Semantic Web, Middleware vs. Intelligent Storage

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Abstract

The rapid development of Internet, the fast dropping of storage cost and the great improvement of storage capacity have created an environment with enormous amount of data. How to get the data we want and how to manage these huge volumes of data become great challenges. The possible approaches under investigation include semantic web and middleware. We are taking a different approach and believe that today’s storage systems need to be fundamental changed. In this talk, we will discuss the possible changes in storage systems and why these changes can create an environment that can allow us to locate the desired data and to manage the increasing amount of available data. We will first present the intelligence to be included in future storage systems. With the intelligence, a new architecture of storage systems can be formed. The possible essential concepts to be parts of the future storage systems include active storage device, object-based storage device, autonomic storage, and application-aware storage. We argue the Object-based Storage Device (OSD) concept is the most fundamental. We plan to show a number of challenging applications can be made easier with the support of OSD-enabled intelligent storage systems. We compare the disadvantages and advantages of semantic web, middleware and intelligent storage.