

Case Study



Credit Derivatives System Outsourcing

It was early in the year 2000 and the worldwide Internet frenzy was at its peak. The smartest of entrepreneurs had set their minds to generate innovative ideas that were unthinkable in an unconnected era. Some of those ideas were more revolutionary than others, bigger than others, bolder than others or more controversial than others.

A couple of very successful entrepreneurs targeted the credit derivatives market - the cutting edge of financial engineering. This talented group of entrepreneurs had one goal in mind to revolutionize the credit market by creating online transaction capability. Additionally they wanted to **completely** automate the platform to have straight through processing for some of the most complex transactions in the wholesale markets.

This was just the beginning as there were a large number of challenges still to be discovered and resolved be it business related or technology related or budget related or time-to-market related, etc. This group cleared an important hurdle by working with major rating agencies to define conditions under which the firm could receive and maintain the highest of credit ratings a AAA rating.

ebusinessware executives, along with another large innovative company, took this challenge as if their lives depended on it and what happens next is history in the making.

Introduction

ebusinessware started with a comprehensive data model and object structure around it to create a comprehensive system for credit derivatives hedge fund. We also integrated over 10 vendor components to create this web-based, straight-through processing system. We continue to support the firm as an outsourced provider of technology development and systems operations, keeping their costs among the lowest in the industry.

The Challenge

When the client wanted to create the world's first credit derivatives hedge fund, they knew that time to market would be an important consideration. The management team set an aggressive goal of moving from thought to implementation in a short number of months. In addition, the founders insisted on an efficient infrastructure with no mandatory manual intervention, with straight-through processing as a design goal from the outset.

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The Solution

Phase 1 Build the Basics

ebusinessware responded to the challenge for rapid time-to-market by selecting vendor components to the overall solution:

Our large and high-powered technology team was well versed with latest and the greatest in financial systems and some of them even had prior knowledge of credit derivatives. All of them were all round specialists with in-depth J2EE, Oracle, Unix, and Web technology knowledge. This team was a dream team by any industry standard and was formed within a short span of couple of weeks. This team covered every aspect of a complete project team and included Project manager, Project coordinators, J2EE architects, Oracle experts, Creative directors, Tech writer, Unix programmers, DBA, System administrators, Network administrators, Security experts, Java programmers, C++ programmers, Hosting engineers, Web master, Oracle financial experts, XML experts, and QA specialists, etc.

A large number of components were being envisaged which after an organized discussion were boiled down to the following list:

- Entry and Security
- Presentation Layer (html frames, JavaScript, java server pages)
- Pricing Manger (Java, EJB)
- Base Pricing Calculator (Application Service Provider)
- Pricing Adjustment Module
- Availability Matrix (Java, EJB)
- On-line Help (html)
- Accounting and ERP (Oracle Financials)
- Personalization Engine (Custom, targeted specials)
- Trade Processing System (trade register, confirms, client master file)
- Communication Layer (FTP, email)
- Data Mgmt. Layer (data input, extraction, transformation - sql, ksh)
- Database Engine (Oracle 8i with over 300 discrete, but related tables)
- Cash Management System
- Capital Model Calculator
- Publish to Bloomberg
- Market data imports
- Infrastructure Exodus for hosting, Cisco VPN, and PKI from Entrust
- Data from Rating Agencies and Default Factor Providers

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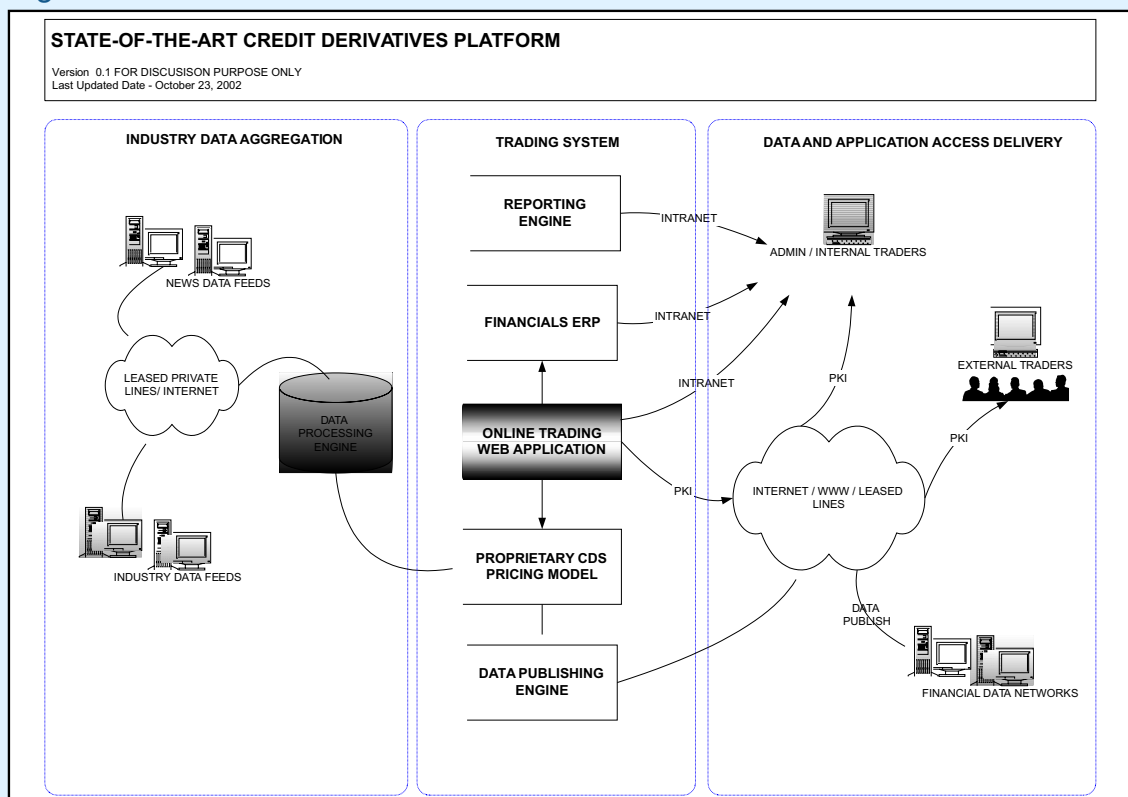
Interfaces were created with industry standard market data providers, cash management system, ASP model based pricing engine, Bloomberg, internal market data feeds, accounting system.

Hardware requirements were complicated because of large number of components, redundancy requirements and 24-hour coverage.

Complex set of connected hardware including the ASP were: 22 devices (Routers, Switches, VPN, Firewalls (small servers); 23 application and business logic servers and 6 web servers creating a Multifunctional Set of Integrated Applications.

Traders from both of the counter parties were to consume the deal in real-time mode without going into even a minute's delay due to changing market conditions.

ebusinessware team of architects worked long and smart hours to systematically break the complex problems into smaller simpler 21 streams. Each stream was carefully crafted to ensure the following:



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- Each stream was pretty much independent of others
- Each stream was pretty much of the same duration
- Each stream had all of the tasks related to one component
- Each stream was then appropriately staffed with the required expertise

Phase 2 Go Live

After completing UAT, the firm focused exclusively on generating the financial capital that would be required to support the firm's high credit rating. Upon closing of the funding round, the client hired a full time team of risk managers and traders. Ebusinessware was faced with the task of implementing changes to support the production launch in 60 days. Our teams worked with the business users to create the following to take the company to long awaited production level trading:

- Credit limit maintenance process
- Enhanced trade input capabilities
- Revised mark-to-market procedures

Phase 3 Efficiently Maintain

Once the business got started, ebusinessware served as the primary technical support group for the production environment as well as the providers of enhancements. The team provided ongoing support for functionality including:

- Multi-currency derivatives
- Modifications to the firm's capital calculator
- New versions of web-server and application server software

The Team

Our teams rapidly scaled to meet the business demands

<u>Phase</u>	<u>Team Composition</u>
Phase 1	<ul style="list-style-type: none">• Project Office• Business Requirements• Application Developers• Front-end Developers• Documentation• Third-party providers• Testing Support

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Phase 2	<ul style="list-style-type: none">• Business Requirements• Architecture and Design• Application Development• Regression Testing
Phase 3	Support & Enhancements

The Environment

- Operating System - Unix
- Programming Languages Java, Shell Scripting, C++, Visual Basic
- Architecture 4 tier with PKI
- Data model Oracle
- Interfaces XML based
- Publish HTML based

The Result

ebusinessware provided the client with first rate results in a timely fashion, consistent with the client's business and financial objectives. Some of our accomplishments include:

- Low Costs of ownership Our ratio of back-office to front-office personnel is the lowest in the Industry
- Maintainable ease of change open data model

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The business model and Lessons learnt

This was a classical model based on an advanced thinking on part of company's senior management. Their business model was based on pure core competencies. They decided to concentrate on their core business leaving technology implementation to ebusinessware. This company's entire business was dependent on technology provided by businessware and they had enough reasons to be cautious about it. They must have surely done due diligence about the expertise and moral standards of ebusinessware executives. ebusinessware team members never let them down and felt proud in partnering with the company both in its difficult and good times.

Ebusinessware is glad that software owned by this company is still considered the best in its field even after three years of service.

The Company's CTO is considered a successful owner of the successful software and deservedly so. He has mastered the art of maximizing returns on his dollars from the outsourcing companies like businessware.