, capital markets and financial services
  • Ranks in the top tier in virtually all major business segments

CSFB is a truly global institution
  • Operates in more than 69 locations across more than 33 countries on five continents
BusinessObjects deployment at CSFB

- **BusinessObjects licensing w/Premium Support**
  - Legacy licensing has recently been consolidated into 8500 named user licenses for BusinessObjects XI Premium
    - includes BusinessObjects InfoView and Crystal
  - 3000 named users for Web Intelligence analysis
  - 1000 named users for BusinessObjects analysis
  - 1500 seats of Crystal Reports Advanced Developer
  - Licensing projected to be adequate thru 2006

- **Query and Analysis - BusinessObjects**
  - Global Shared-Services for BusinessObjects 6.1b
  - *60 Product Line reporting applications with over 3600 users*
  - Legacy BusinessObjects Product Line deployments
    - 4 legacy Web Intelligence deployments are in the process of migrating to Shared-Services (additional 1000 users)

- **Reporting – Crystal Enterprise**
  - Approximately 5 Product Line deployments of Crystal Enterprise 10

- **Management dashboards – Enterprise Performance Management**
  - Interest expressed by a number of customers across multiple Product Lines
  - Attempting to get project sponsorship and funding
Project Overview – Product Roadmap

Overlay of CSFB migration strategy

Flexible Upgrade Strategies to BusinessObjects XI Release 2

2004

CSFB Product Lines

Crystal Version 10

Integration Pack

Business Objects 6.0, 6.1, 6.5

Front-end Integration

Platform Integration

Integration Complete

2005

BusinessObjects

Release 2

CSFB Shared-Services

2Q06

BusinessObjects
Topics

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- Q&A
Shared-Services Model – Drivers

- **Lower cost**
  - Hardware (fewer servers)
  - Staff (fewer staff to support and maintain)
  - Smaller data center footprint
  - Improved vendor leverage for CSFB requirements
  - License utilization (negotiate the right deployment model)

- **Improved controls**
  - Software upgrades (supported versions)
  - Proper segregation across environments and duties
    - Separation of development, user acceptance test (UAT), production
    - Sarbanes-Oxley (SOX) Compliance
  - Release management (structured change management)
  - License management
  - Reduced IT and operational risk
    - Fewer moving parts

- **Eliminates redundancies**
  - Multiple products providing competing solutions
  - Training, engineering, and support
Shared-Services Model – Drivers (continued)

- **Aligns with IT strategy**
  - Data Center strategy
  - Ties into development methodology
  - Shared vs. dedicated servers
  - Institutionalizing efficiencies in our operating environment
  - Improved time to market

- **Impact on the procurement process**
  - Understand total cost of ownership before we enter into an agreement
  - Negotiation leverage

- **Support effectiveness**
  - Concentration of centralized support resources
  - Higher degree of specialized expertise
  - Less products = less complex
Shared-Services Model – Challenges

- **Buy in from IT**
  - View the Shared-Services team as the only service provider for the product
  - Funding the Shared-Services
  - Accepting selected products

- **Willing to compromise and be flexible**
  - Not as flexible as owning and managing your own solution
  - Must give up some control to centrally managed service
  - Exception process to use a competing product or service

- **Shared-Services challenges**
  - Establishing a funding/chargeback model that is transparent for the enterprise
  - Maintaining the equivalent service level as a product silo support team
  - Understanding the requirements across the enterprise
Shared-Services Model – Service Level Definitions

BusinessObjects at CSFB is a level 3 Shared-Service

<table>
<thead>
<tr>
<th>Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Silos</td>
<td>Best Practices</td>
<td>Centralized Support</td>
<td>Shared Service</td>
</tr>
<tr>
<td>One-Off Builds</td>
<td>No Standards</td>
<td>Corporate Recommended Standards</td>
<td>Engineered Build</td>
</tr>
<tr>
<td>Product Line Support</td>
<td>Product Line Development</td>
<td>Product Line Hardware Silo</td>
<td>Centralized Support</td>
</tr>
<tr>
<td>Product Line Development</td>
<td>Product Line Development</td>
<td>Product Line Hardware Silo</td>
<td>Corporate Enforced Standards</td>
</tr>
<tr>
<td>Product Line Development</td>
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<td>Product Line Hardware Silo</td>
<td>Corporate Enforced Standards</td>
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<td>Product Line Development</td>
<td>Product Line Hardware Silo</td>
<td>Corporate Enforced Standards</td>
</tr>
</tbody>
</table>

When Appropriate?
- Global deployment across multiple product lines
- Scalability is limited
- Initial point of entry to Shared Service model
- Single Product line Specialized usage

Build | Usage Standards | Support | Deployment | Development
Shared-Services Model – Organization

Generic org chart for corporate Shared-Services

Product Management Teams
- Business Intelligence
- Messaging
- Source Code Control
- Application Servers
- ETL/EII

Service Teams
- Engineering
- Construction
  Value-Added (e.g. Security Integration, SCM Integration, Batch Job Control Integration)
- Support
Topics

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CSFB is a distributed organization

- **Distributed business organization**
  - Front office Product Lines and back office are globally distributed

- **Distributed business intelligence projects**
  - Ownership distributed across all Product Lines and regions

- **Distributed data warehouses/data marts**
  - Located in regional data centers (New York, London, Singapore) for both global and local reporting applications

- **Heterogeneous data sources**
  - Oracle, DB2, Sybase, SQL Server, Informix

- **Non-standard project lifecycles**
  - Lifecycles vary across Product Lines/regions in maturity levels
Project Organization – Project Structure

Create a centralized service for a distributed organization

- Provide a global state-of-the-art BusinessObjects business intelligence standard toolset
  - Centralized product team
  - Centralized support services
  - Centralized engineering services

- Product Line IT departments to retain full ownership of data and reporting applications
  - BusinessObjects to be centrally owned and hosted on shared development, user test, and production environments
  - Each Product Line reporting application to be deployed in a virtual silo that isolates it from other applications running on the same shared server instance

- SOX Compliant
  - Controls to limit access to UAT and production environments

- Partner with Business Objects to launch a global Shared-Service
  - Engage Business Objects Professional Services for 6-month engagement to help define a technical architecture and develop standards
  - Contract for Business Objects Premium Support
Roles of the centralized Shared-Services IT teams

- **Enterprise Reporting and Analytics Product Team**
  - Overall program management
  - Vendor relationship management
  - As Center of Excellence (COE), provide global Business Objects integration services and product consulting expertise
  - Develop architectural roadmap
  - Design global shared infrastructure

- **Global Support**
  - Server support including deployment, configuration and monitoring
  - Security administration and change management
  - Day to day developer support

- **Global Engineering**
  - Engineer all workstation and server components
Project Organization – Customer IT Teams

Roles of the distributed IT application development groups

- **Technical project lead**
  - Liaises with CSFB BusinessObjects Product Team to agree on appropriate use of Business Objects products and technical architecture
  - Responsible for database design
  - Insures that the application development functions are properly staffed and trained

- **Universe designers**
  - Must be familiar with the application database design and data

- **Report writers**
  - Write canned reports and reporting templates for use by end users

- **SDK programmer (optional)**
  - For when the InfoView portal cannot satisfy requirements
  - Should understand the appropriate coding language (ASP, JSP)

- **Support/Training**
  - Train and support business users for their reporting application
  - Field first-line support calls for their business users
  - Refer 2nd-level support technical issues to CSFB Global Support

- **Administration by designated supervisors**
  - User administration for their development projects
  - Define and create application sub group security hierarchies
Project Organization – Product Lifecycle

Lifecycle for Shared-Services deployment of a new product

- **Product Team**
  - Define product roadmap
  - Deploy new candidate for release in lab
  - Procure additional infrastructure if required
  - Develop migration plans for service platform/customer applications
  - Revise product standards

- **Engineering Services**
  - Engineer workstation and server builds
    - Desktop BusinessObjects client scripted for automatic installation on up to 20,000 workstations with all required database drivers

- **Support Services**
  - Instantiate servers
  - Support project migrations to target environments
  - Provide 24x7 follow-the-sun support for production instances across all regions
Project Organization – Customer Lifecycle

Lifecycle for a new customer project on the Shared-Service

▶ Product Team

▪ Customer adoption request
  • Customer completes web-based adoption form with high-level business and technical requirement

▪ Requirements walk-thru
  • Customer meets with Product Team to walk-thru requirement and agree on appropriate product/architecture for best-fit solution

▪ Proof-of-Concept
  • If necessary, Product Team conducts a POC with customer in sandbox environment

▪ Project initiation
  • Product Team signs off on project and hands-off to Support Team

▶ Support Services

▪ Support Team creates virtual silo on shared infrastructure
  • Development Team supplies database connection and user access requirements to Support Team
  • Support Team creates virtual silos for development, UAT and production on local shared infrastructure (1-2 day turnaround) and development begins
  • Development Team raises requests to Support Team for UAT and production migrations for universes and shared reports as required
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Shared-Services Funding

Funding is the biggest challenge for a Shared-Services project

- **The ideal model**
  - A Shared-Service should be centrally funded and have it’s Total Cost of Ownership (TCO) charged back based upon usage metrics

- **Current challenges**
  - Our funding model is based upon Product Line business requirements
    - No means to fund an IT sponsored strategic project
  - Current IT focus is on cost reduction
    - To realize a lower TCO an investment is required in a Shared-Service before cost savings can be realized by the Product Lines
  - Company-wide cost transparency model not yet in place
    - We are able to report customer usage by project, however, there is not yet a means to allocate costs back to customers

- **Current state – Under Funded**
  - Cost of entire Shared-Services is charged to our department and allocated back to the business based upon generic revenue formula
  - Unable to add headcount to our service as usage grows

- **Recommendation**
  - Don’t attempt to build a Shared-Service unless you have sponsorship/funding at the CIO level.

*Credit Suisse has recently brought in a new group level CIO and we are optimistic about future strategic investment in IT Shared-Services*
A chargeback model has been developed that allocates the entire cost of the Shared-Service (Headcount, software licensing/maintenance and server infrastructure) to individual Product Line business applications based upon the number of users and reports per reporting application.

### Production Users by Department

<table>
<thead>
<tr>
<th>Department</th>
<th>Number of Users</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT ADEV - Controllers IT [CIT]</td>
<td>1096</td>
<td>29.99 %</td>
</tr>
<tr>
<td>IT ADEV - Strategy &amp; Core Services [SCS]</td>
<td>680</td>
<td>18.60 %</td>
</tr>
<tr>
<td>IT GTI - Dist Technology Services [DTS]</td>
<td>651</td>
<td>17.81 %</td>
</tr>
<tr>
<td>IT ADEV - Operations IT [OPS]</td>
<td>498</td>
<td>13.63 %</td>
</tr>
<tr>
<td>IT MRC - COO [COC]</td>
<td>224</td>
<td>6.13 %</td>
</tr>
<tr>
<td>IT ADEV - Prime Services IT [PRS]</td>
<td>121</td>
<td>3.31 %</td>
</tr>
<tr>
<td>IT SEC - Equities IT [EIT]</td>
<td>81</td>
<td>2.22 %</td>
</tr>
<tr>
<td>IT ADEV - Private Equity IT [PEQ]</td>
<td>72</td>
<td>1.97 %</td>
</tr>
<tr>
<td>IT ADEV - Risk IT [RIT]</td>
<td>49</td>
<td>1.34 %</td>
</tr>
<tr>
<td>IT SEC - FID IT [FID]</td>
<td>48</td>
<td>1.31 %</td>
</tr>
<tr>
<td>IT SEC - Derivatives IT [DIT]</td>
<td>45</td>
<td>1.23 %</td>
</tr>
<tr>
<td>IT GTI - Planning &amp; Engineering [PNE]</td>
<td>32</td>
<td>0.88 %</td>
</tr>
<tr>
<td>IT GTI - Project Services [PJS]</td>
<td>27</td>
<td>0.74 %</td>
</tr>
<tr>
<td>IT ADEV - Asia Pacific IT [APC]</td>
<td>18</td>
<td>0.49 %</td>
</tr>
<tr>
<td>IT GTI - Business Service Group [BSG]</td>
<td>8</td>
<td>0.22 %</td>
</tr>
<tr>
<td>Sum</td>
<td>3655</td>
<td></td>
</tr>
</tbody>
</table>

**Total Production Users: 3655**
Product Line Non-Shared deployment (service level 1)
- Would require: 84 Servers/63 Repositories globally
  - New York: 40 Servers + 30 Repositories
  - 10 Departments/Region * 4 Servers/Department = 40 Servers/Region
  - London: 40 Servers + 30 Repositories
  - 10 Departments/Region * 3 Repositories/Department = 30 Repositories/Region
  - Singapore: 4 Servers + 3 Repositories

Global Shared-Services deployment (service level 3)
- Today: 20 Servers/12 Repositories Globally
  - New York: 8 Servers + 3 Repositories
  - London: 8 Servers + 3 Repositories
  - Singapore: 4 Servers + 3 Repositories
  - Global: 3 Global Security Domain Repositories
Shared-Services Funding – ROI

Partial ROI for hardware and people

- **Product Line Non-Shared silo deployment (service level 1)**
  - Annual staffing cost: $8.2M
    - 47 full-time employees
  - Hardware purchase cost: $2.1M
    - 84 servers

- **Product Line silos with centralized support (service level 2)**
  - Not scalable

- **Global Shared-Services deployment (service level 3)**
  - Annual staffing cost: $2.6M *(68% cost savings)*
    - 15 full-time employees
  - Hardware purchase cost: $.98M *(53% cost savings)*
    - 20 servers
  - *Shared-Services save $$$$$$$ and resources!!!!!*

Cost savings associated with server maintenance (administration, data center space, power, etc.) are not factored into this model.
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- Q&A
Local Web Intelligence instances in each region

Development
- Web Server
- App Server
- WebIntelligence
- Broadcast Agent
- Doc Domain
- Data Stores
- Unv Domain

UAT
- Web Server
- App Server
- WebIntelligence
- Broadcast Agent
- Doc Domain
- Data Stores
- Unv Domain

Production
- Distributed Director
- Web Server
- App Server
- WebIntelligence
- Broadcast Agent
- Doc Domain
- Data Stores
- Unv Domain
Single global security domain for each environment
Technical Architecture – Current Blueprint

H/A and DR for BusinessObjects classic

Key
- Stateless Servers
- Data Stores

Note: Disaster Recovery for personal documents and repositories not shown
Technical Architecture – Future Blueprint

Process states for BusinessObjects XI 3-node cluster

High Availability

Disaster Recovery

BOXI Server
Warm Standby
Linux SLES 9 OE

Crystal Management
Server (CMS)

File Repository Services (FRS)

Reporting Processing Services

File Repository Services (FRS)

Processing States

Active
Stopped
Passive

REPORTING & ANALYTICS

AUTHOR: J. Patrylak, M. Iseman
REV: 1
DATE: 22 AUG 2005
DEPT: BSG/DACO

DESCRIPTION: BOXI Enterprise-HA/DR Process State Diagram
Topics

- Project overview
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Virtual Application Silos – Overview

Basic concepts

- Current deployment is BusinessObjects classic
- Regional web clusters and desktop builds available for use for day 1 development
- Desktop client available through end user request
  - repository keys provided
- Rebranded out-of-the-box InfoView available and supported
- Engineered SDK environments upon request (JSP, ASP)
- Application deployment secured through Supervisor
- Repository, network file share details hidden
Virtual Application Silos – Application Model

BusinessObjects component stack

The BusinessObjects XI functional architecture and tools.
Virtual Application Silos – Design Considerations

Technical issues addressed

► Core reporting deliverable
  ▪ Ability to handle multiple user instances spanning applications
    • Resource permissions (universe, report, row/column level security)
    • Command restrictions and most restrictive rule across instances
  ▪ Development lifecycle enforcement → SOX control objective
    • Development personnel prohibited from moving development software or data to production

► Application architecture
  ▪ Ability to expose the core REBean/WIBean/BusinessObjects SDK to development community

► Shared-Services infrastructure
  ▪ Ability to monitor service pool and manage performance for both interactive and batch requirements
Virtual Application Silos – Security Structure

Application groups and role definitions

- **Group policy** – defining command restrictions by role
  - User, Power User, Developer
  - Environment variances
  - Resolve conflicts (XI R2 and ACL security)
  - Role based security by application, by resource

- **Resource assignment**
  - Done at a folder level by application
  - Local supervisor role can designate *n* levels of security for applying resource/universe overrides

---

### Sample user in 3 groups

<table>
<thead>
<tr>
<th>Command</th>
<th>Status in Group 1</th>
<th>Status in Group 2</th>
<th>Status in Group 3</th>
<th>Status applied to all instances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create and Edit Connections</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Delete corporate documents sent by other users</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Schedule corporate documents</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Send Documents for Scheduled Processing</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Send Documents to Repository</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Edit Free-hand SQL Scripts</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Edit Query SQL</td>
<td>Enabled</td>
<td>Enabled</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Edit Free-hand SQL Scripts</td>
<td>Hidden</td>
<td>Hidden</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
</tbody>
</table>

### Power User

<table>
<thead>
<tr>
<th>Command</th>
<th>DEV</th>
<th>UAT/PRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>View all secured connections</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Delete Document</td>
<td>Enabled</td>
<td>Hidden</td>
</tr>
<tr>
<td>Disable/Enable Document</td>
<td>Enabled</td>
<td>Enabled</td>
</tr>
<tr>
<td>Delete Universe</td>
<td>Enabled</td>
<td>Hidden</td>
</tr>
<tr>
<td>Edit Universe Attributes</td>
<td>Enabled</td>
<td>Enabled</td>
</tr>
<tr>
<td>Add Users to Group</td>
<td>Enabled</td>
<td>Enabled</td>
</tr>
<tr>
<td>Create Users</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
</tbody>
</table>

### Local Supervisor

<table>
<thead>
<tr>
<th>Command</th>
<th>DEV</th>
<th>UAT/PRD</th>
</tr>
</thead>
<tbody>
<tr>
<td>View all secured connections</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
<tr>
<td>Delete Document</td>
<td>Enabled</td>
<td>Hidden</td>
</tr>
<tr>
<td>Disable/Enable Document</td>
<td>Enabled</td>
<td>Enabled</td>
</tr>
<tr>
<td>Delete Universe</td>
<td>Enabled</td>
<td>Hidden</td>
</tr>
<tr>
<td>Edit Universe Attributes</td>
<td>Enabled</td>
<td>Enabled</td>
</tr>
<tr>
<td>Add Users to Group</td>
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<td>Enabled</td>
</tr>
<tr>
<td>Create Users</td>
<td>Hidden</td>
<td>Hidden</td>
</tr>
</tbody>
</table>
Virtual Application Silos – Custom Interface

Delivering an SDK environment

- SDK engineering and build details
  - Hub-spoke architecture running on Weblogic server farm
  - SDK deployments engineered with default InfoView.war and sample applications
  - Managed Weblogic server path settings include environment specific configuration files
  - Seamless migration of code across environments
  - Siteminder agent configured for LDAP integration

Weblogic cluster

<table>
<thead>
<tr>
<th>Web Application (WAR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Dynamic Content (JSP)</td>
</tr>
<tr>
<td>• Static Content (HTML)</td>
</tr>
<tr>
<td>• REBean\WIBean Libraries (JAR)</td>
</tr>
<tr>
<td>• Other Required Libs (JAR)</td>
</tr>
</tbody>
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<td>• Other Required Libs (JAR)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Webi.properties</td>
</tr>
<tr>
<td>• Cluster_name.cfg</td>
</tr>
<tr>
<td>• Siteminder Agent</td>
</tr>
</tbody>
</table>
Virtual Application Silos – Capacity Analysis

Processing tier

- **Considerations**
  - Understand maximum capacity figures based on basic sizing formula
  - Establish basic profile from development teams
  - Sizing and capacity estimation exercises not of much use with large range of usage profiles across applications
  - Using ORCA for SPARC monitoring usage
  - Vertically scale as required, Sun 1280’s to 12X by 96 gigabyte physical memory
  - Future of XI architecture will help meeting processing service-level agreements

### Basic sizing guideline

#### BusinessObjects (Full-Client)
- Heavy Processes (12/cpu) x 4 = 48

#### Web Intelligence Documents
- Webi Sessions (30/cpu) x 4 = 120

---

**Daily f1026 CPU Usage**

- User Current: 22.958, Average: 19.773, Min: 3.405, Max: 79.000
- System Current: 6.972, Average: 7.061, Min: 2.300, Max: 25.067
- Wait ID Current: 0.016, Average: 3.998, Min: 0.200, Max: 19.369

Last data entered at Tue Mar 23 16:06:03 2009.
Topics

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- Project organization
- Shared-Services funding
- Technical architecture
- Virtual application silos
- Value-added components
- Q&A
Value Added Components – BCA API

Broadcast Agent API requirements and parameters

- **Core requirements**
  - Scheduling jobs using traditional BCA no longer required
  - Use of enterprise Control-M job control product
  - Jobs run from the command line
    - Return code 1 for success, -1 for failure
  - Detailed logging for ease of troubleshooting
  - Thin client with minimum deployment effort

- **Required parameters**
  - HTTP Server URL
  - Path to batch parameter or configuration file (*.xml)
  - Log file Location
  - Log rotation rule
High-level overview

- **Web service architecture**
  - Thin client written in perl
  - Client does not know of service implementation details
  - Message based communication using XML
    - Stateless using HTTP protocol
  - Client location is independent of invocation
  - BCA API software delivered as J2EE servlet
  - Detailed logging for ease of troubleshooting
Value Added Components – BCA API Client

BCA API specification

- XML Specification
  - Username is system supplied ID
  - Ability to upload as agnostic document to Infoview
    - XLS and PDF format
  - Uses existing categories
  - Schema definition (.xsd) as published standard
  - Date postfix for archiving
  - FTP and email support 1 to N destinations

```xml
<ReportingBatch>
  <BroadcastAgent>BROADCAST_API</BroadcastAgent>
  <OrgID>org123</OrgID>
  <OrgID>org456</OrgID>
  <OrgID>org789</OrgID>
  <OrgID>org012</OrgID>
  <OrgID>org345</OrgID>
  <OrgID>org678</OrgID>
  <OrgID>org901</OrgID>
  <OrgID>org234</OrgID>
  <OrgID>org567</OrgID>
  <OrgID>org890</OrgID>
  <OrgID>org101</OrgID>
  <OrgID>org111</OrgID>
  <OrgID>org122</OrgID>
  <OrgID>org133</OrgID>
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  <OrgID>org911</OrgID>
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  <OrgID>org933</OrgID>
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  <OrgID>org977</OrgID>
  <OrgID>org988</OrgID>
  <OrgID>org999</OrgID>

<Actions>
  <Action>refresh</Action>
  <Action>upload</Action>
  <Action>xls</Action>
  <Action>pdf</Action>
  <Action>publish</Action>
  <Action>ftp</Action>
  <Action>email</Action>
</Actions>

<Group><Group>BROADCAST_API</Group></Group>

<FtpServers>
  <FtpServer>
    <Name>myftpserver</Name>
    <Username>username</Username>
    <Password>password</Password>
    <Directory>/</Directory>
  </FtpServer>
</FtpServers>

<Emails>
  <Emails>
    <Email>
      <Subject>From the BCA API</Subject>
      <Body>Enter Body of Text Here</Body>
      <FromAddress>Robert.Eason@csfb.com</FromAddress>
      <Attachments>
        <Attachment>attachment1.jpg</Attachment>
        <Attachment>attachment2.pdf</Attachment>
        <Attachment>attachment3.xls</Attachment>
        <DestinationTo>First.Last@csfb.com</DestinationTo>
      </Email>
    </Emails>
  </Emails>
</Emails>
</ReportingBatch>
```
Value Added Components – Enhanced Monitoring

**Technical specification**

- Identify failures by testing all levels of application stack
  - Integrate with available custom built utilities
  - Independent perl client executes tests, provides alerts
  - All levels of application stack tested
  - Logs output
  - External event monitor identifies errors
  - Iplanet server stopped to allow failover

---

**BusinessObjects Web Intelligence Stack**

- **Iplanet (Web Server)**
  - Server Static Content and LDAP Integration

- **BEA Weblogic (J2EE Server)**
  - Hosts default Infoview application and custom SDK deployments

- **BusinessObjects Processing**
  - Core session and reporting processing services

---

**Shared Repository**

- Direct SQL Query (Select 'test' from dual)
- Test NFS Read

---

**HTTP call to test static content**

- Generic Dynamic code test
- Execute BO SDK Monitor
- Wping & Wasfadm utilities
- Wmainkey utility

---

**BusinessObjects Web Intelligence Stack**
### Monitor output

#### Business Objects Monitor Log

<table>
<thead>
<tr>
<th>Date Time</th>
<th>Status</th>
<th>Details &amp; Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>[23-Sep-2005:03:37:08]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:36:55]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:36:43]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:36:31]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:36:18]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:36:02]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:35:21]</td>
<td>GOOD</td>
<td>No action required. All components are working</td>
</tr>
<tr>
<td>[23-Sep-2005:03:34:29]</td>
<td>ERROR</td>
<td><strong>Main test failed</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFO: Testing iPlanet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFO: iPlanet works fine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFO: Testing WebLogic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ERROR: WebLogic server is down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACTION: WebLogic has to be (re)started</td>
</tr>
<tr>
<td>[23-Sep-2005:03:33:41]</td>
<td>ERROR</td>
<td><strong>Main test failed</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFO: Testing iPlanet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>INFO: iPlanet works fine</td>
</tr>
<tr>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>ACTION: WebLogic has to be (re)started</td>
</tr>
</tbody>
</table>
Topics

- Project overview
- Shared-Services model
- Project organization
- Shared-Services funding
- Technical architecture
- Virtual application silos
- Value-added components
- Q&A
Q&A

► Questions

► Contact information

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