

Laboratory Messaging Interoperability using HL7 V 3.0

Maqbool Hussain, Muhammad Afzal, Arshad Ali, Hafiz Farooq Ahmad, Naeem Khalid
NUST School of Electrical Engineering and Computer Science (SEECs), Pakistan
{maqbool.hussain, muhammad.afzal, arshad.ali, farooq.ahmad, naeem.khalid }@seecs.edu.pk

Abstract- Medical Laboratory is one of the most important and desirable domain of healthcare arena. It has great capacity to exploit information technology by developing Laboratory Information System to manage and process patient test order and test results related data within organization. The ultimate next step of this process is to share data with other healthcare systems. There are number of adhoc ways that have been used e.g. telephonic, mailing, emailing or messenger services for sharing of these information. All these approaches have issues like costs overheads associated with phone calls and mailing services, inefficiency, inconsistency and lack of assurance of secure and reliable message delivery. In this paper, we propose a web service based scalable, secure and reliable architecture for a laboratory application which will enable medical laboratories to automatically exchange their messages using Health Level 7 standard. To realize the actual outcomes of the system we have taken CITI lab as practical case study.