

Chapter 8.11

Toward Always-On Enterprise Information Systems

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ABSTRACT

Significant changes in information technology (IT), the Internet, and e-business technology have increased the need for continuous and agile data access, in particular for mission-critical applications. Modern business computing has evolved into an organizational engine that drives business and provides a powerful source for competitive advantage. IT has been integrated into organizational operations and activities in a way that application downtime is not an option since each hour, even minute of downtime may generate negative financial effects. In order to achieve higher levels of competitiveness, business has to be continuous from data availability perspective and agile with regard to data access. An enterprise information system (EIS) can be qualified as “high-quality” in terms of its architecture, application platform, and information it can provide to users but if that information is unavailable when it is needed by customer,

manager, or any other end user, the value of that EIS simply becomes “zeroed” from end-users’ point of view. The chapter presents a framework for implementation of continuous computing technologies for improving business continuity. The framework is presented within a systemic view of developing an “always-on” enterprise information system.

INTRODUCTION

Over the past decade, information has become an organizational resource that has to be managed in an efficient and effective way just like any other resource. In practice, however, many organizations still keep information management activities within computer centers even though information has become a corporate asset. Organizational management can not be effective if it does not integrate organization-wide information management as well. This is in particular important for contemporary businesses which

require a continuous computing platform as a main prerequisite for business continuance. Therefore, modern business needs an efficient integration of business continuity management into organizational management, the process which is done by integration of continuous computing technologies into an enterprise information system.

In today's information age, information management comprises numerous activities with data processing/data management being the core component. In addition to data management, information management includes the following components as well: system management, network management, security management, and so forth. Recently, with advances in Internet technologies and e-business, the need for achieving "a near 100%" level of business computing availability was brought up yet again. Consequently, the term of "business continuity management" was coined up and became a significant part of organizational information management.

Business continuity management (BCM) involves several measures (activities) that have to be planned in order to achieve higher levels of the system/application availability ratios.

This chapter aims at developing a framework for designing an "always-on" enterprise information system which should provide higher availability ratios of continuous computing and business continuity. High availability is a term which describes the ability of a system (operating system, application, network) to continue with its operation in cases of hardware/software fail-

ures, even some natural disasters. It is all about keeping business-critical applications running all the times.

DOWNTIME, COSTS OF DOWNTIME, BUSINESS CONTINUITY

In the past, information technologies (IT) were used within traditional computer centers organized as "behind-the-scenes" organizational units for performing transaction processing operations. However, in today's e-business world, in many cases the whole business is IT-dependent and data-driven. Contemporary business computing supported by the concepts and technologies of enterprise information systems (EIS) such as enterprise resource planning (ERP), supply chain management (SCM), customer relationship management (CRM), electronic commerce (EC), and business intelligence (BI), has evolved into an organizational engine that drives business and provides a powerful source for competitive advantage. To be truly competitive, contemporary business must be continuous and agile (adaptive, responsive). It needs an information system that enables both continuous computing and agile data access. The term of "business continuance" (business continuity—BC) has been introduced in order to emphasize the ability of a business to continue with its operations

Table 1. Major causes of system downtime

Major Causes of System Downtime (in order of frequency)
1. Software defects/failures
2. Planned administrative downtime
3. Operator error
4. Hardware outage/maintenance
5. Building/site disaster (fire)
6. Metropolitan disaster (storm, flood, etc.)

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