

**“Networking and technological considerations for optical packet switching”**, pp. 254 - 259

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**Abstract** – This paper investigates the feasibility and the technological needs for high capacity end-to-end packet switched optical transport. The required and available technologies for contention resolution, optical header processing and optically controlled optical switching are discussed. Packet loss probabilities are calculated for basic  $2 \times 2$  switching topologies where different buffering solutions are applied. An optical logic is proposed for solving contention resolution in a  $2 \times 2$  basic packet switching module that can be used for constructing a multi-port, all-optical packet switch. As an example of decoupling the electrical and optical functions in a packet switch, an add-drop multiplexer solution is described.