



XML Web Services Automate Data Gathering And Formatting for Admiral's Daily Brief

Overview

Country: USA

Industry: Government

Customer Profile

U.S. Second Fleet is responsible for U.S. Navy operations in the North Atlantic Ocean and also for training/certification of East Coast Carrier Strike Groups and Expeditionary Strike Groups.

Business Situation

Traditionally, producing the Commander's Update was a decentralized, manual process that was excessively time-consuming and could only deliver static data that was at least several hours old.

Solution

The IIDBT allows users to dynamically extract and present real-time data from disparate repositories using XML Web services that require no modifications to the Fleet's existing back-end systems.

Benefits

- Higher quality data
- Real-time information
- Saves time for staffers
- Enables collaboration
- Supports familiar office tools

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LCDR Eric Higgins, Project Officer, Second Fleet

Every morning, the Admiral in command of Second Fleet has an operations brief prepared—known as the Commander's Update—outlining for him the readiness of assets throughout the Fleet. Traditionally, producing the Commander's Update required that 15-20 staffers analyze a variety of data sources and create a series of motley PowerPoint slides that were later organized into a single presentation for the Admiral. Recognizing that most of the necessary data was already stored in electronic format throughout various Navy IT systems, the Admiral's staff worked with Herres & Lee (Springfield, VA) and Microsoft Consulting Services to implement an Integrated Interactive Data Briefing Tool (IIDBT) that centralizes and streamlines the process of collecting, formatting and preparing the Commander's Update.

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Situation

Every morning, the Admiral in command of Second Fleet receives an operations brief—known as the Commander’s Update—outlining for him the readiness of assets throughout the Fleet. Traditionally, producing the Commander’s Update required that 15-20 staffers analyze a variety of data sources (Web sites, databases, text messages, etc.) and create a series of motley PowerPoint slides that the Battle Watch Captain (BWC) would later organize into a single presentation for the Admiral. This decentralized and highly manual process was not only excessively time-consuming, but also meant that the Admiral would receive data that was at times several hours old, explains LCDR Eric Higgins, Project Officer, Second Fleet.

“Putting the brief together was pretty labor intensive,” he says. “And our staffers had no way of knowing what the others were doing, so different people would get corresponding information from different sources—or record the same piece of data at different times—and there would often be small inconsistencies throughout the brief.”

Recognizing that most of the necessary source data was already stored in electronic format throughout various Navy IT systems, the Admiral’s staff implemented an integrated, Web-enabled solution that automates the processes required to assemble and deliver the Commander’s Update. “We realized that we could completely automate the monkey-work with some Web services that could extract data directly from our sources, bring it all into a format that we can easily manipulate and also validate and cross-check among the different sources,” Higgins notes. “That frees up the staff to focus on the analytical side of determining what they really need to tell the Admiral each day.”

Solution

Working with Herres & Lee (Springfield, VA) and Microsoft Consulting Services, the Admiral’s staff created an Integrated Interactive Data Briefing Tool (IIDBT) that centralizes and streamlines the process of collecting, formatting and preparing the Commander’s Update. The IIDBT allows users to dynamically extract and present data from disparate repositories using XML Web services that require no modifications to the Fleet’s existing back-end systems while allowing information to be seamlessly shared within the Navy’s intranet (SIPRNET). Using the Microsoft .NET framework, developers also created applications that consume these Web services to integrate data directly into the Commander’s Update presentation. This presentation is delivered on a screen as Web content and allows viewers to interact with source data in real time during the brief.

The source data comes from a variety of standard reports generated at all times by ships or other assets throughout the Fleet. The Fleet already maintains this source data across several different systems, such as the TYCOM Readiness Management System, the Innovative Readiness Reporting Initiative, the Ships Operational Readiness Training Status (SORTS), the Conventional Ammunition Integrated Management System (CAIMS), as well as Casualty Reports (CASREPs) that document equipment failures, for example. The IIDBT’s Web services automatically extract selected data from these sources and paste them into PowerPoint format. Staffers can continue using PowerPoint to customize each day’s content, but the IIDBT dynamically converts the final presentation into HTML so that viewing or displaying it requires no more client than a Web browser.

“Before, our staffers received data via electronic text messages that essentially duplicated the same data that was already being fed directly into our various systems,”

“Now, instead of having a team of people reading through all those messages and manually copying data from them, our IIDBT goes directly to the authoritative source for any given piece of data and automatically extracts it via Web services.”

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Higgins explains. “Now, instead of having a team of people reading through all those messages and manually copying data from them, our IIDBT goes directly to the authoritative source for any given piece of data and automatically extracts it via Web services. And we can do that as many times a day as we want, so the Commander’s Update no longer relies upon static information that was potentially out of date as soon as it was presented. With the IIDBT, we can present up-to-the-minute information to the Admiral at any time.”

Benefits

The most important benefit of the IIDBT’s Web Services methodology is that it ensures delivery of real-time data to populate the Commander’s Update screens, so the Admiral always receives the most up-to-date information possible. Using Web services also allows users to dynamically access information in response to questions from the Admiral or other officers attending the brief. “Before, when the Admiral had a question about information that wasn’t already contained in the brief, somebody would have to go find that information and get back to him later,” says Higgins. “Now, we can answer those questions on the spot because the IIDBT allows us to tap data sources in a completely interactive way.”

In addition to enhancing the timeliness of the Commander’s Update, the IIDBT has also reduced the amount of time spent by the Admiral’s staff in finding, assembling, and formatting the necessary information. By automating these formerly manual processes, the IIDBT is saving some of the 15-20 members of the brief development team an estimated 3.5 hours per day. “We want our people focusing on the analytical side of the presentation and not on the manual labor involved in gathering and formatting all this data,” states Higgins.

By presenting the Commander’s Update in HTML format instead of the large PowerPoint files that were formerly used, the IIDBT also helps to reduce the presentation’s bandwidth demands. “Using HTML format is a major advantage whenever we need to share the presentation with ships at sea that have very low-bandwidth data links,” Higgins adds. “We used to work with PowerPoint files that could be 20 megabytes in size, and that made it very difficult for the ships with smaller pipes to download.”

Another critical advantage of the IIDBT’s methodology is that using XML Web services requires no special modifications to the Fleet’s existing data sources. Regardless of how the IIDBT evolves to meet the Admiral’s information needs, the Fleet’s considerable investments in back-end data repositories will be protected. Using XML Web services also simplified ongoing management of the IIDBT platform by providing a layer of abstraction that allows the Fleet to modify and replace technology within the data management layer without impacting the applications or services that consume the data. In addition, because Web services deal exclusively with XML representations of data, the Fleet’s original source content remains completely separate from the presentation, and while many of the Fleet’s data sources run on Microsoft SQL Server, the IIDBT’s XML Web services interact just as seamlessly with all of the Fleet’s legacy platforms, Higgins concludes.

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