1. Record Nr. UNINA9910693133303321

Titolo	Soil data mart [[electronic resource]]
Pubbl/distr/stampa	Washington, D.C., : U.S. Dept. of Agriculture, NRCS
Soggetti	Soil surveys - United States Soils - United States
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from home page (viewed 1/18/05).

2. Record Nr. UNINA9911019614303321

Autore	Welzl Michael <1973->
Titolo	Network congestion control : managing Internet traffic / / Michael Welzl
Pubbl/distr/stampa	Chichester, West Sussex, England ; ; Hoboken, NJ, : J. Wiley, c2005
ISBN	9786610287598 9781280287596 1280287594 9780470025314 047002531X 9780470025291 0470025298
Descrizione fisica	1 online resource (283 p.)
Collana	Wiley Series on Communications Networking & Distributed Systems
Disciplina	004.67/8
Soggetti	Internet Telecommunication - Traffic - Management
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 (p. [243]-257) and index.
Nota di contenuto	Network Congestion Control; Contents; Foreword; Preface; List of Tables; List of Figures; 1 Introduction; 1.1 Who should read this book?;

1.2 Contents; 1.3 Structure; 1.3.1 Reader's guide; 2 Congestion control principles; 2.1 What is congestion?; 2.1.1 Overprovisioning or control?; 2.2 Congestion collapse; 2.3 Controlling congestion: design considerations; 2.3.1 Closed-loop versus open-loop control; 2.3.2 Congestion control and flow control; 2.4 Implicit feedback; 2.5 Source behaviour with binary feedback; 2.5.1 MIMD, AIAD, AIMD and MIAD; 2.6 Stability; 2.6.1 Control theoretic modelling
2.6.2 Heterogeneous RTTs2.6.3 The conservation of packets principle; 2.7 Rate-based versus window-based control; 2.8 RTT estimation; 2.9 Traffic phase effects; 2.9.1 Phase effects in daily life; 2.10 Queue management; 2.10.1 Choosing the right queue length; 2.10.2 Active queue management; 2.11 Scalability; 2.11.1 The end-to-end argument; 2.11.2 Other scalability hazards; 2.12 Explicit feedback; 2.12.1 Explicit congestion notification; 2.12.2 Precise feedback; 2.13 Special environments; 2.14 Congestion control and OSI layers; 2.14.1 Circuits as a hindrance; 2.15 Multicast congestion control
2.15.1 Problems2.15.2 Sender- and receiver-based schemes; 2.16 Incentive issues; 2.16.1 Tragedy of the commons; 2.16.2 Game theory; 2.16.3 Congestion pricing; 2.17 Fairness; 2.17.1 Max-min fairness; 2.17.2 Utility functions; 2.17.3 Proportional fairness; 2.17.4 TCP friendliness; 2.18 Conclusion; 3 Present technology; 3.1 Introducing TCP; 3.1.1 Basic functions; 3.1.2 Connection handling; 3.1.3 Flow control: the sliding window; 3.1.4 Reliability: timeouts and retransmission; 3.2 TCP window management; 3.2.1 Silly window syndrome; 3.2.2 SWS avoidance; 3.2.3 Delayed ACKs
3.2.4 The Nagle algorithm3.3 TCP RTO calculation; 3.3.1 Ignoring ACKs from retransmissions; 3.3.2 Not ignoring ACKs from retransmissions; 3.3.3 Updating RTO calculation; 3.4 TCP congestion control and reliability; 3.4.1 Slow start and congestion avoidance; 3.4.2 Combining the algorithms; 3.4.3 Design rationales and deployment considerations; 3.4.4 Interactions with other window-management algorithms; 3.4.5 Fast retransmit and fast recovery; 3.4.6 Multiple losses from a single window; 3.4.7 NewReno; 3.4.8 Selective Acknowledgements (SACK); 3.4.9 Explicit Congestion Notification (ECN)
3.5 Concluding remarks about TCP3.6 The Stream Control Transmission Protocol (SCTP); 3.7 Random Early Detection (RED); 3.8 The ATM 'Available Bit Rate' service; 3.8.1 Explicit rate calculation; 3.8.2 TCP over ATM; 4 Experimental enhancements; 4.1 Ensuring appropriate TCP behaviour; 4.1.1 Appropriate byte counting; 4.1.2 Limited slow start; 4.1.3 Congestion window validation; 4.1.4 Robust ECN signalling; 4.1.5 Spurious timeouts; 4.1.6 Reordering; 4.1.7 Corruption; 4.2 Maintaining congestion state; 4.2.1 TCP Control Block Interdependence; 4.2.2 The Congestion Manager; 4.2.3 MulTCP
4.3 Transparent TCP improvements

Sommario/riassunto

As the Internet becomes increasingly heterogeneous, the issue of congestion control becomes ever more important. In order to maintain good network performance, mechanisms must be provided to prevent the network from being congested for any significant period of time. Michael Welzl describes the background and concepts of Internet congestion control, in an accessible and easily comprehensible format. Throughout the book, not just the how, but the why of complex technologies including the Transmission Control Protocol (TCP) and Active Queue Management are explained. The text also gives