

Maryland Department of Health and Mental Hygiene

BizTalk and SQL Server HIPAA Solution for Maryland

The Department of Health and Mental Hygiene (DHMH) is the state of Maryland centralized health and support services agency. DHMH is responsible for the promotion and improvement of the quality of health care for all citizens of Maryland. The responsibilities of DHMH include the development of health care policies, advocacy of public health initiative and programs and management of Maryland Health Care Delivery System. DHMH also provider Medicare and Medicaid services for the State's indigent residents.

With the enactment of the Health Insurance Portability and Accountability Act (HIPAA) in 1996 to address the deficiencies in business processes within the health care system, it included a mandate for all HIPAA-covered entities to convert all health information exchange to the X12 EDI standard. In order to meet HIPAA requirements, DHMH chose to acquire a Translator to sit between trading partners and DHMH's internal system, rather than upgrading their complex legacy system to exchange X12 data directly with trading partners.

The Department of Health & Mental Hygiene (DHMH) Office of Operations and Eligibility (OOE) contracted the Computer Sciences Corporation/Williams Information Network Group, Inc. Team (CSC/WING Team) to provide Software Engineering support for the acquisition of an Electronic Data Interchange (EDI) Translator. The Translator will be used to achieve HIPAA compliance, while minimizing the impact to the DHMH internal system. The Translator acts as an intermediary to accept and send HIPAA compliant data to external systems while sending proprietary formatted data to the Medicaid Management Information System (MMIS). The benefit of this architecture is that it limits the modifications to the current processing logic on the internal systems; thus allowing interfaces for outside organizations to be left intact. This will also allow outside organizations to adopt support for HIPAA on different schedules and still be able to integrate with MMIS.

The Translator integrates commercial off-the-shelf software (COTS) for EDI processing, custom developed processing software, custom communications software, and enterprise-class servers and storage devices.

Built on an Active/Active Clustered Microsoft SQL Server foundation, the system is interfaced via a BizTalk Server group and BizTalk Accelerator for HIPAA. By using BizTalk Accelerator for HIPAA, which provided the schemas for the HIPAA transaction development and testing time, was minimized. Several organizations are current implementing BizTalk with BizTalk Accelerator for HIPAA for conducting HIPAA-compliant transactions. With the added feature of Microsoft Cluster Services and SQL Server in an Active/Active Clustered environment, the Translator has proven to be a scaleable, reliable and highly available solution.

Solution Overview

Customer Profile

The Department of Health and Mental Hygiene (DHMH) is responsible for the promotion and improvement of quality health care for Maryland's citizens, which included, but not limited to: development of policies, public health initiatives, and Medicare and Medicaid services for the State's poor and senior citizens.

Business Situation

DHMH need to acquire an Electronic Data Interchange (EDI) Translator with little change to its current system to ensure compliances with transaction and privacy rules mandated by the Health Insurance Portability and Accountability Act (HIPAA).

Solution

Benefits

- Limited modification to the current processing logic on the MMIS
- Quick development of compliance HIPAA transactions
- Integration of business rule with the transaction mapping process
- Allow for the state's trading Partners to adopt support for HIPAA on different schedules and still be able to integrate with the MMIS

Software and Services

BizTalk™ Server 2002
BizTalk HIPAA Accelerator
SQL Server™ 2000
Windows® 2000 Server and
Advance Server
Microsoft Operation Manager
Microsoft Application Center
Visual Studio .Net
Visio Professional 2002

Partner

Computer Science Corporation
Hanover, MD
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Williams Information Network Group, Inc
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With the collaboration of DHMH who provided requirements from its Claims and Eligibility divisions, the CSC/WING team developed a conceptual design and architecture for the Translator and basic mapping for each of the HIPAA transaction to be implemented. The requirement spelled out the implementation of several HIPAA transactions to include: the 820, 837 Professional, 837 Dental, 837 Institutional, 835, 997, 270/271, 276/277, 278 and a Non-X12.

The design illustrated that each trading partner had to be registered and certified with DHMH before send in a transaction. The product used for registration is a custom application designed by the CSC/WING team for trading partner management. Once registered, a trading partner would be certified for the transactions they wanted to send to DHMH through the use of a custom rules engine. Each transaction received by the Translator is achieved logging the sends name and ID number and the transaction as it was received for reconciliation purposes.

The process flow for the Translator includes a communication layers, the BizTalk receive functions, the achiever, a pre-processor for parsing the files, the BizTalk Tracking processes and ports and Interchange mapping for processing the file. Trading Partners interface with the translator through a Web Interface or dialing up to the DHMH NDM system. Once a file is uploaded be a trading partner's folder, the BizTalk receive function began the translation process by calling on the achiever to store the file in it original form. The pre-processor then parses the file into segment layers. Each file is then assigned a Control number for reconciliation with outbound transactions. The file are then processed or mapped into the MMIS proprietary format, and then placed into the DHMH folder for pick up. Out bound transaction from DHMH MMIS undergo the same process, except each outbound transaction it ran through a seven level HIPAA compliance check before being placed into trading partner's folders for pick up. An automatically generated 997 acknowledgements or TA1 will be created for each transaction received by the Translator and place in the trading partner's folder for pick up.

The transactions are being deployed in phase with the 820, 837 Institution, 837 Professional 837 Dental; the 835 and Non-X12 begin deployed first. The other transactions have been developed, but will be deployed in phases concurrent with available trading partners.

The CSC/WING team will support and maintain the Translator system for the Department of Health and Mental Hygiene through the year of 2004, while training DHMH staff for feature support and maintenances.

For More Information

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