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Cloud Data Management Interface Extension: OVF

Version 1.0g

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Working Draft

Revision History

Date	Version	By	Comments
12/14/2011	1.0a	Mark Carlson, Oracle	Document created
1/16/2012	1.0b	Marie McMinn	Updates to include standard SNIA front matter and technical edit
1/20/2012	1.0c	Mark Carlson, Oracle	Split OVF and CIMI extensions
1/26/2012	1.0d	Mark Carlson, Oracle	Changed CDMI attributes to CDMI fields per face-to-face discussion
1/26/2012	1.0e	Marie McMinn	Includes minor edits.
1/30/2013	1.0f	Mark Carlson, Oracle	Updated for OVF 2.0
2/8/2012	1.0g	Marie McMinn	Includes minor edits.

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OVF CDMI Extension

This extension to the CDMI international standard supports the DMTF OVF Standard (DSP 243), which is used to move virtual appliances between clouds. Both of these standards can be used together to manage data and storage for IaaS clouds.

Modifications to the current CDMI spec:

The changes are as follows:

- Support for de-serializing an OVF (Versions 1.1 and 2.0) package into CDMI containers and objects such that they can be referenced by CIMI machine images and volume images

1) Insert into Clause 2 – "Normative References"

ISO/IEC 17203:2011, DSP 0243

Open Virtualization Format (OVF) Specification

2) Insert into Clause 3 - "Terms":

3.x

Open Virtualization Format

OVF

a DMTF standard for virtual appliance portability

3.x

OVF package

an OVF descriptor file accompanied by zero or more files

3.x

OVF descriptor

an OVF file with XML metadata describing a virtual appliance and its requirements on the environment

3) Add a table entry to the end of Table 102 in 12.1.1 as follows:

Capability Name	Type	Definition
cdmi_ovf_support	JSON String	If present and "true", this capability indicates that the cloud storage system supports OVF serialization and deserialization per 15.4 OVF Support.

4) Add a table entry to the end of Table 106 in 12.1.5 as follows:

Capability Name	Type	Definition
cdmi_ovf_support	JSON String	If present and "true", this capability indicates that the container supports OVF serialization and deserialization per 15.4 OVF Support.

5) Insert a new subclause after 15.3 Importing Serialized Data:

15.4 OVF Support

The DMTF Open Virtualization Format (OVF) standard allows a virtual appliance to be serialized from one platform and deserialized onto another platform. CDMI supports OVF packages that are bundled into a TAR file as an optional serialization format from that defined above. An OVF package can be created as a CDMI object by using the TAR file as the value of the object. The object's mimetype field shall be set to "application/ovf" to indicate that the object contains an OVF package.

To expand an OVF package from the CDMI object, the object is used to create a new container, setting the deserialize field to the URI of the OVF package CDMI object.

As a result, a new container will be created with the following children:

- a CDMI object with the value set to the OVF descriptor contents;
- a CDMI object with the value set to the OVF manifest file contents;
- a CDMI object with the value set to the certificate file contents;
- CDMI objects for any other files in the OVF package that are not virtual disk contents; and
- a CDMI container for each disk in the disk section of the OVF descriptor metadata.

The CDMI containers that are created in bullet five are meant to be exported to virtual machines with a CIMI or OCCI exported protocol. These containers shall have the contents for access by these protocols initialized from the files specified by the ovf:fileRef attribute in the corresponding disk section of the OVF descriptor (see 9.1 of the OVF standard). If ovf:fileRef is omitted, the container has no initial contents as seen by the exported protocol.

The container name for each of these containers shall be set to the ovf:diskId attribute in the corresponding disk section of the OVF descriptor.

The container's cdmi_assignedsize metadata value shall be set to the value of the ovf:capacity attribute in the corresponding disk section of the OVF descriptor.

As described above, to serialize an OVF package from a container back into a TAR file version, 1) create a CDMI object, 2) set the serialize field to the URI of the container, and 3) set the mimetype field to "application/ovf". The OVF serialization process uses the OVF package manifest file to understand how to serialize the package and to understand which objects and containers to serialize as per the OVF standard. The resultant object will be a TAR file version of the OVF package.