

## IEEE/ACM Transactions on Networking (TON)

Start Date of Review/Analysis: <Dec. 2003>; Analyst: Pulak Chowdhury

### 2010

April:

- “Cooperative Interdomain Traffic Engineering Using Nash Bargaining and Decomposition” by G. Shrimali, A. Akella, and A. Mutapcic: Novel approach to interdomain traffic engineering based on the concepts of Nash bargaining and dual decomposition; **may be of interest to Chaitanya and Menglin**
- “Provisioning of Deadline-Driven Requests with Flexible Transmission Rates in WDM Mesh Networks” by D. Andrei, M. Tornatore, M. Batayneh, C. U. Martel, and B. Mukherjee: Deadline-driven connection request scheduling heuristics

February:

- “POPI: A User-Level Tool for Inferring Router Packet Forwarding Priority” by G. Lu, Y. C. Birrer, S. Bustamante, and F. E. X. Li: Attempt to infer router packet forwarding priority through end-to-end measurement; **may be of interest to Pulak and Rajesh**
- “Global Access Network Evolution” by S. Chamberland: Proposal to tackle the problem of updating the access network in order to connect new subscribers and to satisfy the new class of service requirements for the existing subscribers to offer; **may be of interest to Marilet, Rajesh, and Pulak**
- “Gradually Reconfiguring Virtual Network Topologies Based on Estimated Traffic Matrices” by Y. Ohsita, T. Miyamura, S. Arakawa, S. Ata, E. Oki, K. Shiimoto, and M. Murata: A method to reduce traffic matrix estimation errors while reconfiguring the virtual network topology (VNT) by cooperating with the VNT reconfiguration; **may be of interest to Pulak and Rajesh**

### 2009

December: Nothing related/interesting

October:

- “A Unified Approach to Congestion Control and Node-Based Multipath Routing” by F. Paganini and E. Mallada: Multipath routing in IP networks; **may be of interest to Rajesh**

August:

- “Single-Link Failure Detection in All-Optical Networks Using Monitoring Cycles and Paths” by S. S. Ahuja, S. Ramasubramanian, and M. Krunz: Concept of monitoring cycles (MCs) and monitoring paths (MPs) for unique identification of single-link failures; **may be of interest to Ferhat and Menglin**
- “Hybrid Wireless-Optical Broadband Access Network (WOBAN): Network Planning Using Lagrangean Relaxation” by S. Sarkar, H.-H. Yen, S. Dixit, and B. Mukherjee: Optimum placements of base stations and ONUs in a WOBAN; **may be of interest to Pulak, Sayeem, Marilet, Eiman, Adam, and Sraboni**

June:

- “Entropy Based Adaptive Flow Aggregation” by Y. Hu, D.-M. Chiu, and J. C. S. Lui: Proposed an entropy based adaptive flow aggregation algorithm, remedy to Cisco’s NetFlow shortcomings; **may be of interest to Pulak and Rajesh**
- “On Understanding Transient Interdomain Routing Failures” by F. Wang, J. Qiu, L. Gao, and J. Wang: Derived sufficient conditions on which transient routing failures could occur in the Internet. Further study on transient routing failures in typical BGP systems; **may be of interest to Chaitanya and Menglin**

April: Nothing related/interesting

February: Nothing related/interesting

## **2008**

December:

- “Reliable Routings in Networks With Generalized Link Failure Events” by S. Stefanakos: Studied routing problems in networks that require guaranteed reliability against multiple correlated link failures; **may be of interest to Ferhat and Menglin**
- “Supporting Multiple Protection Strategies in Optical Networks” by S. Ramasubramanian: A framework to support multiple protection strategies in optical networks; **may be of interest to Ferhat and Menglin**
- **“A Comprehensive Study on Backup-Bandwidth Reprovisioning after Network-State Updates in Survivable Telecom Mesh Networks”** by L. Song, J. Zhang, and B. Mukherjee: Backup bandwidth reprovisioning approach

October:

- “On Hierarchical Traffic Grooming in WDM Networks” by B. Chen, G. N. Rouskas, and R. Dutta: Effective and efficient hierarchical traffic grooming framework for WDM networks of general topology, with the objective of minimizing the total number of electronic ports

August:

- “Characterization of Failures in an Operational IP Backbone Network” by A. Markopoulou, G. Iannaccone, S. Bhattacharyya, C.-N. Chuah, Y. Ganjali, and C. Diot: Analyzed IS-IS routing updates from the Sprint IP backbone network to characterize failures that affect IP connectivity; **may be of interest to Ferhat and Menglin**
- “Achieving 100% Throughput in Reconfigurable Optical Networks” by A. Brzezinski and E. Modiano: Study the maximum throughput properties of dynamically reconfigurable optical network architectures having wavelength and port constraints; **should be a good read for many of us**
- “Competitive Analysis of Online Traffic Grooming in WDM Rings” by K. Benson, B. Birnbaum, E. Molina-Estolano, and R. Libeskind-Hadas: Problem of traffic grooming in wavelength-division multiplexing (WDM) rings where connection requests arrive online

June: Nothing related/interesting

April:

- “MICRON—A Framework for Connection Establishment in Optical Networks” by S. Ramasubramanian and A. K. Somani: A framework for connection establishment in optical grooming networks with heterogeneous switching architectures

February:

- “Improved Quasi-Path Restoration in Mesh Networks” by M. Patel, R. Chandrasekaran, and S. Venkatesan: Presents an (online) improved quasi-path restoration (IQPR) scheme; **may be of interest to Ferhat and Menglin**

## **2007**

December: Nothing related/interesting

October:

- **“Availability-Aware Provisioning Strategies for Differentiated Protection Services in Wavelength-Convertible WDM Mesh Networks”** by J. Zhang, K. Zhu, H. Zang, N.S. Matloff, and B. Mukherjee: ILP and heuristic approaches to provision the connections cost effectively while satisfying the connections' availability requirements

August:

- “The Power of Tuning: A Novel Approach for the Efficient Design of Survivable Networks” by R. Banner and A. Orda: Concept of tunable survivability that bridges the gap between full and no protection; **may be of interest to Ferhat and Menglin**
- “Generalized Survivable Network” by K. S. Ho and K. W. Cheung: Generalized survivable network for full survivability against link failures and dynamic bandwidth provisioning; **may be of interest to Ferhat and Menglin**
- **“Reliable Multipath Provisioning for High-Capacity Backbone Mesh Networks”** by S. Rai, O. Deshpande, C. Ou, C. U. Martel, and B. Mukherjee: Investigate reliable multipath provisioning of traffic in next-generation SONET/SDH networks supporting virtual concatenation (VCAT)
- “Waveband Switching for Dynamic Traffic Demands in Multigranular Optical Networks” by X. Cao, V. Anand, and C. Qiao: Studied the performance of different multigranular optical cross-connect architectures under dynamic traffic; **may be of interest to Avishek and Sifat**

June:

- “WDM Network Design by ILP Models Based on Flow Aggregation” by M. Tornatore, G. Maier, and A. Pattavina: ILP models to design WDM networks
- “Blocking Analysis of Dynamic Traffic Grooming in Mesh WDM Optical Networks,” C. Xin: Analytical model developed for dynamic traffic grooming

April: Nothing related/interesting

February: Nothing related/interesting

## **2006**

December:

- “Economics of Network Pricing With Multiple ISPs” by S. Shakkottai and R. Srikant: Examined how transit and customer prices and quality of service are set in a network consisting of multiple ISPs

- “Generalized Sharing in Survivable Optical Networks” by M. Ali: Introduced the Generalized Sharing Concept where it is allowed for additional sharing of important node devices

October:

- “Optimal Multicasting of Multiple Light-Trees of Different Bandwidth Granularities in a WDM Mesh Network With Sparse Splitting Capabilities” by N. K. Singhal, L. H. Sahasrabudde, and B. Mukherjee: MILP and heuristics for optimal multicast using Light Trees

August:

- “A Joint-ONU Interval-Based Dynamic Scheduling Algorithm for Ethernet Passive Optical Networks” by H. Naser and H. T. Mouftah: Dynamic bandwidth allocation system for Ethernet Passive Optical Networks (EPONs); **may be of interest to Rajesh**
- “Demand Assigned Capacity Management (DACM) in IP over Optical (IPO) Networks” by D. O. Awduche and B. Jabbari: Aims at devising efficient bandwidth replenishment schedules from the optical domain conditioned upon traffic evolution processes in the IP domain; may be of interest to Chaitanya and Menglin

June:

- “Dynamic Inter-SLA Resource Sharing in Path-Oriented Differentiated Services Networks” by Y. Cheng and W. Zhuang: SLA management scheme in DiffServ networks

April: Nothing related/interesting

February:

- “Differentiated Reliability (DiR) in Wavelength Division Multiplexing Rings” by A. Fumagalli and M. Tacca: Approach to sub-optimally design the wavelength division multiplexing (WDM) layer of a ring
- “Virtual Topologies for Multicasting with Multiple Originators in WDM Networks” by I. Ferrel, A. Mettler, E. Miller, and R. Libeskind-Hadas: Problem of multicasting with multiple originators in WDM optical networks
- “Survivable Virtual Concatenation for Data over SONET/SDH in Optical Transport Networks” by C. Ou, L. H. Sahasrabudde, K. Zhu, C. U. Martel, and B. Mukherjee: Survivability in data over SONET/SDH (DoS), **may be of interest to Ferhat and Menglin**

## **2005**

December:

- “Cross-Talk Attack Monitoring and Localization in All-Optical Networks” by T. Wu and A. K. Somani: Models of crosstalk attack and diagnostic method; **may be of interest to Avishek**

October: Nothing related/interesting

August:

- “A Quantitative Measure for Telecommunications Networks Topology Design” by N. F. Maxemchuk, I. Ouveysi, and M. Zukerman: Proposes a new measure for network performance evaluation called topology lifetime; **may be of interest to Rajesh**
- “Information Theoretic Approach to Traffic Adaptive WDM Networks” by S. Sinha and C. S. R. Murthy: Policies on when to reconfigure virtual topology in WDM networks; **may be of interest to Pulak and Rajesh**

- “Shared Risk Link Group (SRLG)-Diverse Path Provisioning Under Hybrid Service Level Agreements in Wavelength-Routed Optical Mesh Networks” by L. Shen, X. Yang, and B. Ramamurthy: Static provisioning problem; **may be of interest to Ferhat and Menglin**

June: Nothing related/interesting

April:

- “Stochastic Traffic Engineering for Demand Uncertainty and Risk-Aware Network Revenue Management” by D. Mitra and Q. Wang: A stochastic traffic engineering framework for optimizing bandwidth provisioning and route selection in networks
- “Design of Capacitated Survivable Networks with a Single Facility” by H. Kerivin, D. Nace, and T.-T.-L. Pham: Optimize simultaneously the network topology and the link dimensioning in order to route all traffic commodities according to survivability requirements
- “Lightpath Re-optimization in Mesh Optical Networks” by E. Bouillet, J.-F. Labourdette, R. Ramamurthy and S. Chaudhuri: Re-optimization has actually been performed in a nationwide live optical mesh network and the resulting savings are reported in this paper, validating reality and the usefulness of re-optimization in real networks; **may be of interest to Chaitanya and Menglin**

February:

- “On the Scalability of Network Management Information for Inter-Domain Light-Path Assessment” by G. Liu, C. Ji, and V. W. S. Chan: Investigated the necessary amount of network management information for light-path assessment to dynamically set up end-to-end light-paths across administrative domains in optical networks
- “Analysis of Blocking Probability for Distributed Lightpath Establishment in WDM Optical Networks” by K. Lu, G. Xiao, and I. Chlamtac: Analyzed the blocking probability of distributed lightpath establishment in wavelength-routed WDM networks

## **2004**

December: Nothing related/interesting

October:

- “Distributed Computation of Shared Backup Path in Mesh Optical Networks Using Probabilistic Methods” by E. Bouillet and J.-F. Labourdette: Statistical techniques to ascertain the shareability of protection channels when computing shared-mesh restored lightpaths in optical mesh networks, **may be of interest to Ferhat and Menglin**
- “Analysis of Optical Networks with Heterogeneous Grooming Architectures” by S. Ramasubramanian and A. K. Somani: An analytical model to evaluate the blocking performance of WDM grooming networks with heterogeneous grooming capabilities
- “On Trading Wavelengths with Fibers: A Cost-Performance Based Study” by A. K. Somani, M. Mina, and L. Li: Effect of multiple fibers on WDM networks without wavelength conversion

August:

- “New Preemption Policies for DiffServ-Aware Traffic Engineering to Minimize Rerouting in MPLS Networks” by J. C. de Oliveira, C. Scoglio, I. F. Akyildiz, and G. Uhl: A new preemption policy is proposed and complemented with an adaptive scheme that aims to minimize rerouting

- “Dynamic Allocation of Resources to Virtual Path Agents” by H. Levy, T. Mendelson, and G. Goren: Simplifying network connection management
- “Fast Simulation of Wavelength Continuous WDM Networks” by L. L. H. Andrew: Estimation of blocking probabilities of circuit-switched WDM networks with no wavelength converters and with fixed routing

June: Nothing related/interesting

April:

- “Optimal Virtual Topologies for One-To-Many Communication in WDM Paths and Rings” by J. R. K. Hartline, R. Libeskind-Hadas, K. M. Dresner, E. W. Drucker, and K. J. Ray: Examined the problem of constructing optimal virtual topologies for one-to-many communication in optical networks employing WDM
- “Blocking in All-Optical Networks” by A. Sridharan and K. N. Sivarajan: Analytical technique of very low complexity, using the inclusion-exclusion principle of combinatorics, for the performance evaluation of all-optical WDM networks

February: Nothing related/interesting

## **2003**

December:

- “Dimensioning Optical Networks Under Traffic Growth Models” by T. K. Nayak and K. N. Sivarajan: Problem of dimensioning a large optical WDM network assuming the traffic is growing over time; **may be of interest to Rajesh**