



AARNet Brings 4K Digital Cinema to Australia: First 4K HD Video Signal delivered into Australia by AARNet

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Sydney, AUSTRALIA 20 November 2008 Australia's Academic and Research Network (AARNet) delivered its first 4K Super High-Definition video stream, which was four times the resolution of a 1920 x 1080 HD TV signal, today on its network.

The 4K video stream displayed images that are approximately four times the resolution of the most widely-used HD television format and it has been proposed as a standard for digital cinema theatrical distribution for the future. The stream was received and displayed through AARNets network in collaboration with the University of Queensland (UQ), the Queensland Cyber Infrastructure (QCIF) and research institutes in Korea, Japan, Russia, Czech Republic and three locations in the United States in the "Global Visualcasting Collaborative Remote Visualisation Over High Speed Networks" session at the SC Conference.

Seven other research institutions from around the world were also involved in this visualcasting demonstration where participants were required to showcase real-world application and data movement on multi-10gigabit per second networks. AARNet worked with UQ to provide a dedicated 10GB circuit right to the QCIF laboratory where high-definition video and audio visualisations were displayed on its OptiPortal.

Chris Hancock, CEO of AARNet said, AARNet is always trying to enable and support collaboration between Australian and international research communities on its high speed network. This particular experiment marks an Australian first as it demonstrates the merging of future video conferencing, scientific visualisation and digital cinema technologies all in one.

During the challenge, multiple uncompressed streams of visual content were sent from booths at San Diego Supercomputer Centre, SARA, KITSI at the SC Conference to University of Michigan, UIC, Masaryk University in the Czech Republic, KISTI/GIST in Korea, UQ, Osaka University in Japan and the Space Research Institute in Russia. Each location was able to see 4K video streams of scientific content in addition to high definition video conferencing feeds from various other sites simultaneously on one large high resolution display.

Professor Bernard Pailthorpe, CEO of QCIF said, OptiPortals are the next step in display and visualisation technology for supercomputers and large data. They enable a new type of remote and collaborative working, and further shrink the distances to Australia.

The collaboration involved a Global Visualcasting experiment using Electronic Visualization Laboratorys (EVL) Scalable Adaptive Graphics Environment (SAGE) technology designed by the University of Illinois at Chicago (UIC). EVLs SAGE middleware is used for streaming ultra-resolution visualisations, multi-channel audio, laptop content and HD video camera feeds from different sources over multi-gigabit networks to QCIFs OptiPortal.

Hancock added, AARNets collaboration with its partners for this experiment has demonstrated how technology can be developed to enable real-time international collaboration while reducing the cost. Without having the need for data compression, high quality images can be maintained and then viewed using an inexpensively built OptiPortal display instead of using 4K projectors that can cost more than \$100,000."

"This challenge proves the benefits of a high speed network for dealing with the scale and complexity of todays data.

The Bandwidth Challenge was organised by SC Conference, an international conference for high performance computing (HPC), networking, storage and analysis.

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About AARNet

AARNet Pty Ltd (APL) is the company that operates Australia's Academic and Research Network (AARNet). It is a not-for-profit company limited by shares. The shareholders are 37 Australian universities and the CSIRO. AARNet provides high-capacity leading edge Internet services for the tertiary education and research sector communities and their research partners. AARNet serves more than one million end users who access the network

through local area networks at member institutions. For further information, please visit: www.aarnet.edu.au.

About QCIF

QCIF Ltd. was founded in 2001 by six Queensland universities as a collaborative vehicle to build shared ICT research infrastructure, and to demonstrate advanced ICT to the states industries and agencies. Current members include The University of Queensland, Griffith University, Queensland University of Technology, CQUniversity and the University of Southern Queensland. For further information, please visit www.qcif.edu.au.

Note to Editor: Photo available on request. Please contact Max Australia.

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