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Abstract

This data article contains information on a new intelligent bandwidth allocation model for future network (Smart Allocation). The included data describe the topology of the network testbed and the obtained results. Obtained data show the effectiveness of the proposed model in comparison with the MAM and RDM bandwidth allocation models. In relation to the performances evaluation, a variety of flows are used such as: voice over IP (VoIP), video, HTTP, and Internet Control Message Protocol (ICMP). The evaluation criteria are: VoIP latency and jitter, Peak Signal to Noise Ratio (PSNR) video, retransmission video, goodput, HTTP response page, and the Round-Trip Time (RTT) ICMP delay. The presented data are extracted based on simulation.

Specifications Table

Subject area	*Network Management, Communication Network Architecture, Network Layer, Network Design.*
More specific subject area	*Quality of Service, Software-Defined Network, Next Generation Networks.*
Type of data	*Table, graph, figure*
How data was acquired	*GNS3 simulator, Cisco XR, Cisco 7200 IOS.*
Data format	*Analyzed*
Experimental factors	*We measured the quality of communication by comparing the Smart Allocation model with RDM and MAM.*
Experimental features	*The evaluation is performed by increasing the packets load from 256 bytes to 1024 bytes. The quality of VoIP, the video distortion, and the response time of the HTTP and Internet Control Message Protocol (ICMP) applications were measured for each load.*
Data source location	*LTI Laboratory*
Data accessibility	
Related research article	*Novel SDN Architecture for Smart MPLS Traffic Engineering-DiffServ*