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

Part 2: Reference Architecture for SOA Solutions

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

Partie 2: Architecture de référence pour les solutions de l'architecture orientée service

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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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 *Information Technology — 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*

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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 (see ISO/IEC 18384-1:2016, 3.20) is a logical representation of a set of activities that has specified outcomes, is self-contained and may be composed of other services but consumers of the service need not be aware of any internal structure.

SOA uses services to create and integrate information systems so that they are suitable for a variety of business and application requirements. SOA enables interactions between businesses without needing to specify specifics 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 enable rapid response of information systems to ever-changing business needs.

ISO/IEC 18384 is intended to be 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.

ISO/IEC 18384 defines the terminology, technical principles, reference architecture, standard service categories and ontology for SOA. This part of ISO/IEC 18384 can be used to introduce SOA concepts, as a guide to the development and management of SOA solutions, as well as be referenced by business and industry standards.

ISO/IEC 18384 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 a set of categories or types of services in SOA solutions;

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

The targeted audience of ISO/IEC 18384 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.

Users of this part of ISO/IEC 18384 will find it useful to read ISO/IEC 18384-1 for an understanding of SOA basics. ISO/IEC 18384-1 should be read before reading or applying this part of ISO/IEC 18384. For those new to the SOA reference architecture, 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 an SOA solution and a set of common categories (or types) of SOA services to help populate that architecture. 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 (see Reference [16]) and OWL (see Reference [17]). ISO/IEC 18384-3 can be used independent of or in conjunction with ISO/IEC 18384-1 and this part of ISO/IEC 18384.

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

Part 2:
Reference Architecture for SOA Solutions

1 Scope

This part of ISO/IEC 18384 describes a Reference Architecture for SOA Solutions which applies to functional design, performance, development, deployment and management of SOA Solutions. This part of ISO/IEC 18384 includes a domain-independent framework, addressing functional requirements and non-functional requirements, as well as capabilities and best practices to support those requirements.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 18384-1, *Information technology — Reference Architecture for Service Oriented Architecture (SOA RA) — Part 1: Terminology and concepts for SOA*

ISO/IEC 18384-3, *Information technology — Reference Architecture for Service Oriented Architecture (SOA) – Part 3: Service Oriented Architecture Ontology*

ISO/IEC 15474-1, *Information technology — CDIF framework — Part 1: Overview*

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