Provisioning, Recovery, and In-Operation Planning in Elastic Optical Networks
Luis Velasco, Marc Ruiz

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**DESCRIPTION**

Explains the importance of Elastic Optical Networks (EONs) and how they can be implemented by the world’s carriers

This book discusses Elastic Optical Networks (EONs) from an operational perspective. It presents algorithms that are suitable for real-time operation and includes experimental results to further demonstrate the feasibility of the approaches discussed. It covers practical issues such as provisioning, protection, and defragmentation. It also presents provisioning and recovery in single layer elastic optical networks (EON). The authors review algorithms for provisioning point-to-point, anycast, and multicast connections, as well as transfer-based connections for datacenter interconnection. They also include algorithms for recovery connections from failures in the optical layer and in-operation planning algorithms for EONs.

*Provisioning, Recovery and In-operation Planning in Elastic Optical Network* also examines multi-layer scenarios. It covers virtual network topology reconfiguration and multi-layer recovery, and includes provisioning customer virtual networks and the use of data analytics in order to bring cognition to the network. In addition, the book:

- Presents managing connections dynamically—and the flexibility to adapt the connection bitrate to the traffic needs fit well for new types of services, such as datacenter interconnection and Network Function Virtualization (NFV)
- Examines the topic in a holistic and comprehensive way, addressing control and management plane issues for provisioning, recovery, and in-operation planning
- Covers provisioning, recovery, and in-operation planning for EONs at the proposed exhaustive level
The rapid expanse of new services has made the use of EONs (a relatively new concept) a necessity. That’s why this book is perfect for students and researchers in the field of technologies for optical networks (specifically EONs), including network architectures and planning, dynamic connection provisioning, on-line network re-optimization, and control and management planes. It is also an important text for engineers and practitioners working for telecom network operators, service providers, and vendors that require knowledge on a rapidly evolving topic.

 ABOUT THE AUTHOR

LUI S V ELASCO, PhD, is a full Professor at Universitat Politecnica de Catalunya, BarcelonaTech, Spain. He has devoted more than 25 years in the telecommunications industry for advanced research, development, and deployment of optical networks.

MARC RUIZ, PhD, is an associate researcher at Universitat Politècnica de Catalunya, BarcelonaTech, Spain, and is highly skilled in operations research and statistics applied to communication networks.

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