Bi-Directional Interface between EMR and Quest Diagnostics®

Microsoft .NET with SQL Server Reporting Services solution for Healthcare Company

Executive Summary

One of our EMR clients approached us to setup a bidirectional interface from their EMR with Quest Diagnostics®, the world's leader in diagnostic laboratory testing, information, and services. The client had a very tight deadline in mind and also this was of primary importance to get their business expanded. This case study describes the successful implementation of a solution to meet this requirement.

About our Client

Client *A leading EMR company* | **Location** *Kansas, USA* | **Industry** *Healthcare*
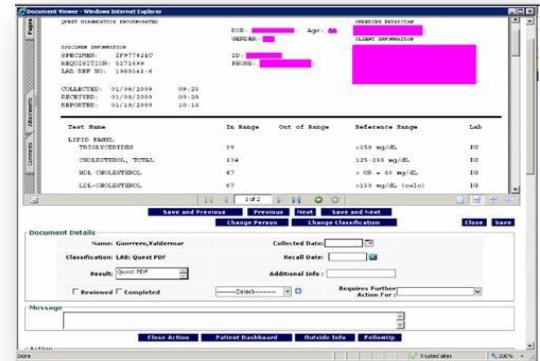
Business Situation

Our client, a leading EMR vendor in the USA, wanted to integrate with Quest Diagnostics. The interface would have to be a bi-directional one. The orders for tests would be sent electronically from within the EMR application and the results would also be received electronically.

The key challenges included:

- The EMR in question is a web based Service oriented one. So there are many tenants and the Quest interface should be easy to switch on/off at individual tenant level.
- The interface should work seamlessly without too many modifications to the existing Lab Interface system of the client.
- Quest has many Business Units (BU) spread across the United States and individual tenants would have their own preference on the Business Unit to interface with.
- Each BU will have its own set of master lookup values of lab tests (the compendium) and the set would differ from one BU to another.
- The interface should be able to handle 1000s of simultaneous requests.
- The EMR application being a web based system, the new program should be developed in such a way that it should reside in one place (our client's data centre) and meet all the challenges listed above.

Achievements

- The full implementation was done in record time, enabling our client to successfully establish Bi-Directional interfacing with Quest, Passed around 120 test cases (given and tested by Quest Diagnostics) that are tough, tests the system to the core.
- Takes 5 - 10 minutes to enable the interface for a new tenant/clinic and 2 minutes to disable the same for a clinic, Full control of the interface with our client/our developers. So easier to maintain.

Technologies

Technologies used: ASP.NET 3.5, C# 3.5, Windows Services, Web Services, SOAP/XML, Dymo Label Printer API, SQL Server Reporting Services, SQL Server 2008, HL-7, Java script, AJAX