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Application on demand system over the Internet ☆

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Abstract

This paper describes the design and implementation of the ASP-NG system. The main modules of the ASP-NG system are the AoD service and the Web Portal. The ASP-NG Portal is a portal for providing the user with the necessary interface in order to access an Application on Demand (AoD) service. The ASP-NG portal is responsible for the interaction with the user of the AoD service. Using the AoD service the user rents an application for a limited time period at a fraction of the actual cost of the application. The AoD service is responsible for downloading the appropriate parts of the application according to the user's actions, while enforcing the mutually agreed frame between the user and the Application Service Provider (ASP). The implementation of the ASP-NG portal is based on the Web Services of the Java 2, Enterprise Edition platform and the implementation of the AoD module is based on C++ programming language. The ASP-NG portal offers to its users the capability to select and customize the language of the user interface in order to present information in their preferred language. Moreover the ASP-NG portal offers to the portal administrator the capability to customise the look and feel of the ASP-NG portal.

Keywords: J2EE; AoD; Web services; E-business; E-marketplace

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1. Introduction

The ASP (Application Service Provision) phenomenon has swept the globe since it first appeared in the US about 2 years ago. The notion of providing software on an outsourced basis has spread to a major new trend, commonly termed ASP: The idea is that Application Service Provider delivers software applications to multiple users, provides these services for a subscription or usage-based fee and supplies these services from a central location, over the Internet or a private network, as opposed to running on the client's premises. Users could pay a monthly rental charge to an ASP (which may be the software publisher itself or a specialist service provider) who hosts and manages the software and data on a remote server. The user accesses the necessary components of the application on an on-demand basis and is authorized for each session. The user is not able to use the application outside of the mutually agreed framework with his ASP, but he experiences the application as if he actually used the complete application package and installed it in his computer. The whole procedure is handled by the AoD system and is completely transparent to the end user. Users gain access to the applications via the Internet or leased lines. The trend of ASP is increasingly extending beyond the business sector, where it is originated. Businesses are turning to ASPs because they expect different types of benefits, appealing not only to medium-large businesses with established IT departments, but also to small businesses with little or no IT staff. Expected benefits are:

- Predictable costs and low initial investments
- Enabling corporate resources to focus on mission-critical goals
- Shortening the time-to-market and time-to-benefit for new IT solutions
- Reduction of pirate software copying
- Cheaper and hassle-free use of complex packages by consumers
- New business models for software distribution

ASP-NG (ASP-New Game) project optimises the use of system resources by loading executable software to decentralised end-users on demand and to set a standard for the way applications are distributed over heterogeneous networks. The portal platform integrates all the required functionality for running an ASP operation, to deliver productivity tools and rich content and to offer secure keying of IP and Digital Rights Management. The ASP-NG project is aimed at providing ASP/ISPs, small, medium or large enterprises (SMEs and Telcos) with a complete set of features required to run an ASP. AoD enhances the usage of rich media and games protected by a unique security key, and makes use of distributed servers, such as those found in Content Delivery/Distribution Networks (CDNs).

Based on its End Users' Partners requirements ASP-NG project will concentrate on Games and Edutainment. Those application are identified by their rich content and the lack of existing solution for ASP type operations Two of ASP-NG End-Users Partners have already experience with tailor made ASP operation while the third one has Internet's Games experience. Project is dedicated to the creation of a universal platform with:

- ASP Portal
- Integrated Database