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Nota di contenuto	Cover; IEEE Press; Title page; Copyright page; Contents; Figures; Tables and Equations; Tables; Equations; 1: Introduction; 1.1 Approach; 1.2 Target Audience; 1.3 Organization; Acknowledgments; I: Context; 2: Application Service Quality; 2.1 Simple Application Model; 2.2 Service Boundaries; 2.3 Key Quality and Performance Indicators; 2.4 Key Application Characteristics; 2.4.1 Service Criticality; 2.4.2 Application Interactivity; 2.4.3 Tolerance to Network Traffic Impairments; 2.5 Application Service Quality Metrics; 2.5.1 Service Availability; 2.5.2 Service Latency; 2.5.3 Service Reliability 2.5.4 Service Accessibility2.5.5 Service Retainability; 2.5.6 Service Throughput; 2.5.7 Service Timestamp Accuracy; 2.5.8 Application-Specific Service Quality Measurements; 2.6 Technical Service versus Support Service; 2.6.1 Technical Service Quality; 2.6.2 Support Service Quality; 2.7 Security Considerations; 3: Cloud Model; 3.1 Roles in Cloud Computing; 3.2 Cloud Service Models; 3.3 Cloud Essential Characteristics; 3.3.1 On-Demand Self-Service; 3.3.2 Broad Network Access; 3.3.3 Resource Pooling; 3.3.4 Rapid Elasticity; 3.3.5 Measured Service; 3.4 Simplified Cloud Architecture

3.4.1 Application Software; 3.4.2 Virtual Machine Servers; 3.4.3 Virtual Machine Server Controllers; 3.4.4 Cloud Operations Support Systems; 3.4.5 Cloud Technology Components Offered "as-a-Service"; 3.5 Elasticity Measurements; 3.5.1 Density; 3.5.2 Provisioning Interval; 3.5.3 Release Interval; 3.5.4 Scaling In and Out; 3.5.5 Scaling Up and Down; 3.5.6 Agility; 3.5.7 Slew Rate and Linearity; 3.5.8 Elasticity Speedup; 3.6 Regions and Zones; 3.7 Cloud Awareness; 4: Virtualized Infrastructure Impairments; 4.1 Service Latency, Virtualization, and the Cloud
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5.3 Improving Infrastructure Repair Times via Virtualization; 5.3.1 Understanding Hardware Repair; 5.3.2 VM Repair-as-a-Service; 5.3.3 Discussion; 5.4 Redundancy and Recoverability; 5.4.1 Improving Recovery Times via Virtualization; 5.5 Sequential Redundancy and Concurrent Redundancy; 5.5.1 Hybrid Concurrent Strategy; 5.6 Application Service Impact of Virtualization Impairments; 5.6.1 Service Impact for Simplex Architectures; 5.6.2 Service Impact for Sequential Redundancy Architectures; 5.6.3 Service Impact for Concurrent Redundancy Architectures
5.6.4 Service Impact for Hybrid Concurrent Architectures

Sommario/riassunto

This book explains why applications running on cloud might not deliver the same service reliability, availability, latency and overall quality to end users as they do when the applications are running on traditional (non-virtualized, non-cloud) configurations, and explains what can be done to mitigate that risk.
