ISO/IEC 21838-3:2023-09 (E)

Information technology - Top-level ontologies (TLO) - Part 3: Descriptive ontology for linguistic and cognitive engineering (DOLCE)

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Conformance of DOLCE to ISO/IEC 21838-1 ..... **2**

4.1 Overview 2
4.2 Natural language representation of DOLCE 2
4.3 OWL 2 formalization of DOLCE 2
4.4 Common Logic axiomatization of DOLCE 2
4.4.1 General 2
4.4.2 Modularity 2
4.5 Specification of the purpose of DOLCE (in conformance to ISO/IEC 21838-1:2021, 4.4.2) 3
4.6 Description of how conformance of a domain ontology to DOLCE is established (in conformance to ISO/IEC 21838-1:2021, 4.4.3) 3
4.7 Demonstration of the consistency of the CL axiomatization of DOLCE (in conformance to ISO/IEC 21838-1:2021, 4.4.4) 3
4.8 Interpretability of the OWL 2 axiomatization of DOLCE in CL (in conformance to ISO/IEC 21838-1:2021, 4.4.5) 3
4.9 Demonstration of breadth of coverage of DOLCE (in conformance to ISO/IEC 21838-1:2021, 4.4.6) 3
4.9.1 General 3
4.9.2 Space and time 3
4.9.3 Actuality and possibility 4
4.9.4 Classes and types 4
4.9.5 Change over time 4
4.9.6 Parts, wholes, unity and boundaries 4
4.9.7 Space and place 4
4.9.8 Scale and granularity 5
4.9.9 Qualities and other attributes 5
4.9.10 Quantities and mathematical entities 5
4.9.11 Processes and events 5
4.9.12 Constitution 6
4.9.13 Causality 6
4.9.14 Information and reference 6
4.9.15 Artefacts and socially constructed entities 6
4.9.16 Mental entities, imagined entities, fiction, mythology, religion 6
4.10 Documentation of ontology management principles (in conformance to ISO/IEC 21838-1:2021, 4.4.8) 6

Bibliography **7**