CUSTOMER STORY

Attachmate

Universal Health Services makes patient-management workflow simpler, less resource-intensive

Verastream uses services to integrate web front end with 3270-based system

QUICK VIEW

Problem

Core mainframe-based patient management system lacked synchronization with web-based front end and required manual data entry.

Solution

Used Verastream-generated services for real-time integration and automation of processes to eliminate manual tasks.

Results

- Previous 15- to 20-minute transaction time now 3 to 5 minutes.
- Thousands of dollars saved annually on supply-tracking solution alone.
- Per-transaction fees saved by automating insurance-remittance process.
- Verastream-generated services reused in additional ongoing initiatives.

Universal Health Services is a Fortune 500 company and one of the largest health care management organizations in the United States. UHS owns and operates acute care hospitals, behavioral health centers, surgical hospitals, ambulatory surgery centers, and radiation oncology centers. Founded in 1978, their facilities employ more than 38,000 people. Last year's revenues were more than $4.75 billion.

An Ineffective Manual Process

UHS offers an online pre-admission application called Regie that allows patients to key in primary data (demographic information, health history, insurance company, subscriber number, clinical requirements, e.g.) via a web site. But lack of synchronous communication between Regie and the core patient management system resulted in an inefficient process that needed to be fixed.

The UHS Patient Management/Patient Account System (UHS PMS/PA) resides on an IBM mainframe. UHS had no write access to the mainframe data and could not make direct updates. UHS PMS/PA uses a hierarchical database and UHS did not want to access the database directly, which would require bypassing critical business rules.

So, once patients entered their information in Regie, it would be collected in a Lotus Notes database. Admission clerks would then receive an e-mail alert, go into the database, print out a completed patient form, and manually key the same information into UHS PMS/PA. It was a time-consuming, error-prone process.

Integration manager Joe Kelly said that, because UHS PMS/PA is an older system, it is closed and "unfriendly" to modern technology. "The back end is not ODBC-compliant and the only way to get database information incorporated is to go through the front door – the main CICS screens," he said.

Finding the Right Solution

UHS had tried to update their procedures by creating a shell process that would start a terminal emulation session, launch an Online Interface Express screen, and write the data into the patient file. But that system turned out to be cumbersome and unreliable. Kelly said the ideal solution for UHS would provide tools for writing a program to read the patient information from the database, let admission clerks review it for accuracy, and pass it on for automatic population of UHS PMS/PA.

In search of a modern integration solution, UHS outlined decision criteria that included ease of use, quick development-to-implementation time, and reasonable price. But most of the products they explored were not even services-based; they all required manual launching of each step. "None of the products contained a web-friendly technology for implementation," said Kelly.

Having successfully used Attachmate® products in the past, UHS was simultaneously evaluating Attachmate Verastream® Host Integrator. When Kelly saw an on-site demo of Verastream, he was impressed with its ease of use and intuitive GUI. And a deal-sealing factor in favor of Verastream was its ability to create and reuse services.

Verastream Host Integrator encapsulates mainframe data and logic via the application interface to enable participation in today's service-oriented architectures. Verastream transforms the full range of enterprise host applications into reusable assets by exposing business processes as web services, XML, Java, or .NET components.

End-to-End Integration

Attachmate consultants met with UHS business analysts, performed a thorough review of project requirements, and worked with technicians, helping them create services via Verastream-generated models. They implemented a system

> "We've been reusing the same exact Verastream-created web services for every one of these projects."
>
> – Joe Kelly
> Integration Manager
> United Health Services

that allowed the call of a web service to obtain information from database modules and update the patient management system. They did it by exposing Verastream procedures as .NET web services and consuming them from the custom web application.

Now the click of a button automates the integration process, from the patient web front end to the 3270 back end. A step is built into the procedure for admission clerks to review and approve the data before passing it on to UHS PMS/PA, but instead of the 15 to 20 minutes each transaction previously consumed, it now takes three to five minutes. That's because admission clerks no longer have to print out forms and rekey data. Integration with the host application takes place right at the user interface layer.

"Verastream is such an easy tool that you don't have to be a VB.NET or C# coder," said Kelly. "Even moderately technical business staff can build models."

Implementation took about three months, with Kelly's staff spending only about 20 percent of their time on the project. "We easily met our goal for on-time delivery," he said, adding that all 23 of the UHS acute care hospitals are now successfully using this solution.

Reuse, Don't Rebuild

Reusable services have been an ongoing benefit at UHS, where they've used the Verastream-generated .NET web services from the Regie-integration project in a number of new initiatives. Here are some examples:

Automate insurance-payment posting

UHS updated and streamlined their insurance remittance process by creating a program that parses patient-service billing data and calls up the patient account, with corresponding insurance code. Then a "recycled" web service imports the automatically calculated insurance payment (from an EDI application) into the patient account.

It's all done electronically, centralized out of their corporate IT systems, with no paper hard copies or postal deliveries needed. Best of all, time cycles wasted for manual rekeying – and associated "fast fingering" errors – have been eliminated.

With UHS PMS/PA running ASPs out of proprietary systems, this automation has been cost-effective for UHS; they have been able to save all per-transaction fees previously paid to their provider, when the process was manual.

Update medical-supply tracking

UHS has also modernized their system for tracking medical supplies used in patient procedures. Before Verastream, they would scan this data into their established record-keeping system, and then manually key it into the patient account. Although they had updated that process using an online batch facility, it lacked acknowledgements for correct charges posted, payments made, and transactions completed.

In addition, there were no alerts for out-of-sync episodes. "It would often be weeks before we knew that things like stents or heart catheters never got applied to the patient account," Kelly said. "Then we'd have to go back to the insurance company and rebill. It was a huge headache to prove that the patient actually used those medical items and sometimes it was impossible to recoup that money."

They have since created a new interface to make it all happen automatically—and synchronously. With Verastream, UHS gets data from their supply-tracking system and automatically imports it into the patient account. All the necessary acknowledgements are built into the process, with immediate feedback available for any question. "Now we are triaging the data within 24 hours," Kelly said.

Thanks to Verastream, UHS has stopped losing revenue because of errant medical-supply charges. Furthermore, using the prior proprietary integration process, UHS would get charged a monthly fee for every 25 interfaces. Since the Verastream solution allowed them to replace upwards of 100 interfaces, they are now saving thousands of dollars per year on this medical-supplies charge process alone.

The Verastream Advantage

These projects have been so successful that UHS is considering the migration of additional processes, including radiology and pharmacy charges, to a similar services-based solution. And an immediate insurance-notification project is in the works, too (this one using Verastream to provide integration between mainframe applications and Microsoft® BizTalk®).

"We've been reusing the same exact Verastream-created web services for every one of these projects," said Kelly. "Even though the input may be different – one may be batch, one may be a standard EDI transaction, one may be a pipe-delimited transaction with socket communications – we use the same web service to the patient account, no matter what the inbound is."

No new coding was required in creating the Verastream solutions. In each case, a single application retrieves information from a database, reads it, and automatically posts it to a patient account. Kelly concluded with high praise: "Verastream is the cream of the crop."

Attachmate

Corporate Headquarters
1500 Dexter Avenue North
Seattle, Washington 98109
TEL 206 217 7500
800 872 2829
FAX 206 217 7515

EMEA Headquarters
The Netherlands
TEL +31 172 50 55 55
FAX +31 172 50 55 51

Asia Pacific Headquarters
Australia
TEL +61 3 9825 2300
FAX +61 3 9825 2399

Latin America Headquarters
Mexico
TEL +52 55 9178 4970
FAX +52 55 5540 4886

WEB attachmate.com
E-MAIL info@attachmate.com

For regional office information, visit **www.attachmate.com**.