Abstract:

In the field of wavelength routed optical networks, routing and wavelength assignment problem has been one of the most important and interesting topics. So far a lot of optimization algorithms have been published in order to optimally use the resources (wavelengths, optical-electrical-optical convertors) of the optical networks. One of the algorithms is Priority based routing and wavelength assignment with traffic grooming(PRWATG) ,where priority order of connection request is estimated using type of link whether it is a direct link or indirect, which tried to follow the wavelength continuity constraint and also reduced the congestion and number of blocking connection. In addition to PRWATG, we have Routing and wavelength assignment using hop by-hop traffic grooming, here for all incoming connection requests rather than grouping them in a source destination pair(s, d pair). We have tried to group them considering hop-by-hop similar connections, this way the blocking of connections due to wavelength continuity constraint can be reduced to some extent. Simulation studies have been conducted to evaluate the efficiency of the proposed mechanism.