Predicting the Future: Part 1

By Sherman Tan

Technology and the Enterprise
The strategic use of technology within the enterprise is no longer just an issue for the Chief Information officer. Business investment on technology is such a large part of the overall corporate capital and recurring expenses that all business executives from the CEO to the business unit heads need to understand how investment in technology can be leveraged and exploited within their organisation.

However, it is increasingly difficult for organisations to effectively leverage and exploit technology to create market competitive advantage and generate solid business value. Integrating existing technology with the emergence of entirely new technologies over the past several years such as web services, peer services, business process management, grid computing, mobile technology, 3G services, enterprise-wide security, computing on demand, etc are just some of the many challenges facing the enterprise.

Collectively, these emerging technologies represent the next generation of the Internet. It is critical that business managers gain an understanding of how these technologies may be applied to their organisations to change business models, reshape business processes and transform their organisations.

Predicting the Future
Traditionally, many research and consulting companies provide predictions and forecast at the beginning of each year on the types of emerging technologies or IT trends that will emerge in the year ahead. Some will go a further step to review how accurate their past predications were.

While some technologies mimic the fashion industry and fade out as quickly as they are launched in the market place; most remain in the mainstream or evolved into other forms. In recent years, software and applications are also increasing being viewed as services and these have reshaped the IT business models. Not long ago, there was the push to use IT as a form of utility service; ie "pay-as-you-use", the emergency of the Service Oriented Architecture (SOA) and lately, the virtualization of servers, operating systems and application services.

What then are some of the key technologies that are shaping the enterprises and will continue to be part of the enterprise's technological solution?

Before we can answer this question; let's look at the evolving environment that is shaping our lifestyle in work and leisure. What are the catalysts that are responsible for the environment that we are in today and how some of these will continue to become the key drivers of change?

Always Connected, Globalised Economy
With the internet, wireless connection, collaborative software, and converging communication devices that continued to reduce in size while enlarging in functionalities; workplace boundaries are diminishing as employees no longer need to work from a fixed location. With employees working practically from anywhere and anytime; the latter driving the speed in which the "always connected" infrastructures are built. The mobile work force enabled by technologies brings economies around the world closer into a more tightly integrated community.

Looking back, the Infocomm Development Authority of Singapore (IDA) launched the Call-for-Collaboration (CFC)-Mobile Workforce in late 2001; the first such initiative in SE Asia. The project involved 20 selected consortia and more than 600 personnel from a cross segment of industries.

The key objectives of the various projects were in determining how wireless technologies would improve the companies' competitive advantages in the areas of increased productivity, enhanced customer service and reduction in business costs. Completed in end 2002, the IDA concluded

that there were quantifiable business benefits from using wireless technologies and that while wireless networks and mobile device technologies will continue to evolve, they were deemed feasible for operational deployment back then.

While wireless technologies have since made leaps and bounds after 2002, adoption of wireless technologies by companies, however, continued to be slower than predicted.

Digital Content and Business Intelligence
The emergence of the Internet and other associated technologies has changed many lives in an amazingly drastic manner. Just 10 years ago, a substantial portion of our knowledge base exists in the form of the printed medium. Now, practically any content can be digitized and stored for access by millions across the globe.

The proliferation of information over the internet has seen many innovative companies offering business intelligence (BI) solutions and tools to make sense out of these voluminous data; from enhancing data into information and transforming them into knowledge. An entire BI industry covering BI business process design, technologies, measurement and predictive systems, etc is forecast to go into main stream over the next 2-3 years.

The easy availability and sharing of digital contents have also brought about serious interest and study in Digital Rights Management (DRM) which is an umbrella term referring to any of several technologies used to enforce pre-defined limitations on software, music, movies, or other digital data. Many countries are putting in place legislative process to protect the rights of digital content developers, providers and distributors. The European Community is expected to introduce a Recommendation on DRM this year.

Setting the Stage
In the simplified business model driven by the globalised economy where mobile employees work from virtually anywhere and anytime supported by the arrays of always connected infrastructures; sharing and collaborating on digital contents that have been distilled and analysed using Business Intelligence tools, the stage for the future world has been set.

In the concluding part 2 of this article, we will discuss how specifically some recent IT developments that will support the business environment that we have painted above. In particularly, we will examine how the availability of high-end computing power at the desktop influence the way we work, the communication technologies that simplify accesses, shared services that promote collaboration, network resilience to provide the always connected capability and the enterprise security piece that is fundamentally essential to prevent business disruption due to security breaches.

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