

MULTIMEDIA NETWORKING

Session Organizers:
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Over the last decade, the use of the Internet for sharing rich forms of information has become so routine, we rarely consider the diverse scope of technologies and engineering endeavors that have made this possible. Even the simple task of viewing a web page relies upon a heterogeneous collection of communications links, routers, servers, and protocols for information representation and exchange. These technological advances have not only provided the capabilities we enjoy today, but they have brought even richer capabilities within reach.

To explore the breadth of advancements occurring in Internet engineering today, this session will take a vertical slice through the technologies required to provide one of the most challenging of these emerging capabilities: video distribution.

Satish Menon will initiate the session by presenting an overview of the drivers and challenges of video distribution over the Internet with a particular focus on the servers that will provide the content. Kohtaro Asai will next describe how the overwhelming volume of video information managed by these servers is represented and compressed to provide the highest subjective quality, as perceived by humans, given different assumptions of usage, delivery rates, and display attributes. Network architectures and their implications for video distribution robustness, scalability, and reliability will be discussed by Naoki Wakamiya. Finally, Lixia Zhang will discuss the network design approaches and tradeoffs for achieving the qualities of service, such as data delivery throughput, latency, jitter, and packet loss rates, necessary to meet the needs of specific applications and user communities.