

# Intechgra

Database Solutions Inc.

The case for simple, secure internet transport of patient orders and results  
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## Premise

Until just a few years ago, interfacing and integration of medical systems was thought of as a problem that was faced by large hospital or campus type facilities or "enterprise" environments. The growth of physician office outreach programs and the widespread adoption of EMR/EHR systems has changed that picture dramatically. Those changes have presented new challenges in providing methods to deliver results in a timely accurate and secure manner.

The need to deliver clinical results to external customers of Reference Labs, Radiology, and other diagnostic centers is undisputed and will continue to grow. As this need grows, the anticipated message volume grows from hundreds to thousands of potential delivery sites for any given data provider. Traditional interface methods cannot keep up with the demand and data providers will soon be overwhelmed. On the other side of the interface, the complexities of interfacing, network, systems administration, and data management can be simply overwhelming even to those organizations fortunate enough to have a dedicated IT staff. No small staff can be expected to have expertise in all of those areas.

The need for a simple, secure, reliable, and inexpensive transport technology exists today and will continue to grow.

## Defining the problems

Even within the enterprise security is, or at least should be, the primary concern of the systems integrator. As we move the data outside the enterprise, the severity and potential consequences are magnified by orders of magnitude. Both ends of the interface must be protected from potential hackers, identity thieves, or those who are specifically targeting sensitive medical data. Within the enterprise an occasionally misrouted message can be an annoyance, outside the firewall it can turn into a major security *and business* issue.

From the standpoint of the large data provider, infrastructure and IT resources outside the confines of the LAN are uncontrollable factors. Small to midsized providers must struggle daily with the demands made by their sophisticated applications and infrastructures, doing the best they can with the talent available to them. Although they might occasionally benefit from having a DBA, Network Admin, or Application Specialist on staff, realistically they cannot afford those expensive resources for the few occasions they are truly needed. They often rely on software or hardware vendors to supply this talent, and once the product is installed and "live", it can be difficult to access those resources again.

In most cases the expectation is that the data provider will step in and provide the needed resources. This of course has a host of attendant problems. Is the Lab "IT guy" familiar with myriad combinations of firewall, this operating system, database, that EMR implementations? Do they know how the vendor

or consultants configured them? This is not likely in most cases. It might be that with the investment of a little time they can “figure it out,” but what if they figured a bit incorrectly? Thus the figure it out approach is a non-starter; both risk and cost are just too high to make it a viable business for the data provider. In other words, this is an unfair burden that impairs the data provider’s ability to deliver, and diminishes their desire to even want to offer these sorts of services.

Traditionally the answer to these problems has been to extend the enterprise through the use of ISDN, frame relay or other dedicated network circuits. In today’s environment VPN technology is often deployed. Unfortunately, we know from experience that VPN can open another Pandora’s box of technical and cost issues. Thus, VPN interfaces are often reserved for the largest or most profitable or most sophisticated customers. This begins to expose the largest of the problem: sheer numbers.

Even a midsized lab or specialty provider may deal with a population of literally thousands of referring providers. Today there are over 200 EMR/EHR/PMS systems on the market and in use. The variations on network topologies and infrastructure requirements are endless. Thus any solution that requires customized configurations, installation of network appliances, or other large service packages are simply out of the question. Instead of having to maintain a hundred or so interfaces in a large enterprise, the integration staff is suddenly overwhelmed with requests and requirements for thousands of external interfaces. The demand simply cannot be met.

There are a few solutions that are favored in today’s environment, but each of them falls victim to at least one if not several of the problems discussed above. Faxes can be paper and time intensive, easily misdirected, and can be subject to security concerns at the far end. When will the result be picked up from the fax machine? Who will see it in the meantime? Standard email is technically not allowed by HIPAA and can have the same delivery concerns. Secured email systems tend to be expensive and labor intensive and have been proven to have [potential spoofing vulnerabilities.

### The Solution

The internet provides an obvious data communication network that is common to almost all healthcare entities. Although it solves the first step of the connectivity puzzle, it exposes us to much more data security concern and opportunity for accidental misdirection; to say nothing of those who would deliberately attempt to interrupt, disrupt, steal or otherwise interfere with the data. Besides, the internet in and of itself does little to solve the providers IT and infrastructure issues.

Enter Intechgra’s CIP\_CS software solution. CIP stands for Community Interface Platform, the CS is Communications Server. CIP\_CS employs patent pending technology to ensure secure, near real time delivery of protected health information over standard https internet connections.

CIP\_CS was designed in consultation with major reference labs and Radiology facilities to meet the specific technical challenges discussed above and meet the business needs of such organizations. Inexpensive to install and operate, the system supports a variety of business models to provide flexibility required to meet various regulations regarding enticement and inducement and in tracking the cost of operation. Built on a SQL database foundation, it also provides valuable business intelligence on the utilization of interfaces.

CIP\_CS is designed to minimize and obscure exposure to the internet at both ends of the interface. It can carry data bi-directionally delivering ADT and Orders to an enterprise and returning results. The CIP\_CS Agent software is deployed to practices using a simple download from the internet. This agent can

communicate by LAN connection to the data provider's host systems appearing to it as a standard interface engine connection. Data may be transported as HL-7 or other electronic message format, or as import/export files. The CIP\_CS agent can be configured as a remote print agent allowing documents produced at the diagnostic facility to be printed at the remote site with no operator intervention on either side.

Data providers may elect to host their own private CIP\_CS server installation or can elect to take advantage of our hosted CIP\_CS national switchboard model. In either case, the host facility's administrative staff has full control of agent security configurations for their deployed provider interfaces.

Major features of the CIP\_CS include:

- HIPAA compliant!
- Fast, Simple Configuration
- Patient Demographics
- Orders
- Results
- Management Console
  - System and network status dashboard
  - Remote agent configuration and management
  - Automated license management
  - Message status by recipient
  - Event and support histories
- Remote Document Print
- Remote File Delivery
- HL7 socket or Import/Export interfaces
- Supports SOAP, XML, ANSI-EDI and other interface formats
- Supports binary object transfers
- Integrates with Interface Engines, including Intechgra's CIP
- Error Detection & Alerting with Downtime Notifications
- Optional 24x7 Management & Support
- 3 layers of encryption
- 3 layers of authentication
- Virus scanning
- Data is only intelligible to authorized recipient
- Regularly security tested

CIP\_CS is a product of Intechgra Database Solutions Inc. of Eugene, Oregon. For more information please contact them toll free at 877-687-9006, or email [info@intechgra.com](mailto:info@intechgra.com).

*About Intechgra Database Solutions Inc.*

IDBS was founded in 2004 as a provider of Healthcare IT Integration Solutions. IDBS provides a number of interface and integration products, managed systems care, and consulting to an impressive list of national clients.

*About the Author:*

John Schmidt is the Vice President and Chief Technical Officer of Intechgra Database Solutions Inc. One of the company's founders, he brings over 30 years of systems integration and development experience to Intechgra. He has worked exclusively in healthcare IT since 1994. He has won recognition and awards for his innovative designs and solutions from companies

including Oracle, Ogden Corporation and McKesson Corporation. Mr. Schmidt is versed in a wide variety clinical HIT engineering and business topics. A gifted speaker, he is available to speak on HIT and integration related topics and can be contacted through Intechgra.