

## STATIC-THRESHOLD-LIMITED BuST PROTOCOL

**Constance Kalu**

Department of Electrical/Electronic  
and Computer Engineering  
University of Uyo, Akwa Ibom  
NIGERIA

**Simeon Ozuomba**

Department of Electrical/Electronic  
and Computer Engineering  
University of Uyo, Akwa Ibom  
NIGERIA

**Umoren Mfonobong Anthony**

Department of Electrical/Electronic  
and Computer Engineering  
University of Uyo, Akwa Ibom  
NIGERIA

### ABSTRACT

In this paper, Static-Threshold-Limited BuST (STLB) Media Access Control (MAC) protocol was developed for bandwidth allocation in Multiservice Local Area Network (MLANs). STLB protocol was developed from two existing versions of the timed token MAC protocols, namely; Static-Threshold-Limited On-Demand Guaranteed Service Timed Token (STLODGSTT) protocol and Budget Sharing Token (BuST) Protocol. The development and analysis of the STLB protocol are presented for a system that is heavily loaded with asynchronous traffic but with variable load of synchronous traffic. In all, STLB protocol improved on the ability of the STLODGSTT protocol to utilize available network bandwidth by improving on the protocol's spare bandwidth reclaiming mechanism. Also, a numeric example is used to demonstrate the improved performance of the STLB protocol over the existing STLODGSTT protocol.

**Keywords:** Multiservice, bandwidth, protocol, real-time, non real-time , network, traffic.