4K digital CINEMA

Background

Enabling CineGrid

CineGrid™, a Calit2 initiative, is applying dedicated optical networks to enable the production, use and exchange of very-high-quality digital media — including movies — over photonic networks.

To do so, it is building an interdisciplinary community that is focused on the research, development, and demonstration of networked collaborative tools, some of them based on grid computing and networking advances by Calit2’s OptIPuter project.

In December 2006, CineGrid held its inaugural workshop at Calit2 in San Diego (above). The event included demonstrations on the 4K projection system, including a performance from Tokyo by Keio University’s Wagner Ensemble.

Technology

Four Times the Resolution of High-Definition TV

Calit2 has undertaken to make visualization a cornerstone of its research agenda, because it is a foundational technology that can support scientists working on a very wide range of applications.

The Calit2 auditorium at UCSD features the first 4K (four times the resolution of HDTV) projection system installed at a U.S. research institution.

The Sony SXRD projector gives audiences a unique experience, whether for large-format videoconferencing, or viewing giga-scale images and multimedia. The system is connected to 21 Terabytes of ultrafast disk playback and real-time computer graphics capability and 1- and 10-Gigabit Ethernet connectivity to Calit2/SDSC servers and national and international high-speed networks.

4K is a significant new image format because it will be widely used for future digital cinema theatrical distribution.

The image below represents the relative size of the 4K projection — nearly 4,000 pixels across — compared to full high definition (2K) and today’s standard TV format of only 720 pixels across.

“Networked 4K media inspires the imagination about what can be done with advanced visualization and communications technology.”

Marye Anne Fox, Chancellor UC San Diego

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