Broadband Integrated Services Digital Network Planning

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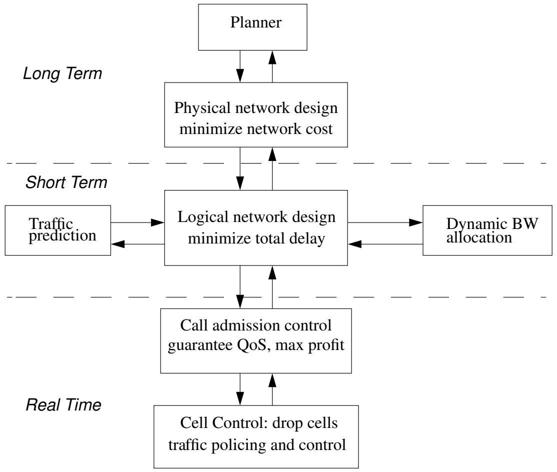
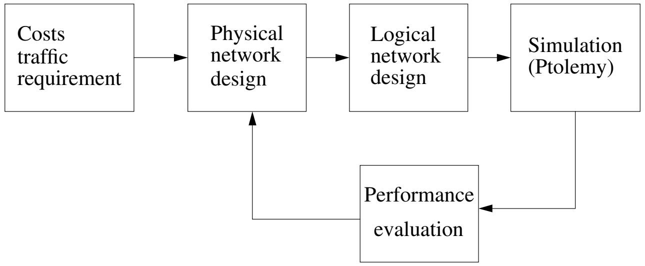
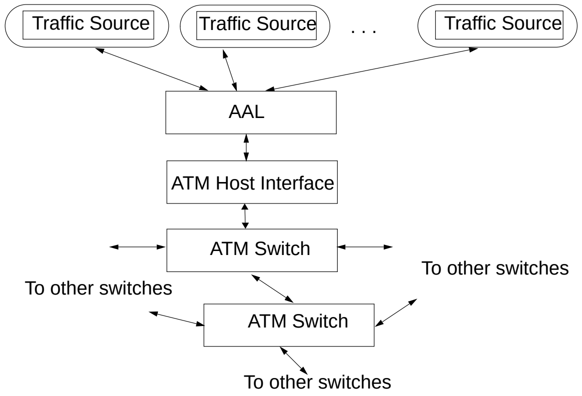
B-ISDN Network Planning



Planning Control Flow



Simulator Architecture

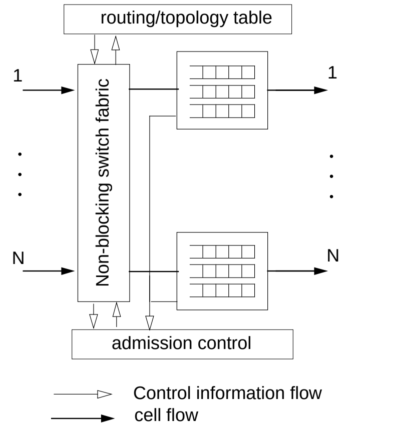


Simulation architecture

Current Implementation

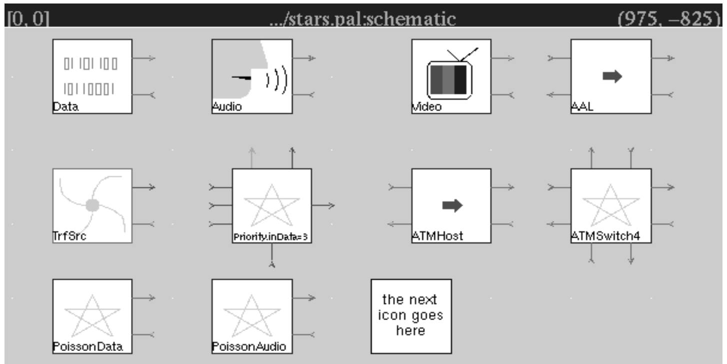
- Traffic Models
  - — Data
  - — Audio
  - — Video
- Switch Model
  - — Output queueing
- Routing Control
  - — Least hop count and depth-first search
- Admission Control
  - — Effective bandwidth

Switch Models

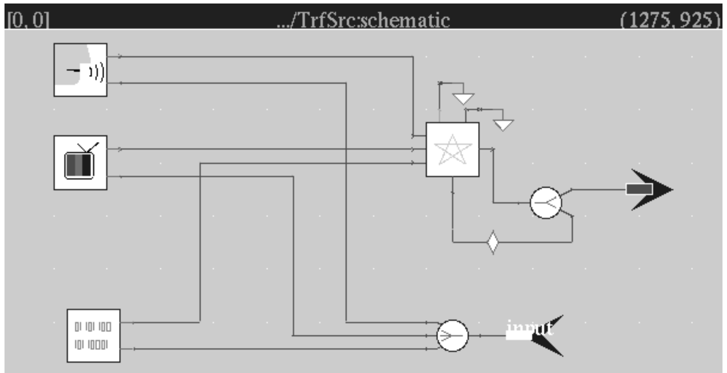


Each buffer has three different queues for high, intermediate, and low priority cells.

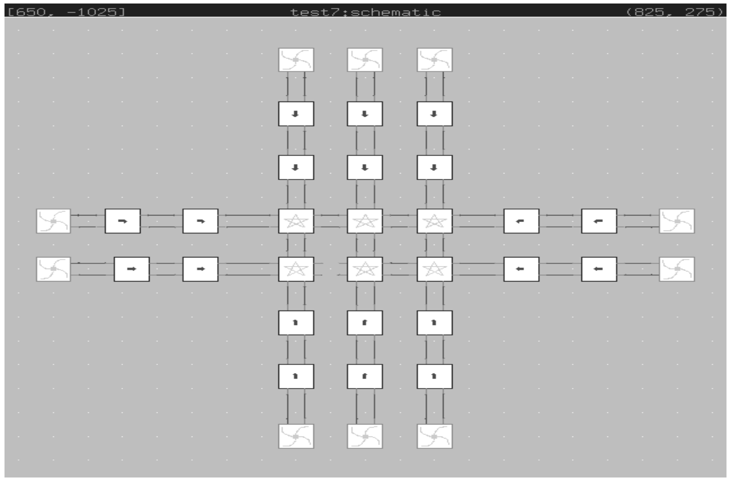
ATM Simulation Library



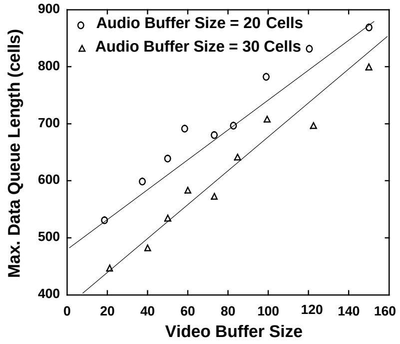
Traffic Source Model



Network Topology

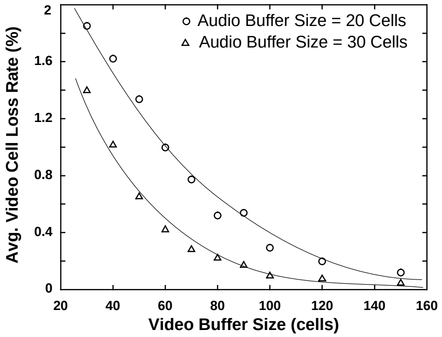


Simulation Results -- Effect of buffer size



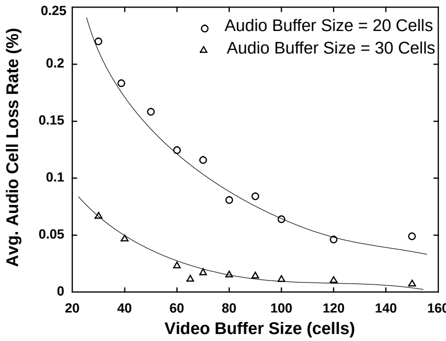
Maximum data queue length vs. video buffer size

Simulation Results -- Effect of buffer size



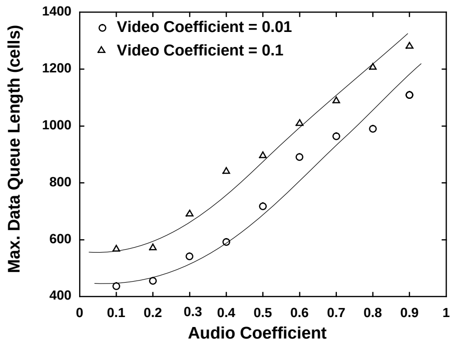
Average video cell loss rate vs. video buffer size

Simulation Results -- Effect of buffer size



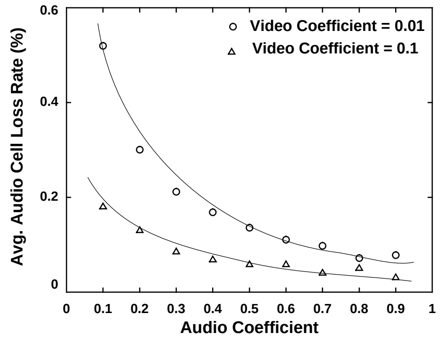
Average audio cell loss rate vs. video buffer size

Simulation Results -- Admission control



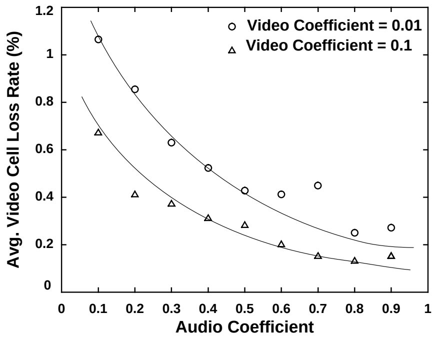
Maximum data queue length vs. audio coefficient

Simulation Results -- Admission Control



Average audio cell loss rate vs. audio coefficient

Simulation Results -- Admission Control



Average video cell loss rate vs. audio coefficient