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Scalable burst assembly algorithm for Optical Burst Switching networks

A research group of the UPC based in Barcelona (Spain), in collaboration with the technological center i2CAT, has developed a new assembly mechanism to be implemented in the control plane of Optical Burst Switching networks. Partners to further develop the system and/or to establish commercial agreements with technical cooperation are sought.

The Challenge

The exponential growing of the Internet traffic has triggered much research activity in optical switching technologies in order to face with the new increasing bandwidth requirements. Among the optical technologies, Optical Burst Switching (OBS) is a new promising technology under study as a solution for the next-generation optical networks. OBS technology can achieve better bandwidth utilization because it allows statistical sharing of each wavelength among the flow of bursts that may otherwise consume several wavelengths. However, there are certain challenges to be solved, such as the burst assembly mechanism.

The Technology

This new patented technology is a scalable burst algorithm that solves this assembly issue in OBS networks.

The algorithm allows the generation of data bursts from IP/ethernet packets by a faster and ease way, saving the data processing time and improving the efficiency of bandwidth consumption. Moreover, it allows a continued burst transmition, because it is no necessary waiting for the generation of the next burst due to the possibility to send each burst just after the completion of their generation.

Innovative advantages

- Faster burst frame generation.
- Better bandwidth utilization.
- Scalable and adaptable burst assembly according to serveral parameters: burst length, offset, QoS, destination, etc
- Ease of integration and implementation in any OBS architecture

Current stage of development

Feasibility is tested in the Laboratory scale

Applications and Target Market

This technology could be of interest for companies devoted to optical switching devices for telecommunications service providers.

New implementation of the control plane in OBS

Ease of integration in any OBS architecture

Scalable and adaptable assembly algorithm

Faster burst generation

Business Opportunity
Technology available for licensing with technical cooperation

Patent Status
Patent priority application filed

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