1. Record Nr. UNINA9910813197703321

Titolo	Communication networks and computer systems : a tribute to Professor Erol Gelenbe / / editor, Javier A. Barria
Pubbl/distr/stampa	London, : Imperial College Press Singapore ; ; Hackensack, NJ, : Distributed by World Scientific, c2006
ISBN	1-281-86732-2 9786611867324 1-86094-894-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (277 p.)
Collana	Communications and Signal Processing
Altri autori (Persone)	GelenbeE. <1945-> BarriaJavier A
Disciplina	004.6
Soggetti	Telecommunication systems Computer networks
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.
Nota di contenuto	Preface; CONTENTS; 1 Erol Gelenbe's Contributions to Computer and Networks Performance; 1.1 Introduction and Background; 1.2 Technical Contributions; 1.3 Contributions as a Research Leader and Mentor; 1.4 Service to the Profession; References; Resource Management; 2 Rethinking Incentives for Mobile Ad Hoc Networks; 2.1 Introduction; 2.2 Token Based Incentive Systems; 2.2.1 Quality of Service Problems; 2.2.2 Technical Conundrums; 2.3 Trust Management Systems; 2.4 Transparency vs Choice; 2.5 Proposed Solution; 2.5.1 Adoption Cycle For Mobile Ad Hoc Networks 2.5.2 Do We Really Need Incentive Systems?2.6 Conclusions; References; 3 Fair and Efficient Allocation of Resources in the Internet; 3.1 Introduction; 3.2 Fairness Efficiency and Utility Functions; 3.3 Utility-Based Bandwidth Allocation; 3.3.1 Utility of the Aggregate; 3.3.2 Limiting Regime Approximation; 3.3.3 Offered Load Estimation; 3.4 Utility-Based Admission Control; 3.5 Utility-Based Scheduling; 3.5.1 Measuring Class Delays; 3.6 Conclusion; Acknowledgements; References; 4 The Locality Principle; 4.1 Introduction; 4.2 Manifestation of a Need (1949-1965)

4.3 Discovery and Propagation of Locality Idea (1966-1980)4.4 Adoption of Locality Principle (1967-present); 4.5 Modern Model of Locality: Context Awareness; 4.6 Future Uses of Locality Principle; References; 5 A Simulation-Based Performance Analysis of Epoch Task Scheduling in Distributed Processors; 5.1 Introduction; 5.2 Model and Methodology; 5.2.1 System and Workload Models; 5.2.2 Task Routing Methods; 5.2.3 Scheduling Strategies; 5.2.4 Performance Metrics; 5.2.5 Model Implementation and Input Parameters; 5.3 Simulation Results and Performance Analysis; 5.3.1 Probabilistic Routing
5.3.2 Shortest Queue Routing5.4 Conclusions; References; New Challenges on Modelling and Simulation; 6 Counter Intuitive Aspects of Statistical Independence in Steady State Distributions; 6.1 Introduction; 6.2 A System of Two Independent M/M/l Queues; 6.3 A System of Two Queues in Tandem; 6.4 Statistical and Dynamic Independence; 6.5 Beyond Stochastic Modelling; 6.5.1 Central Role of Steady State Distributions; 6.5.2 Generality Robustness and Level of Detail; 6.5.3 Operational Analysis; 6.6 Conclusions; References; 7 The Non-Stationary Loss Queue: A Survey; 7.1 Introduction
7.2 The Simple Stationary Approximation (SSA) Method7.3 The Stationary Peakedness Approximation (PK) Method; 7.4 The Average Stationary Approximation (ASA) Method; 7.5 The Closure Approximation for Non-Stationary Queues; 7.6 The Pointwise Stationary Approximation (PSA) Method; 7.7 The Modified Offered Load Approximation (MOL) Method; 7.8 The Fixed Point Approximation (FPA) Method; 7.9 Conclusions; References; 8 Stabilization Techniques for Load-Dependent Queuing Networks Algorithms; 8.1 Introduction; 8.2 Preliminaries; 8.2.1 Numerical Exceptions; 8.2.2 Closed Product-Form Queuing Networks
8.3 Numerical Instabilities in PFQN Algorithms

Sommario/riassunto

Communication networks and computer systems research is entering a new phase in which many of the established models and techniques of the last twenty years are being challenged. The research community is continuing to free itself from past intellectual constraints so that it may fully exploit the convergence of computing and communications. Evaluating the performance of emerging communications and computer systems constitutes a huge challenge. Thus, current research provides a set of heterogeneous tools and techniques embracing the uncertainties of time and space varying environments when the