

# **Abstract**

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## **EPON performance optimization: an extensive comparative study for DBA algorithms**

This work provides a classification study and a detailed comparison for a large number of dynamic bandwidth allocation (DBA) algorithms with respect to time delay and throughput as performance indicators. The study shows that IPACT WITH CBR, UDBA, IPACT with two stages and CPBA are the best DBA algorithms regarding both time delay and throughput at highly loaded scenarios. These algorithms are enrolled in a parametric optimization process targeting performance enhancement. This process results in a reduction in time delay between 1.167 and 3.5% and an increase in throughput between 1.3% and 1.795%.