

Evolution Toward the Next-Generation Core Optical Network



Adel A. A. Saleh and Jane M. Simmons, Journal of Lightwave Technology, 2006
Presented by: Maria Calle

Telecommunications Program
University of Pittsburgh

Overview

- Paper is a tutorial
- Authors analyzed a core backbone for the US with 10 times more traffic than today
- Areas needing attention: modulation formats, switching granularity, edge traffic grooming (packing of individual wavelengths)
- Results for different line rates, equipment and demand are presented
- Network goal: ensure users have different level of service, appropriate to particular needs

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Applications driving higher capacity

- High speed access (100 Mbps or even 1 Gbps)
- Growth of triple play services (data, video and telephone)
- On-demand video
- End-to-end QoS: VPLS (Virtual Private LAN service), Ethernet with MPLS
- Grid computing (sending terabyte files to be processed)

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