

# Solution Deployment Descriptor Starter Profile Version 1.0

## **Committee Draft**

## 8 April 2008

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This expository document replaces or supersedes:

None

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• Solution Deployment Descriptor (SDD) Specification

#### **Declared XML Namespace(s):**

None

## Abstract:

This expository document provides non-normative information to supplement the Solution Deployment Descriptor (SDD) specification and serves as a companion guide for the SDD Starter Profile Schema.

#### Status:

This document was last revised or approved by the Solution Deployment Descriptor (SDD) Technical Committee on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

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## 1 Introduction

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The Solution Deployment Descriptor (SDD) Starter Profile supplements the current specification [SDD] and associated schema [SDD\_Schema]. The intent is to capture the knowledge of the SDD community to promote interoperability.

- This Starter Profile exploits and extends CIM models as necessary. Other profiles might use
  other resource models.
- All profiles are non-normative.
- 8 Ontology is a data model that represents a set of concepts within a domain and the relationships between those concepts. It is used to *reason* about the objects within that domain.
- 10 An informal ontology may be specified by a catalog of types that are either undefined or defined only by
- 11 statements in a *natural language*. An informal ontology may be specified by a collection of names for
- 12 concept and relation types organized in a *partial ordering* by the type-subtype relation.
- 13 The Starter Profile presented here along with associated information presented here constitute an
- 14 informal ontology that leverages natural language, partial ordering and provides a means of reasoning
- 15 about objects within the domain.
- 16 Profiles provide the mechanism for communicating which resource types an implementation supports and
- 17 on which a particular SDD depends. A core assumption is that an understanding of specific resource
- 18 types and resource characteristics is *shared* by the deployment descriptor author (SDD producer) and the
- 19 deployment environment (SDD consumer).
- 20 For example, if an SDD author declares a resource type for a particular operating system, deployment
- 21 software operating on that SDD needs to understand how to discover operating systems of that type to
- 22 honor the SDD author's intent when deploying that SDD. Moreover, the SDD producer and SDD
- 23 consumer need to agree on the common vocabulary for expressing that particular operating system and
- 24 resource type.

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- 25 SDD producers and consumers should strive for interoperability in implementations. Profiles are intended
- 26 to aid interoperability between implementations in support of the SDD standard. Profiles do not guarantee
- 27 interoperability, however.

## 1.1 Terminology

- 29 Classes as used in this document refer to type of a resource for which most are defined by DMTF's
- 30 Common Information Model [CIM]. Consumers and producers that implement profiles are encouraged to
- 31 use a terminology appropriate to map the profile to the resource model referenced and/or extended.
- 32 Resources, properties, constraints and other attributes associated with resources are used in the context
- 33 of SDD v1.0. For definition of these terms in the context of SDD v1.0, refer to the SDD v1.0 specification
- [SDD] and the SDD v1.0 schema [SDD\_Schema].

## 1.2 Purpose

- 36 The purpose of this document is to specify and describe accepted starter profile terms, definitions and the
- 37 context in which the terms and definitions have meaning. The Starter Profile serves as an example from
- 38 which other profiles may be constructed.

## 1.3 Scope

- 40 The scope of this document is the definition of a Starter Profile that is associated with the SDD v1.0
- 41 specification. Resource types documented herein are for illustrative purposes only. The Starter Profile
- 42 serves only to provide the list of commonly used resources that software engineers may use when
- 43 creating SDDs. The profile is not meant to document all possible resource types or relationships among
- 44 those resources, although common relationships, such as a connect relationship, may be explicitly
- 45 expressed within the profile.

- 46 Runtime implementations to process SDDs should take into account profiles and differing resource
- 47 models that may be expressed within a profile. Implementers should consider how resources defined in a
- profile will be discovered, managed, operated on, and so on by a runtime.

## 1.4 Audience

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50 This document is intended to assist the community of SDD producers and consumers.

## 51 1.5 Motivation

- 52 The motivation for producing this document is to promote interoperability and to engage the greater SDD
- 53 technical community in the production and consumption of the SDD specification.

## 1.6 Requirements

The Starter Profile is to provide a first reference source for producers of SDDs.

## 1.7 Notational Conventions

- 57 This document contains cross-references. Such references appear as the referenced section number
- inside square brackets, for example, [4.5]. In electronic versions of this specification, the cross-references
- 59 can act as links to the target section.

## 1.8 Normative References

61 <b>[SDD</b>	1 OASIS	, Solution Deplo	yment Descriptor S	Specification v1.0,
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http://docs.oasis-open.org/sdd/v1.0/pr01/sdd-spec-v1.0-pr01-r01.doc.

63 [SDD\_Schema] OASIS, Solution Deployment Descriptor Specification v1.0, Full Schema,

http://docs.oasis-open.org/sdd/v1.0/pr01/FullSchema/.

## 1.10 Non-Normative References

66	[CIM]	Distributed Management Task Force, Inc., Common Information Model (CIM)
		=

67 http://www.dmtf.org/standards/cim/.

68 **[SDDEX]** Solution Deployment Descriptor Examples,

69 http://docs.oasis-open.org/sdd/v1.0/pr01/expository/sdd-examples-v1.0-cd01.zip.

70 **[SDDP]** Solution Deployment Descriptor Primer,

71 http://docs.oasis-open.org/sdd/v1.0/pr01/expository/sdd-primer-v1.0-cd01.doc.

72 **[SDDSPS]** Solution Deployment Descriptor Starter Profile Schema,

73 http://docs.oasis-open.org/sdd/v1.0/pr01/expository/cd01-sdd-starter-profile-

74 v1.0.xsd.

## 2 Starter Profile

- 78 Classes defined and referenced in the Starter Profile serve as an aid to SDD authors for defining values
- 79 for well known resource types. Potential uses of the classes defined herein are for specifying
- 80 ResourceType, PropertyConstraint, ConsumptionConstraint and other elements and attributes of an SDD.
- 81 For illustrations of how to use values defined in this Starter Profile, refer to the SDD examples [SDDEX]
- and SDD Primer [SDDP].
- 83 This Starter Profile is:

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- Based on the CIMv2.1.5 model and associated classes [CIM]
- Based on plausible extensions to CIM
- A set of declarations based on the needs of the SDD specification
- 87 Other profiles could be based on other models.
- The classes and attributes for the Starter Profile are defined in Appendix A. A schema representation of the Starter Profile is also available; see **[SDDSPS]**.

## 2.1 Profile Usage

- The OASIS SDD TC does not formally govern the production of profiles. The OASIS SDD TC does, however, recommend certain guidelines for producing profiles. These guidelines include:
  - Before creating new profiles, search for existing profiles that meet implementation needs. The OASIS SDD TC will maintain pointers to well known and frequently used profiles when the TC is made aware of these.
  - Where applicable to implementation requirements, extend existing profiles before creating new ones. For example, if the Starter Profile published here lacks a class needed for the implementation, a simple extension to this Starter Profile is preferred over creating a new profile. An extension to a profile is an additional profile that defines the additional types and values needed. Consumers and producers would refer to both the Starter Profile and the profile that extends it. Consumers and producers can use and support any number of profiles.
  - If implementation requirements are not met by using or extending an existing profile, a new profile should be created. The OASIS SDD TC recommends publishing the new profile into a namespace. The OASIS SDD TC may also be contacted for awareness of the new profile.

The OASIS SDD TC does not govern consumption of profiles. The OASIS SDD TC does, however, recommend certain guidelines for consumers of profiles. These guidelines include:

- Consumers of profiles should explicitly state which profile(s) is (are) supported.
- Implementations of SDD consumption tools, such as deployment runtime software, should allow for extensions of the supported profiles. SDD tools that do not allow for extension and are tightly coupled with a single profile or collection of profiles may not be viable as new resource models emerge. Tools that allow for extension are preferred.
- SDD producers should compare profile needs with published profiles supported by SDD tools. For a producer to use a consumer tool, the producer's profile must match a subset of the consumer's profile. If it does not, producers should, where possible, extend the consuming tool or determine if another tool that supports the profile is available.
- The OASIS SDD TC will maintain pointers to well known and frequently used tools that correspond to well known and frequently used profiles when the TC is made aware of these.
- SDD producers should use the following recommended best practices to create a new profile or extend an existing profile:

- 120 1. When extending an existing profile, such as the Starter Profile, include namespace references to the profile that is extended as well as the additional (extended) profile(s).
  - 2. Producers should not copy content from an existing profile to include in a new profile.
    - The existing profile(s) that contains the desired content should be referenced via namespace in the SDD, rather than being copied into a new profile.
    - b. The new (extended) profile should contain just the extensions to the profile that is extended.
  - 3. If no profile exists that meets the requirements of the SDD producer, and extending an existing profile does not meet those requirements, then a new profile may be created.
    - a. The new profile should be a schema document and referenced via namespace in the SDD in the same manner as an existing profile is referenced. The Starter Profile schema can be used as a model or example for the new profile.
    - b. When an SDD producer creates a new profile, the producer's profile must match a subset of some consumer's profile to be useful. This might be accomplished by producing new deployment runtime software or extending an existing runtime to process the resources defined in the new profile

SDD consumers should provide for interoperability by allowing extensions to the consumer software. The OASIS SDD TC recommends the following best practices for consumers of SDD and profile documents.

- SDD consumers can achieve this extensibility by using a framework/plug-in implementation model (or equivalent) such that if an SDD producer has a need to extend a profile, then the producer or other party can provide plug-in code to extend the runtime software to add capabilities to process resources defined in the extended profile.
- 2. In addition to allowing for extension of the runtime software to process newly defined resources within a particular hosting environment, runtime implementations also should allow for extension of hosting environments.
  - For example, if an SDD runtime implementation supports only Windows<sup>™</sup> <sup>1</sup>, then the runtime software should allow extensions to add support for other hosting environments, such as Linux® <sup>2</sup>, similar to the model described for extensions to process new resource types.
- The OASIS SDD TC recommends that producers and consumers strive to promote interoperability as SDDs and software are developed according to the SDD v1.0 specification.

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<sup>&</sup>lt;sup>1</sup> Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

<sup>&</sup>lt;sup>2</sup> Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

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Class Name	Description
CIM_OperatingSystem	CIMv2.15 CIM_OperatingSystem
CIM_Processor	CIMv2.15 CIM_Processor
CIM_FileSystem	CIMv2.15 CIM_FileSystem
CIM_Directory	CIMv2.15 CIM_Directory
CIM_LogicalFile	CIMv2.15 CIM_LogicalFile
CIM_InstalledProduct	CIMv2.15 CIM_InstalledProduct
CIM_ApplicationSystem	CIMv2.15 CIM_ApplicationSystem
CIM_J2eeServer	CIMv2.15 CIM_J2eeServer
CIM_J2eeServlet	CIMv2.15 CIM_J2eeServlet
CIM_J2eeApplication	CIMv2.15 CIM_J2eeApplication
CIM_DatabaseSystem	CIMv2.15 CIM_DatabaseSystem
CIM_ConnectedTo	CIMv2.15 CIM_ConnectedTo
ArtifactEnumeration	Enumeration of valid artifact types in SDDv1.0

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**Note:** Valid values as defined below are case insensitive.

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## CIM\_OperatingSystem

#### Class Reference

Source: CIMv2.15 CIM OperatingSystem

Consumes Artifacts: SDD, TargetResourceRef, ArtifactType

Hosts: CIM\_FileSystem, CIM\_InstalledProduct, CIM\_Application,

CIM\_J2eeServer, CIM\_DatabaseSystem

Completion Actions: Restart, Logout

SDD Usage: Resource.type, requiredBase

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## **Attributes**

OSType

Source: CIMv2.15 CIM\_OperatingSystem.OSType

SDD Usage: PropertyConstraint

Valid Values: AIX, FreeBSD, HPUX, LINUX, MACOS, OpenVMS, Solaris,

Windows 2000, Microsoft Windows Server 2003 , Windows

XP, Windows Vista, z/OS, OS/390, other

172 Version

Source: CIMv2.15 CIM\_OperatingSystem. Version

SDD Usage: PropertyConstraint

Valid Values: Strings of form x.y.z where x, y, and z are numeric

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## CIM\_Processor

178		Class Reference
179		Source: CIMv2.15 CIM_Processor
180		Consumes Artifacts: N/A
181		Hosts: N/A
182 183		Completion Actions: N/A
184		SDD Usage: Resource.type
185		Attributes
186		Type
187		Source: CIMv2.15 CIM_Processor.Type
188		SDD Usage: PropertyConstraint
189		Valid Values: Pentium(R) brand, Pentium(R) II Xeon(TM), Intel(R)
190		Itanium(R) 2, AMD Athlon(TM) Processor Family, MD
191		Athlon(TM) 64 Processor Family, PA-RISC Family, SPARC
192		Family, AS400 Family, Power PC Family, Alpha Family,
193		S/390 and zSeries Family, other
194		
195		eSystem
196		Class Reference
197		Source: CIMv2.15 CIM_FileSystem
198		Consumes Artifacts: N/A
199 200		Hosts: CIM_Directory Completion Actions: N/A
201		Completion Actions: N/A SDD Usage: Resource.type
202		obb osage. Resource.type
203		Attributes
204		Name
205		Source: CIMv2.15 CIM_FileSystem.Name
206		SDD Usage: Name
207		Valid Values: String
208		Root
209		Source: CIMv2.15 CIM_FileSystem.Root
210		SDD Usage: PropertyConstraint
211		Valid Values: /usr, c: d:\ , other
212		AvailableSpace
213		Source: CIMv2.15 CIM_FileSystem.AvailableSpace
214		SDD Usage: ConsumptionConstraint
215		Valid Values: Values are numbers and units of measure. Default is total number of free
216		space for filesystem in bytes.
217		Type
218		Source: CIMv2.15 CIM_FileSystem.FileSystemType
219 220		SDD Usage: PropertyConstraint
221		Valid Values: JFS, NTFS, FAT32, zFS_z/OS, zFS_Solaris, other ReadOnly
222		Source: CIMv2.15 CIM_FileSystem.ReadOnly
223		SDD Usage: PropertyConstraint
224		Valid Values: True, False
225		valid values. If ac, false
226	CIM_Di	rectory
227		Class Reference
228		Source: CIMv2.15 CIM_Directory
229		Consumes Artifacts: N/A
230		Hosts: CIM_LogicalFile
231		Completion Actions: N/A
232		SDD Usage: Resource.type

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240	Attributes
241	Name
242	Source: CIMv2.15 CIM_LogicalFile.Name
243	SDD Usage: Name
244	Valid Values: String
245	Readable
246	Source: CIMv2.15 CIM_LogicalFile.Readable
247	SDD Usage: PropertyConstraint
248	Valid Values: True, False
249	Writeable
250	Source: CIMv2.15 CIM_LogicalFile.Writeable
251	SDD Usage: PropertyConstraint
252	Valid Values: True, False
253	
254	CIM_LogicalFile
255	Class Reference
256	Source: CIMv2.15 CIM_Directory
257	Consumes Artifacts: N/A
258	Hosts: N/A
259	Completion Actions: N/A
260	SDD Usage: Resource.type
261	
262	Attributes
263	Name
264	Source: CIMv2.15 CIM_LogicalFile.Name
265	SDD Usage: Name
266	Valid Values: String
267	Readable
268	Source: CIMv2.15 CIM_LogicalFile.Readable
269	SDD Usage: PropertyConstraint
270	Valid Values: True, False
271	Writeable
272	Source: CIMv2.15 CIM_LogicalFile.Writeable
273	SDD Usage: PropertyConstraint
274	Valid Values: True, False
275	Executable
276	Source: CIMv2.15 CIM_LogicalFile.Executable
277	SDD Usage: PropertyConstraint
278	Valid Values: True, False
279	CIM Installed Due diret
280	Class Reference
281	Class Reference
282	Source: CIMv2.15 CIM_InstalledProduct
283 284	Consumes Artifacts: N/A Hosts: N/A
285	Completion Actions: N/A
200	Completion Actions. 19/A

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	SDD Usage: Resource.type
287	Av. II.
288	Attributes
289	Name
290	Source: CIMv2.15 CIM_Product.Name
291	SDD Usage: Name
292	Valid Values: String
293	Vendor
294	Source: CIMv2.15 CIM_Product.Vendor
295	SDD Usage: PropertyConstraint
296	Valid Values: String
297	Version
298	Source: CIMv2.15 CIM_Product.Version
299	SDD Usage: PropertyConstraint
300	Valid Values: Strings of form x.y.z where x, y, and z are numeric
301	Directory
302	Source: CIMv2.15 CIM_Directory.Name
303	SDD Usage: PropertyConstraint
304	Valid Values: String
305	
306	CIM_ApplicationSystem
307	Class Reference
308	Source: CIMv2.15 CIM_ApplicationSystem
309	Consumes Artifacts: N/A
310	Hosts: N/A
311	Completion Actions: N/A
312	SDD Usage: Resource.type
313	0 11
314	Attributes
315	Name
316	Source: CIMv2.15 CIM_Product.Name
317	SDD Usage: Name
318	Valid Values: String
319	Valid Values. String Vendor
320	Source: CIMv2.15 CIM Product. Vendor
	Source. Chiviz. 13 CIM_Product. Vehicor
	CDD Hoogas Days and a Constitution of the
321	SDD Usage: PropertyConstraint
322	Valid Values: String
322 323	Valid Values: String Version
322 323 324	Valid Values: String Version Source: CIMv2.15 CIM_Product.Version
322 323 324 325	Valid Values: String Version Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint
322 323 324 325 326	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric
322 323 324 325	Valid Values: String Version Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint
322 323 324 325 326	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric
322 323 324 325 326 327	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory
322 323 324 325 326 327 328 329	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory  Source: CIMv2.15 CIM_Directory.Name  SDD Usage: PropertyConstraint
322 323 324 325 326 327 328 329 330	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory  Source: CIMv2.15 CIM_Directory.Name
322 323 324 325 326 327 328 329 330 331	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State
322 323 324 325 326 327 328 329 330 331 332	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State Source: CIMv2.15 CIM_ApplicationSystem.EnabledState
322 323 324 325 326 327 328 329 330 331 332 333	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State Source: CIMv2.15 CIM_ApplicationSystem.EnabledState SDD Usage: PropertyConstraint
322 323 324 325 326 327 328 329 330 331 332 333 334	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State  Source: CIMv2.15 CIM_ApplicationSystem.EnabledState SDD Usage: PropertyConstraint Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting,
322 323 324 325 326 327 328 329 330 331 332 333 334 335	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State Source: CIMv2.15 CIM_ApplicationSystem.EnabledState SDD Usage: PropertyConstraint
322 323 324 325 326 327 328 329 330 331 332 333 334 335 336	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State Source: CIMv2.15 CIM_ApplicationSystem.EnabledState SDD Usage: PropertyConstraint Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting, other
322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory  Source: CIMv2.15 CIM_Directory.Name  SDD Usage: PropertyConstraint  Valid Values: String  State  Source: CIMv2.15 CIM_ApplicationSystem.EnabledState  SDD Usage: PropertyConstraint  Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting, other  CIM_J2eeServer
322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version SDD Usage: PropertyConstraint Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory Source: CIMv2.15 CIM_Directory.Name SDD Usage: PropertyConstraint Valid Values: String  State Source: CIMv2.15 CIM_ApplicationSystem.EnabledState SDD Usage: PropertyConstraint Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting, other  CIM_J2eeServer Class Reference
322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337	Valid Values: String  Version  Source: CIMv2.15 CIM_Product.Version  SDD Usage: PropertyConstraint  Valid Values: Strings of form x.y.z where x, y, and z are numeric  Directory  Source: CIMv2.15 CIM_Directory.Name  SDD Usage: PropertyConstraint  Valid Values: String  State  Source: CIMv2.15 CIM_ApplicationSystem.EnabledState  SDD Usage: PropertyConstraint  Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting, other  CIM_J2eeServer

341	I	Hosts: CIM_J2eeServlet, CIM_J2eeApplication
342	(	Completion Actions: N/A
343	;	SDD Usage: Resource.type
344		
345		Attributes
346		Туре
347		Source: SDD:CIM_J2eeServer.Type
348		SDD Usage: PropertyConstraint
349		Valid Values: JBoss, Tomcat, WebLogic, WebSphere, other
350	]	Name
351		Source: CIMv2.15 CIM_Product.Name
352		SDD Usage: Name
353		Valid Values: String
354	`	Vendor
355		Source: CIMv2.15 CIM_Product.Vendor
356		SDD Usage: PropertyConstraint
357		Valid Values: String
358	7	Version
359		Source: CIMv2.15 CIM_Product. Version
360		SDD Usage: PropertyConstraint
361		Valid Values: Strings of form $x.y.z$ where $x, y$ , and $z$ are numeric
362	]	Directory
363		Source: CIMv2.15 CIM_Directory.Name
364		SDD Usage: PropertyConstraint
365		Valid Values: String
366	:	State
367		Source: CIMv2.15 CIM_ApplicationSystem.EnabledState
368		SDD Usage: PropertyConstraint
369		Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting,
370		other
371		
372		eeServlet
373		Class Reference
374		Source: CIMv2.15 CIM_J2eeServlet
375		Consumes Artifacts: N/A
376		Hosts: N/A
377		Completion Actions: N/A
378 379	•	SDD Usage: Resource.type
380		Attributes
381		Name
382		Source: CIMv2.15 CIM J2eeServlet.Name
383		SDD Usage: Name
384		Valid Values: String
385	,	Vand Vandos. Bering Vendor
386		Source: CIMv2.15 CIM_Product.Vendor
387		SDD Usage: PropertyConstraint
388		Valid Values: String
389	,	Valid Values. String Version
390		Source: CIMv2.15 CIM_Product.Version
391		SDD Usage: PropertyConstraint
392		Valid Values: Strings of form x.y.z where x, y, and z are numeric
392 393	1	Directory
394	•	Source: CIMv2.15 CIM_Directory.Name
395		SDD Usage: PropertyConstraint

396	Valid Values: String
397	CIM   12 and Application
398	CIM_J2eeApplication
399	Class Reference
400	Source: CIMv2.15 CIM_J2eeApplication
401	Consumes Artifacts: N/A
402	Hosts: N/A
403	Completion Actions: N/A
404	SDD Usage: Resource.type
405 406	Attributes
406 407	Attributes Name
408	Source: CIMv2.15 CIM_Product.Name
409	
	SDD Usage: Name
410 411	Valid Values: String
	Vendor
412	Source: CIMv2.15 CIM_Product.Vendor
413	SDD Usage: PropertyConstraint
414	Valid Values: String
415	Version
416	Source: CIMv2.15 CIM_Product.Version
417	SDD Usage: PropertyConstraint
418	Valid Values: Strings of form x.y.z where x, y, and z are numeric
419	Directory
420	Source: CIMv2.15 CIM_Directory.Name
421	SDD Usage: PropertyConstraint
422	Valid Values: String
423	State
424	Source: CIMv2.15 CIM_ApplicationSystem.EnabledState
425	SDD Usage: PropertyConstraint
426	Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting
427	other
428	
429	CIM_DatabaseSystem
430	Class Reference
431	Source: CIMv2.15 CIM_DatabaseSystem
432	Consumes Artifacts: N/A
433	<b>Hosts</b> : CIM_DatabaseFile, CIM_DatabaseSegment
434	Completion Actions: N/A
435	SDD Usage: Resource.type
436	
437	Attributes
438	Туре
439	Source: SDD:CIM_DatabaseSystem.Type
440	SDD Usage: PropertyConstraint
441	Valid Values: DB2, DB4, DB6, Derby, MSSQL, MySQL, Oracle, Sybase,
442	Teradata, other
443	Name
444	Source: CIMv2.15 CIM_Product.Name
445	SDD Usage: Name
446	Valid Values: String
447	Vendor
448	Source: CIMv2.15 CIM_Product.Vendor
449	SDD Usage: PropertyConstraint
450	Valid Values: String

451	Version
452	Source: CIMv2.15 CIM_Product.Version
453	SDD Usage: PropertyConstraint
454	Valid Values: Strings of form x.y.z where x, y, and z are numeric
455	Directory
456	Source: CIMv2.15 CIM_Directory.Name
457	SDD Usage: PropertyConstraint
458	Valid Values: String
459	State
460	Source: CIMv2.15 CIM_ApplicationSystem.EnabledState
461	SDD Usage: PropertyConstraint
462	Valid Values: Unknown, Enabled, Disabled, Shutting down, Starting,
463	other
464	
465	CIM_ConnectedTo
466	Class Reference
467	Source: CIMv2.15 CIM_ConnectedTo
468	Consumes Artifacts: N/A
469	Hosts: N/A
470	Completion Actions: N/A
471	SDD Usage: Resource.type
472	
473	Attributes
474	Protocol
475	Source: SDD:CIM_ConnectedTo.Protocol
476	SDD Usage: PropertyConstraint
477	Valid Values: FTP, HTTPS, HTTP, JDBC, ODBC, RMI-IIOP, Telnet, other
478	Autification a Foreign and the co
479	ArtifactTypeEnumeration
480	SDD Usage: Artifacts
481	Valid Values: MSI, RPM, TAR, ZIP, JAR, XMT, EXE, SCRIPT, DDL, other
482	

# **B. Acknowledgements**

483

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