

A Framework for ASP service

Go Young Cheol, Sohn Joo-Chan, Baik Jong-Myeong

Abstract

Under rapidly changing business surrounding, companies need information systems to keep their competitive powers and forecast business surroundings beforehand. In these trends, interests of ASP (Application Service Provider) service is increasing because of the advantage for efficiency to maintain a system and an inexpensive investment to build a system, and this service is rapidly spreading to many parts from simple functions to ERP system. In this research, we argue about these problems and about administrative framework technology for efficient ASP service of ERP system.

Keyword : ERP, ASP(Application Service Provider)

1. Introduction

In the Internet age, businesses in all industries need to move from intra-company integration to inter-company integration in order to increase competitiveness[5]. Many companies are introducing information systems for constructing Business-Infrastructure to cope in market situations that change sharply. Under this situation, ERP(Enterprise Resource Planning) is recognized as a feasible solution to build a information system. So, many corporations are introducing ERP systems to improve

their competencies. But the cost for building a foreign ERP system reaches for multibillion won and a domestic small size package for small and medium enterprise also costs 0.5 ~ one billion won. So, small and medium size enterprises are hesitating to build ERP system because of a huge investment. In this situation, ASP service is recognized as the alternative to solve these problems because the early investment cost and the operational and maintenance cost are very inexpensive. Many ASP services that are developed by domestic vendors offer many functions in application functional aspects, but these services have no technical base to manage the system. Although there are many kinds of ASP

* EC/CALS Department, Computer & Software Technology Laboratory, Electronics and Telecommunications Research Institute

services, this paper is focus on ASP service of ERP system and discusses the functions of managing and monitoring/controlling system. This paper is organized as follows. Section 2 is about the features of SAP R/3 Administration tool. Section 3 discusses the features of ASP service. Section 4 presents the development of ASP framework. In the final section, some discussion and concluding remarks are given.

2. SAP R/3 Computing Center Management System (CCMS)

There are many ERP systems in the Market. But this research examines about CCMS(Computer Center Management Service), SAP's Administration tool, because SAP's ERP system is regarded as one of the best products and has the largest share in the ERP Market.

The CCMS is SAP's system management solution, a system management infrastructure that provides centralized, end-to-end monitoring and management across the entire mySAP.com environment, from front ends to databases. The CCMS offers an integrated suite of tools for[5]:

- System and performance management
 - ✓ Monitoring and Management
 - ✓ Reconfiguration on the Fly
 - ✓ Profiling

- ✓ Graphical Control Tools
- High availability
- Database and archive administration
 - ✓ Database Management
 - ✓ Data Archiving
- Workload Management
 - ✓ Background Processing
 - ✓ Load Balancing
- Output Management

The CCMS is part of every mySAP.com installation, at no additional cost. The CCMS is the only tool to managing the SAP Business Framework, However, to open essential management functions to integration with a customer's external infrastructure, the CCMS offers a comprehensive set of open, generic APIs and BAPIs[5].

3. Server technology for ASP service

Usually, ASP system must efficiently support the features of scalability, reliability and security. And more it has to have the functions for the system operation, the technologies for serving applications, the constructing and managing technology to manage a integrated DB for many companies' information and the security technologies for secure service.

3.1 Networks and Application Service

Technology

Because ASP provides application service through network, service logic functions should be supported to handle application. These functions are composed of user session administration, scheduling of process, balancing the workload, background processing, monitor and control for multi-server, and etc.

3.2 Construction and Administration

technology for Integrated DB

Because ASP service is serving many companies, each company's information should be managed efficiently to provide service. The necessary functions are as following; the design and operation technology of DB for many company, the constructing and management technology of repository under the distributed environment, and the backup and recovery technology for the distributed and integrated DB

3.3 Technology of Applications and Data

Security

Because many companies are serviced and managed through network, ASP service should guarantee the secure process for send-receive data. Managing many companies' data, ASP service has to provide the secure policy to authorize the user and the role of user and these functions must be servicing to client companies.

4. ASP service system

Many ERP systems that are developed by domestic vendors are connoting the customizing and operational problem by absence of a development tool and an admin tool. When these ERP systems are used in ASP service, ASP also has similar problems. To get rid of these problems, ASP service should be operated with itself development and an operation tool to solve these problem. This section discusses the framework for ASP service based on the development tool and an administration tool.

4.1 Applications editing tool

It needs to develop applications with its own development tool for efficient customizing and administration of applications. It is especially necessary to the optimized editing technology and editing tool to develop the component based standard applications reused by other systems and operational environments and to manage and maintenance the applications. Using this editing tool, we can analyze business processes, develop and manage applications under integrated development environment. This editing tool is composed of the editor of script program, the screen editor to build various screen controls, the DB editor to define table structures and create DB schema, the menu editor and the

debugger for analyzing errors.

resource and etc.

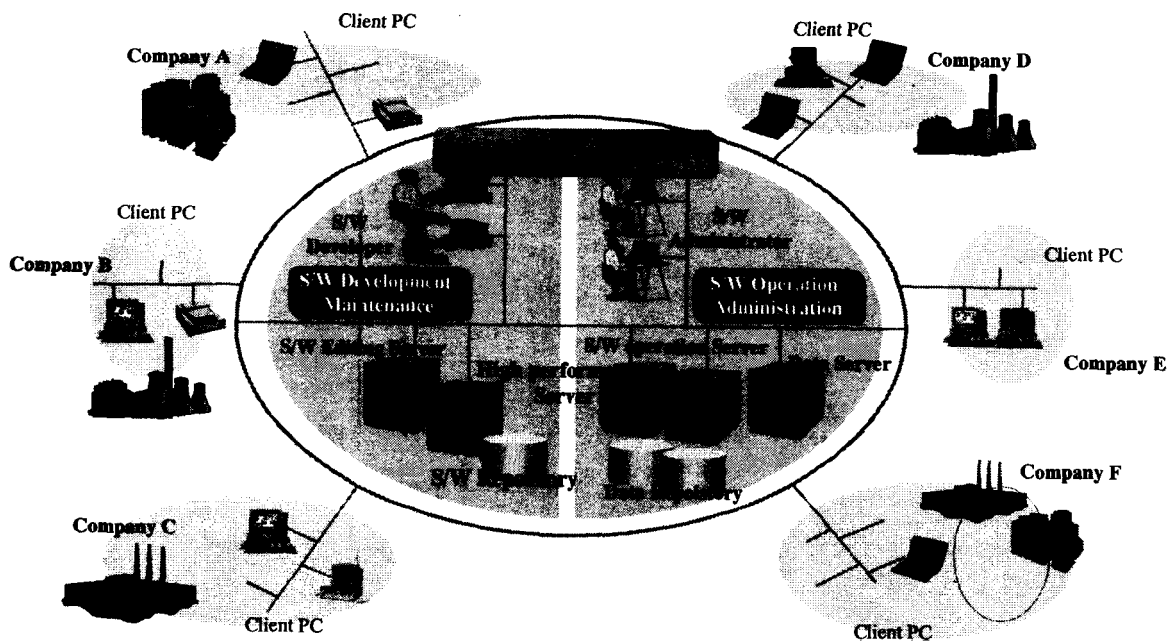
4.2 Repository to serve for many companies

ASP is based on repository to manage metadata and corporation application data should be managed because is serviced to multiplex corporation. We can manage the information of whole ASP system using repository. The information to be managed is as following: the system operational information for users, servers and log-on group, the management information for system status and history data, the development information for system

4.3 systems administration tool

To efficiently manage ASP serviced through network, the system balances the workload for requesting connections and provides the service for the authority of users. Also, this system supports users' sessions management, process scheduling and monitor/control functions about ASP server.

The example of system structure under this operational environment shown in the Figure 4.1.



4.1 ASP service of ERP system

5 . Conclusion

In this paper, we have discussed the framework of ASP service. Many applications are developed and used to handle businesses efficiently, but many medium and small enterprises are hesitating to introduce information systems by burden for the cost of building system and operational expense. ASP service that appears by the alternative of these problems is receiving many interests. But, ASP that is offered by domestic technologies is no more than that embodies existent application program in Internet, and the framework to support ASP service is weak. Also, the companies serviced ASP are worried about managing their information outside companies. These problems are solved to developing a proper system and supporting political policy. And then, ASP service could be serviced efficiently. As further researches, it should support the most suitable operation strategy to manage the system analyzing the huge log data about connections and usages of components. For more security, it also needs deep research about setting the authority of company information and safe administration, and etc.

Reference

- [1] Park Sung-Jin, Moon Bong-Gyo, "Distributed objects computing and ERP Server", Korea Information Science Society Review, pp.29-37, 1998.11
- [2] Park Hwa-Gyu, Baik Jong-Myeong, "ERP Development Methodology based on UML", Korea Information Processing Review, pp.27-37, 1999.9
- [3] Liane W., SAP R/3 System Administration, 1998, p.463
- [4] Liane W., Christiane H., Frank S. & Rocco H., SAP R/3 Administration, 1998, p.107
- [5] SAP Korea, The Computing Center Management Systems(CCMS) as part of mySAP.com Infrastructure Management, <http://www.sap.co.kr/technology>