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Challenges in upscaling a Local Application to a Global Platform - a case study

EA Practitioner's Conference, San Diego

January 29 – 31, 2007

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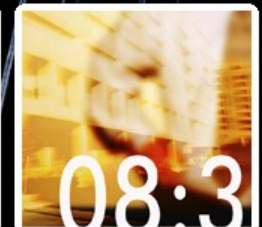
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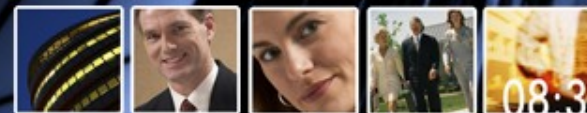


Local Application

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Advanced Software for Business Solutions



Local Application

- Developed for a Multinational Insurance Company
- Provides
 - Insurance Claims Management
 - Facilitates Communication between Insurance Companies and Customers
 - Policy and Claim Capture
 - Collaboration Workflow and Process Management
 - Email / Fax Alerts and Inputs
 - Supports Multiple Insurance Products

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Technologies

- J2EE Platform based on EJB 1.1 Model:
 - Home-grown MVC Framework
 - Data Persistence through BMP Model
 - Dynamic JSP
- Multiple Platforms
 - BEA Weblogic Application Server
 - MS IIS Web Server (Win2K)
 - SMTP & Lotus Domino e-mail & Fax Servers
 - Lotus Notes Client Automation for e-mail & Fax
 - FOP libraries (Open Source) for Dynamic PDF Generation
 - MS SQL Server Database

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Upscaling to Global Platform

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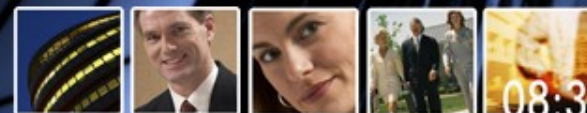
Advanced Software for Business Solutions



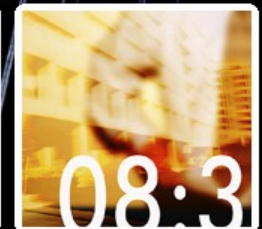
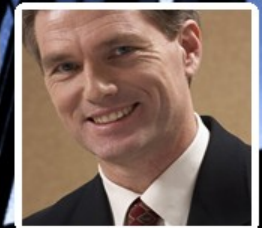
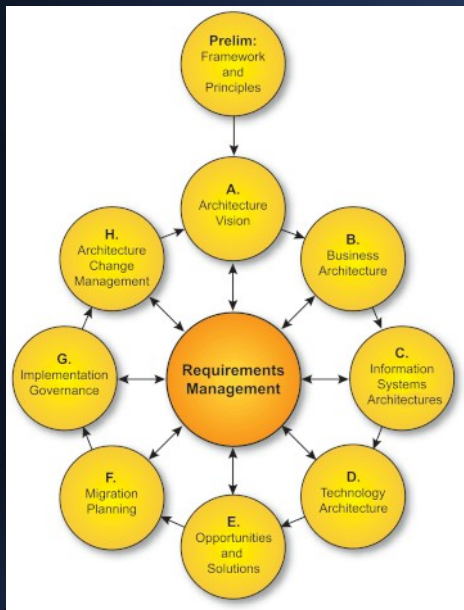
Business Needs

- A Global platform covering the activities worldwide:
 - USA & Canada
 - Europe & Middle East
 - Australia and Eastern Asia
 - ... and soon South America and Africa

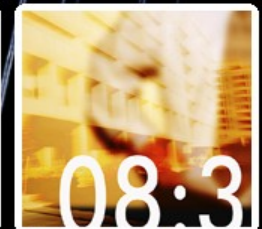
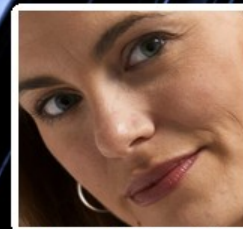
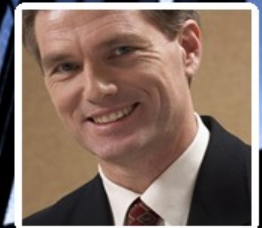
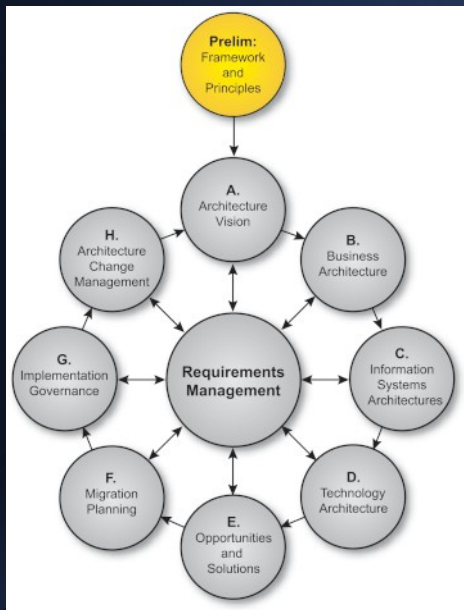
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Mapping to TOGAF Framework



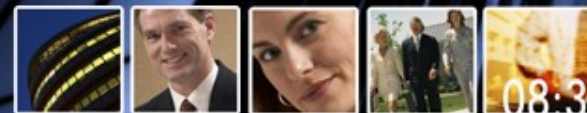
Framework and Principles



Business Goals and Drivers

- Bring Local Application to Global Platform
- Integrate Several Corporate Services
- Simplify Workflow
- Create Common Application Framework
- Reuse Business Entities
- Optimize Business Processes

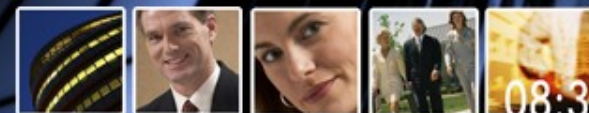
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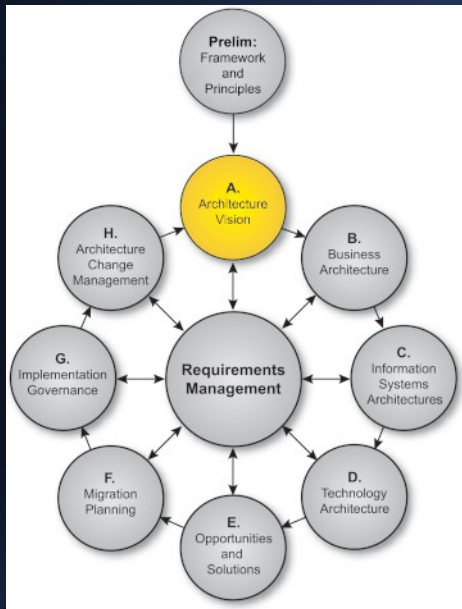
Architecture Principles

- Global Platform Architecture Principles:
 - Centralized Database for Business Entities
 - Use Service Oriented Architecture
 - Unify Front-end (Portal, SSO)

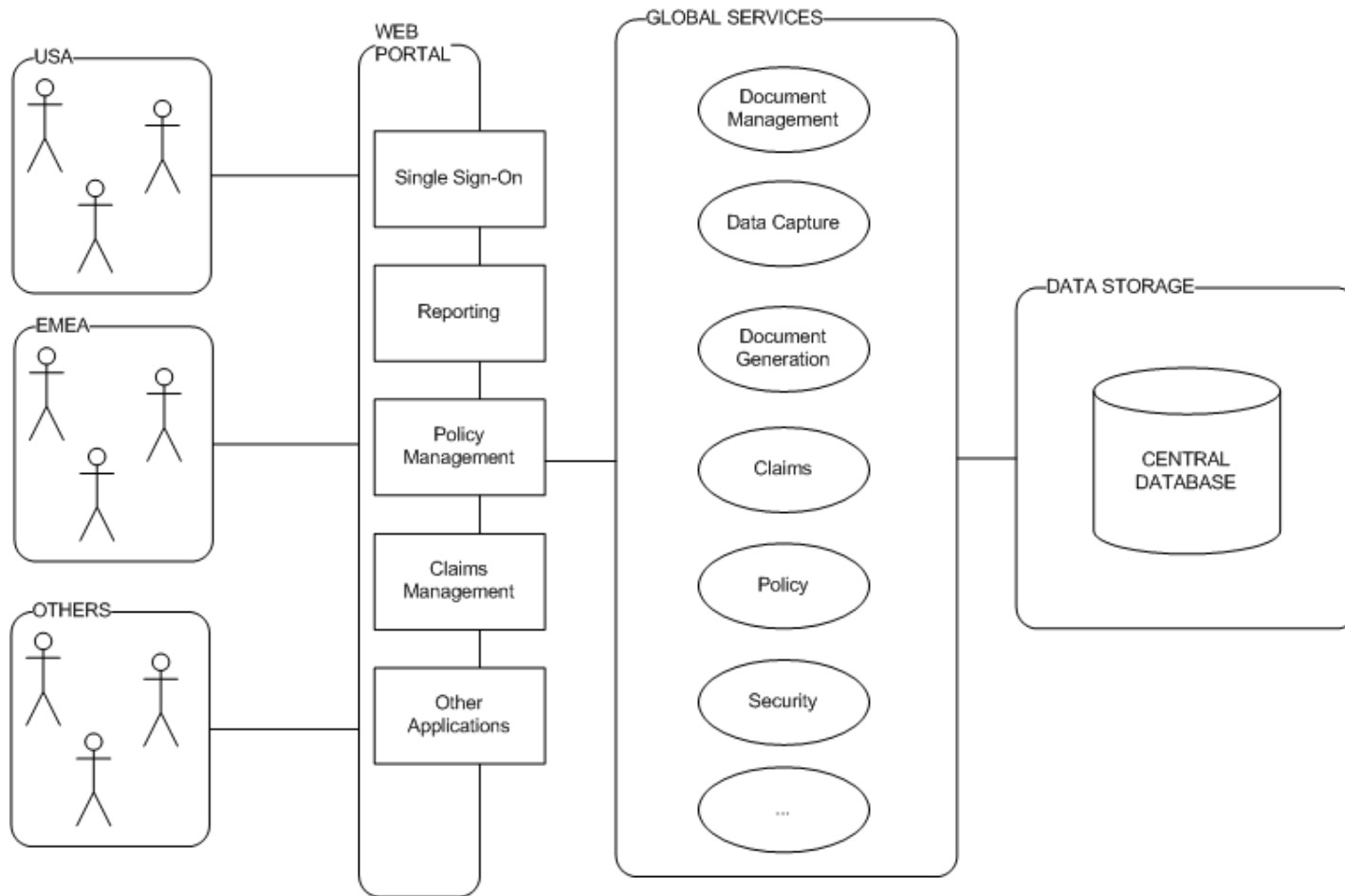
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Architecture Vision



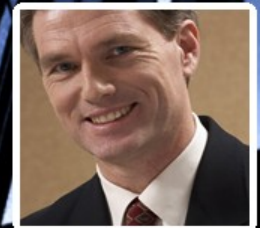
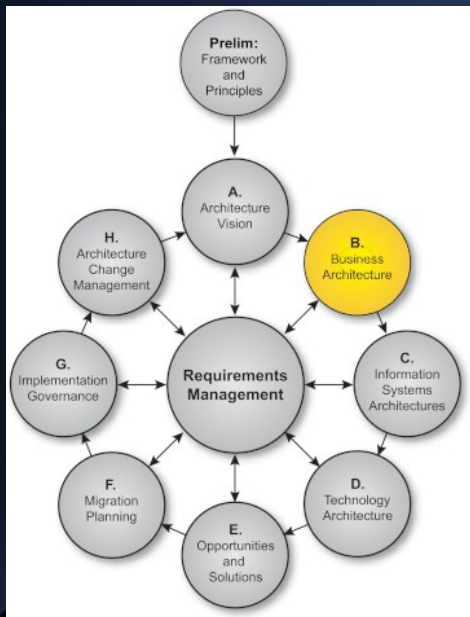
High Level Architecture View



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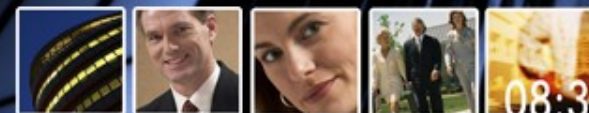
Business Architecture



Business Architecture

- Organization Structure
- Business Functions
- Business Processes
- Business Goals and Objectives
 - Unify Business Data
 - Unify Deliverables
 - Reuse Information and Media
 - Facilitate Corporate Reporting and Cross-country Processes

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Gap Analysis

Target Architecture → Current Architecture ↓	Data Access based on Service Layer	Clusterized supporting High availability	Front-end Integrated with corporate Framework	Business logic driven by standard BPEL Workflow	Eliminated services ↓
Data Access based on direct Database querying	Potential Match				Remove direct DAL once everything is Service Client
Clusterized supporting High availability		Included			No Action
Ad-hoc MVC & JSP Generation					To be replaced
Ad-hoc Alert system					Gap in Target Architecture
New →	Modify Current DAL to incorporate Service Client	No Action	Gap to be procured	Gap to be procured	

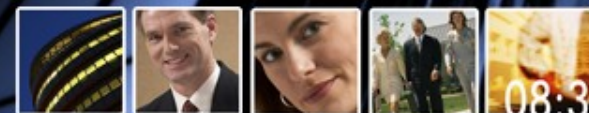
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Potential Sources of Gaps

- People gaps
 - Training Required
- Process gaps
 - Forms Definition & Workflow Needs Improvements
- Information gaps
 - New Information Must be Captured
 - Processes and Sources Must be Validated
- Facilities gaps
 - Several New Facilities Required

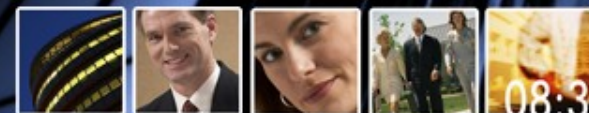
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Gap Analysis Outcome

- Redesign Front-end and Middleware
- Use Web Services Interface for Database Access
- Improve Scalability and Availability
- Improve Alerts & Notification System

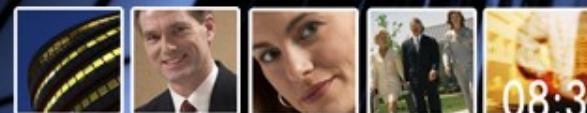
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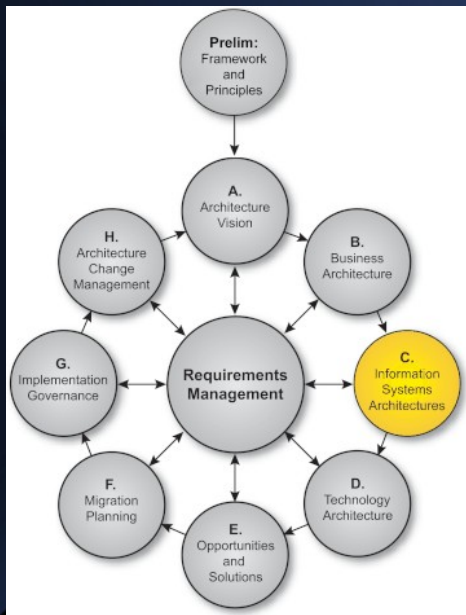
Technical Requirements

- SOA approach in Integration
- Use BPEL for defining Business Processes
- Re-engineer Solution to Match Target Platform
- Re-design System
- Provide Unified Front-end by Creating a Portal

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Information System Architecture



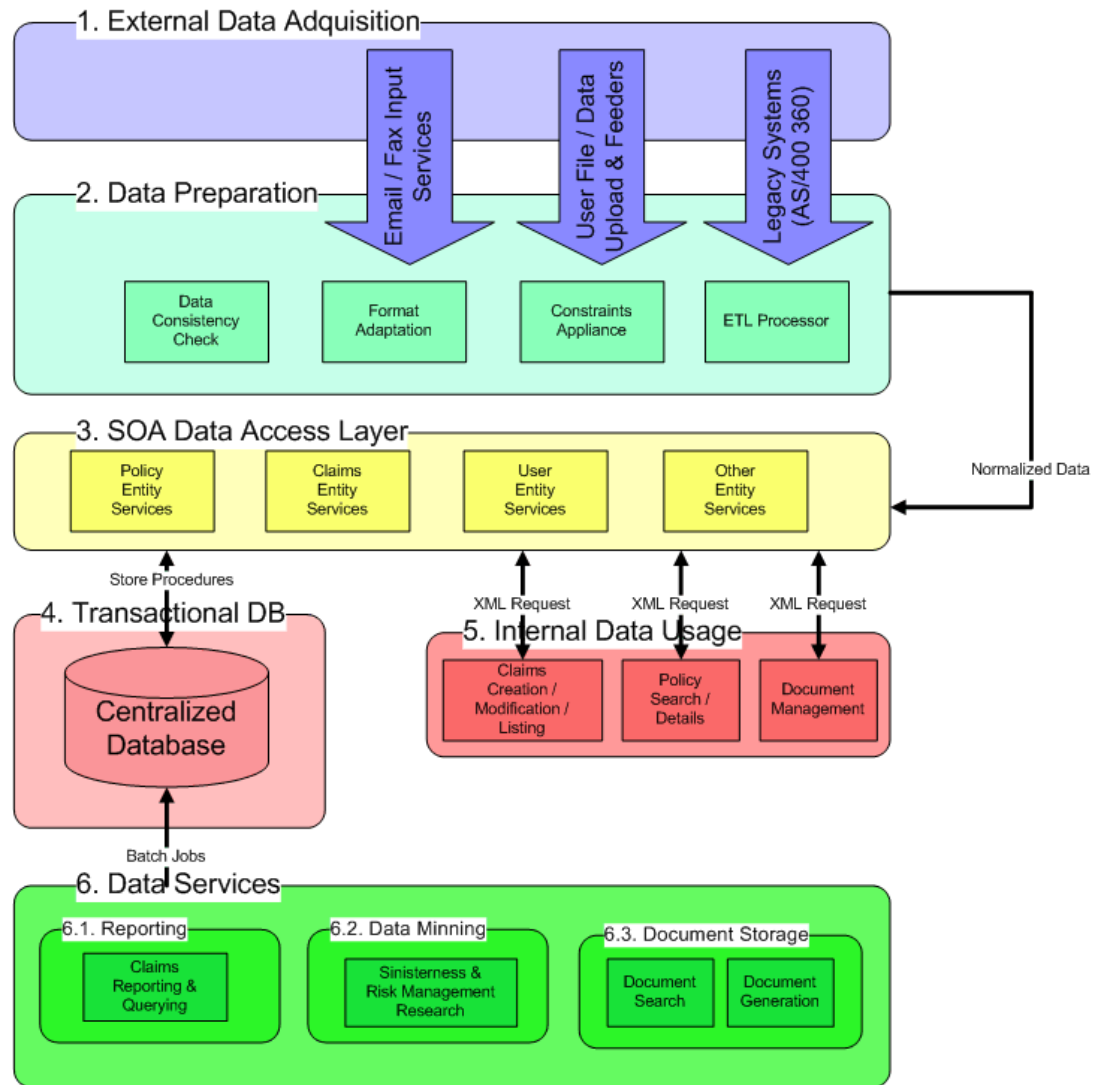
Data Architecture and Views

- Data Principles
- Data Management Process Model
- Data Entity / Business Function Matrix
- Data Interoperability Requirements
- Data Lifecycle View
 - Never delete any data
 - Archive data for 10 years or more: policy is not fully defined
- Data Security View
- Data Management View

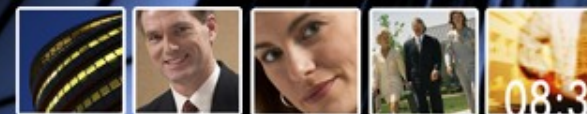
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Data Architecture

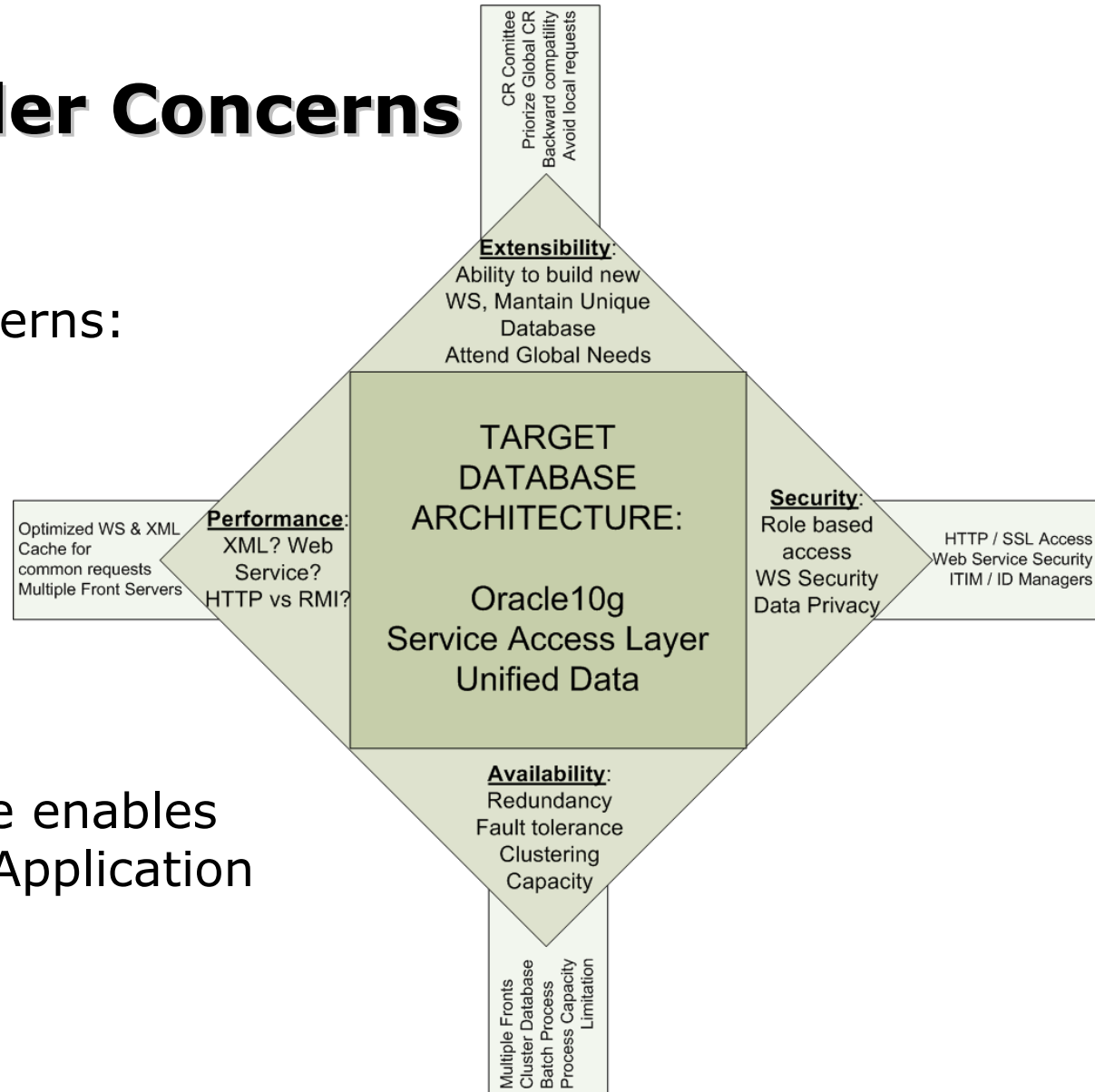


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Key Stakeholder Concerns

- Addressing key stakeholder concerns:



- Data Architecture enables the Services for Application Architecture

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Gap Analysis Results

- Security:
 - Services Require Authentication
- Integrity:
 - DAL should Implement Validation Mechanism
- Performance:
 - Caching
- Extensibility:
 - Creating Common Services
- Availability:
 - Deploying on Cluster Environment
 - Providing Fault Tolerance

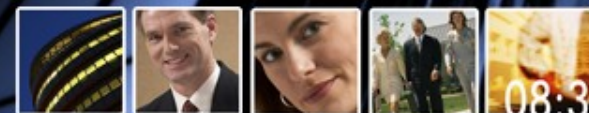
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Impact Analysis

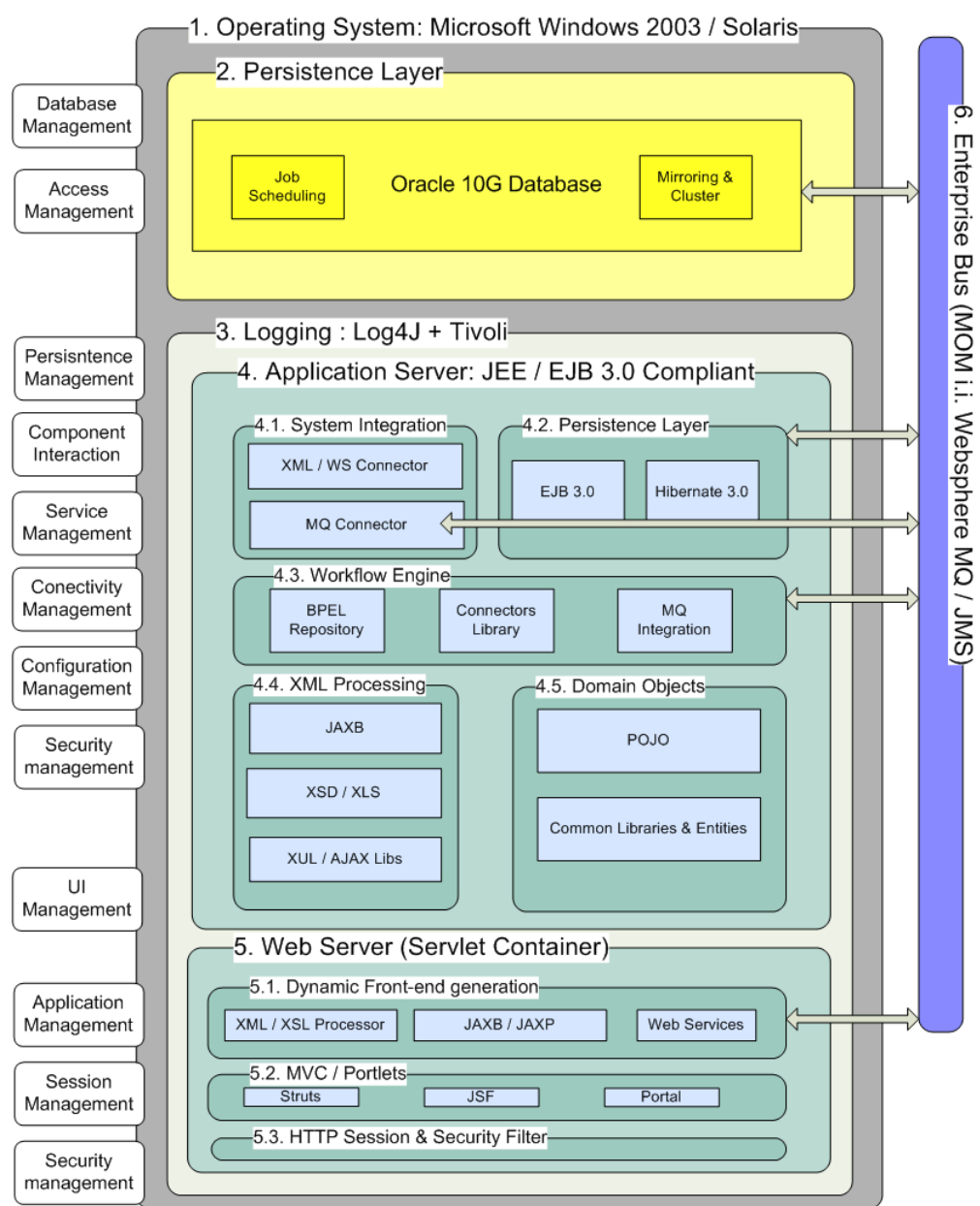
- Business Architecture:
 - All local functionality should be unified into the Global system
- Application Architecture:
 - Security requirements implies application changes and improvements
- Technology Architecture:
 - DAL technology changes from Dynamic SQL to SOA Approach using Web Services

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Applications Architecture

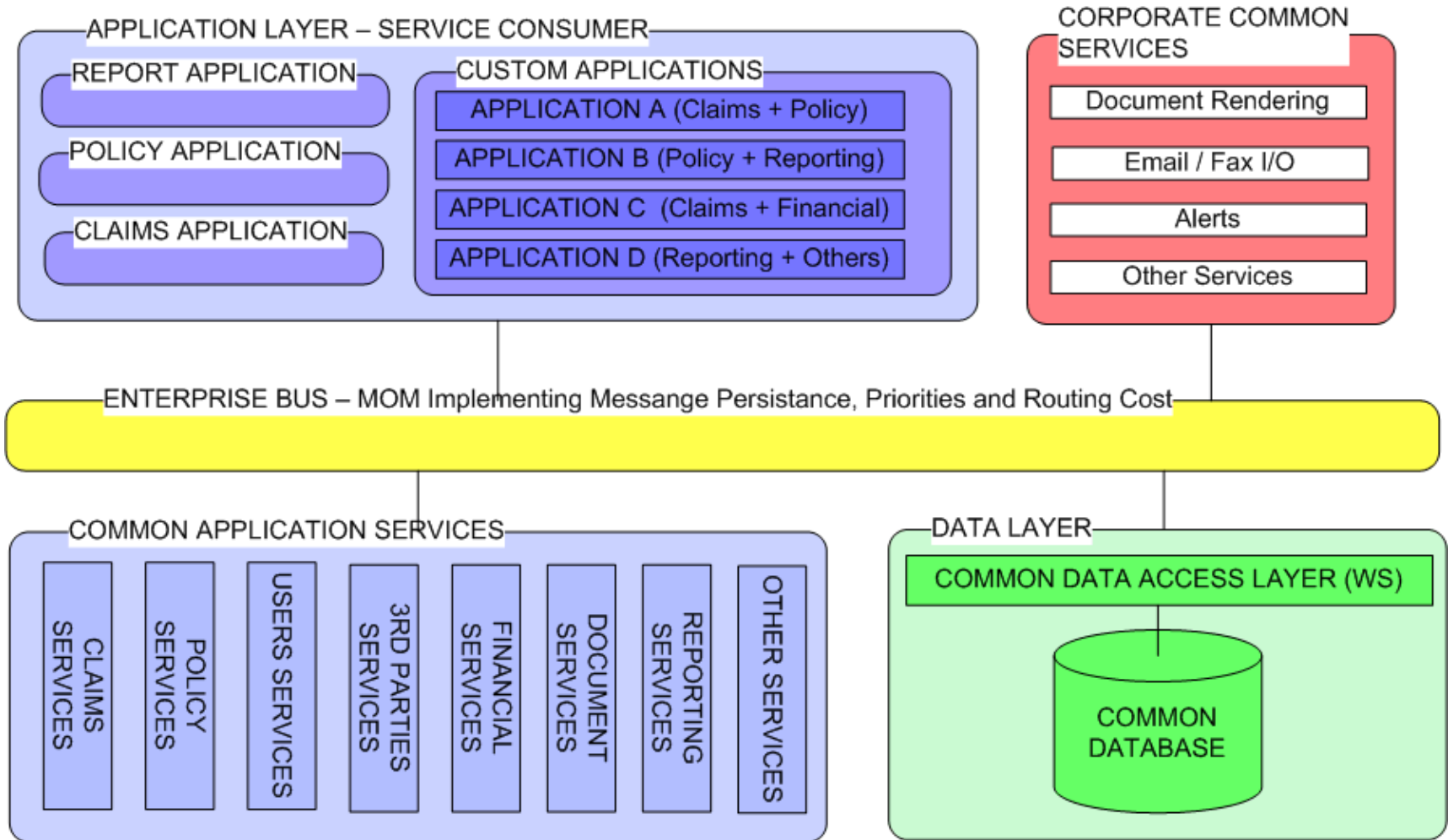
- Target Applications Architecture



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Applications Interoperability Requirements



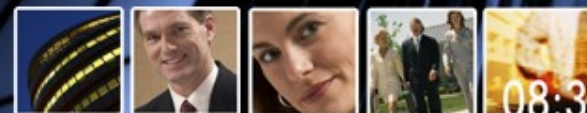
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Views

- Common Applications Services View
- Applications / Information View
- Applications / User Location View

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Gap Analysis Results

- New Security Framework is required
- Get Rid of Current Workflow Management
- Use BPEL
- Create Enterprise Service Bus

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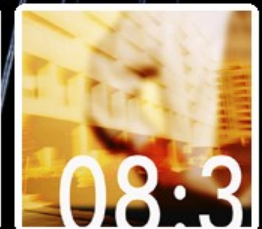
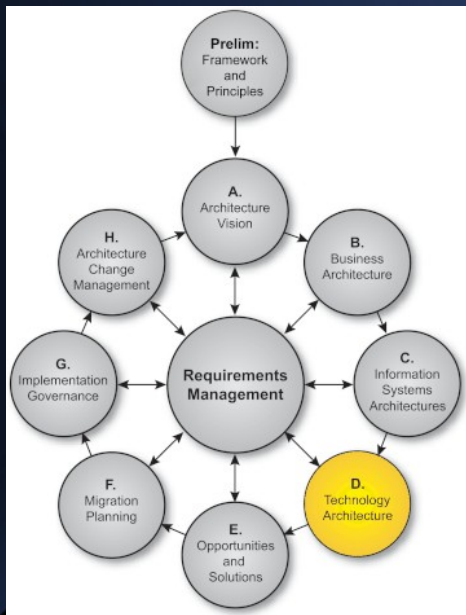
Impact Analysis

- Business Architecture:
 - Usage of BPEL Choreographer impacts Few Workflows
- Data Architecture:
 - No Major Impact
- Technology Architecture:
 - Mandated use of some Commercial Software impacts Use of Technology

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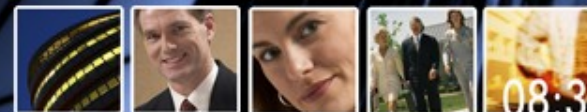
Technology Architecture



Views

- Networked Computing/Hardware
- Process
- Cost
- Standards

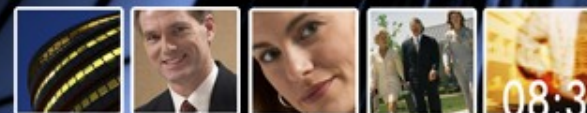
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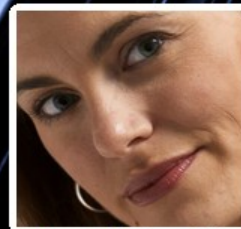
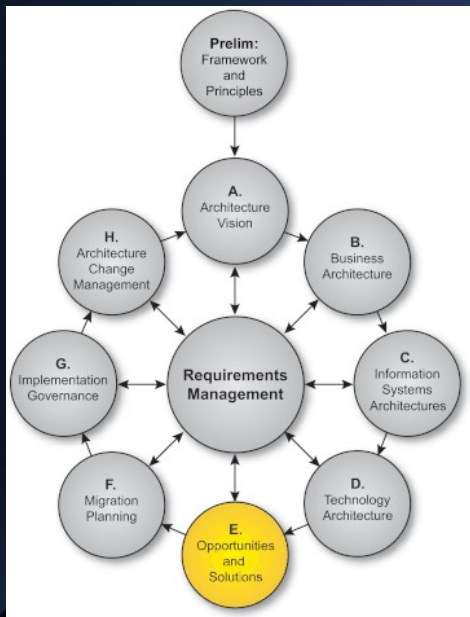
Gap analysis

- Some Services are still to be Integrated in Claims System
- New Functionalities
- Additional demand on Performance due to the introduction of Common Services
- Extensibility to be tested

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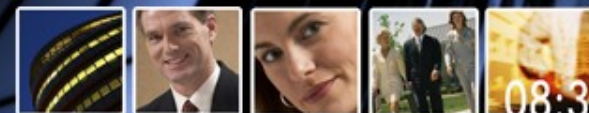
Opportunities and Solutions



Opportunities

- Share Business Information between Countries
- Global Platform allows to create tons of Reports, Analysis, Statistics and Extract information from Business Activities:
 - New Information Services
 - Improve Business Processes
 - B2B Opportunities

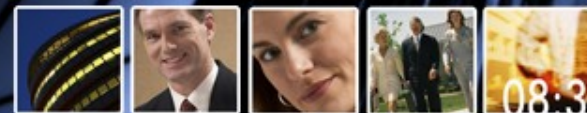
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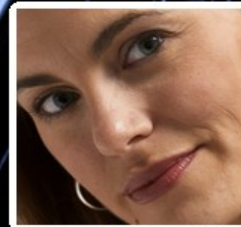
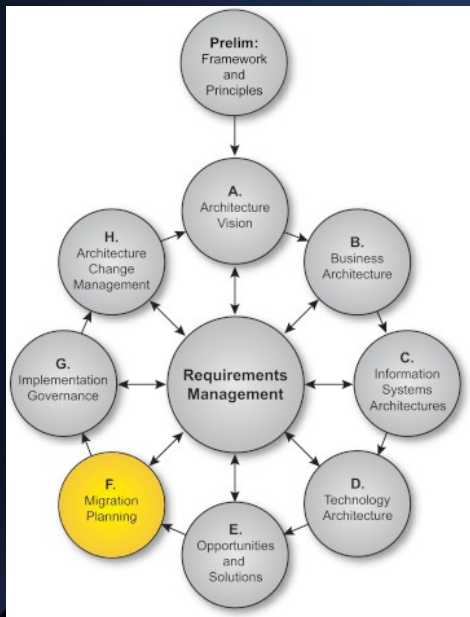
Impact Analysis

- Impacts Several Global Operations
 - Corporate and Local Services
 - Authentication Services
 - Document & Data Storage
- Requires Migration from Local Version
 - Local Apps. replaced by Global Apps.
 - Local Apps. using Global Services
- Data Migration Impacts all Legacy Systems

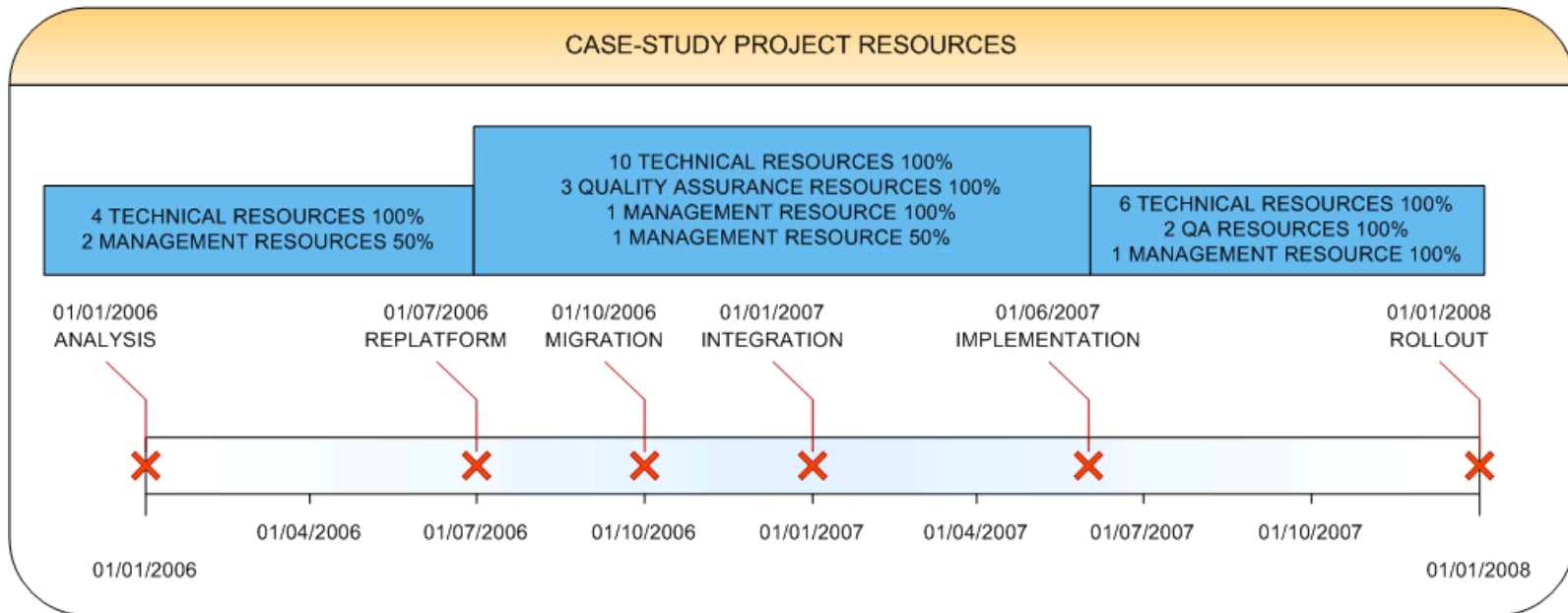
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Migration Planning



Resource Requirements and Availability



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Cost/Benefit Assessment

- ROI – 5 years for Global Infrastructure
- ROI – 2 years for Each Country

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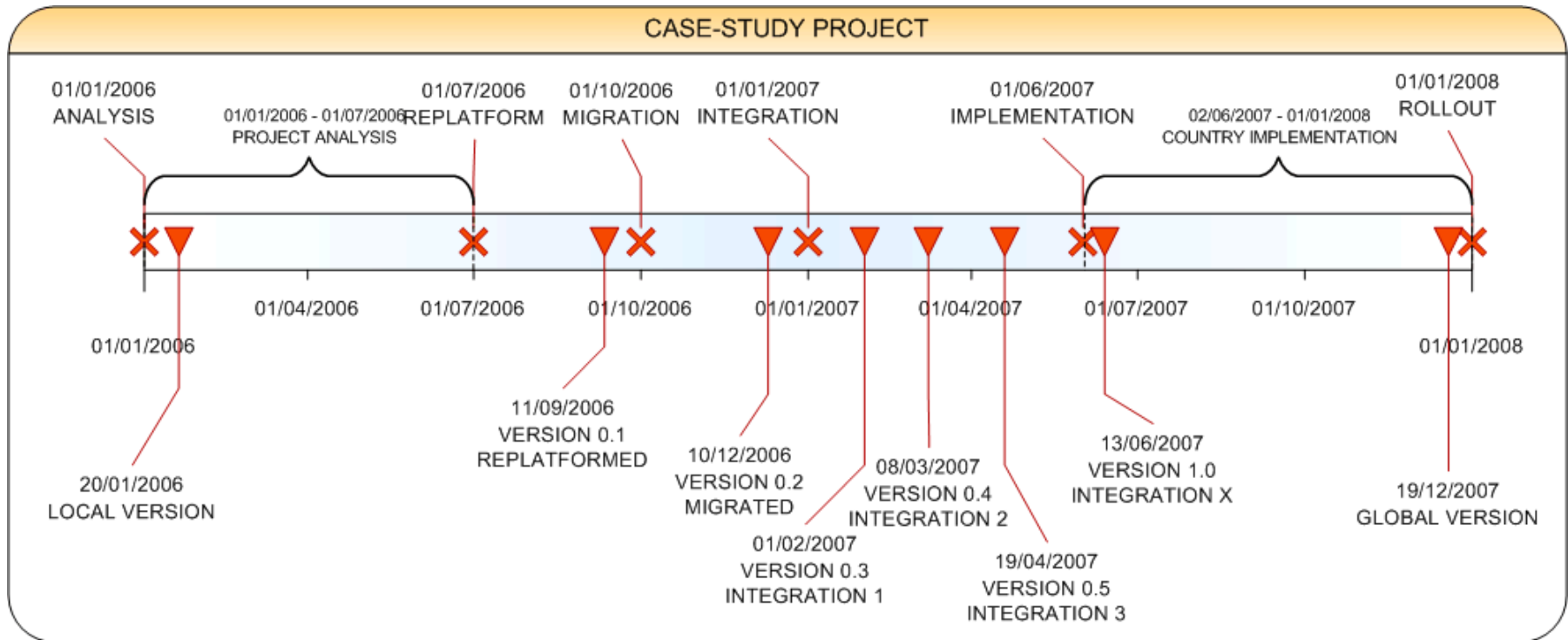
Risk Assessment

- Feasibility and Efficiency of Global Platform:
 - Late Deliveries
 - Unsatisfied Performance
- Deployment in Stages to Minimize Risk

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Implementation Roadmap

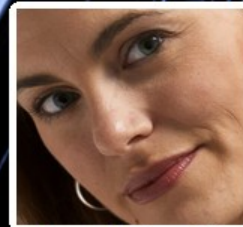


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Road Ahead ...



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Q & A

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