Streaming Cloud Technology Leads Way to High-Quality Multimedia Broadcasting

A HKUST research team led by **Prof Gary Chan**, Computer Science and Engineering, has developed Streamphony, a next-generation streaming cloud for large-scale high bitrate stream broadcasting over the global Internet. The innovative technologies that Streamphony employs have defined a new era for content distribution networks.

The high efficiency and low deployment cost of Streamphony have been well received by both content and service providers, with the technology achieving high-quality multimedia broadcasting with 70% cost savings on bandwidth and 30% on hardware.

Streamphony is the culmination of years of industry-driven research and advanced development. Using a distributed and self-optimizing protocol, the technology achieves system scalability to a virtually unlimited number of users. Its patented technologies are also highly

adaptive to the network environment to attain the best performance. "Streamphony divides the multimedia stream into multiple 'sub-streams' and intelligently 'pushes' them over multiple paths in the cloud," Prof Chan explained. "This new design paradigm is a quantum leap from the traditional design, leading to its remarkably low delay. It also enables the integration of IP multicast to substantially cut down network traffic and cost."

The industry leader Mei Ah Digital Technology Limited has been adopting the technology. Mr Steve Law, Executive Director of the company, said that Streamphony's approach was a good match for Mei Ah's business on content distribution and multimedia streaming. Streamphony is expandable and flexible enough to support network growth, heterogeneous device types, and new features such as 7.1 audio effect, adaptive bitrates and 3D animation, as well as offering high-quality and low-cost content delivery. "Streamphony fits our goals with its innovative approaches," he said.

The success of the project demonstrates the impacts of research through close collaboration among HKUST, government, and industry, with the Hong Kong government's Innovation and Technology Commission (ITC) and various companies providing funding and trial sites.

top ▲