One of the leading manufacturers of digital printing systems benefits from an 8 times lower TCO using the SOA based Order Management System developed by Fulcrum Logic

Industry
Manufacturing

Environment
Oracle App Server 10g,
Java / J2EE,
Struts,
Web Technologies, JDeveloper v10,
Crystal Reports Xi,
Oracle Database 10g,
Crystal Reports Server XI
and Web Services

Technology Used
• Java / J2EE
• Struts
• Web Services

Brief History

The client manufactures and markets network-ready digital copiers/printers, laser printers, color copiers/printers, digital laser facsimiles, multi-functional and wide format imaging products. The company is one of the world's leading developer and manufacturer of advanced ceramics and associated products, including telecommunications equipment, semiconductor packages and electronic components.

The client markets its imaging line of products through Dealers throughout all the Americas. The Dealers place orders using their existing Order Tracking System (OTS).

Business Needs

The existing system provided various features like Order Entry, Order Tracking, Register Warranty, Claim Warranty, Returns, User Management, Training Enrollment and Business Reporting. However, OTS only served the needs of Dealer-based sales channels. The client had other sales channels and business areas that involve Order Management, but had no corresponding solution available. These include:

- Reseller sales channels – sales through reseller partners
- National Accounts – leasing and servicing rather than sale
- B2C – sales to individual consumers directly, not through dealers
- Direct – sales to major accounts directly, not through dealers

  Ordering solutions were required to service these business needs. These ordering solutions were required to have a web-based ordering portal, with self-service whenever possible. Support for the business logic unique to each business function was required, and

an interface to Oracle ERP was also required.

Challenges

Following are some of the challenges faced:

- Abstraction of re-usable business services from existing systems and business processes.
- Defining integration points and dependencies with existing OTS system, AS/400 and Oracle ERP.
- Implement a flexible business rules framework that can be centrally managed across the business services implemented.
- Implement a reporting solution that presents an integrated view of all ordering information from various sources.
- Expose business services from IT assets based on a heterogeneous architecture (Oracle Apps, IBM WebSphere, custom) and ensure future maintenance and management is well planned.

Solution

Fulcrum Logic understood the business needs and implemented an Order Management solution based on SOA. The significant elements of this solution are as follows:

- Business Architecture: Business Modeling was done to identify optimal business processes for ordering, in the context of the entire enterprise. Each business process was analyzed in order to

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Solution

 identify re-usable business services.

- **Technical Architecture:** The technical architecture was defined, based on existing IT assets that could be exposed as services, and new web services to be developed. Integration architecture using the ESB was also defined.

- **Implementation Projects:** Planned and scheduled the projects necessary to implement the solution. The entire implementation was planned as a set of small projects, done Onsite as well as Offshore. The Onsite projects were staffed by a combination of the client teams and Fulcrum Logic employees.

- **Quality Assurance:** Each project had its own QA activities to ensure quality, based on the processes defined companywide. However, the ordering solution was implemented as a program, so a separate set of QA activities was defined for the entire program, focusing on traceability, integration and UAT, in order to

ensure all the benefits envisioned were realized. • **Delivery:** Delivered the system in multiple releases, starting with the prototype, and trained the user communities and administrators on the new front-end.

Benefits:

- An enterprise-wide Order Management solution based on SOA was implemented at about 25% of the cost of traditional approaches. • Dependence on AS/400 was eliminated and high-cost, low-agility of ERP platform was circumvented.

- More than 80% of the existing OTS code was re-used. • Business rules and logic shared across multiple divisions and business functions can be managed at a single point.

- Business agility is greatly enhanced by having the ability to change business processes related to Ordering simply by orchestrating the services implemented. New functions can be 'composed' from the services implemented.

- Dealers and Partners can directly use services exposed by the client in their IT environment which cuts down on the client's maintenance costs.

- Total Cost of Ownership of IT solutions for Order Management is expected to be at least 8 times lesser over a five-year period, compared to all other non-SOA alternatives.

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