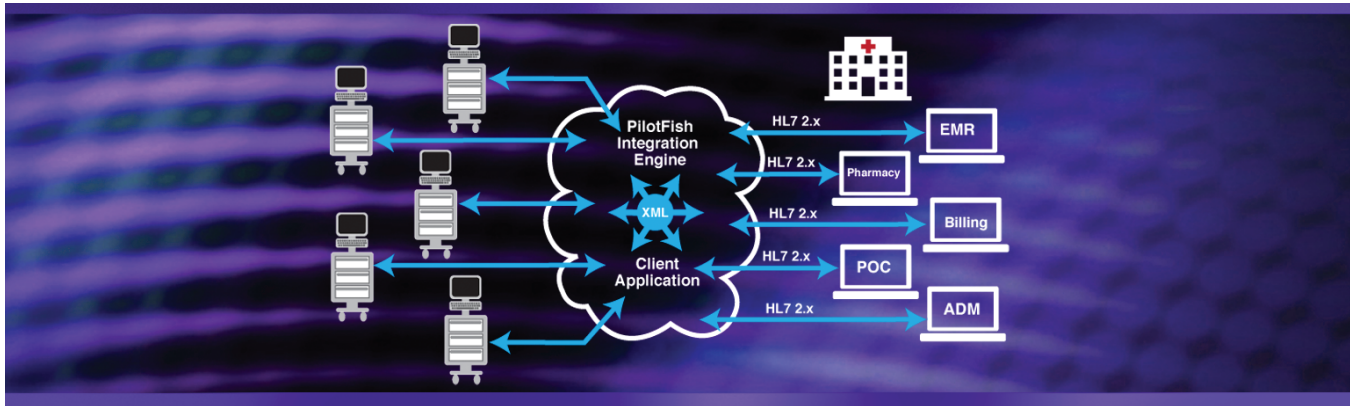


# PilotFish Studies in Integration

## Interop-Capable Equipment Envy

The healthcare division of one of the world's leading manufacturers delivers new out-of-the box interoperability capability. Partnering with PilotFish, a single consistent integration approach across product lines was achieved to support a growing client base of globally-dispersed automated medication management environments.



## THE CLIENT

The client is the healthcare division of a \$30B company and the world's leading manufacturer and supplier of storage and transport products. The division provides medication management solutions and automated medication dispensing carts and cabinets to hospitals and other healthcare facilities worldwide.

## THE CHALLENGE

The client offers a product solution suite to a geographically and demographically disparate set of Healthcare providers, including international hospitals with thousands of beds. Each of these products has historically been managed and implemented independently of the others – with little consistency in approach or technology platform.

The strategic direction of the company's medication storage and management products necessitated offering a single-source, end-to-end workflow. In addition, the ability to place best of breed components into a provider's automated medication management environment that may also contain competitive offerings was required. With respect to integration, this required the flexibility to communicate not only with EMR, pharmacy and billing systems but also with other equipment and applications that may already be in place (POC, ADM, smart shelving, etc.).

The client had previously implemented a number of different HL7 integration solutions, notably including the open source HL7 Interface engine and another leading commercial interface engine. As the organization moved forward to standardize on a single approach across their product lines, each of these previously licensed technologies graded out as suboptimal. The open source product quickly became cost prohibitive for large scale, commercial deployment. The other's offerings were approaching end-of-life and lacked the demonstrated flexibility to keep up with a host of new customer demands.



## PilotFish Studies in Integration (continued)

The client required a new interface engine solution that could support the integration requirements of all of their products, in any provider environment, and in any part of the world. They were in search of a solution that was lightweight enough for deployment alongside any piece of equipment. The offering would also need to be flexible enough to handle a wide range of data formats including any flavor of HL7, IHE profiles, DICOM, XML, relational databases and anything else that their implementation teams may encounter. Along with traditional TCP/IP (HL7 LLP) messaging, the tool would also be required to support SSL, FTP, SFTP, and file-based transmissions.

Implementation and deployment ease was also a daunting challenge. Due to their size and geographic breadth, implementation teams for the client's products fan the globe. Remote access to provider IT infrastructure is often limited, if available at all. On-site travel is expensive and time consuming. In response to these conditions, the selected interface engine would need to be exceedingly simple to install, manage and configure.

In summary, the future of the organization demanded an integration framework that could be readily incorporated into its many platforms. This framework had to enable communication between their own systems, third-party products and any other provider IT asset for which intercommunication is essential for patient safety, product effectiveness and optimal workflow. At the same time, the solution would need to offer commercial terms and deployment models compatible with a global manufacturer of medical equipment and provider of medication management solutions.

### THE SOLUTION

After an extensive request for proposal (RFP) process and vendor proofs-of-concepts, the client selected the PilotFish eiConsole and eiPlatform interface engine solution to become the single standard for addressing its integration requirements. PilotFish, unlike many competing offerings, has focused on architecting both the company's software and creating a business model to meet the needs of medical device and equipment manufacturers and solution providers. Working in partnership with client stakeholders, PilotFish was able to offer the client per-deployment licensing that was in full alignment with the client's own financial model. The negotiated agreement allows the client to deploy the software internationally, with the commercial benefit to both organizations growing as value is delivered to the end client.

PilotFish collaborated with the client's technical team to deliver an eiPlatform "bundle" – a simple executable installer that includes everything needed to make the client's equipment instantly "interoperable capable". The client is unencumbered by additional software requirements or deployment complexity that could otherwise act as overweight baggage to distribution. Nonetheless, the bundled integration solution includes the full core interface engine functionality of the PilotFish eiPlatform.

The client found PilotFish software to be among the most robust of modern solutions in the marketplace, the impressive result of having been continuously evolved over the course of a decade of real-life implementations. The eiPlatform is the server software at the heart of PilotFish's best-of-breed integration software, built with the sole purpose of facilitating the interoperability of systems, trading partners, equipment and devices regardless of technology platform, standards compliance, communications protocols or data formats. The bundled solution also includes a set of "out of the box" HL7 interfaces pre-configured using the PilotFish eiConsole for Healthcare development environment. The typical integration use case includes the electronic receipt of a medication order, association



## PilotFish Studies in Integration (continued)

of a patient record and drawer to that order, and tracking the dispensing of that medication. The eiConsole allows the client to graphically configure – rather than code – these interfaces into and out of any of their medical equipment. As the client's various products expose new data or capabilities, one or more interfaces to interact with or provide access to these are configured. On one side of these interfaces sit relevant standards, such as HL7 2.x messaging or IHE profiles. On the other side, these standard messages are graphically mapped onto the proprietary format most readily consumable by the particular device. In many but not all cases, the client's interfaces map HL7 2.x messages to and from a proprietary SQL-based data store.

The combination of the eiPlatform engine and the bundled interfaces allows the client to produce generic forms of the outbound messages to support typical EMR and eMAR (electronic medication administration record) interfaces, as well as to expose the IHE medication management workflow. These interfaces also support the requirement to provide on-demand HL7 or XML representations of specific patient information or data related to a medication event. The bundled interfaces provide the client with a solid jumping-off point to address most provider integration scenarios. Yet each implementation and environment also has its own nuances that must be addressed. Great value is achieved through the PilotFish solution's ability to flexibly and rapidly adapt these bundled interfaces to the requirements of a given client deployment. It's easy, too, to build entirely new interfaces on the fly to address unique challenges, a particular distinct advantage and value for service staff in the field.

“ *The PilotFish product suite offers the advanced technology, flexibility, and rapid interface development tools needed to effectively interface with the array of IT systems found in healthcare and to meet the evolving federal meaningful use mandates. Following an extensive evaluation of numerous commercial offerings we felt that PilotFish was the most synergistic with our own architecture and integration strategy and best overall value proposition.* ”

Director Software Solutions

In just a few days, PilotFish personnel trained a handful of client staff on the eiConsole for Healthcare product. PilotFish also developed a web-based online resource knowledge center customized to the client's product usage profile. The combination of a short training period, robust and relevant materials and the repeatable automated interface assembly line inherent to the product allowed the client to rapidly get up to speed to support customer implementations with virtually no PilotFish support.

### THE BENEFITS

The client has realized the benefits of identifying a single integration approach to support their worldwide operations. They have also gained a solution that is flexible and future-proof. Each of the core components of the interface assembly line is configurable, pluggable and extensible. This has provided a consistent approach that can be evolved to meet the changing needs of the international market. By loosely coupling the interoperability API (e.g., HL7 or IHE messaging protocol specifics) with its equipment, changes to evolving standards require only configuration changes in the middleware layer, leaving the core system logic unaltered. Existing system deployments can be updated to support newer versions of the standards through the deployment of updated file-based configurations.



## PilotFish Studies in Integration (continued)

The PilotFish interface engine has proven itself to be intuitive, easy-to-use and easy-to-learn. Service personnel find implementations painless and are able to smoothly and quickly integrate equipment with hospital client systems. As an organization with a truly international distribution of its products, our client's solutions must work out-of-the-box, with extremely limited customization, configuration, and on-premise support requirements. The client has now developed a single interface that they have dubbed their "Gold Standard". Most new hospital clients are now implemented without making any modifications to this interface. This flexible default option, coupled with a capability to remotely support all software configurations, allows our client to implement new customers in an average of under four hours. Working collaboratively with PilotFish, our client has delivered a winning solution that removes a previous bottleneck to rapid, global adoption of their best-of-breed product offering.

### THE FUTURE STATE

Flexibility and extensibility is architected into PilotFish solutions to easily add support for new standards or data formats. As international adoption of the new HL7 FHIR (Fast Health Interoperability Resource Framework) standard takes hold, the client can take advantage of PilotFish's newly implemented support for FHIR.

PilotFish support for the new FHIR standard includes a FHIR Format Reader with support for Profiles and full support of the specification in the product's Data Mapper, including the metadata. Support for a number of core technologies that FHIR users will benefit from, such as Web Standards like JSON, HTTP, etc. and RESTful architecture, has also already been implemented. By leveraging PilotFish's FHIR support, the client will instantly be interoperable with customers with FHIR-compliant EHRs.

As the client builds up an international services team to support worldwide operations, they will be able to utilize the PilotFish Train the Trainer Program. The modular component design of the product has proven well suited for creating customized training materials. By selecting modules related to a client's use case, PilotFish is able to create a customized Training Program and Online Resource Center for each client to suit specific skill level and service requirements. The client can leverage this to easily self-support its implementations and train the international services team as their market share rapidly grows.

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](mailto:info@pilotfishtechnology.com)

