Agenda

- Introduction & Background
- SAP Business Objects BI Platform 4.0 implementation
- Security Design
- BI Strategy & Governance Documents
- Current State
- Roadmap
- Questions
NYSE: MPC

Nation’s fourth largest transportation fuels refiner and largest in the Midwest

1.7 million barrels-per-calendar-day capacity

Seven-plant refinery system

Petroleum products marketer in the Midwest, Gulf Coast and Southeast

Marketing network of more than 5,100 Marathon locations and approximately 1,470 Speedways

Owns/operates 84 light product and asphalt terminals

Owns/operates, leases or has ownership interesting 8,300 miles of pipeline

Company roots which reach into the early years of the oil industry
As-is and To-be Solution

**As-Is State**
- Lack of a single Enterprise level BI solution
- User Experience is not optimal in certain cases
- Fragmented architecture
- Lack of consolidated reporting due to multiple BI systems. A lot of manual effort involved
- Lack of enterprise wide BI standards and methodologies
- Inconsistent data definitions
- Performance issues in certain cases
- Lack of self-service reporting and collaborative BI environment

**To-Be State**
- A single Enterprise level BI solution
- Improved user experience
- Business and process driven BI
- A BI environment that is authoritative source of information. Minimized manual effort involved
- Standardized enterprise wide BI methodologies and tools
- Effective data governance
- High performing and reliable BI environment
- Better decision making with collaborative and empowered BI users at all levels
Driving Force – Major SAP Implementations

- Core Financials & Purchase to Pay (FI, CO, PTP)
- Computerized Maintenance Management System (Plant Maintenance)
- Master Data Management
SAP Business Objects BI Platform 4.0 implementation

- Install and configure SAP Business Objects Enterprise (BOE) in 5 environments

- First Decision – July 2011
  - BusinessObjects Enterprise XI 3.1 OR SAP BusinessObjects BI 4.0

- BI 4.0 not GA until end of August 2011

- Allowed us prep time for:
  - Packaging Software
  - Preparing the VMs for installation along with Admin Accounts
  - Procuring the Databases for BOE
Packaging Software

- Packaged for Windows XP and Windows 7

**SAP BusinessObjects Client Tools**
- Business View Manager
- Data Federation Administration Tool
- Information Design Tool
- Query as a Web Service Designer
- Report Conversion Tool
- Translation Management Tool
- Universe Design Tool
- Web Intelligence Rich Client
- Widgets

**Dashboard Design**
- Dashboards

**Analysis**
- Analysis for Microsoft Excel
- Analysis for Microsoft PowerPoint

**Crystal Reports, 2011**
- Crystal Reports for Enterprise
Installation Prerequisites

- Request Windows VM
- Review BOE Installation Guide
- Download required installation media and patches
- Procure SQL Server Database
- Submit request for Admin Account and Access to Windows VM
- Decision on using SSO for access
System Landscape

**Production Landscape (N)**

- DEV (BOD)
- QA (BOQ)
- PRODUCTION (BOP)

**Project Landscape**

- N+1 DEV (BO5)
- N+1 QA (BO6)

**Shared Landscape**

- Training (BOT)
- Sandbox (BOX)
# SAP System Landscape

<table>
<thead>
<tr>
<th>Product</th>
<th>Production Support Landscape (N)</th>
<th>Shared Landscape</th>
<th>Project Lndscp. (N+1)</th>
<th>Project Lndscp. (N+2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dev</td>
<td>QA</td>
<td>Prod</td>
<td>Sandbox</td>
</tr>
<tr>
<td>BI/Bobj 4.0</td>
<td>BOD</td>
<td>BOQ</td>
<td>BOP</td>
<td>BOX</td>
</tr>
<tr>
<td>BW (BPC 10)</td>
<td>BW2</td>
<td>BW3</td>
<td>BWP</td>
<td>BWX/BW1</td>
</tr>
<tr>
<td>BW Java</td>
<td>BJD</td>
<td>BJQ</td>
<td>BJP</td>
<td>BJX</td>
</tr>
<tr>
<td>Master Data</td>
<td>MDD</td>
<td>MDQ</td>
<td>MDP</td>
<td>MDX</td>
</tr>
<tr>
<td>ECC 6.0</td>
<td>EC2</td>
<td>EC3</td>
<td>ECP</td>
<td>ECX/EC1</td>
</tr>
<tr>
<td>PI 7.3.1</td>
<td>XID</td>
<td>XIQ</td>
<td>XIP</td>
<td>XIX</td>
</tr>
<tr>
<td>SRM</td>
<td>SRD</td>
<td>SRQ</td>
<td>SRP</td>
<td>SRX</td>
</tr>
</tbody>
</table>
Function of each environment

- Development (BOD)
  - Accessed by BI content developers and BI Administrators
  - Development purposes only (only environment where changes can be made)
  - Developers perform initial unit testing here before promotion to QA environment
  - Define security for entire BI deployment

- Quality Assurance (BOQ)
  - User Acceptance testing purposes
  - Accessed by QA testing resources and BI Administrators
  - Developers have power user access only in QA environment

- Production (BOP)
  - Live system used by all business users to perform their day-to-day activities
Function of each environment

- Sandbox (BOX)
  - Patching, Upgrades
  - Play and explore

- Training (BOT)
  - Training end users
  - Promotion Management
Function of each environment

- N+1 Development (BO5)
  - Project development environment
  - In line with other project DEV environments
  - Same function as BOD

- N+1 Quality Assurance (BO6)
  - Project user acceptance testing
  - In line with other project QA environments
  - Same function as BOQ
Migration form

Developers send SAP BOBJ Administrators an email with an attached migration form indicating what objects need moved.

<table>
<thead>
<tr>
<th>BOBJ MTP Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPM Request #: 159010</td>
</tr>
<tr>
<td>Call: No</td>
</tr>
<tr>
<td>Developer Name: Shawn Mestelske</td>
</tr>
<tr>
<td>Phone:</td>
</tr>
<tr>
<td>Date Required (If Date Sensitive) --&gt; 5/1/2014</td>
</tr>
<tr>
<td>Time Required (If Time Sensitive) --&gt;</td>
</tr>
<tr>
<td>Does the move need to be coordinated with other implementation schedules:</td>
</tr>
<tr>
<td>Source Environment: QA</td>
</tr>
<tr>
<td>Destination Environment: Production</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source Folder</td>
</tr>
<tr>
<td>Finance -&gt; Operational &amp; General Accounting -&gt; Speedway</td>
</tr>
<tr>
<td>Finance -&gt; Operational &amp; General Accounting -&gt; Speedway</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Universes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the migration involve a new universe or changes to an existing universe?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Universes</th>
<th>Source Folder</th>
<th>Universe Name</th>
<th>Change Type</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the migration involve a new connection or changes to an existing connection?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connections</th>
<th>Source Folder</th>
<th>Connection Name</th>
<th>Change Type</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the migration involve security changes? (If Yes, describe below)</td>
</tr>
</tbody>
</table>
Single Server Environments

- Development (BOD)
- Training (BOT)
- Sandbox (BOX)
- N+1 DEV (BO5)
- N+1 QA (BO6)
Multi Server Environments

- Production (BOP)
- Quality (BOQ)

Built and configured identically
Initial Architecture – Production & Quality Environments

4 servers

- 1 Web Tier
- 2 Platform Tiers
- 1 DB Server/File Server
Request for Additional Hardware on Production & QA

- Separate Intelligence Tier & Processing Tier
  - Offers better performance and User Experience
  - With a dedicated Intelligence Tier, users who are viewing the scheduled instances, will not be impacted by heavy report processing at that particular point.
  - Users will have better experience while navigating through BI Launchpad
  - Positions scaling of processing tiers on as-required basis

- H/W Load Balancing at Web Tier
  - Redundancy and load balancing at web tier with addition of F5 load-balancer in front of the Tomcat Servers
Additional Hardware Request

- **QA Landscape - BOQ**
  - Need 3 New Servers
  - 2 Processing Tiers – 8 vCPU & 64G vRAM
  - 1 Web Tier – 4 vCPU & 16G vRAM
  - Scale vRAM of current platform node MTS5790/91 from 16G to 32G, these will be used as Intelligence Tier
  - Scale current web tier node MTS5792 from 2 vCPU/8G to 4 vCPU/16G
  - Scale current DB tier node MTS5799 from 4 vCPU/16G to 6 vCPU/24G

- **Production Landscape – BOP**
  - Need 3 New Servers
  - 2 Processing Tiers – 8 vCPU & 64G vRAM
  - 1 Web Tier – 4 vCPU & 16G vRAM
  - Scale current platform node MPS5790/91 from 2 vCPU/8G to 4 vCPU/32G, these will be used as Intelligence Tier
  - Scale current web tier node MTS5792 from 2 vCPU/8G to 4 vCPU/16G
  - Scale current DB tier node MTS5799 from 4 vCPU/16G to 6 vCPU/24G
Current Architecture – Production & Quality Environments

7 servers

- 2 Web Tier with an F5 Load Balancer
- 2 Intelligence Tiers
- 2 Processing Tiers
- 1 DB Server/File Server
MPC Environment Info

- Services split between 4 nodes.
# MPC Environment Info

- Record Server Node, BI 4.0 service name, Description, Child services, Properties for each service

<table>
<thead>
<tr>
<th>Server Node Name</th>
<th>BI4.0 Service Name</th>
<th>Description</th>
<th>Child Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tomcat Web Application Server</td>
<td>Tomcat 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tomcat Web Application Server</td>
<td>Tomcat 6</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>AdaptiveJobServer</td>
<td>Adaptive Job Server</td>
<td>This Job Service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>AdaptiveProcessingServer</td>
<td>Adaptive Processing Server</td>
<td>This APS service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>APS01</td>
<td>APS for Monitoring</td>
<td>Monitoring service, Trace log service</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>APS02</td>
<td>APS for Platform Search</td>
<td>Platform Search Service, Trace log service</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>APS04</td>
<td>APS for STS and Client Auditing</td>
<td>Security Token Service, Client Auditing Proxy Service, Trace log Service</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>CentralManagementServer</td>
<td>CMS</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>ConnectionServer</td>
<td>Connection Server (64-bit)</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>ConnectionServer32</td>
<td>Connection Server (32-bit)</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>CrystalReports2011ProcessingServer</td>
<td>Crystal Reports 2011 Processing Server</td>
<td>This service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>CrystalReports2011ReportApplication</td>
<td>Crystal Reports 2011 Report Application Server</td>
<td>This service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>CrystalReportsCacheServer</td>
<td>Crystal Reports Cache Server</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>CrystalReportsProcessingServer</td>
<td>Crystal Reports Processing Server</td>
<td>This service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>DashboardDesignCacheServer</td>
<td>Dashboard Design Cache Server</td>
<td></td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>DashboardDesignProcessingServer</td>
<td>Dashboard Design Processing Server</td>
<td>This service must be disabled and stopped on CMS server nodes.</td>
</tr>
<tr>
<td>SIA_BI4_BOP_PT00</td>
<td>EventServer</td>
<td>Event Server</td>
<td></td>
</tr>
</tbody>
</table>
**BI 4.0 Architecture – Web Tiers**

- Receives client requests and interfaces with BOE intelligence and processing tiers to return data to the users’ web browsers
- Allows you to provide BI access to large groups of users through intranet
- BI LaunchPad
- CMC
- Tomcat Servers with F5 Load Balancer
**BI 4.0 Architecture – Intelligence Tiers**

- Manages the overall SAP BusinessObjects Enterprise system.
- Maintains all the information about deployed BI content.
- Manages and applies security information.
- Sends request to the appropriate servers.
- Captures and writes audit information.
- Stores reports and report instances.

**Management Services**
- SIA
- CMS
- Event Server

**Storage Services**
- Input FRS
- Output FRS

**Cache Services**
- CR Cache
- Deski Cache
BI 4.0 Architecture – Processing Tiers

- Accesses the data tier
- Generates reports for clients
- Only tier that directly interacts with the reporting database
BOBJ Server Details

- BOBJ Server
- Logical Name
- IP Address
- BOBJ Admin User & Password
- Cluster Key
- CMS Database Server
- CMS Database Name
- CMS DB User & Password
- Audit Database Name
- Audit DB User & Password
- Processors
- Memory
- File Server
- File Share Location
- SMTP Server
- App Server
- Message Server
- System ID
- Logon Group
- Enterprise User & Password
- AD Service Account & Password
- AD Admin Account & Password
- RFC Admin Account & Password
- BI LaunchPad URL
- CMC URL
- Webservice URL
Security Design

- SAP BI security will provide the end users authorized access to the reporting environment.
  - Defines what users can see and what they can do within the environment
  - Includes: authentication and authorization to the required BI reporting content
  - Managed at 2 levels
    1. Business Objects
    2. Data Source Level (e.g. SAP BW)

- Single Sign On (SSO) into BI LaunchPad using Windows AD credentials

- Data Level authorization provides users access to data based on their user profile (row-level security)
  - Users only being able to see data related to the cost center they belong to
  - For SAP BW data source, all data level authorizations defined in SAP BW using analysis authorizations
  - For non-SAP data source such as Oracle or SQL, data level authorizations are defined in the universe level using security profiles (not currently using)
SAP Business Objects Security

- Application and content level security managed in CMC
- Application level includes WEBI, BI LaunchPad, Universe Designer, etc.
- Content Level refers to reports, dashboards, universes residing in Business Objects
- Windows AD groups are mapped to Business Objects enterprise groups
SAP BW Security

- SAP BW analysis authorizations will be set up in SAP BW via use of roles (i.e. Finance Power User)
- Provides users access to the required BW data in the BW system
Steps to Alias the Windows AD user ID to the SAP BW ID

1. Enter all the Windows AD Groups in CMC under Windows Active Directory Authentication
Steps to Alias the Windows AD user ID to the SAP BW ID

2. Set up the SAP entitlement system in CMC

![Entitlement Systems configuration panel](image)
Steps to Alias the Windows AD user ID to the SAP BW ID

3. Select the SAP BW roles used to import users

![Role Import](image)

User with this role in SAP BW system will be imported
Steps to Alias the Windows AD user ID to the SAP BW ID

4. Run Custom SDK program to Alias SAP and AD Users
   - Program runs each morning at 5:30am
   - Searches in CMS for all accounts which have only SAP alias without Win AD alias
   - For each of the accounts identified, search in Win AD and retrieve the SAP ID UID
   - Re-map the SAP alias to the Win AD alias account
   - Log when successful matches are found
   - Log when no match is found

   Alias can be assigned manually if needed
BI Strategy & Governance Documents
On-boarding Processes and Procedures

- Describes processes and procedures for on-boarding a new line of business BI solution into the MPC Enterprise BI platform for reporting and BI services
  - Assessment (feasibility, expected benefits, estimated costs)
    - Questionnaire: Deployment date, Reporting capabilities required, number of users, etc.
  - Agreement (technical review, high level design phase)
  - Development (development and build tasks)
  - Testing (Planning, Execution, Documentation, Sign-Off)
  - Deployment (moved to production)
BI On-boarding Process Overview – Assessment Stage

LOB Team

- Decide to investigate using BI shared service for their BI needs
  - Gather information and submit completed questionnaire to BI core team

Core BI Team

- Review information and work with LOB team to clarify objectives and requirements
- Perform preliminary sizing analysis
- Can existing capacity support LOB requirements?
  - Yes
  - Prepare BI service proposal and cost estimate for LOB
  - Review proposal and cost estimates with LOB team
  - Joint project team formed
  - Onboarding stops

- No
- Determine additional infrastructure needs and estimate costs

Tech/Basis Team

- Service Proposal
  - Cost Estimates
  - Agreement (Design)
BI On-boarding Process Overview – Agreement Stage

<table>
<thead>
<tr>
<th>LOB Team</th>
<th>Core BI Team</th>
<th>BI Steering Committee</th>
</tr>
</thead>
</table>
| Assessment Stage | Review technical details of proposed LOB solution | Note 1: Technical review
(a) Review in detail functional/non-functional requirements for solution
(b) Identify any missing/additional requirements
(c) Confirm service level (SLA) requirements |
| | Develop high-level design for LOB Solution and integrated components | Note 2: High-level design
(a) Architecture of integrated LOB solution incl. front-end, BI platform, other components
(b) Security design
(c) Other integration methods/components |
| | Any uncertainty need to be proven | |
| | Perform proof-of-concept(s) to demo business value or assess technical feasibility | |
| | Prepare design specs for LOB Solution and integrated components | |
| | Design Spec | |
| | Any material changes to BI service requirements | |
| | Update BI service proposal and cost estimates based on design spec | |
| | Prepare BI service agreement and proposed deployment schedule | |
| | Review service agreement and proposed schedule with LOB team (engage as necessary) | |
| | Onboarding steps | Go / No-Go |
| | Development | |
| | | |
BOBJ Naming Standards

- **Folder Naming Standards**
  - From general to specific areas
  - Use as a method to segregate content due to security requirements

- **Report Naming Standards**
  - Convey the business meaning of the content
  - Descriptive, full Words, don’t assume someone will understand
  - No underscores, no numbers at the beginning of report names, no technical information

- **Universe Naming Standards**
  - User friendly for power users doing ad hoc reporting
  - `<PROCESS AREA> <SUBJECT AREA> <SUB AREA>`
    - Examples: HR Employee Data, Finance General Ledger Account Balances

- **Connection** (CONN_SYSTEM_SUBJECT_AREA_RELATIONAL/OLAP)
  - Examples: CONN_SQLPIPELINE_REL, CONN_BW_OLAP
Universe Design Technical Specifications

Contents
- Project Identification
- Version Control

- Introduction
- Universe Requirements
- Universe Definition
- Connections
- Data Foundation
- Universe Conceptual Model
- Tables/Views Included
- Alias Tables (If Applicable)
- Derived Tables (If Applicable)
- Universe Contexts
- Table J oin s
- Class Structure (folders to group the objects)
- Object Definition (fields to report on)
- Prompts (Parameters)
- List of Values (LOV)
- Universe Hierarchies (if applicable)
- Security Profiles – (Only if Applicable)
- Data Security Profile – Connections
- Data Security Profile – Rows (Row Level Security)
- Business Security Profiles

Class Structure (folders to group the objects)

<table>
<thead>
<tr>
<th>Class Name</th>
<th>Description</th>
</tr>
</thead>
</table>

Object Definition (fields to report on)

<table>
<thead>
<tr>
<th>Object Name</th>
<th>Class Path</th>
<th>Qualification (dimension/measure/detail/Filter)</th>
<th>Definition (include aggregate function for measures)</th>
</tr>
</thead>
</table>
Web Intelligence Technical Specifications

1. Project Identification
2. Version Control
3. Introduction
4. Queries
   4.1. Query Properties
   4.2. Result Objects
   4.3. Query Filters
   4.4. Multiple Queries
5. Document Summary
6. Report Overview
   6.1. Report Standards
   6.2. Conditional Formatting Rules
   6.3. Report Tabs
   6.3.1. Sections
   6.3.2. Tables
   6.4. Breaks
   6.5. Variables
   6.6. Free Standing Cells
   6.7. Filters
   6.8. Input Controls
   6.9. Charts

4. Queries

<<Repeat these sections for each query>>

4.1. Query Properties

<table>
<thead>
<tr>
<th>Query Name:</th>
<th>Data Source Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Source Type {Universe, Bex, Analysis View}:</td>
<td>Max rows retrieved</td>
</tr>
<tr>
<td>Max retrieval time (s)</td>
<td>Retrieve duplicate rows</td>
</tr>
<tr>
<td>Retrieve empty rows</td>
<td>Enable Query Stripping {OLAP Sources only}:</td>
</tr>
<tr>
<td>Reset Contexts on refresh</td>
<td></td>
</tr>
</tbody>
</table>

4.2. Result Objects

<table>
<thead>
<tr>
<th>Result Object</th>
<th>Object Type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**BI 4.0 Web Intelligence**

**Report Formatting Checklist**

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Page Setup</strong></td>
<td>If the Page setup as landscape, is A4 the Page setup? (Where Applicable)</td>
</tr>
<tr>
<td></td>
<td>[Screen shot of page setup options]</td>
</tr>
<tr>
<td></td>
<td>If the Page setup as portraits, is A4 the page setup? (Where Applicable)</td>
</tr>
<tr>
<td></td>
<td>[Screen shot of page setup options]</td>
</tr>
<tr>
<td><strong>Page Margins</strong></td>
<td>Do the page margins follow the same length as the picture below?</td>
</tr>
<tr>
<td></td>
<td>[Screen shot of margins options]</td>
</tr>
<tr>
<td><strong>Fonts</strong></td>
<td>Is Arial used as the font for the report?</td>
</tr>
<tr>
<td></td>
<td>Is the text legible (fonts no smaller than 8pt)?</td>
</tr>
<tr>
<td><strong>Body of the Report</strong></td>
<td>Table/Crosstabs Headers/Footer – 9 Bold</td>
</tr>
<tr>
<td></td>
<td>Table/Crosstabs Content - 9</td>
</tr>
</tbody>
</table>

**Header**

- When appropriate is the user response(s) (=UserResponse) echoed in the report title or report body?
- User responses that are included clearly labeled with enough cell width to show lengthy texts? (e.g., Company Code, Purchasing Org, Fiscal Yr, etc)
- Is Header Height 2 cm?

**Report Body**

- Is the report block left justified?
- Are the columns of data arranged in logical order (we read left to right)?
- Has the data been purged from the report (Guideline: If the reports returns lot of data > 20 pages or 5000 rows please purge the report before saving it back to the repository)?
- Are columns of Number fields which can be aggregated right aligned?
- Are columns of Code/ID fields center aligned?
- Are columns of Date fields center aligned?
- Are columns of Text Fields like Name, Description left aligned?
- If a legend or annotation is used, is it understandable? In an appropriate font?
- For data that spans multiple pages, are section breaks set to keep data and titles together when possible?
## Analysis Workspace Technical Specifications

<table>
<thead>
<tr>
<th>Document RICEFW Id</th>
<th>Analysis Workspace Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Datasource Type (Bex Query/Query View/InfoProvider)</th>
<th>Bex Query</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Query Technical Name</th>
<th>ZQ_ZPUR_M01_Q0008</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Query Description (Data Source Name)</th>
<th>Purchase Order by Branch Plant Category</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Info Provider Technical Name</th>
<th>ZPUR_M01</th>
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<table>
<thead>
<tr>
<th>Info Provider Description</th>
<th>MPC Pre-Consolidated Financial GL</th>
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<table>
<thead>
<tr>
<th>Data Load Frequency (daily, monthly, etc.)</th>
<th>Daily</th>
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</table>

### Analysis Properties (Repeat these for each Analysis in the workspace)

<table>
<thead>
<tr>
<th>Analysis Name</th>
<th>Total Company Income Statement</th>
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<table>
<thead>
<tr>
<th>Analysis Description</th>
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<table>
<thead>
<tr>
<th>Visualization</th>
<th>Crosstab</th>
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<table>
<thead>
<tr>
<th>Analysis Type</th>
<th>Master</th>
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</table>

<table>
<thead>
<tr>
<th>Sheet/Tab Name</th>
<th>Total Company Income Statement</th>
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<table>
<thead>
<tr>
<th>Column Width</th>
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</table>

<table>
<thead>
<tr>
<th>Row Height</th>
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<table>
<thead>
<tr>
<th>Wrap Text</th>
<th>Y</th>
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</table>

<table>
<thead>
<tr>
<th>Show Formatted Cell Values</th>
<th>Y</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Display Null Cells as</th>
<th>&lt;blank&gt;</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Rows</th>
<th>Income statement; Company</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Columns</th>
<th>Month Vs. Comparison Month Structure</th>
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<table>
<thead>
<tr>
<th>Background Filters</th>
<th>Currency Type: 30; Product Group: 11010100 Gasoline; Flow Movement Type: ClosingFlow</th>
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<table>
<thead>
<tr>
<th>Analysis view (if published)</th>
<th>Total Company Analysis view</th>
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</table>
SAP Business Objects Architecture Design Document

Describes the Architecture design for deployment of SAP BusinessObjects BI 4.0

- MPC Technical Standards
- BI 4.0 Architecture
- Recommendations for MPC
  - Distributed Architecture, High Availability, CMS Clustering, Redundant FRS
- Server Architecture
SAP BI Development Standards and Guidelines

- Best Practices for Reporting on BW data
  - BEx Queries as recommended data sources
  - Best Practices on BEx Query Design
  - General Reporting Guidelines
  - Scheduling vs. On-Demand Reporting
  - Large List of Values (LOV) for Prompting
  - Using Report Linking

- Dashboards with SAP BW
  - Leverage BICS connectivity
  - Only pull in the data that is absolutely needed for the dashboard
  - Might need specific BEx queries for fast response times
  - Push aggregation down to BW
<table>
<thead>
<tr>
<th>Objects</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universes- Single Source</td>
<td>8</td>
</tr>
<tr>
<td>Universes - Multi-Source</td>
<td>2</td>
</tr>
<tr>
<td>Webi Reports using SAP data</td>
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<tr>
<td>Webi Reports using non-SAP data</td>
<td>67</td>
</tr>
<tr>
<td>Analysis for Excel Workbooks</td>
<td>25</td>
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<tr>
<td>Analysis for OLAP Workspaces</td>
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<tr>
<td>Dashboards</td>
<td>1</td>
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<tr>
<td>Users</td>
<td>6,973</td>
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</table>
SAP Business Objects Roadmap

- Upgrade from SAP BusinessObjects BI 4.0 to SAP Business Objects BI 4.1
  - with 7 environments this is a huge task

- Enable User Adoption
  - More training for end users
  - Identify the Super users from each area and empower them

- Move towards Analytical Reporting
  - Majority of the reporting thus far is Operational Reporting

- Mobile Enablement

- Need for Speed – Looking at implementing BW on HANA