Abstract

Optical burst switching (OBS) is developed as an alternative switching technology, which contains advantages of both Optical circuit switching (OCS) and Optical packet switching (OPS). The most important design goal in Optical Burst Switching (OBS) networks is to minimize the congestion in the network as a result of resource contention. This paper will propose a mathematical model using Erlang’s B formula to calculate the congestion in the optical burst switching network. Results show that with the increase in the value of congestion, blocking probability also increases but its effect is negligibly small. The results will prove that this strategy is better than the conventional techniques. Note: Simulation is done using MATLAB software.

References

- Won-Seok Park, Minsu Shin, Hyang-Won Lee, and Song Chong, "Joint Congestion Control and Burst Contention Resolution in Optical Burst Switching Networks," 2007 IEEE.
- LaeYoung Kim, SuKyoung Lee and JooSeok Song, "Congestion Control Scheme based on Peak Load in Optical Burst Switching Networks," IEEE 2006.
- Dr. Farid Farahmand and Dr. Qiong (Jo) Zhang, Central Connecticut State University (2007) "Circuit Switching".

**Index Terms**

Computer Science

Networks

**Keywords**

Blocking Probability  Congestion  Erlang's B formula  Traffic intensity