

Global Internet Content Delivery

Bruce Maggs
Vice President, Research
Akamai Technologies, USA
Email: bmm@akamai.com

Abstract

This talk describes Akamai's Internet content delivery service called FreeFlow. Akamai has deployed over 8000 servers on more than 350 networks around the world. Today over 1300 customers use Akamai to deliver streaming audio and video over the Internet, and to serve the images that appear on their web sites.

The talk begins with a review of the mechanics of content delivery on the Internet, and illustrates serious problems with the traditional, centralized, approach. It then introduces Akamai's massively distributed system, and describes several of its unique features. The design of a huge, robust, and scalable distributed system is challenging, and the implementation of FreeFlow required the solution of many technical problems. The talk discusses the design goals of the system, the obstacles faced in attempting to achieve those goals, and the techniques used to overcome the obstacles. The talk briefly describes the origins of Akamai and its present structure and personnel. Founded by academics in August, 1998, Akamai has over 1000 employees in 12 offices worldwide. Finally, the talk concludes by presenting two new theoretical problems. While at first glance it is not apparent how these problems are related to the FreeFlow system, each arises in the context of content delivery, and the solution of either could lead to an immediate improvement in the implementation of FreeFlow.