

iWay Generates IT Consistency at

Hydro One

Networks




Canadian Utility Creates SOA Platform for Information Exchange

While there are many utility companies in North America with more than a million customers, few of these companies service a territory as vast as Hydro One Networks, Inc., which delivers electricity to homes and businesses throughout the province of Ontario, Canada – an area twice the size of Texas. To improve the efficiency of its widely dispersed workforce, Hydro One enlisted iWay Software to integrate its planning, dispatching, work status, and timesheet management capabilities. The crux of the issue involved streamlining work management practices, which include many discrete steps and seven different software applications.

“We needed to update our workforce-management and work-scheduling practices so we could improve the utilization of our field workers and designers,” explains JJ Blais, project director at Hydro One. “For example, we use PragmaCAD to schedule crew deployments, and Passport for work order and asset management. iWay helped us integrate these applications and create a work management solution that grows with the business.”

Hydro One’s work execution project (WEP) was partially driven by new regulations requiring utilities to separate their transmission/distribution, generation, and retail business units. This motivated Hydro One’s management team to demonstrate efficient business practices throughout every facet of the operation.



JJ Blais, Project Director, Work Execution Project and Myles M. D'Arcey, Senior VP, Customer Operations and Chair of the WEP Steering Committee, Hydro One Networks.



Snapshot

Organization

Hydro One Networks owns and operates one of the ten largest electricity transmission and distribution systems in North America.

Challenge

Integrate multiple best-of-breed software applications; automate the workflow for work execution projects.

Strategy

Create a service-oriented abstraction layer between business and IT that maximizes software reuse and simplifies application-integration tasks.

Results

Information automatically flows to the people who need it, improving the efficiency of the administrative and field staffs.

Information Builders Solution

iWay Service Manager, Universal Adapter Suite, and Professional Services.

Insulating a Highly Charged Project

The WEP project began with an assessment of best-of-breed software applications that could streamline Hydro One's work management practices. After a careful market assessment, they purchased applications for planning, dispatching, resource management, and timesheet management, including the following:

- eTimeMachine (SAR) for scheduling work to resource calendars, reporting the status of completed work, and submitting weekly timesheets
- Passport (Indus) for work order and asset management
- P3E (Primavera) for project planning
- ArcFM Designer (Telvent), a geographic information system for designing new connections and upgrades
- Customer/1 (Accenture), a customer service application for the utility industry
- PragmaCAD Scheduler and Mobile Supervisor (CGI) for maintaining, scheduling, and dispatching field crews
- BEA WebLogic for the integration hub

Taken together, these applications are part of a new work management system that optimizes scheduling, reduces timekeeping errors, and provides timely and accurate information on the status of all field work.

Next, the architecture team laid the groundwork for a new integration architecture that would streamline the flow of data among these and other applications. They wanted to

develop an integration hub using the principles of service-oriented architecture (SOA), shielding developers from technical complexities, and creating a common platform for exchanging business functionality.

"These new applications not only needed to be interfaced with each other, but also with legacy applications handling customer orders, GIS designs, work orders, and materials management," explains JJ. "We considered a number of integration methods. It was critical to understand the as-is and to-be processes, then plan the data-flow from one system to the other."

They soon discovered that the time and cost of creating individual system-to-system interfaces would be prohibitive. They needed an automated approach if the project was to succeed.

Powering Up With iWay

About this time, JJ and his colleagues learned about the iWay Service Manager and Universal Adapter Suite. Service Manager is an enterprise service bus (ESB) that enables organizations to create, compose, and manage services – whether invoked as Web services or through other interfaces. iWay adapters connect nearly any type of application, database, or business system and feature sophisticated metadata generation, event handling, and service interactions. Together, these software environments take a lot of the work out of exchanging information in complex IT environments.

In addition, iWay Software offered to create custom adapters to meet Hydro One's unique requirements. iWay supplied a fixed-cost bid for the work, which minimized project

risk. And since iWay could do the work in parallel with the application deployments, the entire project could stay on schedule.

"iWay offered an efficient solution for integrating our legacy and new applications," says JJ. "iWay's custom adapters simplified the APIs among our planning, dispatching, and timesheet systems."

The team also envisioned a clean abstraction layer between business and IT that would maximize reuse and simplify development. This led to the concept of the iHub, a general-purpose messaging layer that controls interactions among all back-end systems and business processes.

Working with iWay, the project proceeded in phases. As part of the ACPi phase, the team created interfaces to Customer1, Passport, and ArcFM to exchange service requests, work requests, and design requests, along with compatible unit data elements. During the WEP phase they rolled out P3E, eTimeMachine, and PragmaCAD applications, along with the corresponding iWay adapters to exchange scheduling and dispatching information.

"The consultants from iWay created the application-specific interfaces and enabled the flow of transactions through the integration hub, exposing the inputs to our back-end systems as reusable services," explains JJ. "The solution is robust because data is queued in all inbound and outbound links."

Conducting More Efficient Business

iWay Service Manager now automates the following steps in

the work execution process, which amounts to between 10,000 and 12,000 transactions per day:

- Obtain an approved work design
- Load the design details into a work request
- Get details on the service request
- Obtain accomplish records

Information automatically flows to the people who need it, improving the efficiency of the administrative and field staff.

For example, a customer service representative can simply create a

Additionally, employee and resource changes are automatically updated in eTimeMachine and PragmaCAD. Jobs flowing to eTimeMachine are matched up against the appropriate work orders, so users no longer have to look up work order numbers. The information needed to complete timesheets is also loaded automatically.

Schedulers are notified when their assigned jobs are completed, and all jobs that flow to eTimeMachine are pre-configured so users don't need to look up codes, work

centralized all work scheduling and dispatching," explains JJ. "We have used the concept of 'loose integration' so each application can work independently in its normal state.

To streamline HR activities, PeopleSoft uploads resource changes to Passport, then Passport updates eTimeMachine and PragmaCAD. "There are no more manual transfers," says JJ. "All of these enhancements are made possible by iHub and iWay adapters that connect these applications," he adds. "iWay is the



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JJ Blais
Project Director
Hydro One Networks

work order, select the working area, and then submit the order. The pertinent information will flow to the GIS Design system and also to PragmaCAD to be dispatched by the schedulers. "No more double or triple entry," says JJ.

Meanwhile, using PragmaCAD, schedulers have a state-of-the-art scheduling and dispatching tool that is integrated with the calendars and timesheets in eTimeMachine and Passport. Once the GIS-based design is completed and the associated customer payment is received, the status of the order is automatically updated in Passport's material request module. The materials are ordered and the build-phase order is transferred to PragmaCAD, which schedules the crew and equipment according to the design.

orders, and related information. Users are automatically prompted if information is missing from their timesheets.

Project planners know ahead of time which projects require additional resources. They can release P3E project activities to PragmaCAD for dispatching and the assigned crews will be notified of pending work in their eTimeMachine calendars.

Currently all work originating from customer orders (CS/1), construct orders (Passport), or project activities (P3E) flows to PragmaCAD for dispatching. Alternately, project activities can flow from P3E to eTimeMachine directly (if the business maintains separate demand/project crews). "For now the business has

glue that allows all of these transactions to move from one system to another."

A Conduit for Future Development

Looking ahead, Hydro One has a versatile integration platform that can quickly accommodate new systems and interfaces.

"Creating an integration hub and incorporating iWay adapters into our design enabled us to significantly reduce the number of system interfaces," concludes JJ. "iWay's Adapter Factory is also a good solution for the future as we encounter additional IT projects and upgrades." 🌀