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Information technology — Reference Architecture for Service Oriented Architecture (SOA RA) —

Part 1: Terminology and concepts for SOA

Technologie de l'information — Architecture de référence pour l'architecture orientée service (SOA RA) —

Partie 1: Terminologie et concepts pour SOA

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Contents

Page

Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 38, *Cloud Computing and Distributed Platforms*.

ISO/IEC 18384 consists of the following parts, under the general title *Reference Architecture for Service Oriented Architecture (SOA RA)*:

— *Part 1: Terminology and Concepts for SOA*

— *Part 2: Reference Architecture for SOA Solutions*

— *Part 3: Service Oriented Architecture Ontology*

Introduction

Service oriented architecture (SOA) is an architectural style in which business and IT systems are designed in terms of services available at an interface and the outcomes of these services. A service is a logical representation of a set of activities that has specified outcomes, is self-contained, and it may be composed of other services but consumers of the service need not be aware of any internal structure.

SOA takes "service" as its basic element to constitute and integrate information systems so that they are suitable for a variety of solution requirements. SOA enables interactions between businesses without needing to specify aspects of any particular business domain. Using the SOA architectural style can improve the efficiency of developing information systems, and integrating and reusing IT resources. In addition, using the SOA architectural style can help realize agile and rapid response of information systems to ever-changing business needs.

This International Standard describes a single set of SOA technical principles, specific norms, and standards for the world-wide market to help remove confusion about SOA and improve the standardization and quality of solutions.

This International Standard defines the terminology, technical principles, reference architecture, and the ontology for SOA. The targeted audience of this International Standard includes, but is not limited to, standards organizations, architects, architecture methodologists, system and software designers, business people, SOA service providers, SOA solution and service developers, and SOA service consumers who are interested in adopting and developing SOA. For example, this part of ISO/IEC 18384 can be used to introduce SOA concepts and to guide to the developing and managing SOA solutions.

This International Standard contains three parts:

a) ISO/IEC 18384-1 which defines the terminology, basic technical principles and concepts for SOA;

b) ISO/IEC 18384-2 which defines the detailed SOA reference architecture layers, including a metamodel, capabilities, architectural building blocks, as well as types of services in SOA solutions;

c) ISO/IEC 18384-3 which defines the core concepts of SOA and their relationships in the Ontology.

Users of this part of ISO/IEC 18384 will find it useful to read this part of ISO/IEC 18384 for an understanding of SOA basics. This part of ISO/IEC 18384 should be read before reading or applying ISO/IEC 18384-2. For those new to SOA, ISO/IEC 18384-2:2016, Clause 4 provides a high level understanding of the reference architecture for SOA solutions. The remaining clauses provide comprehensive details of the architectural building blocks and trade-offs needed for a SOA solution. ISO/IEC 18384-3 contains the SOA Ontology, which is a formalism of the core concepts and terminology of SOA, with mappings to both UML and OWL. The SOA Ontology can be used independent of or in conjunction with ISO/IEC 18384-1 and ISO/IEC 18384-2.

This part of ISO/IEC 18384 presents and explains basic SOA concepts. It gives definitions for terms that are used in ISO/IEC 18384 with specific meanings that may differ or be more precise than the definitions of those terms found in major English language dictionaries. The terms defined here are used in a unique fashion for SOA. Terms used in their normal English sense are not redefined.

Information technology — Reference Architecture for Service Oriented Architecture (SOA RA) —

Part 1: Terminology and concepts for SOA

1 Scope

This part of ISO/IEC 18384 establishes vocabulary, guidelines, and general technical principles underlying service oriented architecture (SOA), including principles relating to functional design, performance, development, deployment, and management.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
actor
person or system component that interacts with the system as a whole and that provides stimulus which invokes actions

[SOURCE: ISO/IEC 16500-8:1999, 3.1]

2.2
architecture
fundamental concepts or properties of a system in its environment embodied in its elements, relationships, and in the principles of its design and evolution

[SOURCE: ISO/IEC/IEEE 42010:2011, 3.2]

2.3
choreography
type of *composition* (2.5) whose *elements* (2.8) interact in a non-directed fashion with each autonomous part knowing and following an observable predefined pattern of behaviour for the entire (global) composition

Note 1 to entry: Choreography does not require complete or perfect knowledge of the pattern of behaviour.

Note 2 to entry: See ISO/IEC 18384-3:2016, 8.3.

2.4
collaboration
type of *composition* (2.5) whose *elements* (2.8) interact in a non-directed fashion, each according to their own plans and purposes without a predefined pattern of behaviour

Note 1 to entry: See ISO/IEC 18384-3:2016, 8.3.

2.5
composition
result of assembling a collection of *elements* (2.8) for a particular purpose

Note 1 to entry: See ISO/IEC 18384-3:2016, 8.2.