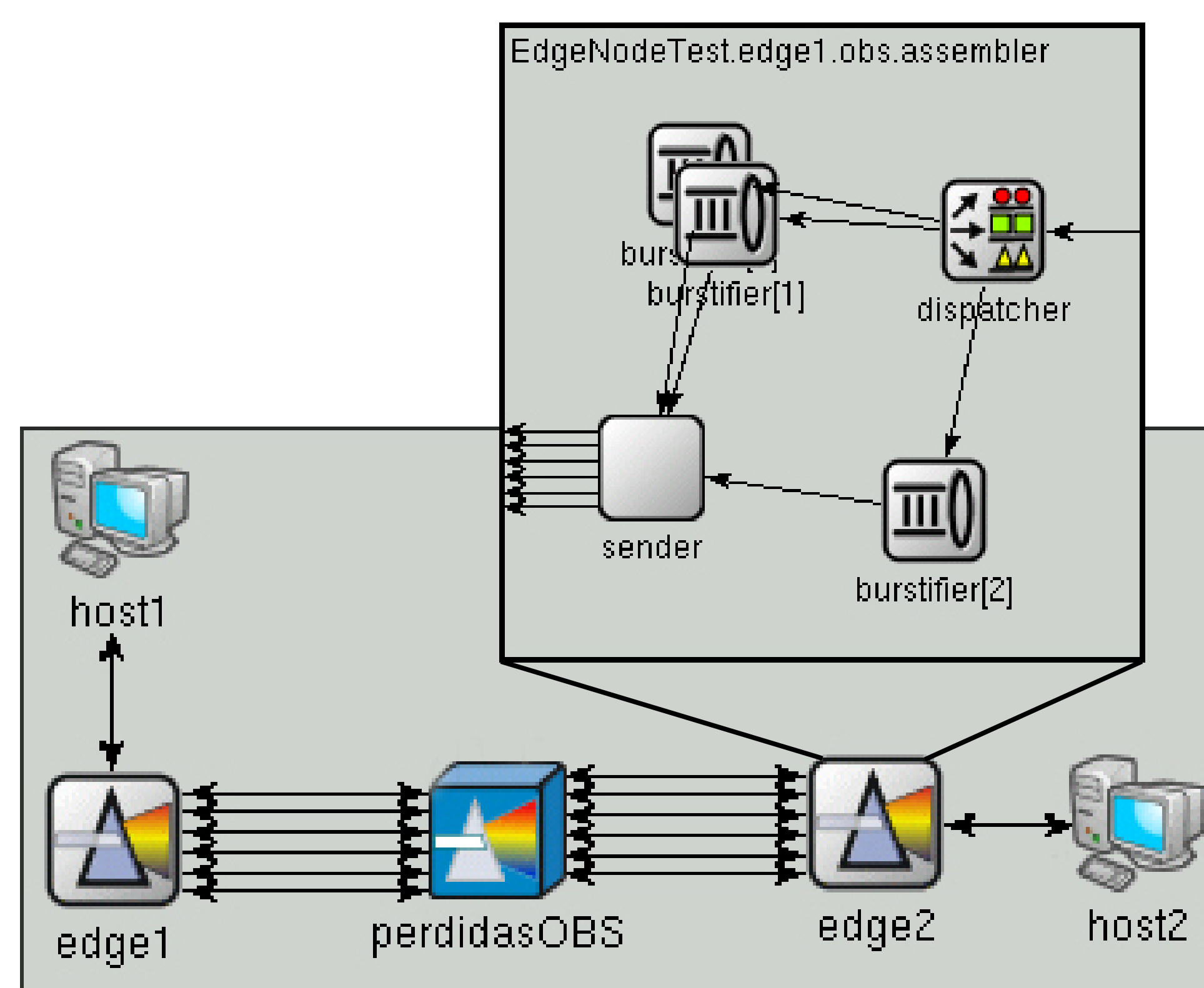


- Video distribution to home subscribers is already being offered as triple play services
- High definition video distribution will require much higher capacity from the optical network
- OBS offers the high speed needed for future "killer" applications...
- But it is not clear if it offers the needed QoS (latency, ...)

Project STRONG (Real Time Services for Next Generation Optical Networks)

- Introduce traffic models for real time services over OBS networks
- Develop a reference OBS network model to distribute real time services
- Compare performance of proposed model to previous non-OBS architectures

OBS network simulator

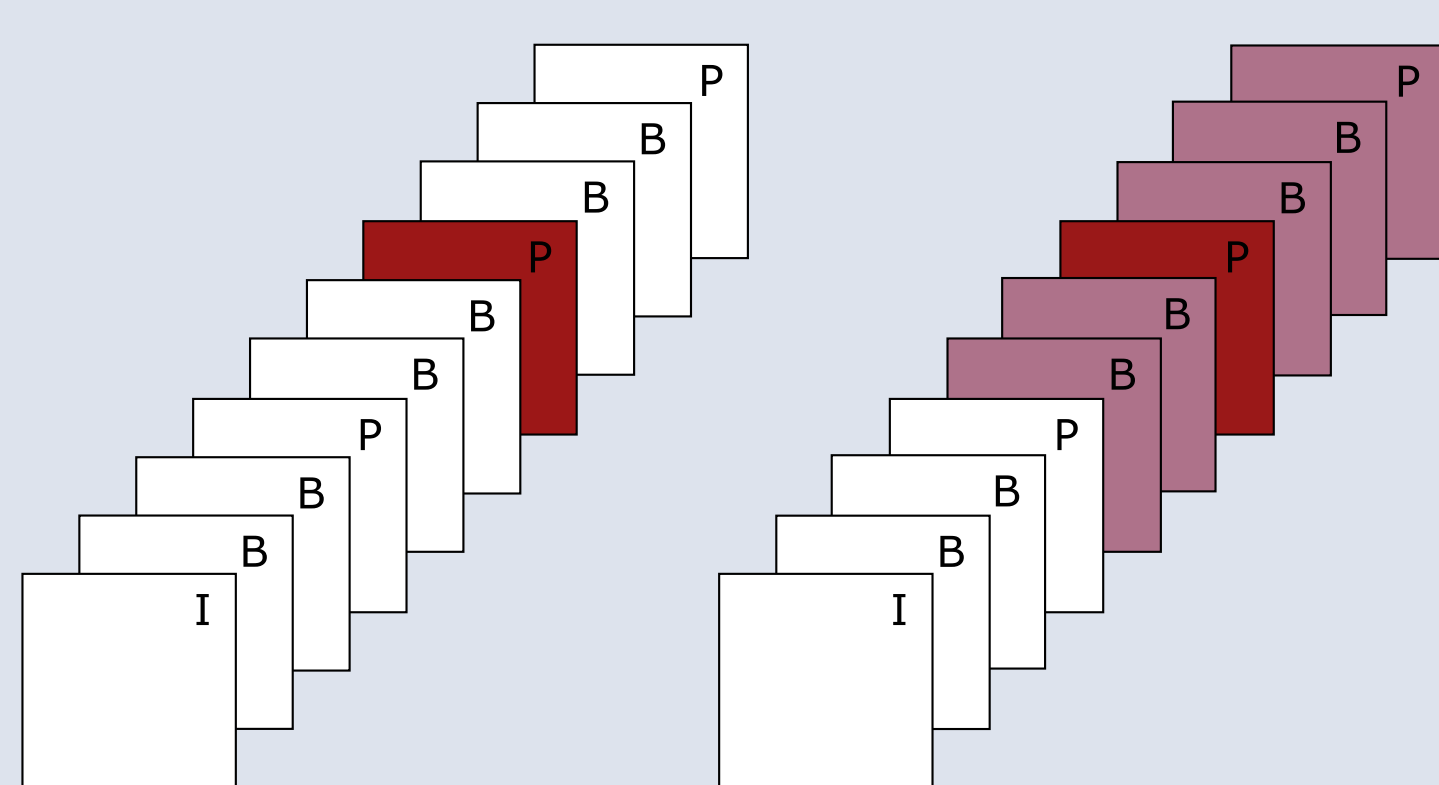


- Based on OMNET++
- Open source
- Support for multiple burst formation and scheduling mechanisms
- Edge and core node models
- Extensible

WORK IN PROGRESS

Video

- MPEG frame types I, B, P
- GOP structure GxBy
G12B2 = IBBPBBPBBPBB
- Inter-frame dependence



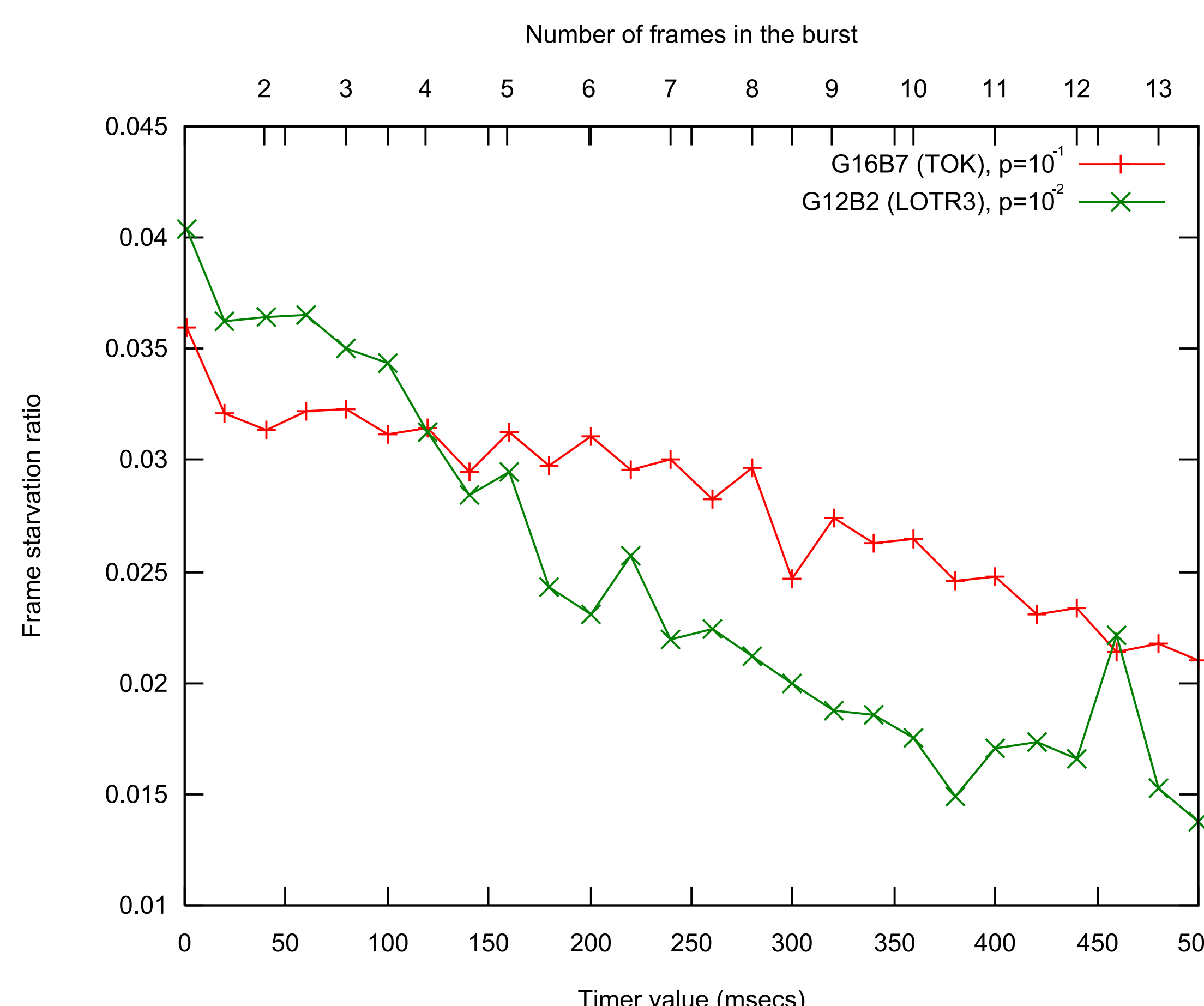
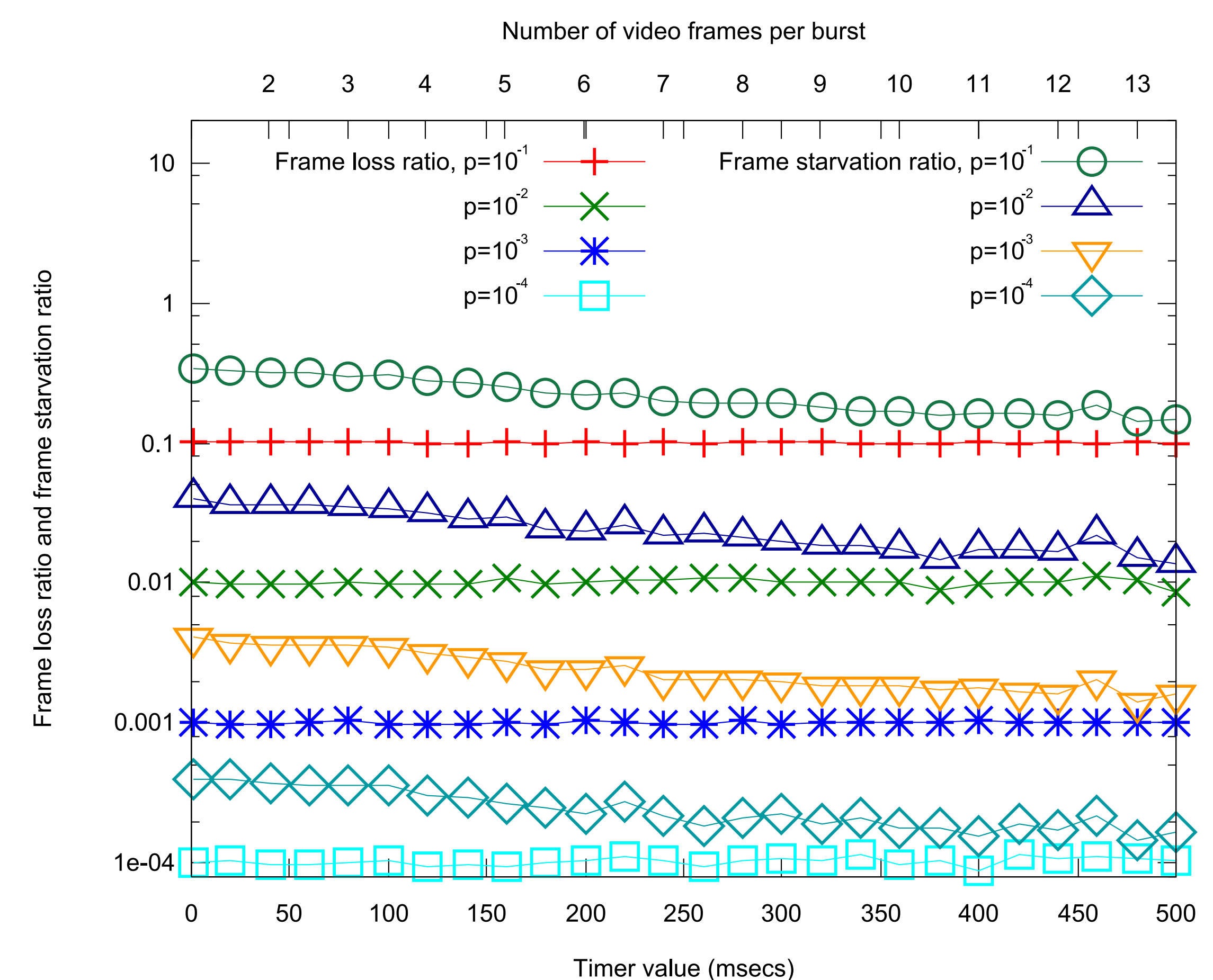
Example of Inter-frame dependence

Video over OBS problems

- Timer in burstifiers interacts with video parameters (fps)
- One lost burst may drop several frames
- One missing frame could turn other frames into nondecodable

Preliminary results

- Number of nondecodable frames >> lost bursts
- Improves with larger timers
- The effect of losses depends on GoP structure



Next problems

- Analytical studies
- Timing effects (latency, jitter...)
- Other burstifiers