# A P2P LiveTV System Based on IPv6

Outline of System:

- **The high bandwidth requirement for serving live streaming AV restrict residential Internet users from distributing content to multiple viewers.**
- **We suppose a P2P LiveTV system that uses many ordinary computers (peers) as servers, which is less costly and more scalable than using a single or a few dedicated servers.**
- **IPv6 overcomes the shortage of v4 addresses and obscure problems of NAT, and gives the scalability, stability, Security and convenience to enormous users.**
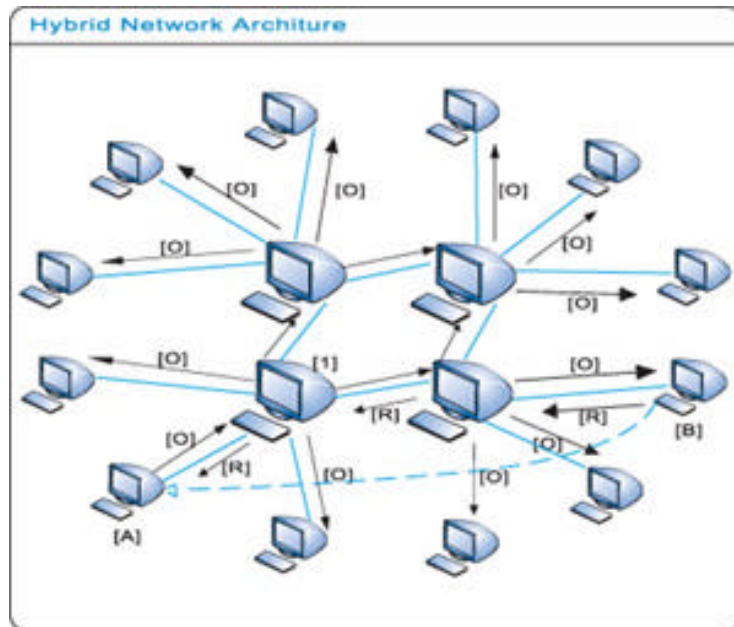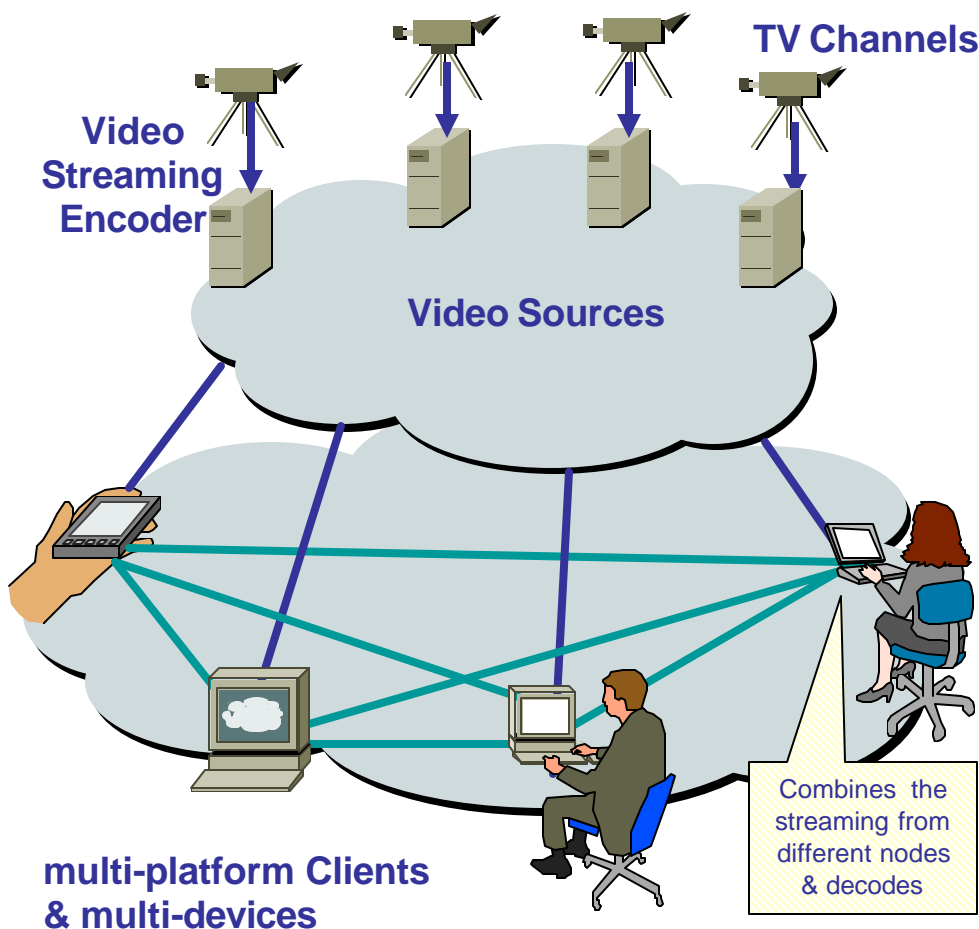
Features:

- **Viewers can select different TV channels from the program list. After the program connects to peers and buffer the stream, it automatically launches the media player.**
- **Provides multi-platform & multi-devices (PC, Mac, Cellphone & PDA)**
- **Supports online recording**
- **Hybrid P2P Architecture**
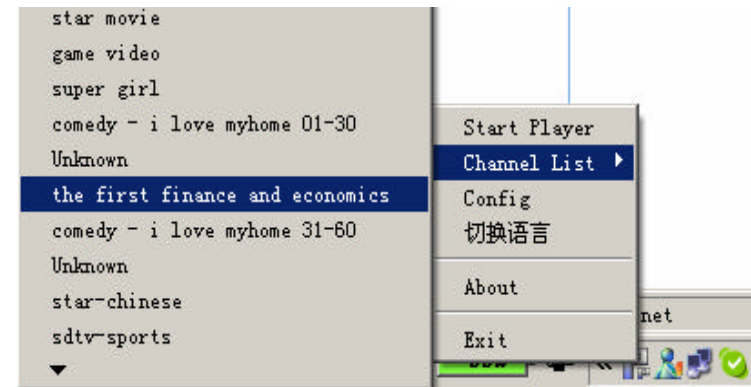
Why does P2P need IPv6: 1. NAT hides the true identity of the sender, however, using IPv6 can supply sufficient addresses to label each users, also it simplifies the structure and management of network . 2. The function of Auto-configuration simplifies the operation. 3. It is easy to deploy the P2P VPN for the secure solution.

Infrastructure of the P2Pv6 LiveTV System

Outline of System:

TV Channels

Video Streaming Encoder

Video Sources

multi-platform Clients & multi-devices

Combines the streaming from different nodes & decodes

Hybrid Network Architure

Hybrid P2P

- **Distribution System, Video Streaming can be stored in different nodes**
- **No central control point**
- **Fast Indexing & Fast Tracking**
- **More users, more fluency**

Notes: P2P applications will dominate the further Internet, especially the high-quality AV service. So, it's a trend to combine the P2P and IPv6. In China, P2P downloading is now covered nearly 70% of the whole bandwidth of main ISPs.