Chapter XV
Planning and Deployment of Dynamic Web Technologies for Supporting E-Business

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ABSTRACT

More and more, internal applications are being moved from legacy systems into a more flexible Web-based environment. The issue concerning World Wide Web technologies is important to today's businesses. Decision making in this area is complex and needs to consider carefully the characteristics and needs of the entities employing these technologies. It has furthermore become clear that the Internet, in particular the World Wide Web, is playing an increasingly larger role in how people communicate. Through this research, technologies used to serve dynamic Web content are compared. This comparison includes performance as well as cost issues, the things that professionals in the business world face when deciding the best implementation of Web server technologies. Existing studies cover a limited scope of the overall picture, and research has thus been focused into very narrow aspects of the global entity. However, the continuing developments in Web technologies dictate the need for a broad scope approach to comparative studies in this field. Such a scope is pursued in this research.

INTRODUCTION

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clear that the Internet, in particular the World Wide Web, is playing an increasingly larger role in how people communicate. Through this research, technologies used to serve dynamic Web content are compared. This comparison includes performance as well as cost issues, the things that professionals in the business world face when deciding the best implementation of Web server technologies. Existing studies cover a limited scope of the overall picture, and research has thus been focused into very narrow aspects of the global entity. However, the continuing developments in Web technologies dictate the need for a broad scope approach to comparative studies in this field. Such a scope is pursued in this research.

The planning and deployment of dynamic Web technologies is an in-depth and daunting task for many organizations. Purely scientific issues, such as performance, are important but a complete analysis must also include consideration of business perspectives like costs and benefits. Planning starts with a basic listing of what is to be accomplished through dynamic Web technology from a performance standpoint. Then the process steps through analysis of the technologies from a business perspective via a total cost of ownership (TCO) return on investment (ROI), and/or other financial analysis.

BACKGROUND

Choices to be Made

E-business platform planning begins with an analysis of the demands of the Web applications to be deployed. What is the Web application going to have to do? Does it need to store data? Is it an information service, or some other application? Serving as an example, a typical inventory management system will be used herein. This model is quite common among internal Web applications, and there is a multitude of ready-to-go applications available for purchase. While these may not exactly fit the needs of the organization, most can be tailored; so, for the purposes of this research, the inventory control system does represent a production-like application for demonstrating e-business platform planning and deployment. Such applications need features such as a database to store item inventories and product descriptions and a means to track session variables so the application will remember who is altering internal data and what information the employee has chosen to modify. Figure 1 summarizes the analysis, which starts from the top (designing the application) and works down through the different technologies that are needed.

Web server selection. Given an application, the first platform item to consider is the Web server software. Web server software comes in a variety of flavors and, in case of Windows operating systems, is included with the operating system. For

Figure 1. Assessing needs of Web applications using a top down approach (Hines, 2006, pp. 628)