U.S. Department of Defense

Making the Armed Services More Efficient With Ignite's ETI-driven Service Oriented Architecture

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The Department of Defense is an executive branch department of the federal government of the United States charged with coordinating and supervising all agencies and functions of the government concerned directly with national security and the United States Armed Forces. The Department is also the largest employer in the world, with more than 2.13 million active duty servicemen and women as well as their support staff of civilian workers.

Industry

Federal Government

Problem

The Department of Defense needed a data integration and transformation solution that could integrate hundreds of legacy contracting systems for the United States Armed Forces.

Solution

The Joint Program Management Office (JPMO) implemented Ignite's ETI solution as the standard platform for legacy-to-XML data transformation for the Standard Procurement System (SPS). The SPS is an automated contracting system that standardizes procurement processing across the DoD.

Results

- Increase the integration speed of legacy systems with SPS
- Provide greater visibility into the Department's business rules
- Connect more than 43,000 users to over 700 databases across the globe

About the Application

The Standard Procurement System (SPS) is an automated contracting system that standardizes procurement processing across the U.S. Department of Defense (DoD). The application known as Procurement Desktop Defense (PD2) is used by over 23,000 procurement officers (as of June 2005) for buying everything from office supplies to battleships. In fiscal year 2005, SPS handled $95 billion in goods and services. It is the first and only DoD-wide standard business system based on XML in use by the combined armed forces.

The SPS has been recognized by the Office of the Secretary of Defense as the "poster child" for Business Management Modernization Program (BMMP) transformation initiatives and is used by procurement professionals in the Army, Navy, Air Force, Marine Corps, 13 Department of Defense agencies and the logistics, acquisition, and financial management communities. By the end of the program's full deployment in 2006, the application will be web-enabled and have more than 43,000 users at approximately 350 military facilities interfaced to more than 700 legacy databases across the globe. It is one of the largest service-oriented architectures (SOA) in the world.

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Big Business
Means Big Data

Ignite's ETI solution met the challenge and is part of the team integrating the hundreds of legacy contracting systems from all of the United States Armed Forces. Ignite's ETI mission is to deliver the technology to "Help get America's warfighters what they need, when they need it, faster than ever."

SPS was designed and implemented by a team staffed by Northrop Grumman and AMS (now part of CACI). It is based on a COTS package called Procurement Desktop Defense (PD2) using webMethods as the basis for a service-oriented architecture (SOA). The application is complex because of the huge number of government regulations and processes that constitute an authorized purchase.

Ignite's ETI solution was chosen by the Joint Program Management Office (JPMO) as the standard platform for the legacy data transformation because of its open architecture, Integrated Development Environment (IDE), Rapid Integration Development (RID) Methodology and metadata interoperability.

Challenge

In the fall of 2003, the DoD faced the challenge of rolling out the latest release of the application. For the SPS to be fully operational, it must be interfaced to applications at 350 military installations worldwide, each of which has two or three applications that process related transactions. Because it was likely that the SPS's interface requirements were going to change as users began to request additional features, it was critical not only that the rollout be completed in an efficient manner, but that it support a rigorous change management methodology.

Amy Taylor, the Technical Division Chief for the SPS JPMO was the first to recognize that trying to hand code "adapters" to interface these 700+ applications to the webMethods PD2 "adapter service" would greatly increase the risk of not completing the application on time. Because Ignite's ETI solution can be used to automatically generate the code that mediates between the XML-format expected by the SPS application and the native data store of the military base applications, she tested and validated that ETI would be a good fit.

Once in place, she quickly realized exponential value extending far beyond the original purchase decision. Taylor remarked, "The automatic documentation alone is worth the cost of the product. The documentation, the new ability to capture specifications and track issues related to those specifications to closure, are all key to our process now. These features ensure we always have visibility into the latest changes made to our integrations and that we won't have to reverse engineer our interfaces in the future."

Early Signs of Success

In order to answer concerns about the efficiency of Ignite's ETI generated code, the SPS JPMO initially leased the Ignite ETI product and engaged Ignite to create a set of interfaces that were functionally equivalent to some that had been created by hand. When these interfaces were benchmarked by the SPS JPMO Government Test Facility (GTF) against the handwritten code, they ran ten times faster.

"Of course it's important that the ETI solution speeds the integration of legacy systems with SPS, but the real business value is the visibility it gives us into the Department's business rules – documenting how we translate our common data elements into those unique legacy business processes currently being used across all the Services," said Gino Magnifico, SPS Deputy Program Manager.

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The Vision – An Integrated Development Environment (IDE)

Another reason the SPS JPMO was interested in Ignite's ETI Data Integration and Transformation solution was that its Internet-accessible architecture could support the large degree of distributed development required to rollout the application. One of the most inefficient aspects of implementing almost any new application is understanding how the data in the existing applications relates to the data in the new application which is usually based on new technology. The problem is twofold—the people maintaining the legacy applications aren't familiar with either the details of the new application or the technology on which it's built (for example, Java and XML), and vice versa. With 350 sites that must be interfaced, the potential for miscommunication and misunderstanding is staggering.

Metadata Interoperability

With Ignite's ETI, which is based on Microsoft® .NET technology, a single installation of the product can be accessed globally, via the Internet or secured intranet, from a footprint smaller than the average browser. This way, subject matter experts from the 350 bases can use the graphical interface to specify the initial mapping and descriptions of any necessary business rules or transformations. Once this mapping has been completed, a more technical user takes over using Ignite's ETI patented Dialogue Coach™ technology to further refine the business rules and transformation logic and generate and test the interfaces. Once the testing is complete, well-documented source code will be handed back over to the people maintaining the source applications and be put through the same test and release process used with handwritten code.

At the same time, the SPS JPMO has complete visibility and control over all the interfaces being generated. The Integration Architect, who serves as the system administrator of the Ignite ETI solution installation, can modify the Ignite ETI Data System Libraries to ensure that the generated interfaces comply with standards such as error reporting or security, etc. Moreover, the JPMO has access to a full metadata audit trail of everything done to the data in the process of any transaction, for the purpose of impact analysis when anything changes (e.g., changes in zip codes, purchasing policy, etc.) and to automatically generate reports for use in proof of compliance.

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> – Amy Taylor
> Technical Division Chief
> SPS-JPMO

About Ignite

Founded in 2000, Ignite is a privately-held company that was reinvented in 2013 on the heels of an ownership and senior management change. Ignite's mission from that point forward has been to develop and deliver an expanding set of unique business applications that help organizations perform better by enhancing the capabilities and impact of their workforce.

Ignite operates with focus on a simple, lead objective – 100% Customer Success – which ensures success is measured through the achievements of customers.

Ignite is headquartered in Austin, Texas. For more information on Ignite's solutions, visit www.ignitetech.com

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