

RLP Technologies

JBoss innovation

RLP Technologies: SOA Implementation Innovation Track
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www.rlp.com

Overview

1. Who We Are
2. Project Background
3. Solution Design
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6. The JBoss Difference

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R.L. Polk & Company

POLK WORLDWIDE

Global Operations

- ▣ R.L. Polk & Company is a global company based in Southfield, MI with 1,300 employees and offices in 16 countries.
- ▣ Polk is the gold standard for automotive intelligence
 - ◆ What's selling, Who's Buying, and How to reach them
- ▣ RLP Technologies is a wholly owned subsidiary of R.L. Polk & Co.
- ▣ RLP Technologies develops and sells software solutions to revolutionize the way data is collected, standardized, enhanced and compiled for use in analytical and operational applications.

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Polk's Data Assets

▣ Polk manages a complex set of online vehicle data to support the automotive industry

- ◆ ~2.6 Billion Transactions
- ◆ ~500 Million Unique Vehicles
- ◆ ~250 Million Unique Households

- Titles
- Registrations
- Sales
- Passenger
- Commercial
- Personal
- Firms
- Financial Institutions
- Vehicle Manufacturers

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Collect Data From Over 240 Sources

▣ Polk processes ~ 600M new transactions including vehicle registrations, title, sales and financial transactions annually from 240 data sources

Primary Data Sources

- Automobile Manufacturers
- Finance Companies
- State Governments

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Project Overview

▣ **Project reFUEL Scope:**

- ◆ Re-engineer Polk's Data Collection, Standardization, Enhancement, Storage and Data Assembly Functions
- ▣ Migrate from a Mainframe environment to a commodity GRID based infrastructure
- ▣ Handle millions of embedded legacy business rules for key business functions used to enhance the data

The scale of the solution introduced a unique set of challenges

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Solution Design Principles

- Apply the concepts of lean manufacturing to the discipline of data processing
 - Continuous Material Flow, and Just-In-Time Delivery
 - Quality Measurement
 - Standard Processes
 - Eliminate Waste
- Architecture principles at foundation must provide a flexible and agile environment
 - Service Oriented Architecture
 - Open Architecture, and Industry Standards
 - Security Fabric at Data and Component Level (RBAC)
 - Scalable platform

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The Information Factory High-Level Process View

The diagram illustrates the high-level process view, organized into three main layers:

- Data Management:** Includes Data Dictionary, Data Model, Data Standards, Quality Standards, and Data Usage.
- Manage Reference Data:** This layer is divided into four stages:
 - Capture:** Involves Source Profiles, File Profiles, Receive Data, Validate File, and Archive File.
 - Standardize:** Involves Manage Source Mapping and Apply Source Mapping.
 - Enhance:** Involves Business Rules and Enhancement Services (Name, Address, Dealer, Geo, Decodes, Other).
 - Assemble:** Involves Assembly Profile, Business Rules, Extract & Format, and Publish.
- Operations Management:** Includes Exception Handling, Task Management, Metrics, Job Consoles, and Reports.

Key components include Data Sources, Gatekeeper, SSOT (Single Source of Truth), and DAL (Data Access Layer).

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The Information Factory High-Level Process View

This diagram provides a more detailed view of the high-level process, highlighting the flow from Data Sources through the Manage Reference Data stages to Assembled Data. It includes the same layers as the previous diagram but with more granular details on the data flow and the role of the Gatekeeper and SSOT.

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XML Schema and Data Factory Canonical Model

The diagram shows the relationship between a Master Dictionary and XML Schemas. The Master Dictionary is defined as "A definition of all known data factory elements". It feeds into two XML Schemas:

- Registration Document:** Contains elements like <Name>, <Address>, <City>, <State>, <Zip>, <VIN>, and <VehicleWeight>.
- Sales Document:** Contains elements like <Alarm>, <Address>, <City>, <State>, <Zip>, <VIN>, <SalePrice>, and <FinanceType>.

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The Information Factory High-Level Process View

This diagram is similar to the previous ones but includes an annotation "Service Orchestration Capabilities" pointing to the Enhancement Services stage, indicating the integration of service-oriented architecture into the data enhancement process.

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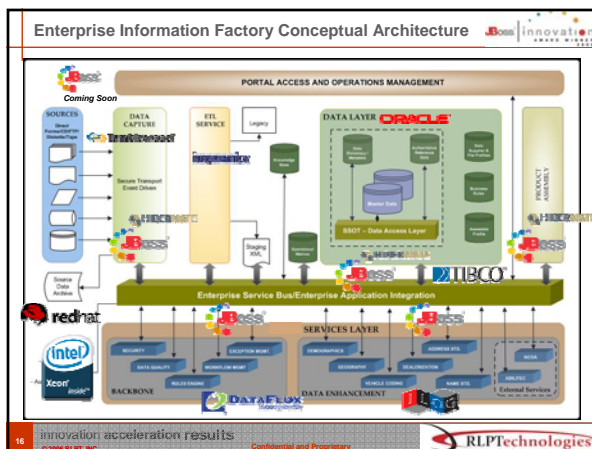
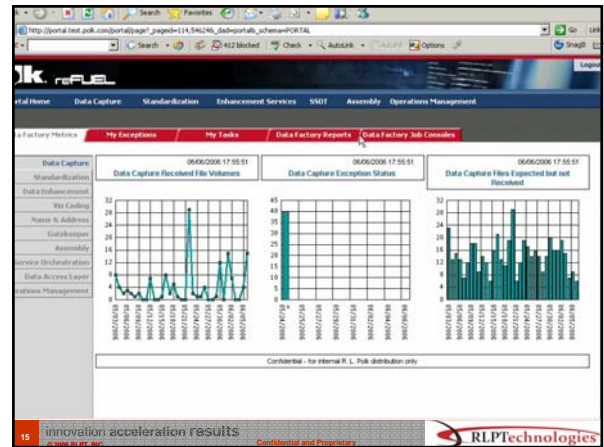
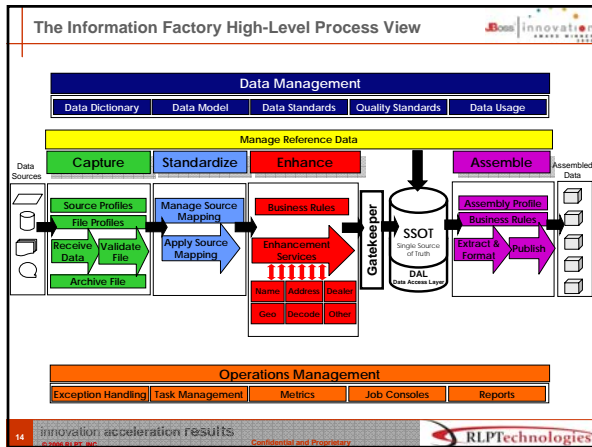
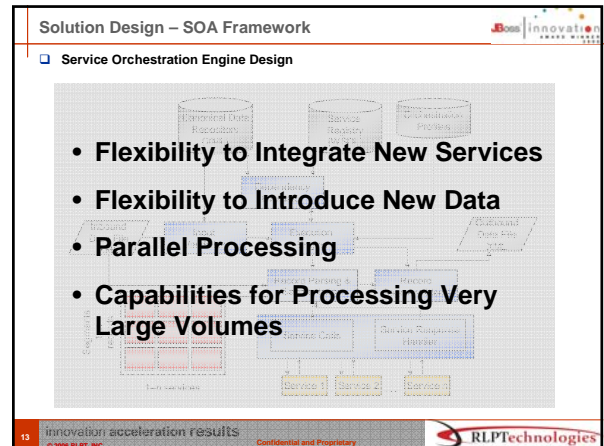
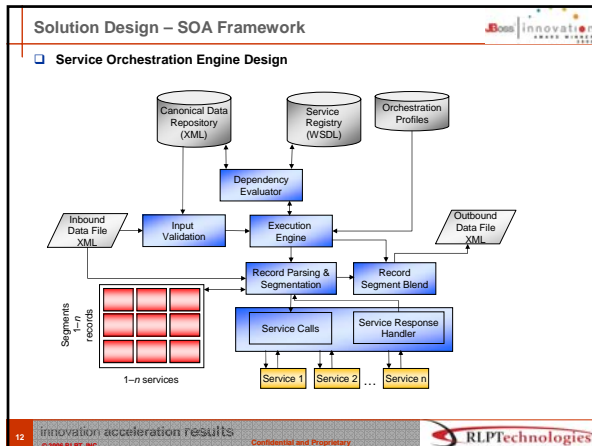
Service Orchestration

The screenshot shows the user interface for Service Orchestration. It displays a profile configuration page for "Profile A" with the following details:

- SO Profile Code:** 1149181787385
- SO Profile Name:** Profile A
- SO Profile Description:** Service Orchestration Profile A
- Effective Date:** 06/01/2008
- Expiration Date:** 06/02/2008
- Exception Suppression:** 50
- Segment Size:** 50
- Active Status:** Active
- Publish Status:** Draft

Buttons for "Save", "Request Approval", and "Cancel" are visible at the bottom.

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- ### Technology Success – reFUEL Project
- Provided world-class data collection & compilation services
 - Automated manual processes, enabling an environment supporting improvements in the **timeliness and availability of data**
 - Productivity improvements of up to 70%
 - Enabled a Single Source of the Truth
 - One logical view of comprehensive information assets
 - Eliminate redundancy and potential for inconsistencies
 - Enhance data to **ensure accuracy and completeness**
 - Ensure **industry-leading data quality**
 - Created a service oriented architecture for application development and orchestration of data and data enhancement services
 - Protected legacy applications and extended functionality of key applications
 - Orchestration engine provides for **flexibility for maximizing use of data**, and an environment to enable the introduction of new services (applications or enhancement routines)
 - Shifted to a grid based computing model to empower capacity on demand
 - Flexible and open environment providing future computing power, at significantly reduced costs

The JBoss Difference JBoss innovation

- Support
- Scalability
- Ease of use
- Cost
- COTS Supportability
- LGPL


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R.L. Polk Project Incubated a New Company & Product JBoss innovation



PROJECT

➔



PRODUCT

The Enterprise Information Factory

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2006 JBoss SOA Innovation Award JBoss innovation

Congratulations to the entire RLPTechnologies team



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