1. Record Nr. UNINA9910140287103321 Autore Xiong Kaiqi Titolo Resource optimization and security for cloud services / / Kaigi Xiong : series editor, Harry Perros London; ; Hoboken, New Jersey:,: ISTE:,: Wiley,, 2014 Pubbl/distr/stampa ©2014 **ISBN** 1-118-89859-1 1-118-89876-1 Descrizione fisica 1 online resource (208 p.) Collana Networks and telecommunications series Altri autori (Persone) PerrosHarry Disciplina 005.8 Soggetti Cloud computing - Security measures 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 Cover; Title Page; Contents; Preface; Chapter 1. Introduction; 1.1. Motivation: 1.2. The problems: 1.3. Summary of contributions: 1.4. The organization of this book; Chapter 2. Current Approaches for Resource Optimization and Security; 2.1. Service availability; 2.2. Trustworthiness; 2.3. Performance; 2.4. The resource optimization problem subject to an SLA; 2.5. Public-key cryptography-based authentication; Chapter 3. Single Class Customers; 3.1. The percentile of response time; 3.2. A resource optimization problem for service models with single-class customers 3.3. Approaches for the resource optimization 3.4. Numerical validations; 3.5. The balanced condition; 3.6. Services Performance Modeling and Analysis in a Simple Scenario of Cloud Computing; 3.6.1. Overview; 3.6.2. A computer service performance model; 3.6.3. A numerical validation; 3.6.4. Discussions; 3.7. Concluding remarks; Chapter 4. Multiple-Class Customers: 4.1. The SLA performance metric in the case of multiple class customers; 4.2. The resource optimization problem for multiple customer services; 4.2.1. Resource optimization problem for multiple class customers 4.3. Approaches for resource optimization 4.3.1. The LSTs of response time distributions for two priority customers; 4.3.2. Algorithms for the resource optimization problem; 4.4. Numerical validations; 4.5.

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Sommario/riassunto

This book includes a study of trustworthiness, percentile response time, service availability, and authentication in the networks between users and cloud service providers, and at service stations or sites that may be owned by different service providers. The first part of the book contains an analysis of percentile response time, which is one of the most important SLA (service level agreements) metrics. Effective and accurate numerical solutions for the calculation of the percentile response time in single-class and multi-class queueing networks are obtained. Then, the numerical solution i