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Nota di contenuto	The Grid; Contents; About the Authors; Preface; Acknowledgements; List of Abbreviations; 1 An Introduction to the Grid; 1.1 Introduction; 1.2 Characterization of the Grid; 1.3 Grid-Related Standards Bodies; 1.4 The Architecture of the Grid; 1.5 References; Part One System Infrastructure; 2 OGSA and WSRF; Learning Objectives; Chapter Outline; 2.1 Introduction; 2.2 Traditional Paradigms for Distributed Computing; 2.2.1 Socket programming; 2.2.2 RPC; 2.2.3 Java RMI; 2.2.4 DCOM; 2.2.5 CORBA; 2.2.6 A summary on Java RMI, DCOM and CORBA; 2.3 Web Services; 2.3.1 SOAP; 2.3.2 WSDL; 2.3.3 UDDI 2.3.4 WS-Inspection2.3.5 WS-Inspection and UDDI; 2.3.6 Web services implementations; 2.3.7 How Web services benefit the Grid; 2.4 OGSA; 2.4.1 Service instance semantics; 2.4.2 Service data semantics; 2.4.3 OGSA portTypes; 2.4.4 A further discussion on OGSA; 2.5 The Globus Toolkit 3 (GT3); 2.5.1 Host environment; 2.5.2 Web services engine; 2.5.3 Grid services container; 2.5.4 GT3 core services; 2.5.5 GT3 base services; 2.5.6 The GT3 programming model; 2.6 OGSA-DAI; 2.6.1 OGSA-DAI portTypes; 2.6.2 OGSA-DAI functionality; 2.6.3 Services interaction in the OGSA-DAI; 2.6.4 OGSA-DAI and DAIS

2.7 WSRF2.7.1 An introduction to WSRF; 2.7.2 WSRF and OGSI/GT3; 2.7.3 WSRF and OGSA; 2.7.4 A summary of WSRF; 2.8 Chapter Summary; 2.9 Further Reading and Testing; 2.10 Key Points; 2.11 References; 3 The Semantic Grid and Autonomic Computing; Learning Outcomes; Chapter Outline; 3.1 Introduction; 3.2 Metadata and Ontology in the Semantic Web; 3.2.1 RDF; 3.2.2 Ontology languages; 3.2.3 Ontology editors; 3.2.4 A summary of Web ontology languages; 3.3 Semantic Web Services; 3.3.1 DAML-S; 3.3.2 OWL-S; 3.4 A Layered Structure of the Semantic Grid; 3.5 Semantic Grid Activities 3.5.1 Ontology-based Grid resource matching3.5.2 Semantic workflow registration and discovery in myGrid; 3.5.3 Semantic workflow enactment in Geodise; 3.5.4 Semantic service annotation and adaptation in ICENI; 3.5.5 PortalLab - A Semantic Grid portal toolkit; 3.5.6 Data provenance on the Grid; 3.5.7 A summary on the Semantic Grid; 3.6 Autonomic Computing; 3.6.1 What is autonomic computing?; 3.6.2 Features of autonomic computing systems; 3.6.3 Autonomic computing projects; 3.6.4 A vision of autonomic Grid services; 3.7 Chapter Summary; 3.8 Further Reading and Testing; 3.9 Key Points 3.10 ReferencesPart Two Basic Services; 4 Grid Security; 4.1 Introduction; 4.2 A Brief Security Primer; 4.3 Cryptography; 4.3.1 Introduction; 4.3.2 Symmetric cryptosystems; 4.3.3 Asymmetric cryptosystems; 4.3.4 Digital signatures; 4.3.5 Public-key certificate; 4.3.6 Certification Authority (CA); 4.3.7 Firewalls; 4.4 Grid Security; 4.4.1 The Grid Security Infrastructure (GSI); 4.4.2 Authorization modes in GSI; 4.5 Putting it all Together; 4.5.1 Getting an e-Science certificate; 4.5.2 Managing credentials in Globus; 4.5.3 Generate a client proxy; 4.5.4 Firewall traversal 4.6 Possible Vulnerabilities

Sommario/riassunto

Find out which technologies enable the Grid and how to employ them successfully! This invaluable text provides a complete, clear, systematic, and practical understanding of the technologies that enable the Grid. The authors outline all the components necessary to create a Grid infrastructure that enables support for a range of wide-area distributed applications. The Grid: Core Technologies takes a pragmatic approach with numerous practical examples of software in context. It describes the middleware components of the Grid step-by-step, and gives hands-on advice on designing and
