Abstract

Optical burst switching (OBS) is emerging as the switching technology for next generation optical networks. Advantages of optical packet switching and circuit switching are combined in OBS and overcoming their limitations. Data (or payload) is separated from control packet. A control packet is sent before the payload to reserve the resources on the path to the destination of payload. When a control packet arrives at an intermediate node a wavelength scheduling algorithm is used by the scheduler to schedule the data burst on an outgoing wavelength channel. The required information to schedule a data burst are arrival time and duration of data burst, which are obtained from the control packet. On the other hand, scheduler keeps availability of time slots on every wavelength channel and schedule a data burst in a channel depending upon the scheduling algorithm it uses. Different scheduling algorithms have been proposed in literature to schedule payload/ data burst. They differ in burst loss and complexity. Depending upon the channel selection strategy, they can be classified as Horizon and Void filling algorithm. Though these algorithms give less burst loss but channel utilization is very less. In this paper we introduce a new approach, which will give less burst loss and also utilize existing channels in efficient way. Also the performance of this proposed scheduling scheme has been analyzed and compared it with the existing void filling schemes. It is shown by simulations that the proposed scheme gives somewhat better performances compared to the
existing schemes in terms of channel utilization and packet loss.

References

- Conor McArdle, Liam P. Barry, A two-moment performance analysis of optical burst switched networks with shared fibre delay lines in a feedback configuration, Optical Switching and Networking volume 9, Issue 4, November 2012, pp. 323–335

**Index Terms**

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