Multimedia Gateway Architecture for Adaptive Content Distribution

– Work in Progress –

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Introduction

- **Scope:**
  - Multimedia streaming to mobile clients

- **Problem:**
  - Transmission of multimedia data consumes high bandwidths
  - Decoding of such data takes much processing power
  - Mobile devices often cannot comply with such requirements

- **Solution:**
  - Adaptation of the data to the requirements of the client

- **Our Approach:**
  - Transcoding of multimedia streams on intermediate systems

Transcoding

- Transcoding = Changing the coding format
- Cascaded Pixel Domain Transcoder (CPDT):
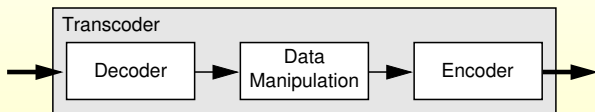

  - very flexible, but intensive computing needed
- Improvements:
  - Minimizing the need of decoding the multimedia stream
  - Reusing information from the original data
- Result:
  - Many different transcoding techniques exist
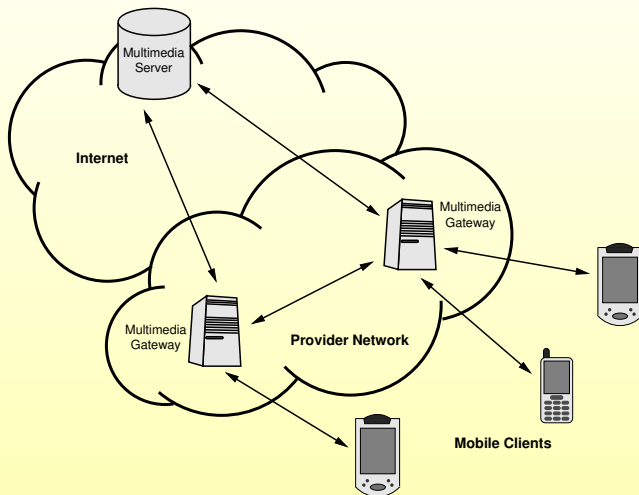
Transcoding Proxy Implementation

- Based on an RTSP/RTP-Proxy
- Uses a datapath consisting of Stream Handlers (SH)
- Each Stream Handler can manipulate the stream
- Transcoding modules can be loaded at runtime
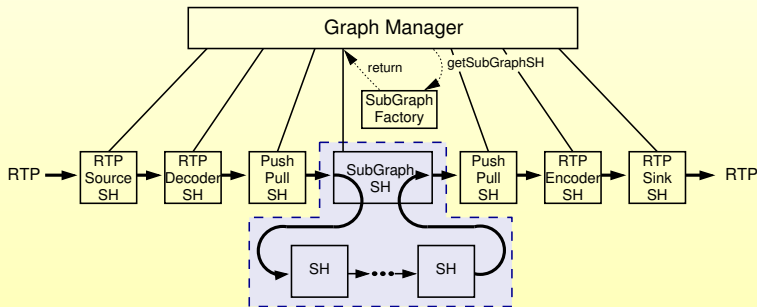
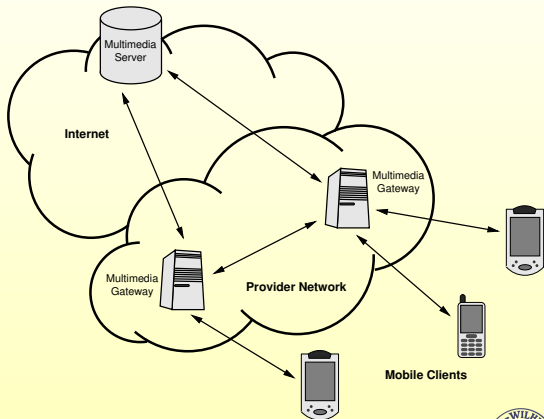# Towards a Multimedia Gateway System
(Future Work)

Towards a Multimedia Gateway System
(Future Work)

- Gateway location
- Capability exchange
- Gateway handoff
- Caching

Summary

- **Goal:**
  - Multimedia streaming with mobile clients
- **Problem:**
  - Mobile clients often have constrained resources
- **Approach:**
  - Transcoding of multimedia streams on gateways
  - Gateways can load transcoding modules at runtime
  - Modules will be loaded according to the requesting client
  - System can be extended easily by implementing new modules