

1. Record Nr.	UNINA9910830175203321
Autore	Lee Jack Y. B
Titolo	Scalable continuous media streaming systems [[electronic resource]] : architecture, design, analysis and implementation / / Jack Y.B. Lee
Pubbl/distr/stampa	West Sussex, England ; ; Hoboken, NJ, : J. Wiley, c2005
ISBN	1-280-24286-8 9786610242863 0-470-34182-3 0-470-01539-X 0-470-85764-1
Descrizione fisica	1 online resource (396 p.)
Disciplina	006.7876
Soggetti	Streaming technology (Telecommunications)
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	Scalable Continuous Media Streaming Systems; Contents; Preface; Acknowledgements; Part One: Fundamentals; 1 Introduction; 1.1 Elements of a Multimedia System; 1.2 Media Data; 1.3 Media Delivery; 1.4 Streaming versus Download; 1.5 Challenges in Building Continuous Media Streaming Systems; 1.5.1 Continuity; 1.5.2 Known and Unknown Variations; 1.5.3 Real-time Interactivity; 1.5.4 Efficiency; 1.5.5 Scalability; 1.5.6 Reliability; 1.6 Engineering Trade-offs; 1.6.1 Trade-off in Capacity; 1.6.2 Trade-off in Time; 1.6.3 Trade-off in Space; 1.6.4 Trade-off in Quality; 1.6.5 Trade-off in Complexity; 1.7 Performance Guarantee; 1.8 Admission Control; 1.9 Summary; References; 2 Media Compression; 2.1 Introduction; 2.1.1 Digital Audio; 2.1.2 Digital Video; 2.1.3 Media Compression; 2.2 Media Multiplexing; 2.3 Temporal Dependencies in Compressed Video; 2.4 Bit-rate Variations; 2.5 Media Adaptation; 2.5.1 Transcoding Techniques; 2.5.2 Transcoder Design; 2.5.3 Implementation Issues; 2.5.4 Experimental Results; 2.6 Summary; References; 3 Continuous Media Storage and Retrieval; 3.1 Structure and Model of Hard Disk; 3.2 Disk Scheduling; 3.2.1 Performance Modeling; 3.2.2 Capacity Dimensioning

3.3 Improving Disk Throughput; 3.4 Grouped Sweeping Scheme; 3.5 Multi-Disk Storage And Retrieval; 3.5.1 Partition and Replication; 3.5.2 Disk Striping; 3.5.3 Multi-Disk Scheduling; 3.6 Disk Zoning; 3.7 Summary; References; 4 Soft Scheduling; 4.1 Introduction; 4.2 Statistical Capacity Dimensioning; 4.3 Dual-Round Scheduling; 4.3.1 Read-Ahead Algorithm; 4.3.2 Performance Modeling; 4.3.3 Buffer Requirement; 4.4 Early-Admission Scheduling; 4.4.1 Admission Algorithm; 4.4.2 First-Block Replication; 4.5 Overflow Management; 4.5.1 Deadline-Driven Detection; 4.5.2 Overflow Recovery; 4.6 Performance Evaluation; 4.6.1 Service Round Length Distribution; 4.6.2 Statistical Streaming Capacity; 4.6.3 Dual-Round Scheduling; 4.6.4 Early-Admission Scheduling; 4.6.5 Buffer Requirement; 4.7 Related Work; 4.8 Summary; References; 5 Reliable and Fault-Tolerant Storage Systems; 5.1 Introduction; 5.2 Background; 5.3 System Model; 5.3.1 Disk Redundancy; 5.3.2 Storage Allocation and I/O Scheduling; 5.3.3 Disk Performance Model; 5.3.4 Capacity Dimensioning; 5.4 Automatic Data Rebuild; 5.4.1 Sparing Scheme; 5.4.2 Rebuild Algorithm; 5.4.3 Analysis of Rebuild Time; 5.4.4 Buffer Requirement; 5.5 Track-Based Rebuild; 5.5.1 Rebuild Algorithm; 5.5.2 Analysis of Rebuild Time; 5.5.3 Buffer Requirement; 5.6 Pipelined Rebuild; 5.6.1 Buffer Requirement; 5.6.2 Active Disk Synchronization; 5.7 Performance Evaluation; 5.7.1 Comparison of Rebuild Time; 5.7.2 Sensitivity to Server Utilization; 5.7.3 Sensitivity to Media Block Size; 5.7.4 Buffer Requirement; 5.8 Summary; References; 6 Media Data Streaming; 6.1 Streaming over TCP/UDP; 6.2 Specialized Streaming Protocols; 6.2.1 Real-Time Streaming Protocol (RTSP); 6.2.2 Real-Time Transport Protocol (RTP); 6.3 Summary; References; 7 Streaming Variable Bit-Rate Media Streams

Sommario/riassunto

Continuous media streaming systems will shape the future of information infrastructure. The challenge is to design systems and networks capable of supporting millions of concurrent users. Key to this is the integration of fault-tolerant mechanisms to prevent individual component failures from disrupting systems operations. These are just some of the hurdles that need to be overcome before large-scale continuous media services such as video-on-demand can be deployed with maximum efficiency. The author places the subject in context, drawing together findings from the past decade of rese
