AMPS

Active Multimedia Proxy Services

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Project Goals

Design, Build and Exploit a proxy architecture geared for **rapid** implementation of new services:

- Protect clients from poor throughput, delay, and loss
- Offer transcoding, error recovery, congestion control, multicast and interactivity

System Highlights

Adaptable: proxy reconfigures based on local characteristics

Modular: only implement new algorithms--reuse base code

Protocol Independent: No constraints to specific signaling or compression protocols

Proxy Architecture

Control Plane

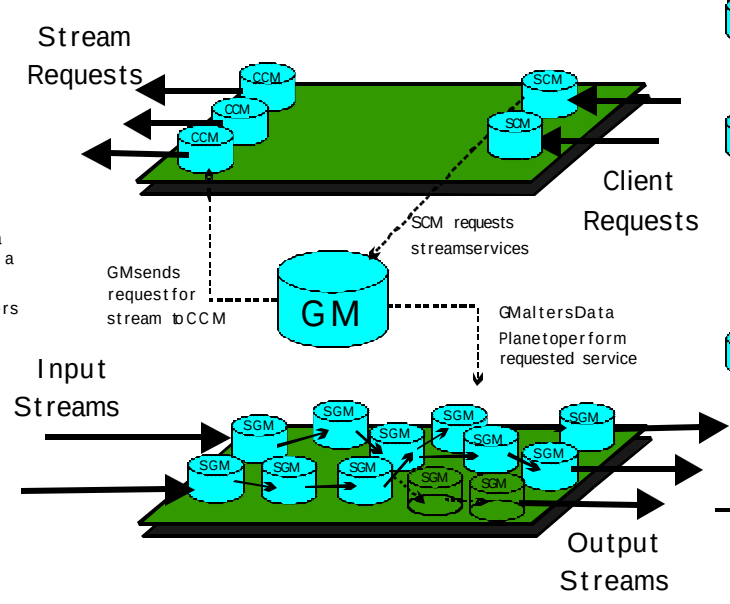
- Handles control signaling with servers, clients and other proxies
- Client and server signaling separate: ANY client can request data from ANY type of media source

Graph Manager

- Manipulates graph of modules in Data Plane to fulfill service requests from a SCM
- Uses CCMs to contact stream providers

Data Plane

Services are realized by passing a stream through a sequence of SGMs connected by stream pipes



Server Control Module

- Fulfills server signaling functionality
- Translates client requests to GM

Client Control Module

- Fulfills client signaling functionality
- Requests from GM are sent to servers

Stream Graph Module

Performs a base operation on a stream

- Retrieve from: network or disk
- Transcode between formats
- Send to: disk, network, graphical device

Stream Pipe

Cleverly enables one to many passing of streams among SGMs w/o memory copies