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Current trends and future challenges for Content Delivery Networks

Abstract

In the late 1990's, content delivery networks were mainly focused on delivering modestly sized but highly popular static content, to end-users on a homogeneous set of devices under generally similar network conditions and with lightweight requirements for encryption and authentication. In the years since, the landscape has changed dramatically. Content is now personalized and highly dynamic. Retina displays and high definition video have driven dramatic increases in the content's size, and live streaming events are expected to deliver broadcast quality video to millions of viewers around the world simultaneously. Users are now permanently online, by means of mobile networks and an explosion in devices ranging from smart phones and tablets to game consoles, televisions, automobiles and more. But at the same time network conditions are now highly variable, from slow congested mobile, to public WiFi, to fiber to the home, and connections span multiple protocols like IPv4 and IPv6. Simultaneously, the need for truly effective encryption and security protocols is now stronger than ever, but this comes at a time when we are finding fundamental security flaws in some of the Internet's most core technologies. This talk will discuss the current trends in content delivery networks, what challenges those trends will bring for the next ten years, and discussion on some of the working theories on how the industry may address them.

Biographical Sketch

James Kretchmar is Vice President and CTO for Akamai's Europe, Middle East & Africa region and is responsible for technical strategy across the region. Previously he served as Chair of Akamai's Architecture Board, responsible for review and oversight of technical designs for Akamai's globally distributed intelligent platform, as well as providing company-wide technical guidance. Mr. Kretchmar came to Akamai from MIT in 2004 and during his tenure has also served as Architect for Akamai's Mapping and Network Management systems. He is a published author on Network Administration and speaks several European languages.