InfoCepts

Using MicroStrategy to Create a Scalable Invoicing Application for an Energy Utilities

⊙→ Challenge

Our client, an electric utility and energy provider of last resort (POLR), recently underwent a reorganization that resulted in the company first splitting and then merging with another entity. The reorg resulted in the loss of its licenses for the existing invoicing system called Aligne. The invoicing system is used to reimburse wholesale suppliers for the energy procured monthly on behalf of the utility's retail customers. The client needed to develop a new application to replicate an existing POLR invoicing process, which includes storing the supplier contract information, generating supplier invoices, and transmitting payments. Challenges included:

- Replicating a complex invoicing process, including validation, approval, and scheduling
- Meeting service level agreements (SLAs) for wholesale suppliers and retail customers
- Introducing new functionality to catch exceptions and adjust invoices accordingly
- Applying automation to enable faster completion of manual processes with fewer errors
- Designing intuitive user interfaces to ease the completion of complicated processes
- Designing robust data reports to support invoice analysis, verification, and post-invoice audits

SUMMARY

A leading energy utility needed a new application for creating complex invoices. InfoCepts developed a highly scalable application using MicroStrategy Transaction Services to replace the existing Sungard ZaiNet (Aligne) application. Designed for self-service, durability, and scalability, the platform minimizes the need for technical support, while providing robust automation, analytics, reporting, and data visualization.

INDUSTRY

Energy Utilities

TECHNOLOGIES

MicroStrategy Transaction Services, Oracle, Informatica SQL loader, Shell scripts, Batch scripts
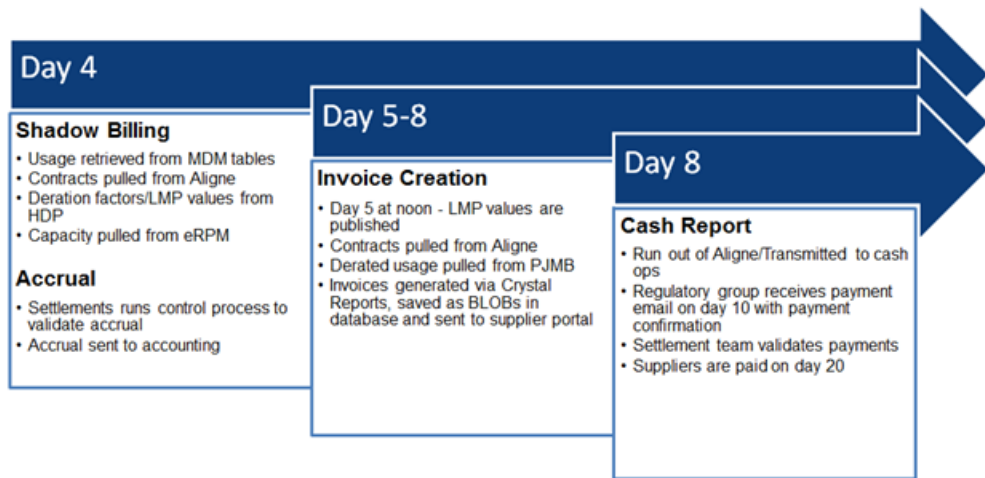
USERS

Business Users

TEAM

4 InfoCeptians and 3 Customer Associates

Day 4

Shadow Billing
- Usage retrieved from MDM tables
- Contracts pulled from Aligne
- Deration factors/LMP values from HDP
- Capacity pulled from eRPM

Accrual
- Settlements runs control process to validate accrual
- Accrual sent to accounting

Day 5-8

Invoice Creation
- Day 5 at noon - LMP values are published
- Contracts pulled from Aligne
- Derated usage pulled from PJMB
- Invoices generated via Crystal Reports, saved as BLOBs in database and sent to supplier portal

Day 8

Cash Report
- Run out of Aligne/Transmitted to cash ops
- Regulatory group receives payment email on day 10 with payment confirmation
- Settlement team validates payments
- Suppliers are paid on day 20

Old Monthly Business Process

⊙ Our Solution

The team worked with business users to understand the existing process and came up with a new framework using MicroStrategy and Informatica, in the current database setup in Oracle. The new invoicing application that resulted from this exercise enablesapprovers to analyze the data and catch any exceptions up front before approving the invoices. It also allows users to make adjustments to the invoices and cancel old invoices, thereby increasing the efficiency of the entire process. Additionally, it is intended to be used for other outbound data interfaces to other endpoint applications.

Scalable MicroStrategy Architecture

The highly scalable MicroStrategy architecture integrates data from multiple sources (e.g., contract data, hourly data, price data, etc.). The business can use objects created in MicroStrategy to define analysis and generate meaningful insights for energy wholesale suppliers.

Data Reporting

- A monthly summary of de-rated and non-de-rated values from each source, as well as a detailed report to compare actual and derived hourly dollar amounts
- A contract comparison report to verify and validate the contract-related data in sources
- Summary reports to show total mega-watt hours and dollars by each counterparty
- A cash disbursement report required for post-invoice approval
- Exception reports to identify missing hourly data, specifically during daylight savings

User Interfaces

Invoice Verification Console → Invoice Adjustment Console → Invoice Approval Console → Post Approval Snapshot Invoices Console

- Invoice verification console to check data accuracy in invoices, shadow bills, and other control reports
- Invoice adjustment console to enter an adjustment for a particular supplier for a defined billing period
- Invoice approval console to finalize the verified invoices and lock the data
- Post-approval snapshot invoices console to view approved (locked) supplier invoices

Post-Approval Processes

Given the number of processes that follow invoice approval, we created a highly automated process to meet the need of other teams that are dependent on this application, including:

- A locked-down view of approved invoices for reference during audits
- A well-formatted extensible markup language (XML) file for cash operations accounting
- Portable document format (PDF) invoices in the form of (BLOB) data
- BLOB data on the supplier portal to allow wholesale suppliers to view invoices.

The Results

The highly scalable, reliable, and flexible new application provides cutting-edge capabilities and has a long shelf life.
The application offers various benefits to the client's procurement and settlement groups, including:

- Improved holistic visibility of incoming data (e.g., shadow bills, control reports, etc.)
- Enhanced architecture to allow customized and ad-hoc analysis
- Greater ease of use via personalized user consoles for adjusting invoices
- Smoother workflow via approval consoles that allow users to verify, approve, and cancel invoices
- Efficiency via automated post-approval invoice processes
- Reduced operational cost and derivative risk from manually performing undocumented processes