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| Nota di contenuto | Optical networking -- Recovery in optical networks -- Mesh routing and recovery framework -- Path routing and protection -- Path routing, part I : Complexity -- Path routing, part II : Heuristics -- Enhanced routing model for SBPP services -- Controlling sharing for SBPP services -- Path computation with partial information -- Path reoptimization -- Dimensioning of path-protected mesh networks -- Service availability in path-protected mesh networks. |
| Sommario/riassunto | Transport networks evolved from DCS (Digital Cross-connect Systems)-based mesh architectures, to SONET/SDH (Synchronous Optical Networking/Synchronous Digital Hierarchy) ring architectures in the 1990's. In the past few years, technological advancements in optical transport switches have allowed service providers to support the same fast recovery in mesh networks previously available in ring networks |

while achieving better capacity efficiency and resulting in lower capital cost. Optical transport networks today not only provide trunking capacity to higher-layer networks, such as inter-router connectivity in an IP-centric infrastructure, but also support efficient routing and fast failure recovery of high-bandwidth services. This is possible due to the emergence of optical network elements that have the intelligence required to efficiently control the network. Optical mesh networks will enable a variety of dynamic services such as bandwidth-on-demand, Just-In-Time bandwidth, bandwidth scheduling, bandwidth brokering, and optical virtual private networks that open up new opportunities for service providers and their customers alike. Path Routing in Mesh Optical Networks combines both theoretical as well as practical aspects of routing and dimensioning for mesh optical networks. All authors have worked as technical leaders for the equipment vendor Tellium who implemented such capabilities in its product, and whose product was deployed in service provider networks. Path Routing in Mesh Optical Networks . Presents an in-depth treatment of a specific class of optical networks, i.e. path-oriented mesh optical networks . Focuses on routing and recovery, dimensioning, performance analysis and availability in mesh optical networks. . Explains and analyses routing specifically associated with Dedicated Backup Path Protection (DBPP) and Shared Backup Path Protection (SBPP) recovery architectures. As most of the core backbone networks evolve to mesh topologies utilizing intelligent network elements for provisioning and recovery of services, Path Routing in MEsh Optical Networks will be an invaluable tool for both researchers and engineers in the industry who are responsible for designing, developing, deploying and maintaining mesh optical networks. It will also be a useful reference book for graduate students and university professors who are interested in optical networks or telecommunications networking. With a foreword by Professor Wayne D. Grover, author of the book “Mesh-Based Survivable Networks”.