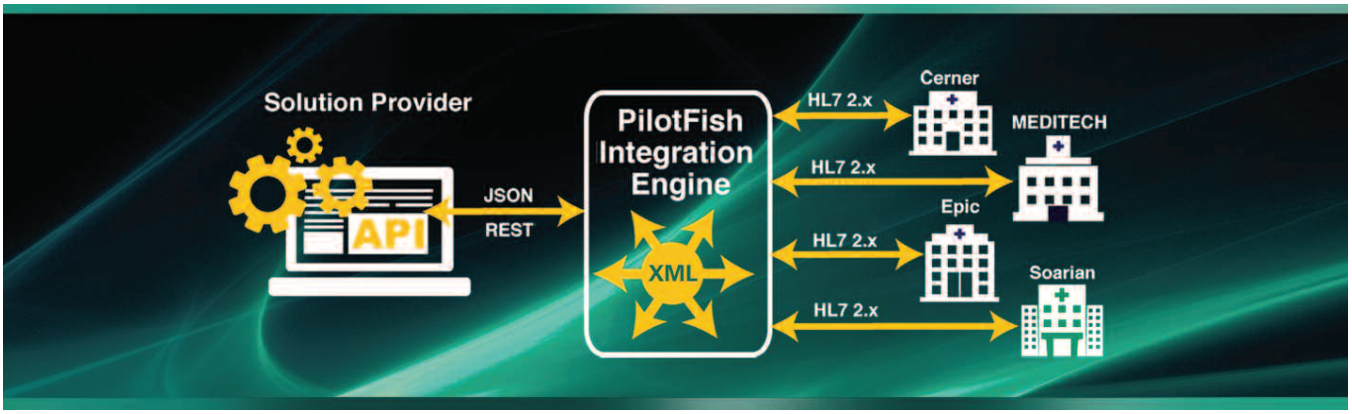
PilotFish Studies in Integration

Epic Integration, Mega Results

Message delivery is critical when impacting patients and serving tens of thousands of meals daily in acute care settings across the USA. Reliably reaching the right patient at the right time and patient safety are paramount. Real-time integration with HL7-based EMRs, and admissions, discharges, transfers and order changes is crucial. Learn how a leading food services provider found a true partner in PilotFish to ensure that implementation of its new cloud-based food and nutrition management system was pain-free to its client base and provided a lasting foundation for growth.



THE CLIENT

The client offers food service management and other related services to hospitals, nursing homes and acute care facilities nationwide. Its applications provide dietary food order management and services for patients in hospitals and other healthcare settings. Dietary orders and applications, and the accuracy of the data and its delivery, are critical to the care and safety of patients during their stays within these healthcare facilities.

THE CHALLENGE

The client had recently developed a new, cloud-based food and nutrition management system, ultimately responsible for ensuring that the correct meals and dietary supplements are delivered to patients' bedsides. In order to successfully implement the application across their provider client base, diet orders need to be securely received from the healthcare providers' clinical systems and processed into their application.

The challenge is significant. Different flavors of HL7 2.x messages are provided by every provider, each of which has its own nuances, intricacies and oddities. Coding systems for diets, supplements and allergies all require normalization across representation schemes. All of this information must then be converted into REST-ful web service calls to the provider's application using a JSON payload compatible with the API exposed by their proprietary management system.

In addition to managing a slew of inconsistent data formats, the client is required to monitor and maintain dozens of TCP/IP connections over discrete virtual private networks. Each one of these channels receives high volumes of HL7

messages that must be guaranteed to process successfully, in correct order, and at a rate that can be handled by the downstream system.

The client was in search of an integration solution that would address these challenges and could facilitate wide-spread deployment of their system and services across the United States. Importantly, another requirement was that it needed to be easily managed and maintained by their internal team.

THE SOLUTION

After an extensive review of the leading interface engines, the client elected to implement the PilotFish suite of integration products, including the eiPlatform, eiConsole and eiDashboard. The PilotFish professional services team and the client architected a solution that allows the client to manage all of their individual client connections through the eiPlatform interface engine.

Crucial in hospital and health care environments is guaranteed message delivery. As messages arrive over TCP/IP they are received by PilotFish and immediately placed on a persistent queue. This ensures that no messages are lost when they are sent from the client. From the queue, the messages are processed in a controlled, “first in, first out”, fashion into the diet management application. The eiPlatform allows the client to throttle the volume of messages from each channel to match throughput to their system’s capability to ingest the data. Without throttling capability, the client’s system would be vulnerable to being overwhelmed during periods of high volume, potentially putting patients at risk for lost or unprocessed messages. The client relies on the eiPlatform’s throttling capability which addresses this issue in a reliable and easily configured manner. The Pilotfish eiDashboard application monitors these messages and provides real-time visibility with the ability to configure trigger alerts at critical stages.

As messages are processed, they are also transformed from various permutations of HL7 into JSON service calls. As part of the transformation process, PilotFish developed a custom spreadsheet-driven mapping component to rationalize the conversion between different vocabularies for diet orders, allergies and nutritional supplements. As individual HL7 diet orders are processed, this human-readable spreadsheet-mapping component is used to drive real-time conversion of codes into common values that are easily understood by the diet management system. The PilotFish architecture facilitates rapidly and easily creating custom components. The spreadsheet driven mapping component is one example of how this capability was leveraged to meet the client’s very specific requirement and facilitated faster implementation.

Also critical to the client’s success was the ability to rapidly implement new clients, many of whom would send messages with slightly different HL7 message structures than what the built-in interface was designed to process. In order to address this, the client regularly leverages the interface “cloning” capability of the PilotFish eiConsole. With just a few clicks, an existing interface can be copied and modified to handle client-specific implementation details. Staff rapidly updates simple configuration screens to modify communications methods or data processing rules. Transformation changes are made visually, simply dragging and dropping impacted fields in the Data Mapper. As the client continues to clone and configure new interfaces, the catalog of “out of the box” options has grown. An

interface built for an Epic EMR has become the “gold standard” from which almost any other interface is quickly derived. At this point, the level of reuse is so high that most any new implementation can be ready for testing in less than 30 minutes.

THE BENEFITS

Through the adoption of PilotFish, the client has achieved a single, consistent approach to client integrations. This approach allows them to highly leverage reuse. Each new implementation can be achieved by cloning an earlier effort and only making minor modifications in configuration – no programming is required. New client systems can be implemented much more rapidly, which in turn minimizes internal resource costs, allows them to realize new revenues sooner and increases customer satisfaction.

As more and more clients are brought onboard, the eiPlatform provides for centralized and streamlined management of all of client connection points, with the eiDashboard providing web-based insight into the operational health of each endpoint. The advanced queuing and throttling capabilities employed ensure patient safety and that no messages are lost. Spikes in volume can be handled without disruption or downtime, as well. This has kept the day-to-day costs of overseeing these critical interfaces manageable while providing instant access to relevant logging and audit information.

> *“PilotFish Healthcare met all the criteria we had established for selecting an integration engine solution. However, what really impressed us was the ease-of-use of their solution. The PilotFish eiConsole for Healthcare IDE uses a graphical Assembly Line approach to configuring complex interfaces that is simple, intuitive and fast.”*
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> Vice President Technology

The client has succeeded in rapidly and successfully rolling out their service to providers across the country, and is positioned to continue to meet the demands of continued expansion with a future-proof, scalable solution powered by PilotFish.

THE FUTURE STATE

PilotFish offers the only commercially supported healthcare interface engine solution that allows clients to leverage open source components with open APIs. The architecture of the eiPlatform easily facilitates extending the software to support new standards and technologies. As part of our continued mission to improve our products and provide additional value to our customers, PilotFish has extended support for the new FHIR standard. FHIR, short for Fast Health Interoperability Resource Framework is the new healthcare standard from HL7 that is quickly gaining momentum. (In fact, one of the EHR giants in the industry recently announced they will be moving to the FHIR standard and will require their customers to support it.)

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As the standard is officially adopted or when it is required by vendos and clients, PilotFish supports easy transition to FHIR. Within the PilotFish products, the client need only select the FHIR Format Reader to start working immediately with the standard. Once the data has been read in, the client can use the graphical Data Mapper to map the FHIR standard to or from their canonical format. In short order, the mapping from FHIR to any system's required format would be complete and ready for implementation.

With PilotFish as a partner, the client is well positioned to take advantage of the FHIR standard as adoption looks to rapidly expand with early benefits being quickly realized.

Over the course of nearly 15 years and hundreds of implementations, PilotFish has developed and refined a methodology for the configuration, testing and deployment of interfaces and process orchestrations. We have an unblemished track record of success. Through years of Bake-Offs and Proof of Concepts (POCs) we have demonstrated the value of our integration engine solutions to future customers. Let us conduct a Free Use Case Evaluation for you to determine where PilotFish can provide the most value to your organization and solve your most complex integration challenges.

To schedule a Free Use Case Evaluation and to learn about what PilotFish Solutions can do for your organization please contact us at 860 632-9900 x 309 or Email us at info@pilotfishtechnology.com