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Information technology — Open Virtualization Format (OVF) specification

Technologies de l'information — Spécification du format de virtualisation ouvert (OVF)

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Foreword

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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 http://www.iso.org/directives).

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For an explanation on the voluntary nature of Standard, the meaning of the 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

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The list of all currently available parts of ISO/IEC 17203 series, under the general title *Information technology*, can be found on the ISO web site.

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American National Standard
for Information Technology –

Open Virtualization Format (OVF) Specification

1 Scope

The *Open Virtualization Format (OVF) Specification* describes an open, secure, efficient and extensible format for the packaging and distribution of software to be run in virtual systems.

The OVF package enables the authoring of portable virtual systems and the transport of virtual systems between virtualization platforms. This version of the specification (2.1) is intended to allow OVF 1.x tools to work with OVF 2.x descriptors in the following sense:

- Existing OVF 1.x tools should be able to parse OVF 2.x descriptors.
- Existing OVF 1.x tools should be able to give warnings/errors if dependencies to 2.x features are required for correct operation.

If a conflict arises between the schema, text, or tables, the order of precedence to resolve the conflicts is schema; then text; then tables. Figures are for illustrative purposes only and are not a normative part of the standard.

A table may constrain the text but it shall not conflict with it.

The profile conforms to the cited CIM Schema classes where used. Any requirements contained in the cited CIM Schema classes shall be met. If a conflict arises the CIM Schema takes precedence.

The profile conforms to the cited OVF XML Schema. It may constrain the schema but it shall not conflict with it. If a conflict arises the OVF XML Schema takes precedence.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

The following referenced documents are indispensable for the application of this document. For dated or versioned references, only the edition cited (including any corrigenda or DMTF update versions) applies. For references without a date or version, the latest published edition of the referenced document (including any corrigenda or DMTF update versions) applies.

DMTF DSP0004, *Common Information Model (CIM) Infrastructure Specification 2.7*, http://www.dmtf.org/standards/published_documents/DSP0004_2.7.pdf

DMTF DSP0223, *Generic Operations 1.0*, http://www.dmtf.org/standards/published_documents/DSP0223_1.0.pdf

DMTF DSP0230, *WS-CIM Mapping Specification 1.0*, http://www.dmtf.org/sites/default/files/standards/documents/DSP0230_1.0.2.pdf

DMTF DSP1001, *Management Profile Specification Usage Guide 1.1*, http://www.dmtf.org/standards/published_documents/DSP1001_1.1.pdf

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DMTF DSP1041, *Resource Allocation Profile (RAP) 1.1*, http://www.dmtf.org/standards/published_documents/DSP1041_1.1.pdf

DMTF DSP1043, *Allocation Capabilities Profile (ACP) 1.0*, http://www.dmtf.org/standards/published_documents/DSP1043_1.0.pdf

DMTF DSP1047, *Storage Resource Virtualization Profile 1.0*, http://www.dmtf.org/standards/published_documents/DSP1047_1.0.pdf

DMTF DSP1050, Ethernet Port Resource Virtualization Profile 1.0, http://www.dmtf.org/standards/published_documents/DSP1050_1.0.pdf

DMTF DSP1057, *Virtual System Profile 1.0*, http://www.dmtf.org/standards/published_documents/DSP1057_1.0.pdf

DMTF DSP8023, *OVF XML Schema Specification for OVF Envelope 2.0*, http://schemas.dmtf.org/ovf/envelope/2/dsp8023_2.0.xsd

DMTF DSP8027, *OVF XML Schema Specification for OVF Environment 1.1*, http://schemas.dmtf.org/ovf/environment/1/dsp8027_1.1.xsd

DMTF DSP8049, *Network Port Profile XML Schema,* http://schemas.dmtf.org/ovf/networkportprofile/1/dsp8049_1.0.xsd

IETF RFC1738, T. Berners-Lee, *Uniform Resource Locators (URL)*, December 1994, http://tools.ietf.org/html/rfc1738

IETF RFC1952, P. Deutsch, *GZIP file format specification version 4.3*, May 1996, http://tools.ietf.org/html/rfc1952

IETF RFC2616, R. Fielding et al, *Hypertext Transfer Protocol – HTTP/1.1*, June 1999, http://tools.ietf.org/html/rfc2616

IETF Standard 66, *Uniform Resource Identifiers (URI): Generic Syntax*, http://tools.ietf.org/html/rfc3986

IETF Standard 68, *Augmented BNF for Syntax Specifications: ABNF*, http://tools.ietf.org/html/rfc5234

ISO 9660, 1988 Information processing-Volume and file structure of CD-ROM for information interchange, http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=17505

ISO, ISO/IEC Directives, Part 2, *Rules for the structure and drafting of International Standards*, http://isotc.iso.org/livelink/livelink.exe?func=ll&objId=4230456&objAction=browse&sort=subtype

ISO/IEC/IEEE 9945:2009: Information technology -- Portable Operating System Interface (POSIX®) Base Specifications, Issue 7 http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=50516

W3C, *XML Schema Part 1: Structures Second Edition.* 28 October 2004. W3C Recommendation. URL: http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/

W3C, *XML Schema Part 2: Datatypes Second Edition.* 28 October 2004. W3C Recommendation. URL: http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/

W3C, XML Encryption Syntax and Processing Version 1.1, 13 March 2012, W3C Candidate Recommendation http://www.w3.org/TR/2012/CR-xmlenc-core1-20120313/

FIPS 180-2: Secure Hash Standard (SHS) http://csrc.nist.gov/publications/fips/fips180-2/fips180-2.pdf

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3 Terms and definitions

In this document, some terms have a specific meaning beyond the normal English meaning. Those terms are defined in this clause.

The terms "shall" ("required"), "shall not", "should" ("recommended"), "should not" ("not recommended"), "may," "need not" ("not required"), "can" and "cannot" in this document are to be interpreted as described in ISO/IEC Directives, Part 2, Annex H. The terms in parenthesis are alternatives for the preceding term, for use in exceptional cases when the preceding term cannot be used for linguistic reasons. Note that ISO/IEC Directives, Part 2, Annex H specifies additional alternatives. Occurrences of such additional alternatives shall be interpreted in their normal English meaning.

The terms "clause", "subclause", "paragraph", and "annex" in this document are to be interpreted as described in ISO/IEC Directives, Part 2, Clause 5.

The terms "normative" and "informative" in this document are to be interpreted as described in ISO/IEC Directives, Part 2, Clause 3. In this document, clauses, subclauses, or annexes labeled "(informative)" do not contain normative content. Notes and examples are always informative elements.

The terms defined in DSP0004, DSP0223, and DSP1001 apply to this document. The following additional terms are used in this document.

3.1
authoring function
the creation of the OVF package

3.2
chassis
a placement policy as defined in the class CIM_Chassis

3.3
conditional
indicates requirements to be followed strictly to conform to the document when the specified conditions are met

3.4
deployment function
a function the result of which is a prepared virtual system

3.5
geographic
a placement policy referring to a geographic location (e.g., a country, a state, a province, a latlong)

3.6
guest software
the software that runs inside a virtual system

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3.7
mandatory
indicates requirements to be followed strictly to conform to the document and from which no deviation is permitted

3.8
optional
indicates a course of action permissible within the limits of the document

3.9
rack
a placement policy as defined in the class CIM_Rack

3.10
site
a placement policy as defined in Access, Terminals, Transmission and Multiplexing (ATTM); Broadband Deployment - Energy Efficiency and Key Performance Indicators; Part 2: Network sites; Sub-part 1: Operator sites, Technical Report, ETSI TR 105 174-2-1 V1.1.1 (2009-10)

3.11
OVF package
a single compressed file or a set of files that contains the OVF descriptor file and may contain associated virtual disks, operational metadata, and other files

3.12
OVF descriptor
an XML file that validates to DSP8023 and provides the information needed to deploy the OVF package

3.13
virtualization platform
the hypervisor on which the virtual systems run

3.14
virtual appliance
a service delivered as a software stack that utilizes one or more virtual systems

3.15
virtual hardware
the processor, memory and I/O resources provided by a virtualization platform that supports a virtual system

3.16
virtual system
as defined in the Virtual System Profile plus the guest software if any

3.17
virtual system collection
a collection of virtual systems

3.18
virtualization management
the software that performs resource allocation and management of virtual systems

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