1. Record Nr. UNISALENTO991000987519707536

Autore	Fraga, S.
Titolo	Handbook of atomic data / S. Fraga, J. Karwowski, K. Saxena
Pubbl/distr/stampa	Amsterdam : Elsevier, 1976
Descrizione fisica	551 p. ; 25 cm.
Classificazione	53(083) 53.5.2 539.7'021'2 QC173.397
Altri autori (Persone)	Karwowski, J. Saxena, K.
Soggetti	Atoms - Handbooks, manuals, etc
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNISALENTO991002158859707536

Autore	Dikovitskaya, Margaret
Titolo	Visual culture : the study of the visual after the cultural turn / Margaret Dikovitskaya
Pubbl/distr/stampa	Cambridge, Mass. ; London : MIT Press, 2006
ISBN	0262541882
Descrizione fisica	316 p. : ill. ; 24 cm
Soggetti	Arte e cultura Comunicazione visiva Arte - Stati Uniti - Storia
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

3. Record Nr. UNINA9911019503303321

Autore	Majumdar Shikharesh
Titolo	Resource Management on Distributed Systems : Principles and Techniques
Pubbl/distr/stampa	Newark : , : John Wiley & Sons, Incorporated, , 2024 ©2025
ISBN	9781119912958 1119912954 9781119912965 1119912962 9781119912941 1119912946
Edizione	[1st ed.]
Descrizione fisica	1 online resource (323 pages)
Disciplina	004.36
Soggetti	Resource allocation Parallel processing (Electronic computers)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa

Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright -- Contents -- About the Author -- Preface -- Acknowledgments -- Chapter 1 Introduction -- 1.1 Introduction to Distributed and Parallel Computing -- 1.2 Types of Computing Environments -- 1.3 Units of Computation -- 1.3.1 Process -- 1.3.2 Threads -- 1.3.3 Resource Management Operations -- 1.4 Principles Underlying Resource Management -- 1.4.1 Principle 1: Use Knowledge of Application/Workload Characteristics -- 1.4.2 Principle 2: Monitor and Adjust -- 1.4.3 Principle 3: Use Knowledge of System Characteristics -- 1.4.4 Principle 4: Perform Load Balancing -- 1.4.5 Principle 5: Static Versus Dynamic -- 1.5 Evolution of Distributed Systems -- 1.5.1 Nodes Communicating via Remote Procedure Calls (RPC) -- 1.5.2 Distributed Object Based Computing Systems -- 1.5.3 Parallel and Cluster Computing -- 1.5.4 ServiceOriented Architecture -- 1.5.5 Grids -- 1.5.6 Clouds -- 1.5.7 Edge Computing -- 1.5.8 Smart Facilities -- 1.6 Summary -- 1.6.1 Book Components -- References -- Chapter 2 Characterization of Parallelism in Applications -- 2.1 Introduction -- 2.2 The Precedence Graph Model -- 2.3 Graph Based Characteristics -- 2.3.1 Parallelism Profile -- 2.3.2 Shape -- 2.4 SinglePoint Characteristics -- 2.4.1 Maximum Parallelism -- 2.4.2 Fraction of Sequential Work -- 2.4.3 Average Parallelism -- 2.5 Performance Metrics -- 2.5.1 Completion Time -- 2.5.1.1 Processor Sharing Scheduling -- 2.5.2 Speedup -- 2.5.3 Efficiency -- 2.5.4 Completion TimeEfficiency Profile -- 2.5.4.1 The Knee -- 2.6 Impact of Parallelism Characteristics on Performance -- 2.6.1 Impact of Fraction of Sequential work -- 2.6.2 Impact of Average Parallelism -- 2.6.2.1 Bounds Based on Multiple Characteristics -- 2.7 Energy Performance TradeOff -- 2.7.1 Relationship Between Energy Consumption and Speedup. 2.7.2 Relationship Between Energy and Fraction of Sequential Work -- 2.7.3 Relationship Between Energy and Average Parallelism -- 2.8 Summary -- Exercises -- References -- Chapter 3 Resource Management Techniques for Distributed Computing Systems -- 3.1 Resource Allocation -- 3.1.1 Graham's Anomaly -- 3.1.2 The Impact of Processor Allocation on Performance -- 3.1.3 Optimal Allocation Techniques -- 3.1.3.1 Hu's Algorithm -- 3.1.4 Heuristic Techniques for Processor Allocation -- 3.1.4.1 Largest Processing Time First -- 3.1.4.2 The Multifit Technique -- 3.2 Task/Process Scheduling -- 3.2.1 Scheduling of Ready Tasks on a Single Processor -- 3.2.1.1 Scheduling Tasks with SLAs -- 3.2.1.2 Performance Analysis -- 3.3 Grid Scheduling with Deadlines -- 3.3.1 Performance Analysis -- 3.4 Scheduling on Client-Server Systems -- 3.4.1 Performance Analysis -- 3.4.2 Software Bottlenecks -- 3.5 Summary -- Exercises -- References -- Chapter 4 Resource Management on Systems Subjected to Uncertainties Associated with Workload and System Parameters -- 4.1 Introduction -- 4.2 Handling Errors Associated with User Estimates of Job Execution Times -- 4.2.1 Overestimation of Job Execution Times -- 4.2.1.1 Schedule Exceptions Manager -- 4.2.1.2 Prescheduling Engine -- 4.3 Underestimation of Job Execution Times -- 4.3.1 Performance Analysis -- 4.4 Handling Uncertainties Associated with the Local Scheduling Policy -- 4.5 Any Schedulability Criterion -- 4.5.1 Application of AS Criterion: An Example -- 4.6 Matchmaking in the Dark: AS CriterionBased Matchmaking -- 4.6.1 Hybrid Matchmaking -- 4.6.1.1 Independent -- 4.6.1.2 Combined -- 4.6.2 Performance Comparison of Independent and Combined Matchmaking -- 4.7 Soft

Advance Reservation Requests -- 4.7.1 Computation of System Generated Estimate of Job Execution Time -- 4.7.2 Performance Evaluation -- 4.8 Summary -- Exercises.
References -- Chapter 5 Resource AutoScaling -- 5.1 Introduction -- 5.1.1 An Example System -- 5.2 Request Characteristics -- 5.3 Horizontal AutoScaling -- 5.3.1 Reactive AutoScaling -- 5.3.1.1 Reactive AutoScaling Algorithm -- 5.3.2 Performance Analysis of the Reactive AutoScaling Algorithm -- 5.3.3 Proactive AutoScaling -- 5.3.3.1 The Proactive AutoScaling Algorithm -- 5.3.4 Performance Analysis of the Proactive AutoScaling Algorithm -- 5.4 Hybrid Auto Scaling -- 5.4.1 Performance Analysis of the Hybrid AutoScaling Algorithm -- 5.4.2 Comparison with Pure Reactive and Proactive Approaches -- 5.5 Summary -- Exercises -- References -- Chapter 6 Resource Management for Systems Running MapReduce Jobs -- 6.1 Introduction -- 6.2 MapReduce -- 6.3 Resource Management Techniques for MapReduce Job Requests to be Satisfied on a Best Effort Basis -- 6.4 Resource Management Techniques for MapReduce Job Requests with Service Level Agreements -- 6.4.1 The BudgetBased MapReduce Resource Management Technique -- 6.4.1.1 HighLevel Description -- 6.4.2 Performance Analysis -- 6.5 The Constraint ProgrammingBased MapReduce Resource Management Technique -- 6.5.1 The MRCPRM Algorithm -- 6.5.2 Performance Analysis for MRCP RM -- 6.6 Errors Associated with User Estimates of Task Execution times -- 6.6.1 The Prescheduling ErrorHandling Technique -- 6.6.1.1 Performance Analysis -- 6.6.2 The Runtime ErrorHandling Technique -- 6.6.2.1 Performance Analysis -- 6.7 Summary -- Exercises -- References -- Chapter 7 Energy Aware Resource Management -- 7.1 Introduction -- 7.1.1 Dynamic Voltage Frequency Scaling -- 7.2 DVFS Based Resource Management Techniques -- 7.3 The EAMRRM Algorithm -- 7.3.1 Performance Analysis of EAMRRM -- 7.3.1.1 The Impact of Arrival Rate of Jobs -- 7.3.1.2 The Effect of Map Task Execution Times -- 7.3.1.3 The Impact of Number of Resources.
7.4 Configurable Resource Manager for Processing a Batch of MapReduce Jobs -- 7.4.1 Constraint Program for the Configurable Resource Manager -- 7.5 Performance Analysis of CRM -- 7.5.1 Effect of Batch Completion Time Bound -- 7.5.2 Impact of the Missed Deadline Ratio Bound -- 7.5.3 The Impact of Deadline Multiplier -- 7.6 Reducing the Number of Active Servers -- 7.7 Summary -- Exercises -- References -- Chapter 8 Streaming Data and Complex Event Processing -- 8.1 Introduction -- 8.2 Management of Streaming Data -- 8.3 Dynamic PriorityBased Scheduling -- 8.3.1 The Spark Streaming Data Processing Platform -- 8.3.1.1 The Spark Streaming System -- 8.4 DataDriven Priority Scheduler (DDPS) -- 8.4.1 Algorithm 1 -- 8.4.2 Algorithm 2 -- 8.4.3 Algorithm 3 -- 8.4.4 Performance Analysis -- 8.5 Multitennant Systems -- 8.5.1 Apache Storm -- 8.5.2 Resource Management on a Multitenant Storm Cluster -- 8.5.2.1 Isolation Scheduler -- 8.5.2.2 Static PriorityBased Scheduler (SPS) -- 8.5.2.3 Dynamic Priority Scheduler -- 8.5.2.4 Performance Analysis -- 8.6 Complex Event Processing -- 8.6.1 CQL Query and CEP -- 8.6.2 CEP Architecture -- 8.6.3 Example CEP Systems -- 8.6.4 CEP Platforms -- 8.6.4.1 Apache Siddhi -- 8.7 Remote Patient Monitoring System -- 8.7.1 The SCEP System -- 8.7.2 The Mobile CEP (MCEP) System -- 8.7.3 Performance Analysis -- 8.7.3.1 Remaining Battery Life -- 8.7.3.2 CEP Latency -- 8.8 Summary -- Exercises -- References -- Chapter 9 Data Indexing and Filtering Techniques for Big Data Systems -- 9.1 Introduction -- 9.2 Harnessing Big Data -- 9.3 Data Indexing -- 9.4 Inverted Index -- 9.4.1 Enhancements to the Inverted Index Technique -- 9.5 GraphBased Indexing -- 9.6 Boolean AND Queries -- 9.7

Performance Analysis -- 9.7.1 Search Latency -- 9.7.1.1 The Impact of Dcount on Search Latency -- 9.7.1.2 Impact of SKcount on Search Latency.
9.7.2 Indexing Overhead -- 9.7.2.1 Indexing Time -- 9.7.2.2 Memory Usage -- 9.8 Data Filtering -- 9.8.1 Processing of Large Volumes of Data -- 9.9 Parallel Processing Platforms -- 9.9.1 Spark Architecture -- 9.10 Motivations for Data Reduction -- 9.10.1 Reducing Data Volume -- 9.11 Data Filtering -- 9.11.1 Basic Approach for Data Filtering -- 9.11.2 The Filtering Algorithm -- 9.11.3 Search Method -- 9.12 Performance Analysis -- 9.12.1 Node Parallelism vs. Core Parallelism -- 9.13 Streaming Data -- 9.13.1 System Performance -- 9.14 Handling User Preferences Comprising Keywords Connected by Boolean Operators -- 9.14.1 Performance Analysis -- 9.15 Summary -- Exercises -- References -- Chapter 10 SensorBased Systems -- 10.1 Introduction -- 10.1.1 Architecture for CloudBased Smart Facilities Management -- 10.2 Middleware Services -- 10.3 SensorBased Bridge Management -- 10.4 Research Collaboration Platform for Management of SensorBased Smart Facilities -- 10.5 Resource Management on Wireless Sensor Networks -- 10.6 Scheduling on WSNs -- 10.6.1 Knowledge Free Algorithms -- 10.6.2 KnowledgeBased Algorithms -- 10.6.2.1 Description of the KnowledgeBased Scheduling Algorithms -- 10.6.3 Performance of Scheduling Algorithms -- 10.6.3.1 Performance of Algorithms That Use a Single Characteristic -- 10.6.3.2 Performance of Algorithms That Use the Knowledge of Both Application and System Characteristics -- 10.7 Sensor Allocation -- 10.7.1 Dynamic Allocation Algorithms -- 10.7.1.1 KnowledgeFree Algorithm -- 10.7.1.2 KnowledgeBased Algorithms -- 10.7.2 Static Allocation Algorithms -- 10.7.2.1 KnowledgeFree Allocation Algorithms -- 10.7.2.2 Allocation Algorithms Based on the Knowledge of Applications -- 10.7.3 Performance of Sensor Allocation Algorithms -- 10.7.3.1 Performance of Dynamic Allocation Algorithms.
10.7.3.2 Performance of Static Allocation Algorithms.

Sommario/riassunto

This book focuses on resource management techniques for distributed systems, which are essential for efficiently utilizing computational resources ranging from clusters to clouds. It explores principles and algorithms necessary for managing resources in parallel and distributed systems, addressing key topics such as process and thread management, grid and cloud computing, and innovative approaches like edge computing. The volume is structured into two parts, with the first discussing the evolution of distributed systems and the second highlighting specific resource management challenges such as allocation, scheduling, auto-scaling, and handling uncertainties in workload. Targeted at students, researchers, and industry professionals, the book aims to provide a comprehensive understanding of resource management to optimize performance and energy consumption in distributed computing environments.