

Before You Build a Healthcare Communication Subsystem...

Initial Questions for Healthcare Vendors to Consider

Introduction

Within the walls of any talented software team is the belief that any piece of programming, server, or program can be handled “in-house” rather than purchased. This point of view is understandable and often the case for vendors in the healthcare industry. When the need for adding any functionality to your product, service or program arises, there can be a natural inclination towards building the tools internally rather than purchasing them.

This is especially true in regards to conquering the hurdles of connecting disparate clinical applications within healthcare entities, which is why the healthcare communication system (interface engine) market is so specialized. Before venturing into the waters of healthcare data interfacing, history has demonstrated that it is critical to fully understand the litany of items that must be accounted for and constantly managed. Many vendors have discovered that in the end, the talented teams within any software vendor or medical device manufacturer will be better served by dedicating time to your product, program or service, and allowing healthcare communication subsystem specialists to help them do so.

This paper presents a few questions that should help healthcare vendors better understand the value in purchasing a healthcare communication subsystem rather than expending the resources to build, modify and maintain one.

Question 1: How Is Your Time Best Spent?

The buy vs. build issue is a regular one for any business. Just as your customers have decided to purchase your product or service, decisions have to be made on a regular basis regarding numerous business issues. Is it more cost effective to:

- Print collateral in-house or outsource?
- Hire a web designer or outsource?
- Build a communication subsystem internally or purchase one?

There is not a universal answer to any of these questions. In each case, there is a threshold, or pain-point that each organization will approach that ultimately determines which route to take.

Considering a healthcare communication subsystem, like many other products, it is critical to understand the long term goals and potential future opportunities a particular medical device or application will have. If there is certainty that a product’s sales potential will remain static over time, then a scaled-down communication subsystem built internally might suffice. However, if it is important to be competitive by offering functionality such as logging features, or the ability to connect to multiple devices or facilities

(that all utilize different messaging standards), the time and investment spent building a simple interface engine in order to solve a perceived small need might have been wasted due to the more robust interfacing needs of your customers.

Ultimately, the question of how your organization wants to build differentiation in the marketplace must be answered. If the ability to exchange clinical data across multiple platforms, while accommodating multiple messaging standards is the desired differentiator, the next question to answer is whether the expertise and passion rests internally, or whether partnering with established interfacing experts makes more business sense.

Question 2: Is There a Passion for Healthcare Interfacing?

The most often heard answer to interfacing subsystem questions is “it depends.” This answer is typically both frustrating and completely accurate, because solving any clinical data communication challenge depends on any number of factors:

- It depends on the type of data being transmitted
- It depends on format of the sending application
- It depends on the format needed by the receiving application
- It depends on which messaging standard the receiving application employs
- It depends on which messaging standard the sending application is configured for

Manually responding to each “it depends” can be time consuming, especially when each installation will likely be different. Furthermore, time that could be spent enhancing the product your company has a passion for is diverted to spending time solving the nuances of healthcare interfacing standards.

Question 3: Who Will Support Your Subsystem?

Just as with any software application, there is much more to a healthcare communication subsystem than a one-time deployment. A common misconception is that a communication subsystem merely parses packets of data. However, there are a myriad of message types, versions, and standards within those types to take into consideration.

Additionally, with each new version of a messaging standard comes the possibility of drastic changes to a previously understood language (e.g.,

HL7 V2 to HL7 V3). This can translate into hundreds of development and product management hours understanding the new standard and assimilating an interface to it.

Another factor of consideration is determining how long it will take to support the interfacing capabilities that have been internally built. Considerable time will be spent creating an interface between your device or application, and your customer, based on their existing messaging standards. Your customers will certainly expect interfacing support if any problems arise. The same will be true if and when a customer adopts a new messaging format or standard. When a new version of a messaging standard is released, there are always changes that have the potential to dramatically impact the way information is exchanged, requiring support and development by your staff to accommodate those changes.

For example, a heart monitor "AAA Medical Device Inc" is purchased by a hospital. The monitor includes an interface that connects to an EMR system. An interface is built upon HL7 version 2.4 used by the EMR vendor. Six months later, the hospital upgrades to the newest system offered by their EMR vendor, which is now utilizing HL7 version 2.5. All of a sudden, parts of fields are set as 'required', which didn't exist in version 2.4. This seemingly innocuous difference may require a near complete reconfiguration of the interface subsystem in order to work properly. The same scenario would exist if the hospital decided to replace their EMR system with a new EMR from a different vendor. What this means, essentially, is that building a communication subsystem is an ongoing process, rather than a one-time project.

Question 4: How Soon Is An Interfacing Solution Needed?

This is often the question asked, but the real question to ask is "how soon is some level of interfacing ability needed?" Typically, the need for some level of interfacing arises due to the need of a particular customer. Inevitably, though, a different customer will have a similar, but slightly different interfacing need and the process will start all over again. As this process continues, a threshold will quickly be broken where it would have been more efficient and cost-effective to purchase a scalable, ready-to-go communication subsystem that has been through several levels of enhancements, rather than developing custom interfaces for individual customers.

Without prior experience in doing so, a typical subsystem can take six to eight months of development time for only one messaging standard or customer need.

Question 5: What Features Are Essential in a Healthcare Communication Subsystem?

Aside from enabling systems to communicate with one another, there are other key features your customer will expect in addition to simple two-way messaging:

- **Monitoring & Alerting:** Inevitably, at some point connectivity may be interrupted for any number of reasons. Competitive interfacing solutions will need to be able to identify an error source, and more importantly, alert key personnel of the issue so it may be resolved proactively.
- **Scalability:** The number of connections to an interface required by your customers will grow over time. With more healthcare providers demanding electronic exchanges of patient data and the growing EMR adoption, a competitive interface engine should be able to grow with the demands of the market.
- **Compatibility with Different Data Formats:** In addition to HL7, your interface engine should be able to handle other clinical standards including the Clinical Document Architecture (CDA), Continuity of Care (CCR), and XML. EMRs are growing as a key driver in healthcare interfaces, so addressing the various clinical formats is critical to meeting an application and provider's interfacing requirements.
- **Testing & Maintenance Ability:** The ability to match and then test messages against a particular HL7 version, including any customer modifications, is essential. It is equally important to be able to provide documentation of any interfaces built and deployed in order to manage the cost of support for each installation.

Summary

The decision to buy or build a healthcare communication subsystem is one that will impact your organization in the marketplace for a very long time, far beyond completing a project for a particular customer. As you think through the process, remember:

- Where can you best leverage your company's engineering resources to add the most value?
- What customer problems do you want your company to solve?
- What customer support model will work best in the long term?
- What will be your customer implementation resource model?

- Where is your company's passion – your product's features or interfacing?

Partnering with a company that has invested thoroughly in product development, training, and consulting time in healthcare interfacing will ensure there are no sales lost due to the time it takes to build, test and deploy an interfacing solution. Finding a company that has a passion for healthcare interfacing will allow your company to continue to focus on your primary mission.

About Corepoint Health

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