Reference Architecture for Personalized E-learning Systems using Proxy and Caching (RAPESPAC)

Abstract

Service-Oriented approach is the most appropriate architectural approach that is widely used for building highly large-scale enterprise systems. SORAPES is a service-oriented reference architecture designed for enterprise e-learning systems. This architecture is designed by re-using web services and learning objects for distributed environment. It is notified that the system generate more traffic during authentication/authorization process and retrieval of information from the database. The problem here is to minimize the traffic during authentication and retrieval of learning objects process. This traffic will be minimized by centrally managing caching scheme and secured web service requests. This improves the performance and scalability of SORAPES in distributed environment, and hence it is proposed to design reference architecture using proxy and caching to authentication. The objective of this research paper is to design a reference architecture using proxy and caching called RAPESPAC. The RAPESPAC reduces the load on large-scale e-learning applications in distributed environment by centrally managing and caching the web service requests. The important features of RAPESPAC are load balancing, proxy, caching and policy. This architecture could be deployed with confidence in high transaction volume service environments providing high availability of data and reliable security mechanism.
References

2011.

**Index Terms**

Computer Science  Web Applications

**Keywords**

Reference Architecture  Service-Oriented  Personalization  Web Service  Security

Proxy

Caching