

## IEEE/OSA Journal of Optical Communications and Networking (JOCN)

Start Date of Review/Analysis: June 2009; Analyst: Chaitanya S. K. Vadrevu

### 2010

#### *May:*

- “Provisioning Subwavelength Multicast Sessions With Flexible Scheduling Over WDM Networks” by D. Andrei, M. Tornatore, C. U. Martel, D. Ghosal, and B. Mukherjee: Problem of provisioning dynamic multicast data-distribution requests (MDDRs) with flexible scheduling over optical WDM networks is presented.
- “Telecom Mesh Network Upgrade to Manage Traffic Growth” by R. Roy, A. Nag and B. Mukherjee: Concept of critical cut sets and network-cut exhaustion probability is defined to model urgency and assist incremental upgrade of the network.
- “Design and Analysis of a WDM EPON for Supporting Private Networking and Differentiated Services” by H-T. Lin, C-L. Lai, W-R. Chang, and S-J. Hong: Presents a novel EPON system based on an AWG module to meet the rapidly increasing bandwidth demands; may be of interest to Rajesh, Marilet, Lei Shi

#### *April:*

- Nothing of interest.

#### *March:*

- “Intelligent Dynamic Bandwidth Allocation Algorithms in Upstream EPONs” by N. A. M. Radzi, N. M. Din, M. H. Al-Mansoori, I. S. Mustafa, and S. Kh. Sadon: Fuzzy logic based dynamic bandwidth allocation in EPON’s is proposed; may be of interest to Lei Shi, Rajesh, and Marilet

#### *February:*

- “HOPSMAN: An Experimental Optical Packet-Switched Metro WDM Ring Network with High-Performance Medium Access Control” by M. C. Yuang, I.F. Chao, and B. S. Lo: OPS based WDM slotted-ring network is proposed. Its architecture and access control are presented in detail.
- “Optical Code-Labeled Router Based on OCDM” by Y. Wang and B. Li: An optical code-labeled router that performs packet forwarding through optical code label swapping (OCLS) based on code division multiplexing technology is proposed and its characteristics are discussed; may be of interest to Avishek, Shraboni

#### *January:*

- “Generating Realistic Optical Transport Network Topologies” by C. Pavan, R. M. Morais, J. R. F. da Rocha, and A. N. Pinto: Approaches for generating realistic optical transport network topologies are proposed; may be of interest to Chaitanya, Avishek
- “Efficient Video-on-Demand Streaming for Broadband Access Networks” by J. Choi, M. Yoo and B. Mukherjee: Important factors for efficient video-on-demand streaming in broadband access networks are identified and algorithms that exploit these factors have been proposed; may be of interest to Sayeem
- “Remote Repeater-Based EPON with MAC Forwarding for Long-Reach and High-Split-Ratio Passive Optical Networks” by C. A. Chan, M. Attygalle, and A. Nirmalathas: A Simple active remote node (RN) with a media access control (MAC) forwarding scheme for an EPON network

is proposed to overcome bandwidth limitations arising from higher split ratios; **may be of interest to Marilett, Lei Shi, Rajesh**

## **2009**

### *December:*

- “Fault-Tolerance Planning in Multiradio Hybrid Wireless-Optical Broadband Access Networks” by N. Correia, J. Coimbra, and G. Schutz: Fault tolerance has been incorporated in the planning and design of WOBAN networks; **may be of interest to Pulak, Sayeem**
- “Genetic Algorithm for Joint Routing and Dimensioning of Dynamic WDM Networks” by I. de Miguel, R. Vallejos, A. Beghelli, and R. J. Duran: Genetic algorithm to solve the joint routing and dimensioning problem in dynamic WDM networks, while minimizing cost and guaranteeing an upper bound on the blocking probability is proposed.

### *November:*

- “Analysis of Blocking Probability in Noise- and Cross-Talk-Impaired All-Optical Networks” by Y. Pointurier, M. Brandt-Pearce, and S. Subramaniam: An analytical method to evaluate blocking probability in all-optical networks, while accounting for physical layer impairments such as ISI, noise and cross-talk is presented; **may be of interest to Avishek, Shraboni, Menglin**
- “Self-Restorable WDM-PON with a Color-Free Optical Source” by J-Y. Kim, S-G. Mun, H-K. Lee, and C-H. Lee: A self-restorable WDM-PON network with a color-free optical source is proposed; **may be of interest to Lei Shi**

### *October:*

- “Algorithmic Choice of Optical Amplifiers Respecting Noise and Nonlinearity Constraints” by S. Fortune: A dynamic programming algorithm for choosing minimum-cost amplifier placement subject to bounds on introduced nonlinear phase shift and noise is proposed.
- “Many-to-Many Traffic Grooming in WDM Networks” by M. A. Saleh and A. E. Kamal: The problem of many to many traffic grooming is addressed in this paper; **may be of interest to Menglin, Chaitanya**
- “CaDAR: an Efficient Routing Algorithm for a Wireless Optical Broadband Access Network (WOBAN)” by A. Reaz, V. Ramamurthi, S. Sarkar, D. Ghosal, S. Dixit, and B. Mukherjee: A capacity- and delay-aware routing scheme to minimize the delay and increase the throughput in the wireless mesh network of a WOBAN is proposed.
- “Minimizing the Arrayed Waveguide Grating Cost and the Optical Cable Cost in Deploying WDM Passive Optical Networks” by J. Zhang and N. Ansari: A two step procedure to decide the placement of AWGs and optical cables and to determine the cascaded AWG structure for minimum network cost is proposed.
- “SLA-Aware Protocol for Efficient Tunable Laser Utilization to Support Incremental Upgrade in Long-Reach Passive Optical /networks” by H. Song, A. Banerjee, B. Mukherjee, B-W. Kim, S. Yang, and Y. Park: An efficient protocol to meet with increasing bandwidth requests from expanding number of users in long-reach PON’s is presented.

*September: Special Issue on “Next-Generation WDM-PON-Based Optical Access Networks”*

- “WDM Passive Optical Networks and Beyond: the Road Ahead” by M. Maier: A discussion of WDM PON’s, multistage WDM PON’s, next-generation WDM PON’s and ONU’s is presented; **may be of interest to Pulak, Rajesh, Lei Shi, Marilet**
- “Applications and Technical Issues of Wavelength-Division Multiplexing Passive Optical Networks with Colorless Optical Network Units” by K. Iwatsuki and J-I. Kani: Importance of colorless optical network units for long-reach WDM PON’s in metro-access integration and short-reach WDM PON’s for co-existence with current PON systems has been demonstrated.
- “Joint Bandwidth Scheduling to Support Differentiated Services and Multiple Service Providers in 1G and 10G EPON’s” by J. Chen, B. Chen, and L. Wosinska: Scheduling algorithm to support differentiated services and multiple service providers in EPON’s has been proposed; **may be of interest to Rajesh, Marilet**

*August: Special Issue on “Architectures and Technologies for Ultra-High Capacity Switched and Routed Optical Networks”*

- “Analysis of Power Consumption in Future High-Capacity Network Nodes” by S. Aleksic: Deals with power consumption issues in future high-capacity switching and routing elements and examines different architectures based on both pure packet-switched and pure circuit-switched designs by assuming either all-electronic or all-optical implementation; **may be of interest to pulak, Yi Zhang**
- “Power Consumption in Bufferless Optical Packet Switches in SOA Technology” by V. Eramo and M. Listanti: An analytical expression for the average power consumption of bufferless OPSs is proposed. It has been shown that power consumption can be reduced; **may be of interest to Pulak, Yi Zhang**
- “Design and Analysis of Optical Flow-Switched Networks” by G. Weichenberg, V. W. Chan and M. Medard: Deals with how OFS networks can be implemented, how well they perform, and how their economics compare with those of other architectures; **may be of interest to Chaitanya, Menglin**
- “Can Simple Optical Switching Fabrics Scale to Terabit per Second Switch Capacities” by R. Gaudino, G. A. G. Castillo, F. Neri, and J. M. Finochietto: Simple and multi-plane optical switching fabrics and their tradeoffs have been studied for supporting future terabits of traffic.
- “Not Aligned Optical Cell Switching Paradigm” by M. R-Lacruz, C. L-Bravo, F. J. G-Castano, F. G-Castineria, and H. J. Chao.

*July: “Optical Networks for the Future Internet”*

- “Optical Orthogonal Frequency Division Multiple Access Networking for Future Internet” by W. Wei, C. Wang, J. Yu, N. Cvijetic, and T. Wang: A new type of virtualized optical substrate architecture is proposed that utilizes OFDMA, along with sub-wavelength switching and generic packet routing; **may be of interest to Avishek, Shraboni**

- “Infrastructure Services for Optical Networks” by S. Figuerola and M. Lemay: Presents techniques that virtualizes and manage optical networks to have services decoupled from the underlying infrastructure.
- “Optical Networking Technologies That Will Create Future Bandwidth-Abundant Networks” by K-I. Sato and H. Hasegawa: Recent advances in optical layer technologies such as optical path technologies and optical circuit/path switching are discussed.
- “Virtualizing and Scheduling Optical Network Infrastructure for Emerging IT Services” by P. V-B. Primet, S. Soudan, and D. Verchere: Proposes a service framework to offer Internet service providers dynamic access to extensible virtual private execution infrastructures, through on-demand and in-advance bandwidth and resource reservation services; **may be of interest to Dragos**
- “Integrated Provisioning of Sliding Scheduled Services over WDM Optical Networks” by D. Andrei, H-H. Yen, M. Tornatore, C. U. Martel, and B. Mukherjee: Proposes a scalable integrated design for the sliding scheduling provisioning problem (SSPP), based on the Lagrangean relaxation (LR) approach.

*June:*

- “Cost Minimization Planning for Greenfield Passive Optical Networks” by J. Li and G. Shen: An efficient heuristic for planning of Greenfield passive optical networks; **may be of interest to Pulak**
- “Accumulated-Downtime-Oriented Restoration Strategy with Service Differentiation in Survivable WDM Mesh Networks” by L. Song and B. Mukherjee: A novel restoration scheme to improve different service availabilities and achieve high resource efficiency by jointly considering accumulated downtime and SLA requirements of faulty connections is presented.
- “Energy-Minimized Design for IP over WDM Networks” by G. Shen and R. S. Tucker: MILP’s and heuristics to minimize the energy consumption of an IP over WDM network are proposed; **may be of interest to Yi Zhang, Pulak**
- “Game-Theoretic Optimization of a Fiber-to-the-Home Municipality Network Rollout” by K. Caiser, B. Lannoo, J.V. Ooteghem, S. Verbrugge, D. Colle, M. Pickavet, and P. Deemster: A game theory based approach to model effects of competition in a municipality to roll out FTTH between various network operators in upgrading the municipality infrastructure.