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Circumscription Description Logics; Formal Semantics for Circumscription DLs; Reasoning with Circumscribed Knowledge Bases; Terminological Defaults; Discussion; A Reasoning Algorithm for Circumscription Description Logics; Principle Idea of a Tableaux Extension; Extending DL Tableaux Calculi by Preference Clashes; Restrictions on the Formalism; Deciding Circumscription ALCO Constraint Systems and their SolvabilityTableaux Expansion Rules; Notions of Clash and Detection of Inconsistencies; Sound and Complete Reasoning in Circumscription ALCO; Implementation and Optimisation Issues; Prototypical Implementation; Possible Performance Optimisations; Reasoning in Rule-Based WSM; Rule-Based Inferencing and WSM; The Web Service Modeling Language; Reasoning in Rule-Based WSM; Reduction of WSM to Datalog; Ontology Transformations; WSM Semantics through Meta-Level Axioms; WSM Reasoning by Datalog Queries; Realising Datatype Reasoning; Debugging Support Identifying Constraint ViolationsDebugging by Meta-Level Reasoning; System Architecture and Implementation; Architecture and Internal Layering; Interface and Integration with Existing Technology; Matchmaking of Semantically Annotated Resources; Semantic Matchmaking with Description Logics; Notion of Matchmaking; Intuition; Technical Characterisation; Applications; Ontology-Based Modelling of Resources in Description Logics; Resource Classes as Description Logic Concepts; Variance and Incompleteness in Resource Descriptions; Intuitive Reading of DL-Based Descriptions Example Scenario of an Electronic Marketplace

Sommario/riassunto

Semantic web has grown into a mature field of research. Its methods find innovative applications on and off the World Wide Web. Its underlying technologies have significant impact on adjacent fields of research and on industrial applications. This new book series reports on the state-of-the-art in foundations, methods, and applications of semantic web and its underlying technologies. It is a central forum for the communication of recent developments and comprises research monographs, textbooks and edited volumes on all topics related to the semantic web. In this first volume several non-monoto
