



IEEE Presents:

Broadband Video Networking

Dr. Benny Bing
Georgia Institute of Technology

Tuesday, 27 October 2009
6:00 p.m. – 6:30 p.m. Pizza & Networking
6:30 p.m. – 8:00 p.m. Lecture & Demonstration

No charge, non-members welcome

Northrop Grumman Aerospace Systems, Building: S-Forum/Café
2100 Marine Ave, Redondo Beach, CA 90278 (Building at end of Simon Ramo Dr)
Chairs: Ron Smith, Northrop Grumman and Charles Wang, The Aerospace Corporation

**RSVP by 20 October to Ron Smith at ron.p.smith@ngc.com
Please identify if you are an IEEE member when you RSVP**

Abstract

Streaming live and on-demand video content over the Internet, and in telecommunications and broadcast networks, is becoming prevalent. In addition to broadband service providers, Web content providers have increasingly large volumes of video on their sites, and are making it more discoverable, helping drive usage and ad revenue. An effective method of providing value to the consumer is the delivery of high-definition (HD) video, which is growing in importance and popularity, as evidenced by the intense competition between satellite, cable, and telcos to offer the highest number of HD channels. This talk will describe the optimization of HD video transmission over the Internet and over emerging broadband access networks, including wireless access networks that may enable on-the-go video connectivity. Following an introduction to new video transport architectures, it will highlight the key challenges facing many service providers today: bandwidth management for supporting high-quality video delivery. The talk addresses the different technologies in mitigating the impact of packet losses which may result in video artifacts and in minimizing bandwidth consumption across the network. To deal with losses, effective error resilience methods such as flexible macroblock ordering (used in the H.264 advanced video codec) and error concealment methods are covered. We then describe several methods of bandwidth conservation. It will be shown that these methods achieve substantial bandwidth savings, reduce the probability of high packet losses, and significantly improve video quality even during periods of poor link conditions or peak bandwidth demands. The presenter will also demonstrate some prototypes to illustrate the effectiveness of some of these methods.

Biography

Dr. Benny Bing is a research faculty member with the School of ECE at the Georgia Institute of Technology. He has published over 70 technical papers and 10 books. In early 2000, his book on wireless LANs was adopted by Cisco Systems to launch Cisco's first wireless product, the Aironet Wi-Fi product. He was subsequently invited by Qualcomm and the Office of Information Technology to conduct customized Wi-Fi courses. He is an editor for the IEEE Wireless Communications Magazine, where he also heads a section on industry perspectives. In October 2003, he was invited by the National Science Foundation to participate in a workshop on Residential Broadband. He served as an IEEE Distinguished Lecturer for IEEE Comsoc from 2007 - 2008.



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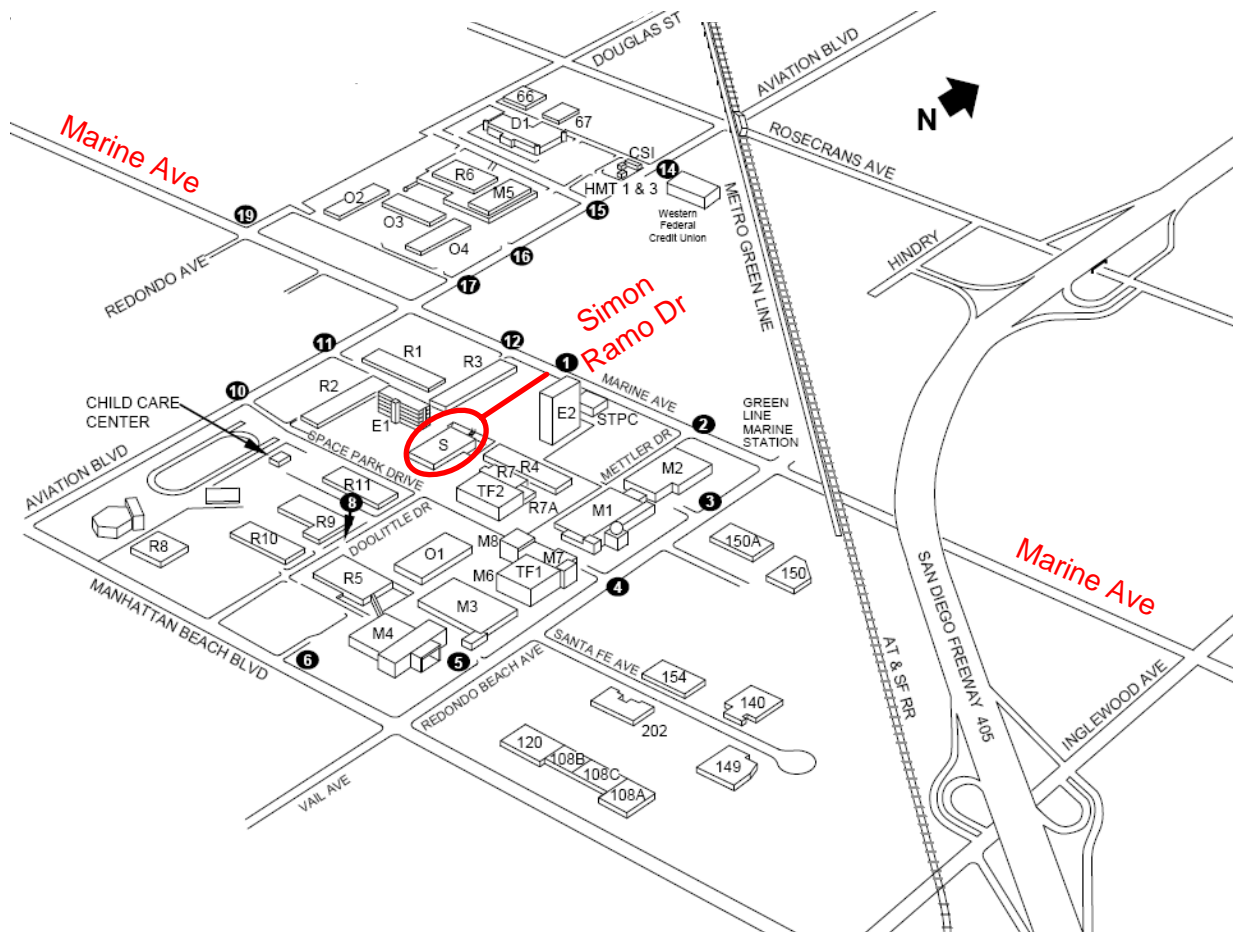
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