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# Leveraging Your CPSI Environment with an Interface Engine

Improve Productivity, Efficiency, and Physician Confidence

## About the Author

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## Overview

In today's healthcare market, rapid technological advancements are dramatically changing the way business is done. The emergence and widespread adoption of Electronic Medical/Health Records (EMR/EHR), the bandwidth to transmit detailed diagnostic imaging files, and the ability to have cohesive communication between disparate hospital systems are just a few ways new technology is revolutionizing healthcare.

One way hospitals have adapted to better handle the trend, is to take advantage of systems like the CPSI application. Additionally, many healthcare and healthcare-related facilities are implementing interface engines that act as a "hub" in communication, not only with their internal departments, but external providers (clinics, labs, etc.) as well.

By implementing an interface engine at Henry County Health Center (HCHC), not only are we able to actively monitor all of our connections, ensuring stability, we are able to provide our physicians with patient results from sources such as the radiology department and labs electronically to their practice's Electronic Medical Records (EMR) application. Additionally, as future connectivity to different devices or providers is needed, implementation into our environment will be accomplished quickly and efficiently.

Today, more facilities like ours are finding that utilizing both tools (CPSI application software and an interface engine) enable them to be more productive, accurate and profitable in today's competitive healthcare market.

## Balancing Growth with Support

In today's competitive world, it was becoming more evident that in order to compete with other hospitals and medical clinics, while also meeting the stringent demands of our patients and satisfying the needs of our physician community, that adopting proven and cutting edge technology to better serve both our internal and external customers was paramount to cement our future success.

While our existent point-to-point connectivity between systems was very stable, we needed to have the flexibility to move as quickly as the industry. We knew that our environment was not static, and would continue to grow, both in size and scope.

The balance then becomes how to add connectivity and deliver high-quality support for the added connections while not stretching resources beyond what is doable.

## The Balancing Act

<i>Connectivity Growth</i>	<i>Connectivity Support</i>
<ul style="list-style-type: none"><li>• Building interfaces easily</li><li>• Transform and map messages between systems effectively</li><li>• Extend reach to referring physicians</li><li>• Streamline workflow between systems</li></ul>	<ul style="list-style-type: none"><li>• Monitor interfaces and connections proactively</li><li>• Respond effectively to alerts on interface status</li><li>• Keep logs of message transactions in order to provide history and re-send, if necessary</li><li>• Build confidence in service delivery</li></ul>

Having the right balance is critical.

## Creating Competitive Advantages with an Interface Engine

After analyzing our current status, future goals, and the current marketplace, we decided an interface engine would provide us with the greatest flexibility to increase our service offerings without suffering any loss of service quality. We believed that having an interface engine would deliver a balanced approach.

The interface engine implementation provided us with the ability to exchange patient information between any physician's EMR and the CSPI HIS (external requirements), meaning more data was communicated more quickly, and with more accuracy than was previously possible. It also enabled us to streamline workflow between internal applications (e.g., radiology, HIS, etc.).

Additionally, we found that being able to log and archive messages sent and received would be very beneficial. Where patient health is concerned, the way that we as technology professionals can best assist the process would be to keep records of any and all clinical data transaction history. This would ensure that if need be, that records of 'what messages were sent', 'for whom', and 'to whom' would be a few clicks away. The ability to do so would greatly increase the quality of care our patients receive, and provide our physicians and clinicians greater confidence in the work they were doing in HCHC.

### What Are the Benefits?

Outside the cost associated with adding an application to manage in your (already full) IT environment, there are a myriad of advantages to adding an interface engine:

- No longer dependent on vendors to change their message formats to meet your needs
- Able to send and receive information from multiple applications such as you're his, RIS, PACS or LIS very efficiently and productively
- Able to proactively monitor the interfacing environment and manage message logs, improving physician confidence

- Have flexibility to utilize and receive XML messages, any HL7 message standard version and data from numerous other applications seamlessly
- Reduced cost due to saved time when additional connections are needed because of pre-existing modules

### **Workflow Improvements**

With an interface engine, you are able to format data to any specification in very little time. There is no need to modify the connection, rather, only the message format configuration from within your running interface engine. This allows for a continuity and seamless workflow where changes and additions can be made without losing a single second of productivity.

#### ***Strategic advantage:***

*We can now accommodate any messaging specification seamlessly. Additionally, we are more productive and efficient while exerting less effort in far less time*

### **Comprehensive Monitoring & Alerting**

This robust tool now at our disposal provided us with the capacity to proactively monitor our interface environment. This ensured that our service level expectations were met. Prior to the implementation of our interface engine, any problems that occurred in the communication and processing of clinical data was not caught until considerable time had passed. The monitoring and alerting tools existent in an interface engine notify my staff and me the instant an error occurs; enabling us to resolve the issue before our internal customers even notice it.

#### ***Strategic advantage:***

Monitoring and alerting tools mean we can solve problems before our customers even know they exist.

### **Identifying Error Sources**

Prior to the implementation of our interface engine, identifying the source of any data transfer errors was extremely difficult. Rather than immediately identifying the source of the error, I was caught in the middle of multiple vendors, none of whom were anxious to take ownership of the error.

From my vantage point, one of the great benefits of having an interface engine is the ability to identify the source of an error with absolute certainty. Concurrently, the time saved in learning of the error, identifying the source and nature of the error saves considerable man-hours, hassle, and minimizes the time important clinical data transfer is down.

#### ***Strategic advantage:***

Knowing exactly where, why and when an error has occurred is invaluable.

## Increased Scalability

One thing is certain about any interface environment; the number of connections will only increase over time. As electronic records become more standard, and as technological advances become more widely available, the need for a robust and efficient tool to exchange clinical data will become more critical to any hospital or clinic.

### ***Strategic advantage:***

We can look to the future of healthcare IT with absolute confidence, knowing we are prepared for the demands that will be placed upon us.

## Lower Cost

There is tangible cost savings in investing in an interface engine. Both the saved time in man-hours spent on exploring where message failures originated, as well as the ease in adding new external connections to our interface engine contribute to a less expensive, more productive IT environment.

### ***Strategic advantage:***

Our time and money can be used more strategically and proactively to ensure that we continue to provide world class support to our customers.

## Additional Value

### Physician Confidence and Patient Care

As an IT director, much of my time is spent on technology, support and implementation. It is noteworthy, though, to mention the substantial increase in physician confidence and quality of patient care the use of an interface engine has created. Typically physicians are reluctant to embrace new technology. They usually just see changes to systems they are already comfortable with.

The implementation of an interface engine was profoundly different. Physicians were excited with the potential results and their confidence in HCHC increased even before the engine had been deployed. Furthermore, the abundance of clinical data we are able to transmit to and from different clinical interfaces, and the speed and accuracy with which we are able to do so, has had great impact on the quality of care we provide.

Patients receive treatment and get results from tests far more quickly than before. Our physicians are more productive, our patients are more quickly treated and informed, and our health center is simply better equipped to serve our community.

### ***Strategic advantage:***

As our community continues to grow, so will our reputation amongst physicians that Henry County Health Center is a facility that enables them to maximize their practice and serve the needs of patients.

## Summary

In any hospital IT environment, it is of paramount importance to be proactive in resolving issues with critical system interfaces. It is equally critical to find a robust interface solution with archiving capabilities that will enable you to easily resend messages. Our desire to provide higher quality service to our customers and physicians led us towards finding the best healthcare integration solution.

We completed our evolution as a next generation health center with the implementation of an interface engine. The addition and implementation of an interface engine was the catalyst needed to bring our HIS, GE Centricity™ PACS system and GE Centricity™ EMR together to work as, essentially, one comprehensive system. Upon deployment into our CPSI environment, we noticed immediate results. In fact, our interface engine paid for itself the first day it was installed.

## About Henry County

Henry County Health Center serves a community of over 20,000 residents in Southeast Iowa.

Henry County Health Center received national attention when it was identified by Modern Healthcare as both a top 100 hospital and as one of the 20 best rural hospitals in the United States. This national acclaim speaks highly for the Center, which serves as an example of quality care in the changing healthcare environment.

Since 1921, Henry County Health Center has cared for the people of Southeast Iowa with compassion and professionalism. Through the years, Henry County Health Center (HCHC) has stayed at the forefront of health care, and in the process has evolved to become more than a traditional hospital. Today, Henry County Health Center is Southeast Iowa's "hub" for healthcare, serving the needs of both healthy community members and those requiring more specialized medical care.

## About NeoTool

NeoTool is a leading provider of healthcare integration solutions that empower organizations to develop, test, deploy, and manage data exchanges between healthcare applications and providers. Through software, HL7 training, and consulting, NeoTool is dedicated solely to healthcare application interfacing. NeoTool customers include healthcare providers (e.g., hospitals, imaging centers, labs, and clinics), healthcare software application providers, and medical device manufacturers. [www.neotool.com](http://www.neotool.com)