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Information technology — Virtualization Management Specification

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INCITS 483-2012

American National Standard

*for Information Technology –
Virtualization Management Specification*

Developed by



Where IT all begins



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INCITS 483-2012

American National Standard
for Information Technology –
Virtualization Management Specification

Secretariat

Information Technology Industry Council

Approved May 29, 2012

American National Standards Institute, Inc.

American National Standard

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Virtualization Management Specification

Introduction

The information in this standard should be sufficient for a provider or consumer of this data to unambiguously identify the classes, properties, methods, and values that shall be instantiated to subscribe, advertise, produce, or consume an indication using the DMTF Common Information Model (CIM) Schema.

The target audience for this standard is implementers who are writing CIM-based providers or consumers of management interfaces that represent the components described in this document.

Document conventions

Typographical conventions

The following typographical conventions are used in this document:

- Document titles are marked in *italics*.
- Important terms that are used for the first time are marked in italics.
- ABNF rules are in `monospaced font`.

The following conventions are followed for defining formats of entries such as URIs:

- Literal characters within a format definition are surrounded by single quotes.
- Names of variables within a format are in standard text and are explicitly defined by means of a "Where: variable-name is ..." section that follows the format definition.
- A specific value of a variable within a generalized example of a formatted entry is displayed in *italics*.
- Definitions of formats are case sensitive.
- Whitespace, if any, in formats is explicitly indicated.

In XML and MOF examples, an ellipsis (" . . . ") indicates omitted or optional entries that would typically occupy the position of the ellipsis.

ABNF usage conventions

Format definitions in this document are specified using ABNF (see [RFC 5234](#)), with the following deviations:

- Literal strings are to be interpreted as case-sensitive Unicode characters, as opposed to the definition in [RFC 5234](#) that interprets literal strings as case-insensitive US-ASCII characters.

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Experimental material

Experimental material has yet to receive sufficient review to satisfy the adoption requirements set forth by the DMTF. Experimental material is included in this document as an aid to implementers who are interested in likely future developments. Experimental material may change as implementation experience is gained. It is likely that experimental material will be included in an upcoming revision of the document. Until that time, experimental material is purely informational.

Experimental content is indicated by an Experimental Note.

In places where the Experimental Note cannot be used (for example, tables or figures), the "EXPERIMENTAL" label is used alone.

DMTF component documents

Table 1 lists the DMTF component documents that were combined to create this standard.

Table 1 – Component documents

Document Number	Document Title	Version
DSP1041	<i>Resource Allocation Profile</i>	1.1.0
DSP1042	<i>System Virtualization Profile</i>	1.0.0
DSP1043	<i>Allocation Capabilities Profile</i>	1.0.0
DSP1044	<i>Processor Resource Virtualization Profile</i>	1.0.0
DSP1045	<i>Memory Resource Virtualization Profile</i>	1.0.0
DSP1047	<i>Storage Resource Virtualization Profile</i>	1.0.0
DSP1050	<i>Ethernet Port Resource Virtualization Profile</i>	1.0.0
DSP1057	<i>Virtual System Profile</i>	1.0.0
DSP1059	<i>Generic Device Resource Virtualization Profile</i>	1.0.0
DSP1097	<i>Virtual Ethernet Switch Profile</i>	1.0.0

1 Scope

1.1 Resource Allocation Profile

Clause 5 sets the basic resource allocation pattern for resource pools, allocations, and setting data. It also defines the resource-pool-lifecycle management and relationships.

1.2 System Virtualization Profile

Clause 6 is an autonomous profile that specifies the minimum top-level object model needed for the representation of host systems and the discovery of hosted virtual computer systems. In addition, it specifies a service for the manipulation of virtual computer systems and their resources, including operations for the creation, deletion, and modification of virtual computer systems and operations for the addition or removal of virtual resources to or from virtual computer systems.

1.3 Allocation Capabilities Profile

Clause 7 extends the management capability of referencing profiles by adding the ability to represent the default, supported and range of property values for resource allocation requests for a given resource, and the mutability of properties in a Resource Allocation Setting Data instance.

1.4 Processor Resource Virtualization Profile

Clause 8 is a component profile that extends the management capabilities of the specialized profiles by adding the support to represent and manage the allocation of processor resources to virtual systems.

1.5 Memory Resource Virtualization Profile

Clause 9 is a component DMTF management profile that extends the management capabilities of the referencing profile by adding the support to represent and manage the allocation of memory to virtual systems.

1.6 Storage Resource Virtualization Profile

Clause 10 is a component profile that extends the management capabilities of the referencing profile by adding the support to represent and manage the allocation of storage to virtual systems.

1.7 Ethernet Port Resource Virtualization Profile

Clause 11 is a component DMTF management profile that extends the management capabilities of the referencing profile by adding the support to represent and manage the allocation of Ethernet ports to virtual systems.

1.8 Virtual System Profile

Clause 12 is an autonomous profile that defines the minimum object model needed to provide for the inspection of a virtual system and its components. In addition, it defines optional basic control operations for activating, deactivating, pausing, or suspending a virtual system.

1.9 Generic Device Resource Virtualization Profile

Clause 13 is a concrete component profile that specializes the abstract Resource Allocation Profile described in clause 5 and the abstract [Allocation Capabilities Profile](#) described in clause 7.