Paper Presentation

- Title:
  A Programmable Audio/Video Streaming Framework for Broadband Infrastructures.
Authors

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Streaming over Internet

**Streaming over Internet:** Computing performance, VoD, Mbone, high speed networks, technology and standards

**Emergence of high speed networks:** e.g. SingAREN, vBNS.

**A Programmable A/V Streaming Framework:** to support A/V hosting by network at application level.
The Framework
Application: Pre-recorded A/V hosting

Other Applications:
Live media hosting,
multicast of recorded media.
Advantages:
Setup cost, service programmability, no single point of failure, both live and stored A/V streams, dynamic servers addition/removal, etc.
Implementation

- System Architecture
- Web Interface
- WM Tool
- Database
- Agent
- A/V Servers
• **Web Interface**: Registration and announcements
  (HTML, JavaScript, CGI, Perl, WM MIME type)

• **WM Tool:**
WM Tool

- User front end tool for accessing services
- Invoked by WM MIME type links
- The behavior depend upon the input values from script
- Interacts with agent to update database, announcements, obtaining free ports
- Invokes other tools (like expect, vic, vat)
Working of WM Tool when used for providing pre-recorded media
WM Tool Interface when used to stream in live A/V data
Database

- Unique Media Description
- Media Information
- Server media home directory mapping
- Schema for audio/video file names
- Multicast information
Agent Implementation

- Is an RPC server written in Tcl-Dp
- Interacts with PostgreSQL through pgtcl interface and generates HTML pages.
- Provides general RPC’s for WM Tool for various cases
- Also invokes other RPC’s at A/V servers
Conclusions

- Proposed a novel programmable A/V streaming framework and mentioned its advantages.
- Implemented the WM tool, intelligent agent, generic A/V servers, web interface, database.
- Came up with an initial working implementation of the framework which supports A/V hosting.

Future Work

- Caching Issues
- Dynamic Management: server allocation/addition, dynamic announcements, schema
- Scalability: More agents, schema.
- Pricing.