ABSTRACT

Legacy applications are those that have existed within an organization for many years in basically their original form. These systems are running and do still meet basic needs of an organization. The business landscape has radically changed since the advent of Internet. Apart from interacting with each other within an organization, the legacy applications need to interact with outside world. Attempts have been made, notably in last two decades to reengineer legacy applications so as to move them to new technology. These attempts have been mostly from the point of view of getting the advantage of modern platforms, and better documentation. Yet this task has proven to be quite illusive. The problem is so grave that today 60% software professionals are busy either in enhancement or repair of such applications.

In our research, we have attempted to view the problem of reengineering of legacy applications as Enterprise Application Integration (EAI) problem that is general enough to encompass several disparate applications including some legacy applications. One approach to solve legacy application problem is to replace them entirely by newer technology. This approach is not suitable since looking at the rate of obsolescence in IT industry, what is latest today is obsolete in few more years. Hence replacing legacy applications is not the remedy. We have attempted to address the problem within framework of EAI that allows usage of existing legacy applications with slight modifications. We have proposed two different architectures for our approach.

First approach uses J2EE, JMS, EJBs, and XML as building tools. These are all shareware softwares and are available freely on the net. The approach is quite affordable and is aimed at Small and Medium scale Enterprises (SMEs) in developing countries. In the architecture, LAN environment is considered, though this can be easily extended to WAN.

Second approach uses Services Oriented Architectures (SOA). This approach is based on Web Services and uses SOAP, WSDL, and UDDI. System architecture for this is proposed. This is aimed at the organizations, which, apart from requiring their legacy applications to interact, also require offering few of the services of legacy applications to outside world. In addition they may also require creating data warehouse for future use.