

**Title: EBS: The Electric Burst Scheduling. A system for future large bandwidth applications in scale.**

**Abstract:**

It is reported that the delivery of video traffic will consume more than 82% of the total Internet traffic by 2022. However, today's content delivery networks can suffer from low bandwidth utilization and long latency problems. We show what happens if we continue to use existing transports for these large streams, where the current networking method is not optimum for large scale high bandwidth applications, and present how neither huge buffers nor fixed pipes are realistic solutions.

A potential solution: EBS — The Electric Burst Scheduling system is discussed. It aims at providing a future proof data transport mechanism for very large data, with the following features: (i) a mechanism to decouple the buffer requirement from data transport while maintain high flexibility; (ii) an application / content aware transport mechanism; and (iii) a near optimum network utilization, 0 convergence time for traffic policy update.

We note that in the HPC / DCN area, IP has been mostly replaced by RDMA and RoCEv2 to minimize the communication overhead and maximize performance inside the data center, so it is realistic to believe that EBS can be used in specialist environments for the transfer and distribution of large streams.