

Telchemy

Actively Managing Multimedia

Is my IP network Video-ready?

John Timms

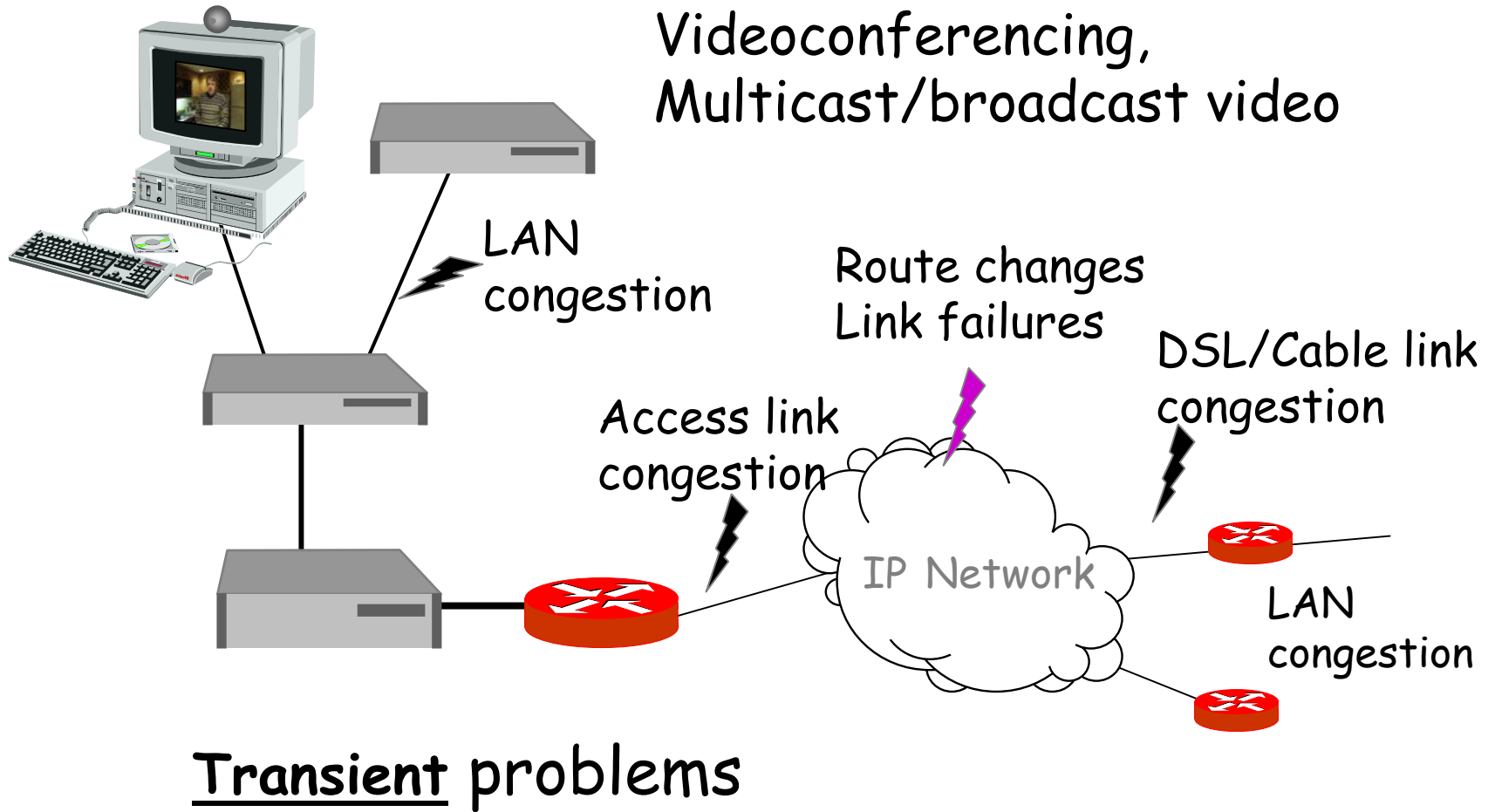
johntimms@telchemy.com



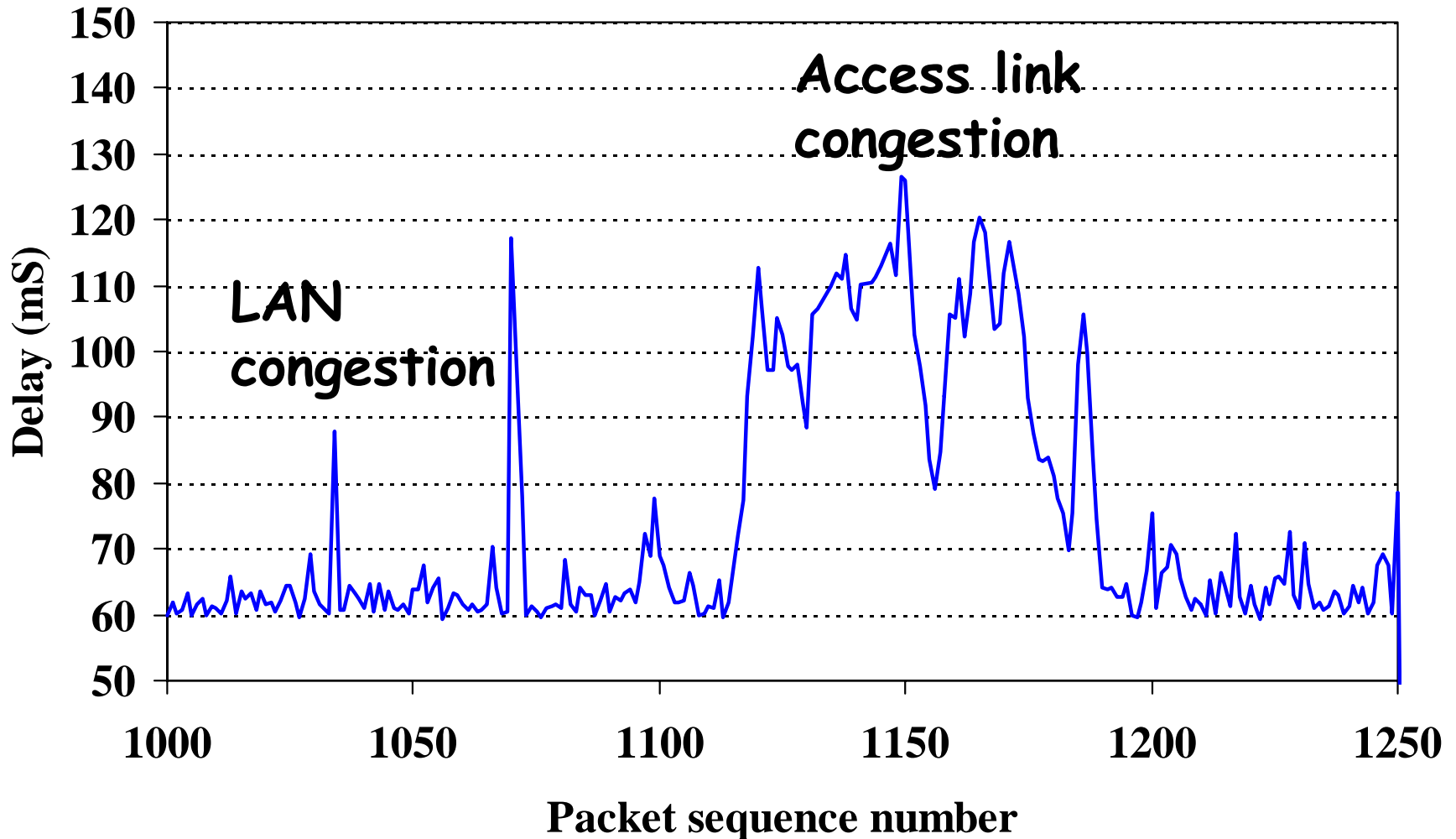
Outline

- Current issues and problems?
- Effects of network impairments on Video
- Improving the robustness of Video
- Pre-deployment testing for Video

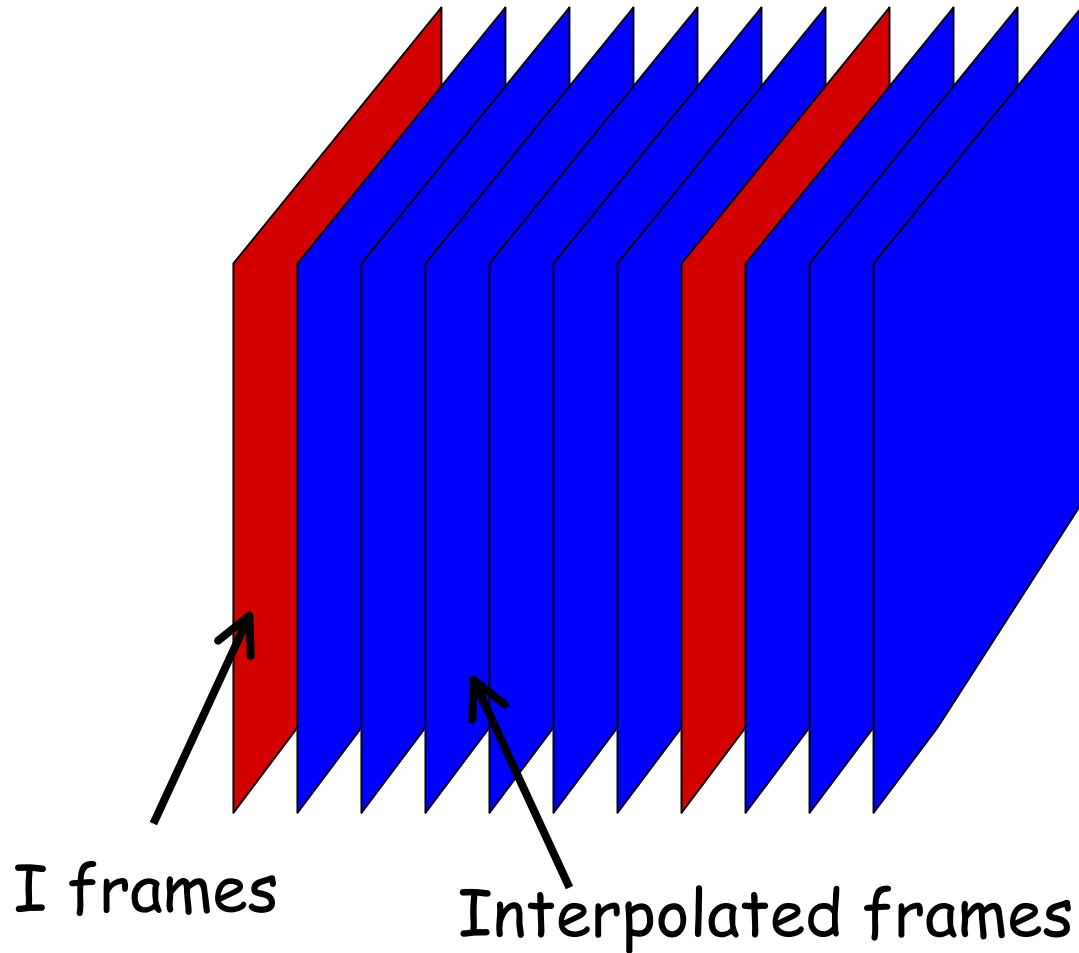
Typical IP Network Problems



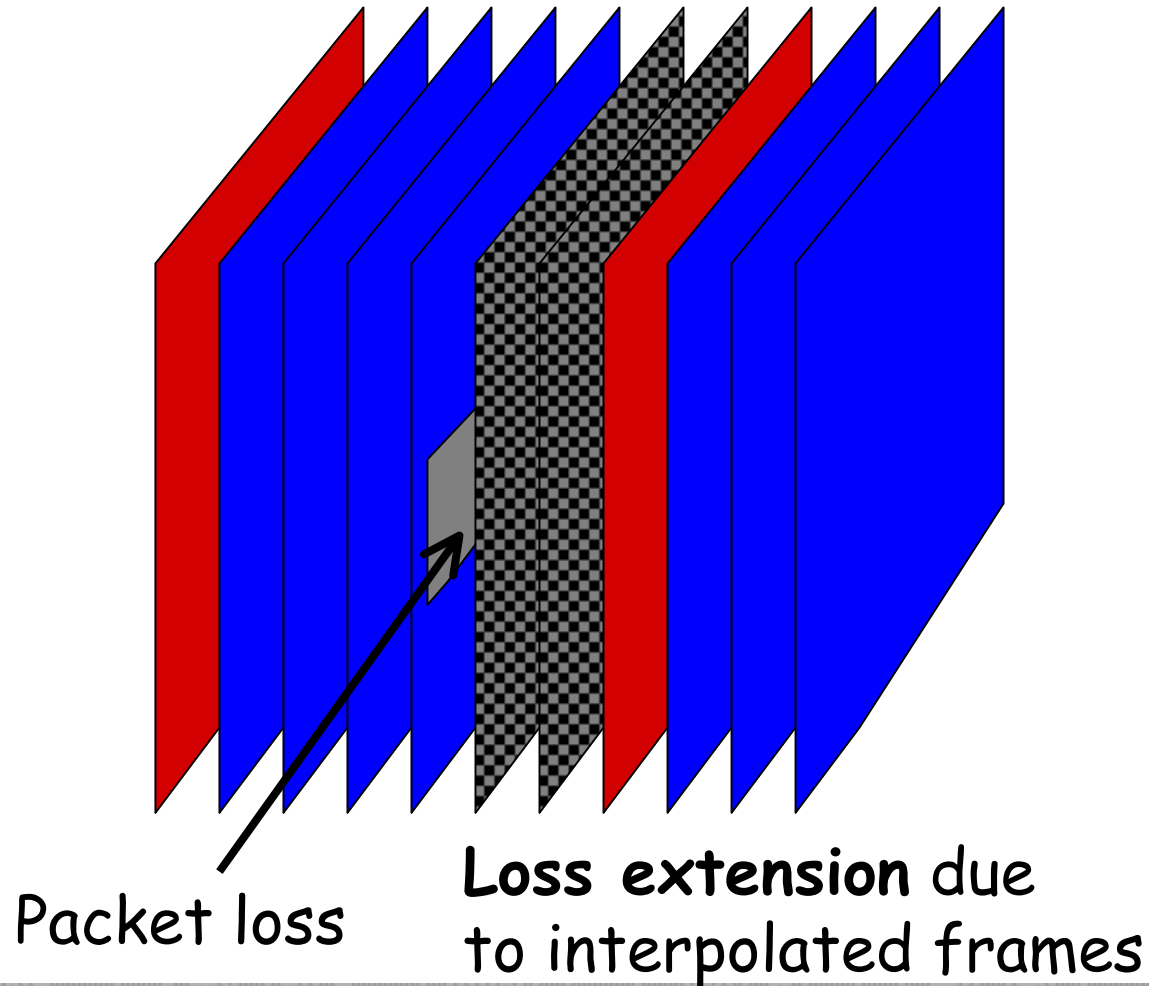
Impact on packet stream



Typical video stream



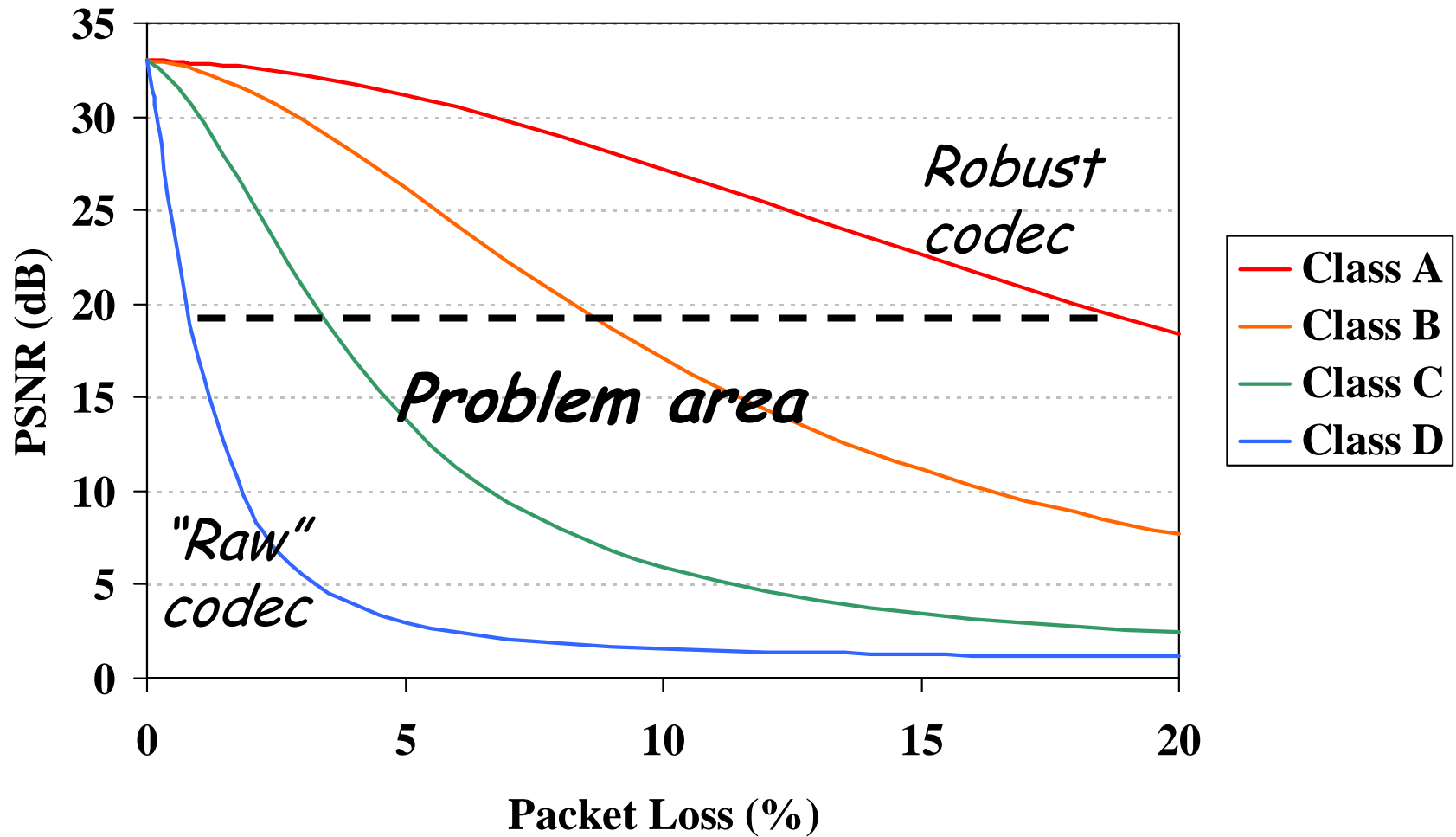
Effects of packet loss



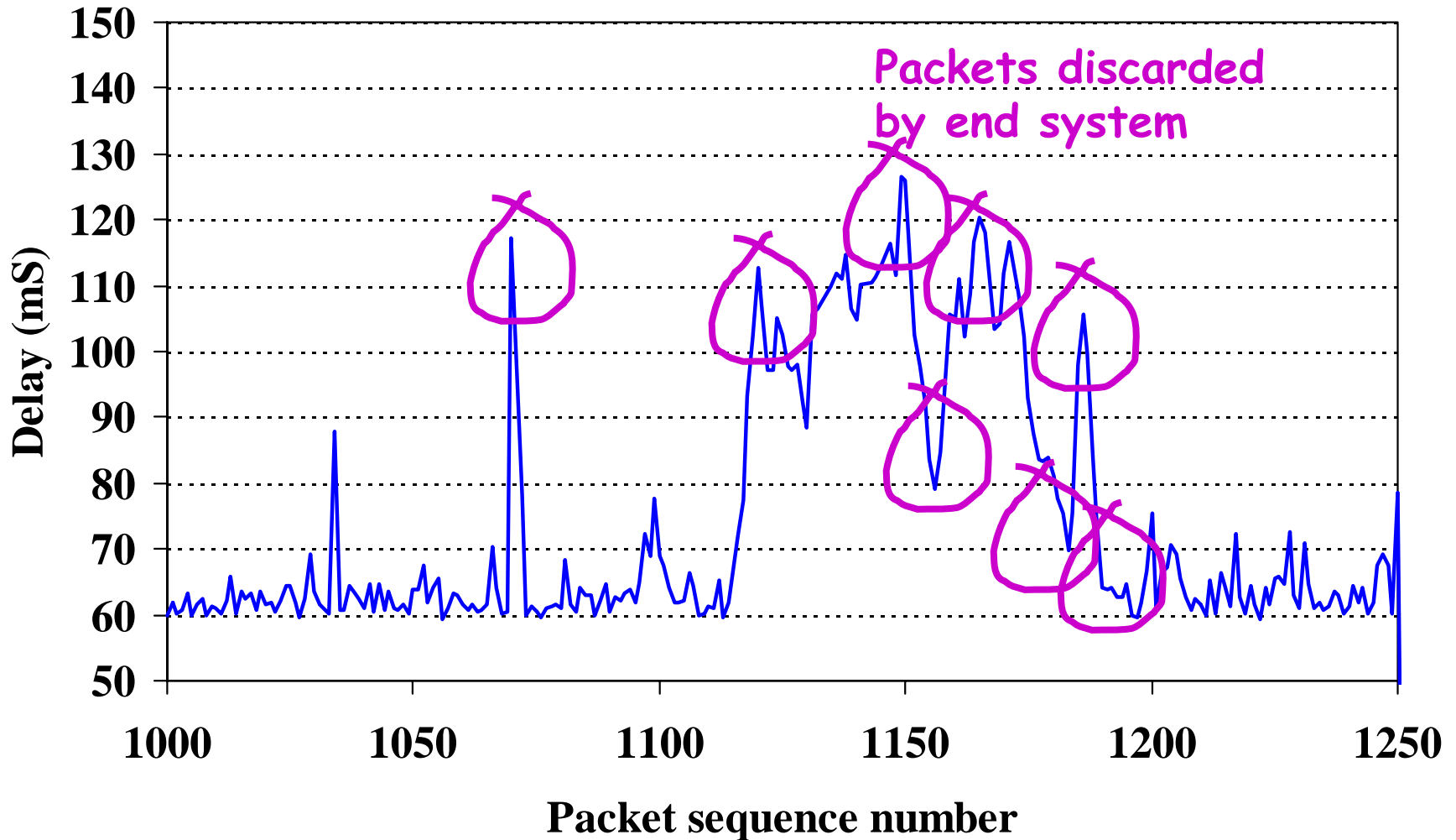
Robustness options

- Encoder options
 - Trade off between bandwidth and robustness
 - number of interpolated frames and robustness
 - Forward Error Correction/ Interleaving
- Decoder options
 - Use delayed frames for interpolation
 - Estimate content of missing frames

Effects of robustness strategies

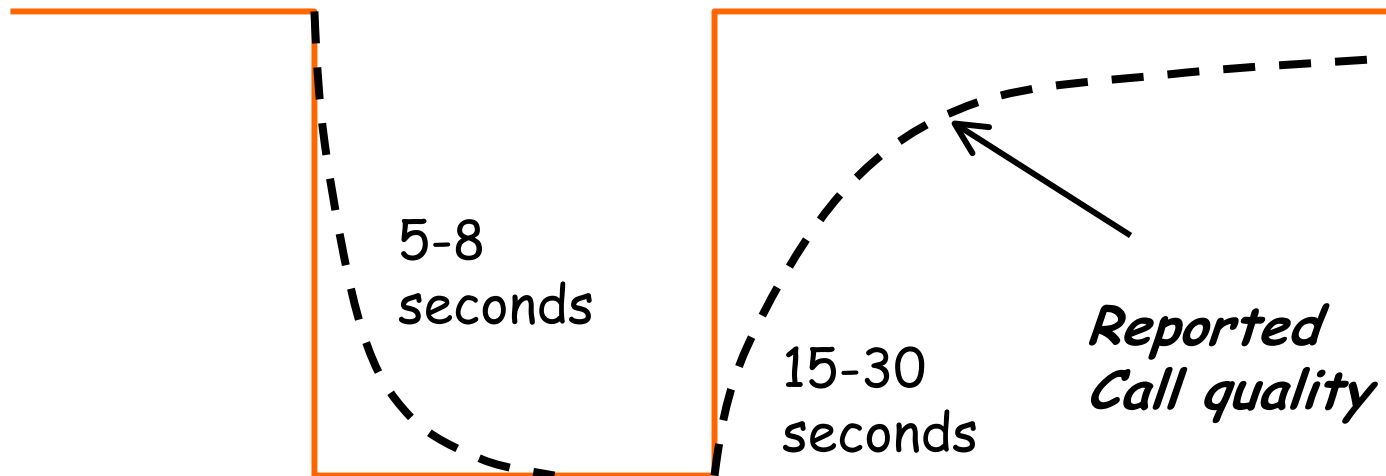


Packet loss distribution



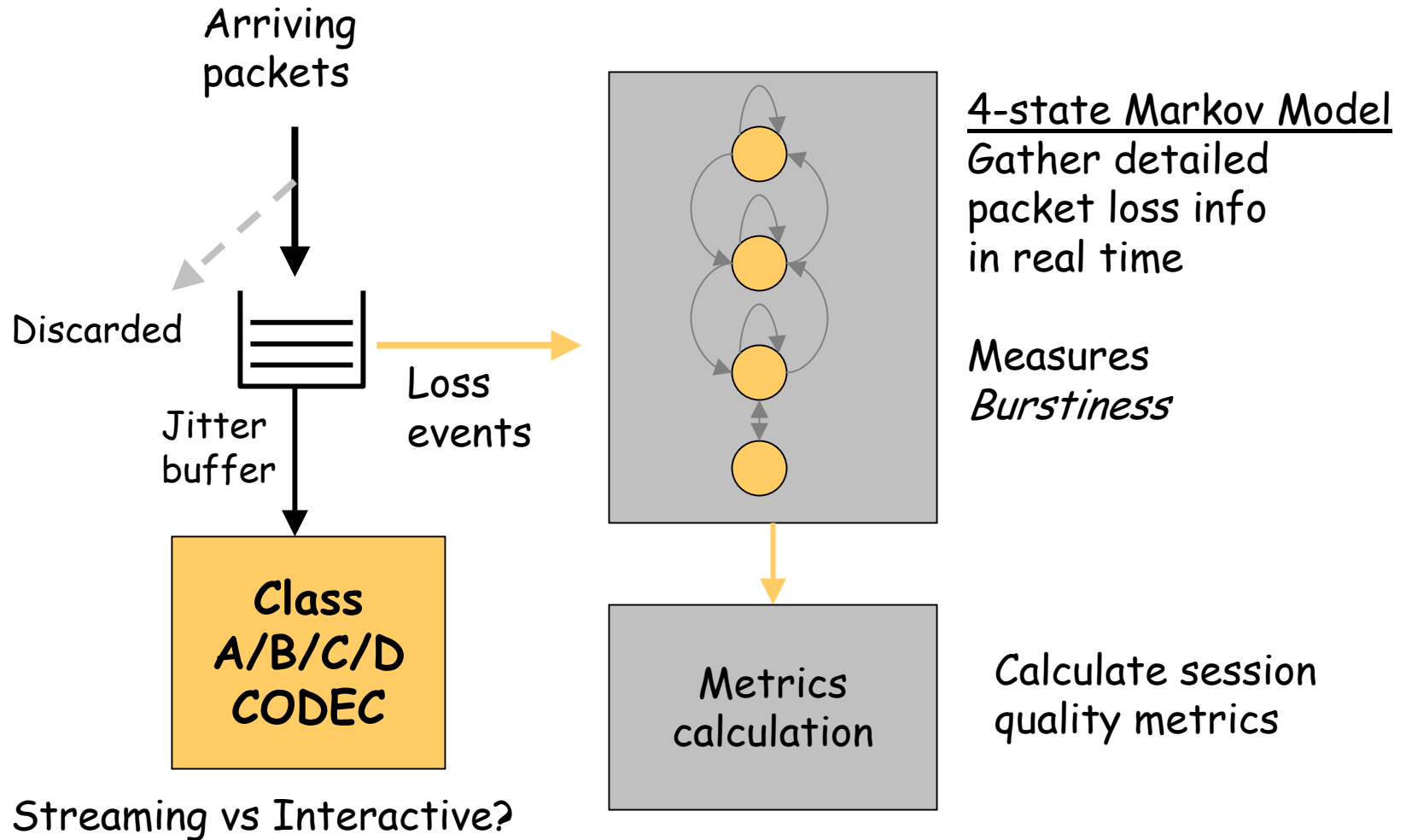
Effect - changing quality

Good quality most of the time



Poor quality during burst of loss/discards

Impact of network impairments



Why do IP transport testing?

- Prior to deployment – highlight problems affecting ability to deploy video
- After deployment
 - Identify problems before user does
 - Pre-session check that IP path will support adequate quality
- Helps with choice of CODEC

About Telchemy

- Based in Atlanta
- Develop technology for managing quality of service for Voice over IP and Video
- VQmon technology
 - Partners include Artiza, Brix Networks, Brooktrout, Finisar, Nortel Networks, Texas Instruments, Trinity Convergence, Visual Networks