1. Record Nr. UNINA9910830792703321

Autore	Sapaty Peter
Titolo	Ruling distributed dynamic worlds [[electronic resource] /] / Peter S. Sapaty
Pubbl/distr/stampa	Hoboken, N.J., : John Wiley & Sons, c2005
ISBN	1-280-27594-4 9786610275946 0-470-35544-1 0-471-65635-6 0-471-65636-4
Descrizione fisica	1 online resource (275 p.)
Collana	Wiley Series on Parallel and Distributed Computing ; ; v.65
Disciplina	004.3/6 004.36
Soggetti	Electronic data processing - Distributed processing Mobile agents (Computer software) Automatic control
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Wiley-Interscience."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	RULING DISTRIBUTED DYNAMIC WORLDS; CONTENTS; Preface; 1 INTRODUCTION; 1.1 Toward Coordination and Management of Large Systems; 1.1.1 Shifting from Computation to Coordination; 1.1.2 Overoperability Versus Interoperability; 1.1.3 Intelligent Systems Versus Intelligent Components; 1.1.4 Directly Operating in Physical World; 1.1.5 Distributed Artificial Life; 1.2 Problems of Managing Large Distributed Systems; 1.2.1 From Localized to Distributed Solutions; 1.2.2 More Distribution Problems and Details; 1.3 WAVE-WP: Basic Ideas; 1.3.1 The Whole First; 1.3.2 WAVE-WP Spatial Automaton 1.3.3 Implementation Basics1.4 Example: The Shortest Path Problem; 1.4.1 Importance of Distributed and Parallel Solutions; 1.4.2 Finding Shortest Path Tree; 1.4.3 Collecting the Shortest Path Between Nodes; 1.4.4 Main Problems of Distributed Implementation; 1.4.5 Universal WAVE-WP Interpreters; 1.4.6 Shortest Path Tree Finding in WAVE-WP; 1.4.7 Shortest Path Collection in WAVE-WP; 1.4.8 Full Program for Finding Shortest Path; 1.5 Example: Distributed Knowledge

Representation and Processing; 1.5.1 Knowledge Network; 1.5.2 Elementary Query 1; 1.5.3 Elementary Query 2
1.6 System organization as a function of the application scenario1.7 Relation to the Previous Book; 1.8 Comparison with Other Works in Related Areas; 1.8.1 Parallel Computing; 1.8.2 Distributed Systems and Distributed Computing; 1.8.3 Parallel and Distributed Computing; 1.8.4 Computer Networking; 1.8.5 Intelligent Agents; 1.8.6 Mobile Agents; 1.8.7 Grid Computing; 1.8.8 Spatial Programming; 1.8.9 Mobile Robotics, Cooperative Robotics; 1.8.10 System Management; 1.9 Organization of the Book; 2 WORLDS AND WAVES IN THE WAVE-WP MODEL; 2.1 Physical World; 2.1.1 Temporary Physical World Nodes
2.1.2 Visiting Existing Nodes in a Region2.1.3 Destination Regions for New Nodes; 2.1.4 Accessing Physical World Parameters; 2.1.5 Broadcasting in Physical World; 2.2 Virtual World; 2.2.1 Knowledge Networks; 2.2.2 Access to Nodes and Links; 2.2.3 Tunnel and Surface Broadcasting; 2.2.4 Linking with Alien Networks; 2.3 United Physical-Virtual World; 2.3.1 The Integration Details; 2.3.2 Access to Nodes in the United World; 2.3.3 United World Dynamics; 2.3.4 Time and Speed; 2.4 Execution World; 2.4.1 Doers and Their Connections; 2.4.2 Distribution of Physical-Virtual World Between Doers
2.4.3 Absolute and Mapping Addresses2.4.4 Further Integration of Physical-Virtual-Execution World; 2.5 Waves; 2.5.1 Nature of Waves; 2.5.2 Navigation in Space; 2.5.3 Actions in Nodes; 2.5.4 Coverage with Rules; 2.5.5 Composition and Structuring of Waves; 2.5.6 Wave Expressions and Remote Data; 2.5.7 Delivery and Processing of Physical Matter; 2.6 Conclusions; 3 WORLD PROCESSING LANGUAGE; 3.1 Top Language Organization; 3.2 Data Definitions; 3.2.1 General on Constants; 3.2.2 Special Constants; 3.2.3 Vectors; 3.3 Variables; 3.3.1 Nodal Variables; 3.3.2 Frontal Variables
3.3.3 Environmental Variables

Sommario/riassunto

A sequel to Mobile Processing in Distributed and Open Environments, this title introduces an extended, universal WAVE-WP model for distributed processing and control in dynamic and open worlds of any natures. The new control theory and technology introduced in the book can be widely used for the design and implementation of many distributed control systems, such as intelligent network management for the Internet, mobile cooperative robots, Rapid Reaction forces, future Combat Systems, robotics and AI, NMD, space research on other planets, and other applications.This title:* Demonstrate