



Chapter III

Computer Storage and Networking Found in Optimal KM/WM Systems

Issues

- To explore future computer technology that will assist in the development of optimal KM/WM systems
- To look at business process management for connecting “points of wisdom” and information lifecycle management to oversee computer storage growth
- To examine computer storage that is conducive to developing and maintaining an effective optimal KM/WM system
- To explore the world of wired and wireless computer networking that is tied-in with the development and growth of this newer operating mode

Introduction

Initially, future computer technology that will assist in developing optimal KM/WM systems is explored. Also, business process management and information lifecycle management are examined. Effective *computer storage* follows next

that centers on storage of *aged data* along with the need for a data federation approach for *real-time data*. The types of local and corporate wide databases are examined. In the second part of the chapter, the focus is on *computer networking* that includes wired and wireless technologies. There are a number of topical areas covered, including the Internet and the World Wide Web along with e-commerce. Typically, networking operations must be managed with greater levels of reliability and security than in the past. Overall, a discussion of computer storage and networking provides a background for developing and growing optimal KM/WM systems over time.

Future Computer Technology that will Assist in Developing Optimal KM/WM Systems

To better understand the computing environment — computer storage and networking in this chapter and computer software in the next chapter — found in an optimal KM/WM system-operating mode, a future look at their related computer technology would be beneficial. For one, *ubiquitous computing* which is the ability to access digital content, both personal and business related, through a variety of digital information devices will supplant the personal computer. It will evolve such that it ultimately displaces the personal computer on the desktop. An integral part of ubiquitous computing are three components: (1) a multitude of information devices, (2) connectivity between personal-area networks, wireless LANs and WANs, and (3) Web-based services that provide the software infrastructure. Additionally, the Internet will play a major role in the widespread use of ubiquitous computing (Gartenberg, 2001).

Related to ubiquitous computing is *utility computing* which combines hardware, software, and services into a total utility service that provides computing resources at a very low cost. The impetus for this approach to computing is based on the fact that companies, on the average, underutilize server resources and systems rarely exceed 20% of their workload capacity. Essentially, utility computing allows a company to plug-and-play resources that scale up or down as a business needs them to and that cost will be based on their usage. This pay-as-you-go utility model allows a company to run certain of its information department operations safely elsewhere, thereby reducing processing costs and freeing up company personnel for other company operations. For example, IBM and HP think buyers will want to get rid of as much of their computer department operations as possible. In turn, they can deliver networking, servers, applications, and storage that companies plug into just like electricity (Rist, 2005).

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