BONE Major Achievments

WP24 : Edge-to-node adaptation for hybrid networks

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WP Objectives

This workpackage aims at addressing the various issues that concern edge-to-node adaptation in hybrid networks. More specifically, the following topics are included: Optical Burst Switching: burstification, TCP over OBS, edge node analysis, The impact of OBS/OPS on upper layer protocols (TCP, SCTP, ...), Optical Packet Switching: adaptation issues, packetization, traffic shaping asynchronous-synchronous.

Status at start of the BONE-project

This area is very recent and a hot topic in research and lab experimentation. Actually, bursty Internet applications are not well suited for all-optical data transport and therefore there is the need to perform edge-to-node adaptation. This workpackage came in timely and produced a significant research thrust in the area.

Major progress during BONE-project

WP24 performed majot work in the area of burstification. Burstification algorithms are required that adapt to the specific requirements of the applications. Such burstification algorithms go beyond the current time-size based algorithms, because different burstification methods can be devised depending on the specific optical transport service (burst/packet/timeslot/wavelength). Admission control and scheduling also become a very important issue in this scenario, due to the fact that different types of traffic are to be handled with different transport services being offered. All these issues were investigated within WP24.

Added value of the BONE NoE

This workpackage helped to secure much national funding for research because it provided the experimental background necessary. A STREP proposal entitled MAINS was accepted as a result of the collaboration within WP 24.