1. Record Nr. UNINA9910808929903321

Autore	Ash Gerald R
Titolo	Traffic engineering and QoS optimization of integrated voice & data networks / / Gerald R. Ash
Pubbl/distr/stampa	Boston, : Elsevier Morgan Kaufmann, c2006
ISBN	1-280-70766-6 9786610707669 0-08-046605-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (509 p.)
Collana	Morgan Kaufmann series in networking
Disciplina	621.382/1
Soggetti	Telecommunication - Traffic - Management Computer networks - Quality control Internet telephony - Quality control
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover; Title Page; Copyright Page; Table of Contents; Foreword; Preface; Acknowledgments; About the Author; Chapter 1 Traffic Engineering and QoS Optimization Models; 1.1 Introduction; 1.2 Terminology and Definitions; 1.3 TQO Background and Motivation; 1.4 TQO Functional Model; 1.4.1 Traffic/Application Layer; 1.4.2 MPLS LSPs/Layer 3; 1.4.3 Logical Links/GMPLS LSPs/Layer 2; 1.4.4 Physical Fiber Transport/Layer 1; 1.4.5 Operational/Management Layer; 1.5 TQO Design; 1.5.1 TQO Design Problem Statement; 1.5.1.1 Traffic/Application Layer Design 1.5.1.2 MPLS LSP Dynamic Routing and Bandwidth Allocation Layer 3 Design1.5.1.3 GMPLS LSP (Logical Link) Routing and Bandwidth Allocation Layer 2 Design; 1.5.1.4 Physical Fiber Transport/Layer 1 Design; 1.5.1.5 Operational/Management Layer Design; 1.5.2 TQO Design Approach; 1.5.2.1 Design and Operational Experience; 1.5.2.2 Modeling, Analysis, and Case Studies; 1.6 TQO Design and Operational Experience; 1.6.1 Design and Operational Experience in Data Networks; 1.6.1.1 Data Network Routing Layer Design/Operational Experience; 1.6.1.2 Data Network Management Layer Design/Operational Experience

1.6.2 Design and Operational Experience in Voice Networks1.6.2.1 Voice Network Routing Layer Design/Operational Experience; 1.6.2.2 Voice Network Management Layer Design/Operational Experience; 1.6.2.3 Benefits Derived from TQO Design/Operational Experience in Voice Networks; 1.6.3 TQO Design Principles and Benefits Derived from Experience; 1.7 Modeling, Analysis, and Case Studies; 1.7.1 Analysis, Design, and Optimization Methods Used in Modeling Studies; 1.7.1.1 Routing Design and Optimization Methods; 1.7.1.2 Capacity Design and Optimization Methods; 1.7.1.3 QoS and GoS Performance Measures 1.7.2 Key Results from Modeling Studies1.8 Generic TQO (GTQO) Protocol and Benefits; 1.9 Standards Needs to Realize GTQO Protocol Requirements; 1.10 Conclusion and Applicability of Requirements; Chapter 2 Call/Session Routing and Connection Routing Methods; 2.1 Introduction; 2.2 Call/Session Routing Methods; 2.3 Connection (Bearer-Path) Routing Methods; 2.3.1 Hierarchical Fixed Routing Path Selection; 2.3.2 Time-Dependent Routing Path Selection; 2.3.3 State-Dependent Routing Path Selection; 2.3.4 Event-Dependent Routing Path Selection; 2.4 Internetwork Routing; 2.5 Modeling of TQO Methods 2.5.1 Network Design Comparisons2.5.2 Network Performance Comparisons; 2.5.3 Single-Area Flat Topology vs Multiarea Two-Level Hierarchical Network Topology; 2.5.4 Network Modeling Conclusions; 2.6 Summary and Conclusions; 2.7 Applicability of Requirements; Chapter 3 Traffic Engineering and QoS Optimization of MPLS-Based Integrated Voice/Data Dynamic Routing Networks; 3.1 Introduction; 3.2 Class-of-Service Routing; 3.2.1 Class-of-Service Identification; 3.2.2 Routing Table Derivation; 3.2.3 Class-of-Service Routing Steps; 3.3 Dynamic Bandwidth Allocation, Protection, and Reservation Principles 3.3.1 Per-VNET Bandwidth Allocation, Protection, and Reservation

Sommario/riassunto

This book describes, analyzes, and recommends traffic engineering (TE) and quality of service (QoS) optimization methods for integrated voice/data dynamic routing networks. These functions control a network's response to traffic demands and other stimuli, such as link failures or node failures. TE and QoS optimization is concerned with measurement, modeling, characterization, and control of network traffic, and the application of techniques to achieve specific performance objectives. The scope of the analysis and recommendations include dimensioning, call/flow and connection routing, QoS resou