

Developing A Healthcare IT Platform

Interview with Dr. Siegfred Bocionek

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Interviewer: Christian Renaudin, TMTG

CR: Are healthcare IT solutions becoming increasingly integrated and compartmentalized? Is the industry heading towards one-vendor solutions, phasing out best-of-breed?

SB: I completely agree with these statements. I would add one specific enhancement: platform. The current trend towards integration will work only with a comprehensive understanding of platform capabilities. A one-vendor relationship does not translate to a one-platform adoption. A platform represents a separate infrastructure that allows meaningful integration. A one-vendor relationship involves a liability release. In other words, service level agreements, compliance, statements, etc., where the customer shifts the integration responsibility onto one vendor. The customer will not deal with multiple vendors, and one main contractor will take responsibility for the integration work. Integration will thus eliminate "finger pointing." However, without a platform, integration becomes very expensive for both the vendor and the customer: one, for the vendor in the form of additional research and development costs, and two, for the customer in the form of implementation and maintenance costs. Therefore, the integration philosophy fully works and makes sense only when bundled with a platform philosophy.

CR: Where will integration start?

SB: Integration will start within the clinical specialties. Initially RIS-PACS integration occurred in radiology. It will continue in cardiology with one-workplace integration, in oncology with the integration of dosimetry planning, treatment simulation, medication protocols and patient management. Areas such as the ICU will integrate data and patient care management elements. Initially, the leading healthcare IT companies will help customers to simplify individual department workflow.

Administration and billing integration will follow, and the final step will occur when integration extends to payers and to the community. Extension to payers will replace existing clearinghouse systems so that provider systems will automate the claims exchange. Extension to the community encompasses the notion of disease management and patient care follow-up. These pieces will take more time to put in place.

CR: Why integration? What are the benefits to the customer?

SB: The main benefit to the customer is cost reduction without compromising quality. Installation occurs quicker and more smoothly with fewer interfaces to handle. In addition, the reduction of connectivity concerns with third party vendors systems translates to fewer professional services for which the customer typically pays.

Integration will increase system reliability and decrease system failure and downtime, in turn decreasing cost. Integration will reduce the number of databases. One main database will provide greater consistency and higher yield. The last, most debatable point: integration will allow the vendor to offer better pricing for software licenses since the addition of software licenses will not lead to higher cost of sales. This cost is already amortized. This less tangible cost, contrary to the cost of professional services, could be better managed. The vendor will have the opportunity to pass this improved cost control on to the customer.

CR: What are the drawbacks to integration, if any?

SB: Integration presents few to no drawbacks. One could argue reliance on one vendor as a drawback, but other industry examples show this has not posed a problem (e.g., in the financial industry). For example, in general industry many companies use SAP for all business processes, and these companies easily adopted this “standard” without any concerns about dependency.

Another issue raised, such as customization ability (or lack thereof), could be perceived as a drawback to integration, but in a sense, standardization is good. The healthcare industry needs to understand that standardization will decrease costs. Too much freedom increases costs to the customer, whether these costs involve maintaining large, unnecessary IS departments, or with the increased susceptibility to system failure that customization presents. Forcing providers to rethink their processes would benefit everyone involved in healthcare. At present, healthcare professionals have tried little to understand their workflow and to rework their processes. Information technology could trigger this effort.

CR: What is the benefit to the vendor?

SB: The benefit to the vendor is to decrease cost, to better understand and better control both engineering and sales costs. A platform approach is much easier to install and maintain, and reduces the sales and engineering cycles. By eliminating the need to look at each vendor’s compatibility and interface issues, you save time and money.

CR: Who will resist integration? What type of customer?

SB: University hospitals, where relatively independent department heads have very strong positions, will resist integration. A particular department chairman, with the ability to bring money to the institution through grants or other forms of financing, may maintain a strong opposing position and refuse any standardization or integration initiative. This phenomenon is even more prevalent in Europe than in the United States. In addition, if a chairman/director of radiology prefers or insists implementing a certain approach to PACS, a CIO will have great difficulty enforcing a particular integrated approach. However most private sector customers, the non-university market, are actually embracing integration for survival.

CR: How will integration address the large volume of patient data?

SB: Integrating all sources of patient information requires three different data management systems:

- One, the EMR, which can be considered the patient’s home page, includes demographics, history, longitudinal data and links to other databases;
- Two, the image database, which includes all image related data from x-rays to video clips;
- Three, real-time data such as vital signs (i.e. ECG).

These three databases cannot be merged, but linked to one to another intelligently, and in a way that is effective for patient care.

CR: Does the trend towards integration conflict with confidentiality and security imperatives?

SB: Physicians and CIOs would ideally like a single sign-on. The platform approach actually simplifies the sign-on procedure. Integration allows realistically implementing the single sign-on, which physicians will appreciate. Vendors should worry little about the liability exposure of an individual breaking in to the system. Some exposure may exist, but the rewards far outweigh any risks. The increased accessibility highly integrated systems create does not translate to a decrease in security.

CR: Will integration force customers to choose a specific vendor or will industry standards exist?

SB: Standards and vendor platforms should be compatible. At Siemens we intend to maintain an open architecture and embrace existing standards, whether it involves an EDI system or HL-7 standards. At least forty people in Health Services work on standards. At Siemens, we have three platforms (Syngo, SIENET, Soarian) that will be easy to change and upgrade as new standards evolve and provide customers with the maximum benefit. It is actually more difficult to create a standard with a best of breed approach and easier to create a standard with fewer players in the market.

CR: Will the small players disappear?

SB: Unfortunately, the small players will disappear. The smarter players have already tried to be acquired. The players without a “be-acquired” strategy or without an attractive offer will most likely suffer in the near future. In the end, two or three major platforms will emerge, and we think Siemens will be among them. As in other industries, smaller players will need to develop new features and software applications based on the dominant platforms.

CR: What are the two to three-year trends? What is your vision of healthcare IT?

SB: I think our industry will follow the same path as ERP (enterprise resource planning) systems. Healthcare customers will spend more money, but will get a lot more out of the systems. Today, the healthcare industry still uses the Model-T assembly line process. Now is the time to move to “robots” in order to automate workflow and free up the necessary resources to focus on patient care. I am still amazed to see nurses and staff used simply to collect information, when this process could be automated.

CR: How far will integration extend? Do you see care networks between communities?

SB: Yes, I foresee care networks between communities. For example, in Germany we tried to support the creation of a physician network. In essence we tried to create a virtual hospital to compete against certain hospitals in their market. This required a shared patient record. We helped to pioneer an approach, and in the end we realized these physicians were more interested in a security system, the main enabler to their record management solution. Organizing access is key, but the initiative failed because the petitioners refused to commit the necessary monetary investment.

CR: Do you think a vendor can help organize the market by playing a role in data warehousing, such as corporate data exchange?

SB: Yes, but this is dangerous and represents a different type of business model for an infrastructure provider.

CR: Do you think there is a contradiction between integration and physician mobility?

SB: No. Universal access will increase mobility capabilities. Fewer patient ID problems translate to easier implementation of a master patient index, which also ensures patient mobility from one healthcare system to another.

CR: Do you see an upstream integration of equipment, such as monitoring devices?

SB: Equipment integration would be desirable. How soon this will occur is unknown, but we can envision intelligent devices that will notify themselves on the network. In other words, building upon the Jini concept developed by Bill Joy at Sun Microsystems: a device notifies the network, publishes its own interface mechanism to simplify the need for drivers in the IT system. This is the next step. Agilent tried but failed. Now, due to market consolidation such as GE purchasing Instrumentarium and Siemens entering into a joint venture with Draeger, the healthcare industry will probably experience the development of a new standard.



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