Chapter XXI
Business Driven Enterprise Architecture and Applications to Support Mobile Business

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ABSTRACT

Information Communication Technology (ICT) needs to provide the knowledge worker with an integrated support system of information management and work-flow. This challenge, however, is further exacerbated in mobile business wherein the knowledge work is not identified with a particular location. Information systems need to be analyzed and modeled, keeping the location-independence of the users in mind. A Model Driven Architecture (MDA) approach, aligned with Object-Orientated Design principles, and driven dynamically as the user interacts, has immense potential to deliver solutions for the systems used by the knowledge worker. An MDA approach provides a unified approach to solutions architecture, information management, and business integration. At the enterprise level, the desktop, the mobile device and at the emerging marketplace level, the evolving need for real-time decision making on any device, anywhere, anytime, to support mobile business is providing a framework for aligning ICT to business. Further details are presented in this chapter together with some of the challenges and opportunities to be seen within mobile business.

INTRODUCTION

Enterprise architecture, application development and requirements gathering have all faced a common problem, that of the business environment being highly dynamic and continuously evolving. An application that worked is often quickly in need of revision and an existing infrastructure readily looses its performance advantage because business needs are continually changing. Although the demands of mobile business are adding another level of complexity to application development and enterprise architecture, the mobile

enablement of business (Sherringham and Unhelkar 2008a) provides a convergence of events to realign Information Communication Technology (ICT) as the assembly line for knowledge workers.

Further recognition of ICT as a utility infrastructure and all of the utility principles underpinning design, operation and management of ICT can also be realised in the mobile enablement of business. The significance of a business focused approach, driven by how the customer interacts, will also be championed during the alignment of ICT to meet mobile business (Lan and Unhelkar 2005). Using the demands of mobility, this chapter discusses the alignment of enterprise architecture and application development to meet current and future needs and how the resulting need for real time decision making will shape some key trends in the ICT industry.

ROLE OF KNOWLEDGE MANAGEMENT IN MOBILE BUSINESS

Through the application of proven business principles, business has standardised catering, cleaning, farming, minerals extraction and manufacturing. The last great challenge is the standardisation of knowledge workers to lower costs and assure guaranteed service deliver (Sherringham 2005). This need for standardisation and the resolution of information management and work-flow becomes more pressing when the needs of mobile business are considered (Sherringham 2008).

This situation portrayed in Figure 1 often occurs in organisations, where a Customer contacts a Service Representative who is faced with querying multiple disparate backend systems to find the required information to respond to the Customer's request. The Service Representative may not find what they want, so they have a discussion with a co-worker who tries to do the same thing and who may bring in another co-worker. In the mean-time, the Customer gets frustrated and approaches another Service Representative who goes through the same process. Add to this the duplication between Internet and Intranet, disparate Web sites and the sending of e-mails that are not coherently managed and an in built hidden cost with a failure to guarantee service delivery is seen.

Incumbent within the desktop environment and within many enterprise architectures is the isolation of data in disparate silos with a resulting duplication of effort. A scarcity of context for the information and a lacking of integration with work-flow further increases hidden costs because of the time spent trying to find information. The demand by customers for mobile business services and because of the constraints imposed by mobile devices, a redefinition of enterprise architectures and an optimisation of the desktop environment shall result.[a]

The small screen size inherent in current mobile devices means that if mobile business services are to be provided and accepted by the user, all of the information management currently required will need to have occurred before delivery to the mobile device. Mobile business will drive the implementation of real time decision making. Instead of users searching and sifting through information, the right information is presented at the right time in the right way to allow decisions to be made, e.g. our favourite restaurants bid in real time to achieve our patronage on any device anywhere anytime (Sherringham and Unhelkar 2008b).

The demand for real time decision making from mobile business is expected to be one of the main drivers for the provision of mobile business services, resolution of information management and for the realignment of ICT to support business needs.

ALIGNMENT DRIVERS FOR ICT WITHIN MOBILE BUSINESS

Having the correct enterprise architecture is an enterprise's key business system, information / data, application, technology strategy and it impacts on their business processes and users (Cummins, 2002). Through defining the ICT necessary to support knowledge workers as an assembly line for knowledge workers and by addressing the issue of integration of information with work-flow (driven by how the customer interacts), the necessary elements of enterprise architecture can be readily defined and the necessary integration required determined. This assembly line approach leverages the modelling capabilities of Model Driven Architecture to develop platform independent models and solutions (McGovern et al. 2004).

In addition to assembly techniques, there are several other principles that have been have been standard engineering practices for many years which can be brought to ICT, applications and enterprise architecture to support mobile business and align information management with work-flow:

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