Simple and Feasible Dynamic Bandwidth Allocation for XGPON

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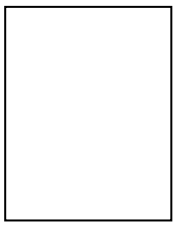
***Abstract*— In this paper, we propose a simple and feasible dynamic bandwidth allocation (SFDBA) algorithm in order to utilize the unallocated bandwidth and to achieve the implementation feasibility. SFDBA is based on an immediate allocation with colorless grant (IACG) algorithm but SFDBA uses only a single available byte counter and a single down counter for multiple queues of a same service class. Since multiple queues share the same available byte counter, the unallocated bandwidth of a queue can be utilized by another queues. For better service fairness, SFDBA changes the starting queue of scheduling in a round-robin manner. Using simulations, we show that SFDBA is superior to existing methods in mean delay, frame delay variance and frame loss rate.**

***Keyword*— Passive Optical Network, Dynamic Bandwidth Allocation, XGPON.**



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