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IEEE Standard for Service Composition Protocols of Next Generation Service Overlay Network

IEEE Communications Society

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Virtualized and Software Defined Networks and Services Standards Committee

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IEEE Std 1903.2™-2017

IEEE Standard for Service Composition Protocols of Next Generation Service Overlay Network

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Virtualized and Software Defined Networks and Services Standards Committee
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Approved 6 December 2017

IEEE-SA Standards Board

Abstract: Protocols among service composition (SC) functional entity (FE), service discovery and negotiation (SDN) FE, context information management (CIM) FE, service routing (SR) FE, and service policy decision (SPD) FE to support service composition capabilities in a next generation service overlay network (NGSON) are specified in this standard. Service chaining and instantiation, specification interpretation, service brokering and execution, and context- aware and dynamically adaptive service composition are supported by the capabilities of service composition.

Keywords: context awareness, dynamic adaptation, IEEE Std 1903.2™, NGSON, self organization, service composition

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

PDF: ISBN 978-1-5044-4305-0 STD22765
Print: ISBN 978-1-5044-4306-7 STDPD22765

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Introduction

This introduction is not part of IEEE Std 1903.2-2017, IEEE Standard for Service Composition Protocols of Next Generation Service Overlay Network.

This standard specifies service composition protocols for Next Generation Service Overlay Network (NGSON). NGSON supports service composition of different base services. An end-user requests a service to NGSON and receives the service response from NGSON. The services are provided by service (or content) providers and NGSON authorizes them. NGSON receives a service request from an end-user, and makes service provision and consumption with service compositions by the deployment of context-aware, dynamic adaptation, and self-organizing networking capabilities.

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IEEE Standard for Service Composition Protocols of Next Generation Service Overlay Network

1. Overview

1.1 Scope

This standard specifies protocols among service composition (SC) functional entity (FE), service discovery and negotiation (SDN) FE, context information management (CIM) FE, service routing (SR) FE, and service policy decision (SPD) FE to support service composition capabilities in a Next Generation Service Overlay Network (NGSON). The capabilities of service composition aim to support service chaining and instantiation, specification interpretation, service brokering and execution, and context-aware and dynamically adaptive service composition.

1.2 Purpose

The purpose of this standard is to enable network operators, service/content providers, and end users to provide and consume composite services based on advanced service composition capability of NGSON with context-aware and dynamically adaptive features. This standard provides interoperability of composite services between network operators and service providers.

2. Normative references

The following referenced documents are indispensable for the application of this document (i.e., they must be understood and used, so each referenced document is cited in text and its relationship to this document is explained). For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies.

3GPP TR 22.[illegible]08, Study on Flexible Mobile Service Steering (FMSS)[1]

3GPP TR 22.853, Study on Service Exposure and Enablement Support (SEES) Requirements.

3GPP TR 29.817, Study on eXtensible Markup Language (XML) based access of the Application Function (AF) to the Policy and Charging Rules Function (PCRF), V12.0.

3GPP TS 23.203, Policy and charging control architecture.

[1]3GPP publications are available from 3rd Generation Partnership Project (www.3gpp.org/).