Infor/QVC Forte to Java - Case Study

Case Study: Exceed for QVC

System Overview:

Exceed application was developed using Sun Microsystems' Unified Development Server (UDS, aka Forte). The system runs against an oracle database containing inventory information and the documents for the different processes (such as purchase orders, receipts and shipment orders).

Users use a Powerbuilder front end application to connect to the backend through the socket interface. Also there is a c++ application which is used for RF handheld devices which runs processes on the server and also connects through the socket interface. Finally there is a forte interface application which handles the interfaces from/to external systems including host system, high bay storage, automatic belts and other automated parts of the warehouse.

The Business layer in the old architecture relied extensively on the Forté environment's provided distributed service objects and transaction management features. Most of these features shall be directly mapped to features provided by the Java Enterprise Application Server. The new Application Layer is fairly similar to that of Forté in the proposed architecture.

Solution:

The Business layer & Socket Communication in the system needs to be migrated to J2EE while keeping Oracle RDBMS intact. This application was targeted to be migrated to the J2EE technologies with the following tools:

- Java/Sockets
- EJB 3.0
- Weblogic 10
- Oracle 9i RDBMS

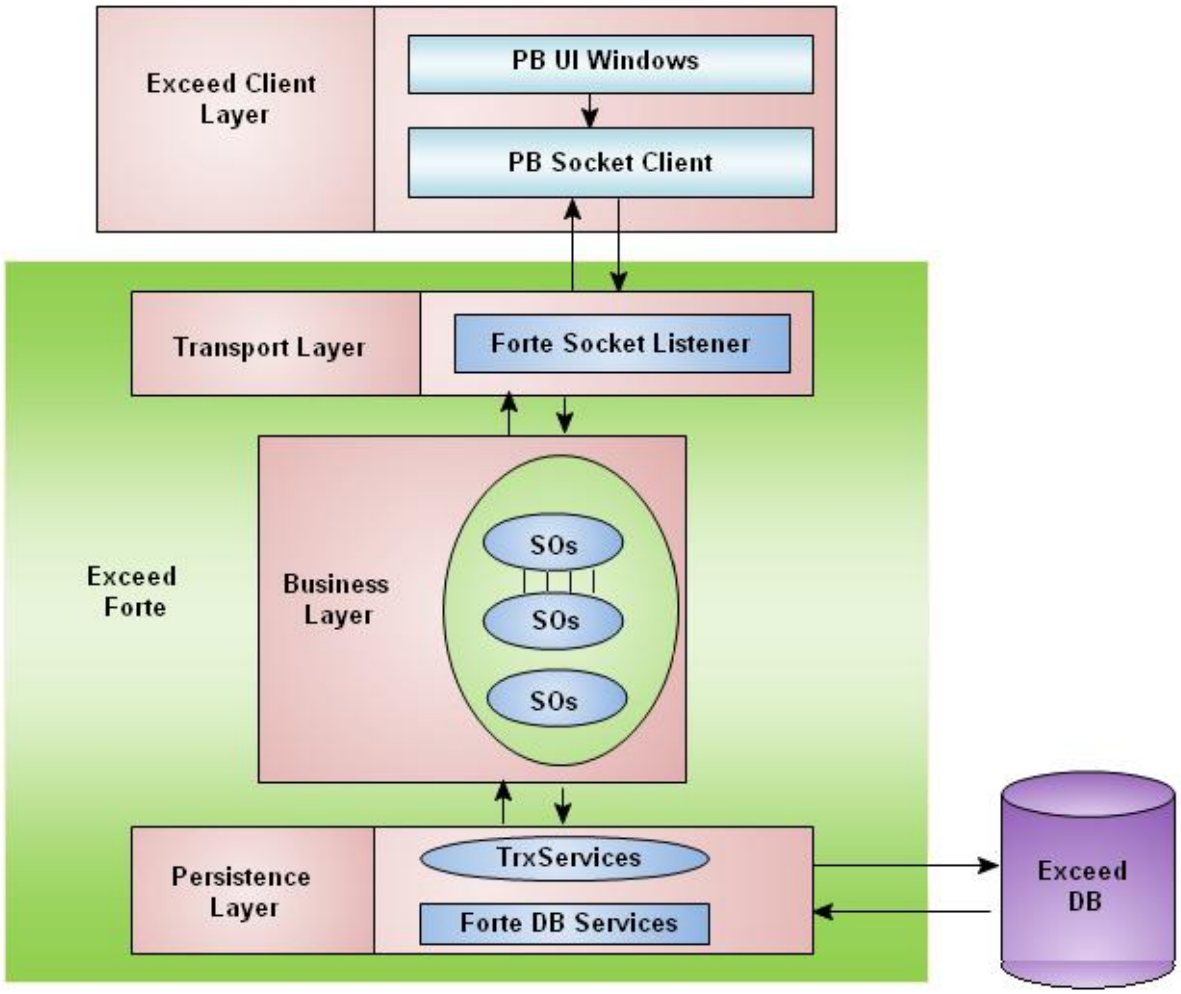
Migration Methodology:

Soft Sol's migration methodology for PathLIMS application migration comprised of following steps:

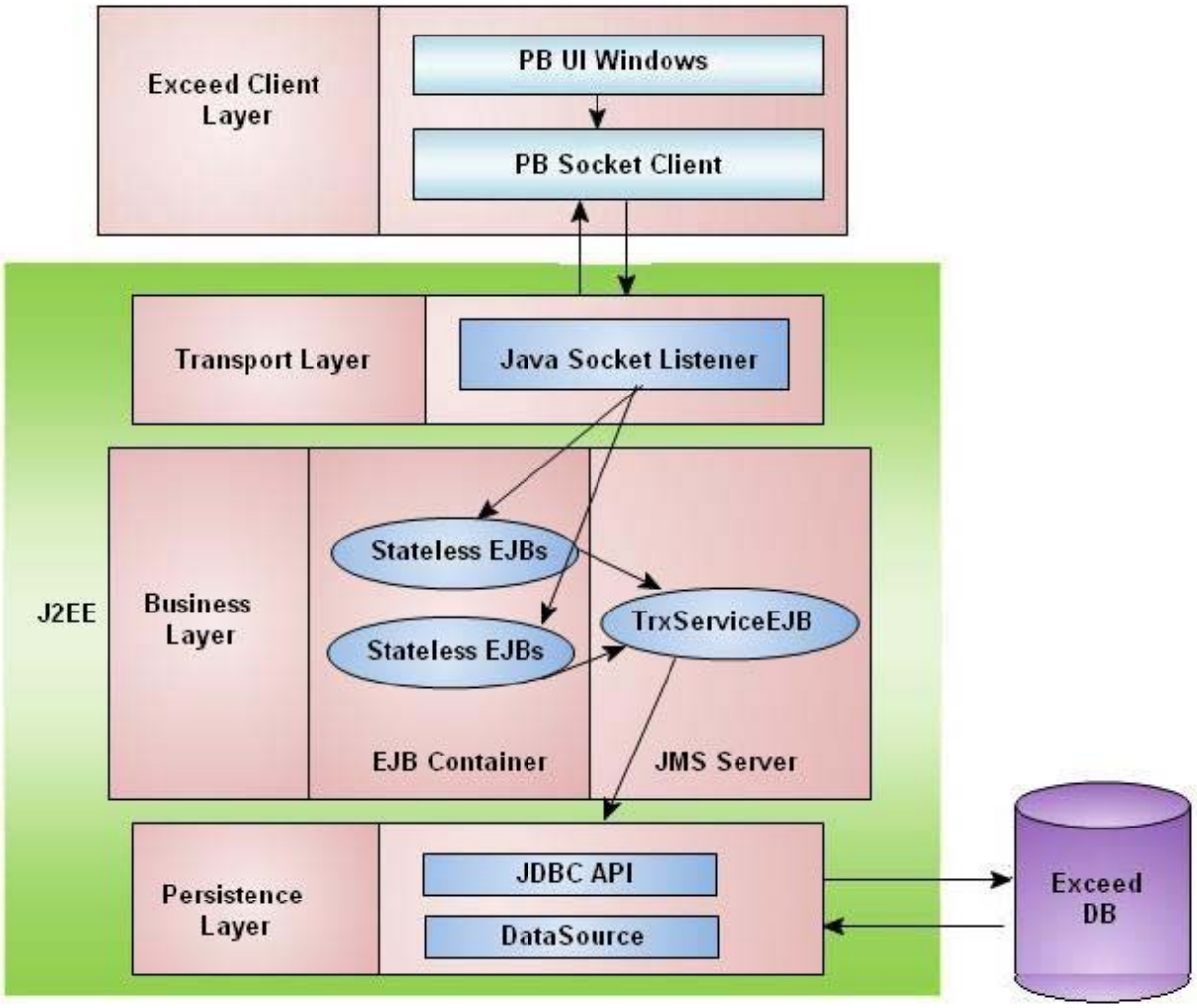
- Analyze and understand existing system, Knowledge Transfer through Genentech of system use cases and obtain test cases.
- Prepare concise Functional Specifications, Architecture Assessment.
- Automatic source code migration of business logic, data access logic and GUI processing logic of existing Forte application into Java/J2EE, using **SoftSol's Forte to Java Migration Suite**.
- Refactor converted code to different layers as shown in the diagram in the next section. The layers include Presentation, Business logic code as a service oriented architecture, and data access layers.
- Architecture patterns and design patterns, were applied consistently throughout the application.
- The existing Oracle database storage was leveraged during migration.
- We were able to get the migrated system up and running in a 1.5 Years.

PathLIMS Architecture Layered Diagram:

Legacy System



Modernized System



The Modernized Layered Architecture:

- **Database Layer** – The migration approach does not call for making any changes to the database schema.
- **Service Layer** – The service layer implemented through Entity Java Beans and JMS Message for messaging between client and server.
- **Cross Cutting Concerns:** Logging, Java Web Start and Security.

Deliverables:

Serial No	Deliverables
1	Test Results for all the supplied cases
2	Functional Analysis Document
3	Design and Architecture Document
4	Java/J2EE Migrated System Source Code
5	Instrumentation and other Interface Migrated Source Code
6	Build and Release Document
7	Deployment Guide

Solution Advantages:

1. Ease of use
2. Ease of deployment
3. Integration with other third party software like Loftware utility,ExeUtilLibrary.
4. Performance Optimization