Solution Deployment Descriptor Starter Profile Version 1.0

Committee Draft

8 April 2008

Document URIs:
This Version:
> http://docs.oasis-open.org/sdd/v1.0/cd01/sdd-starter-profile-v1.0-cd01.doc
> http://docs.oasis-open.org/sdd/v1.0/cd01/sdd-starter-profile-v1.0-cd01.pdf
> http://docs.oasis-open.org/sdd/v1.0/cd01/sdd-starter-profile-v1.0-cd01.html

Previous Version:
> N/A

Latest Version:
> http://docs.oasis-open.org/sdd/v1.0/sdd-starter-profile-v1.0.doc
> http://docs.oasis-open.org/sdd/v1.0/sdd-starter-profile-v1.0.pdf
> http://docs.oasis-open.org/sdd/v1.0/sdd-starter-profile-v1.0.html

Technical Committee:
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Related work:
> This expository document replaces or supersedes:

> - None

> This expository document is related to:

> - 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.

> Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at http://www.oasis-open.org/committees/sdd/.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page (http://www.oasis-open.org/committees/sdd/ipr.php.

Notices

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1 Introduction

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.

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.

An informal ontology may be specified by a catalog of types that are either undefined or defined only by statements in a *natural language.* An informal ontology may be specified by a collection of names for concept and relation types organized in a *partial ordering* by the type-subtype relation.

The Starter Profile presented here along with associated information presented here constitute an *informal ontology* that leverages natural language, partial ordering and provides a means of reasoning about objects within the domain.

Profiles provide the mechanism for communicating which *resource types* an implementation supports and on which a particular SDD depends. A core assumption is that an understanding of specific resource types and resource characteristics is *shared* by the deployment descriptor author (SDD producer) and the deployment environment (SDD consumer).

For example, if an SDD author declares a resource type for a particular operating system, deployment software operating on that SDD needs to understand how to discover operating systems of that type to honor the SDD author's intent when deploying that SDD. Moreover, the SDD producer and SDD consumer need to agree on the common vocabulary for expressing that particular operating system and resource type.

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

1.1 Terminology

Classes as used in this document refer to type of a resource for which most are defined by DMTF's Common Information Model **[CIM]**. Consumers and producers that implement profiles are encouraged to use a terminology appropriate to map the profile to the resource model referenced and/or extended. Resources, properties, constraints and other attributes associated with resources are used in the context 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

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

1.3 Scope

The scope of this document is the definition of a Starter Profile that is associated with the SDD v1.0 specification. Resource types documented herein are for illustrative purposes only. The Starter Profile serves only to provide the list of commonly used resources that software engineers may use when creating SDDs. The profile is not meant to document all possible resource types or relationships among those resources, although common relationships, such as a connect relationship, may be explicitly 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
48 profile will be discovered, managed, operated on, and so on by a runtime.

49 1.4 Audience

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.

54 1.6 Requirements

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

56 1.7 Notational Conventions

57 This document contains cross-references. Such references appear as the referenced section number
58 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.

60 1.8 Normative References

61	**[SDD]**	OASIS, Solution Deployment Descriptor Specification v1.0,
62		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,
64		http://docs.oasis-open.org/sdd/v1.0/pr01/FullSchema/.

65 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.

75

76

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]**
82 and SDD Primer **[SDDP]**.

83 This Starter Profile is:

84 • Based on the CIMv2.1.5 model and associated classes **[CIM]**
85 • Based on plausible extensions to CIM
86 • A set of declarations based on the needs of the SDD specification

87 Other profiles could be based on other models.

88 The classes and attributes for the Starter Profile are defined in Appendix A. A schema representation of
89 the Starter Profile is also available; see **[SDDSPS]**.

2.1 Profile Usage

91 The OASIS SDD TC does not formally govern the production of profiles. The OASIS SDD TC does,
92 however, recommend certain guidelines for producing profiles. These guidelines include:

93 • Before creating new profiles, search for existing profiles that meet implementation needs. The
94 OASIS SDD TC will maintain pointers to well known and frequently used profiles when the
95 TC is made aware of these.

96 • Where applicable to implementation requirements, extend existing profiles before creating
97 new ones. For example, if the Starter Profile published here lacks a class needed for the
98 implementation, a simple extension to this Starter Profile is preferred over creating a new
99 profile. An extension to a profile is an additional profile that defines the additional types and
100 values needed. Consumers and producers would refer to both the Starter Profile and the
101 profile that extends it. Consumers and producers can use and support any number of profiles.

102 • If implementation requirements are not met by using or extending an existing profile, a new
103 profile should be created. The OASIS SDD TC recommends publishing the new profile into a
104 namespace. The OASIS SDD TC may also be contacted for awareness of the new profile.

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

107 • Consumers of profiles should explicitly state which profile(s) is (are) supported.

108 • Implementations of SDD consumption tools, such as deployment runtime software, should
109 allow for extensions of the supported profiles. SDD tools that do not allow for extension and
110 are tightly coupled with a single profile or collection of profiles may not be viable as new
111 resource models emerge. Tools that allow for extension are preferred.

112 SDD producers should compare profile needs with published profiles supported by SDD tools. For a
113 producer to use a consumer tool, the producer's profile must match a subset of the consumer's profile. If
114 it does not, producers should, where possible, extend the consuming tool or determine if another tool that
115 supports the profile is available.

116 The OASIS SDD TC will maintain pointers to well known and frequently used tools that correspond to well
117 known and frequently used profiles when the TC is made aware of these.

118 SDD producers should use the following recommended best practices to create a new profile or extend
119 an existing profile:

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.

    a. 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.

1. 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™ [1], then the runtime software should allow extensions to add support for other hosting environments, such as Linux® [2], 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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[1] Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

[2] Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

151 A. Starter Profile Classes and Attributes

152

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

153

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

155

156 **CIM_OperatingSystem**
157   **Class Reference**
158   Source: CIMv2.15 CIM_OperatingSystem
159   Consumes Artifacts: SDD, TargetResourceRef, ArtifactType
160   Hosts: CIM_FileSystem, CIM_InstalledProduct, CIM_Application,
161   CIM_J2eeServer, CIM_DatabaseSystem
162   Completion Actions: Restart, Logout
163   SDD Usage: Resource.type, requiredBase
164
165   **Attributes**
166   **OSType**
167   Source: CIMv2.15 CIM_OperatingSystem.OSType
168   SDD Usage: PropertyConstraint
169   Valid Values: AIX, FreeBSD, HPUX, LINUX, MACOS, OpenVMS, Solaris,
170   Windows 2000, Microsoft Windows Server 2003 , Windows
171   XP, Windows Vista, z/OS, OS/390, other
172   **Version**
173   Source: CIMv2.15 CIM_OperatingSystem.Version
174   SDD Usage: PropertyConstraint
175   Valid Values: Strings of form x.y.z where x, y, and z are numeric
176
177 **CIM_Processor**

178		**Class Reference**
179		Source: CIMv2.15 `CIM_Processor`
180		Consumes Artifacts: N/A
181		Hosts: N/A
182		Completion Actions: N/A
183		SDD Usage: `Resource.type`
184		
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	**CIM_FileSystem**	
196		**Class Reference**
197		Source: CIMv2.15 `CIM_FileSystem`
198		Consumes Artifacts: N/A
199		Hosts: `CIM_Directory`
200		Completion Actions: N/A
201		SDD Usage: `Resource.`type
202		
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		SDD Usage: `PropertyConstraint`
220		Valid Values: `JFS, NTFS, FAT32, zFS_z/OS, zFS_Solaris, other`
221		`ReadOnly`
222		Source: CIMv2.15 `CIM_FileSystem.ReadOnly`
223		SDD Usage: `PropertyConstraint`
224		Valid Values: `True, False`
225		
226	**CIM_Directory**	
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

233	
234	
235	
236	
237	
238	
239	
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	
280	**CIM_InstalledProduct**
281	**Class Reference**
282	Source: CIMv2.15 `CIM_InstalledProduct`
283	Consumes Artifacts: N/A
284	Hosts: N/A
285	Completion Actions: N/A

286	SDD Usage: `Resource.type`
287	
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	
314	**Attributes**
315	**Name**
316	Source: CIMv2.15 `CIM_Product.Name`
317	SDD Usage: `Name`
318	Valid Values: `String`
319	**Vendor**
320	Source: CIMv2.15 `CIM_Product.Vendor`
321	SDD Usage: `PropertyConstraint`
322	Valid Values: `String`
323	**Version**
324	Source: CIMv2.15 `CIM_Product.Version`
325	SDD Usage: `PropertyConstraint`
326	Valid Values: `Strings` of form `x.y.z` where `x`, `y`, and `z` are numeric
327	**Directory**
328	Source: CIMv2.15 `CIM_Directory.Name`
329	SDD Usage: `PropertyConstraint`
330	Valid Values: `String`
331	**State**
332	Source: CIMv2.15 `CIM_ApplicationSystem.EnabledState`
333	SDD Usage: `PropertyConstraint`
334	Valid Values: `Unknown, Enabled, Disabled, Shutting down, Starting,`
335	`other`
336	
337	**CIM_J2eeServer**
338	**Class Reference**
339	Source: CIMv2.15 `CIM_J2eeServer`
340	Consumes Artifacts: N/A

341	Hosts: `CIM_J2eeServlet, CIM_J2eeApplication`
342	Completion Actions: N/A
343	SDD Usage: `Resource.type`
344	
345	**Attributes**
346	**Type**
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	**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	**CIM_J2eeServlet**
373	**Class Reference**
374	Source: CIMv2.15 `CIM_J2eeServlet`
375	Consumes Artifacts: N/A
376	Hosts: N/A
377	Completion Actions: N/A
378	SDD Usage: `Resource.`type
379	
380	**Attributes**
381	**Name**
382	Source: CIMv2.15 `CIM_J2eeServlet.Name`
383	SDD Usage: `Name`
384	Valid Values: `String`
385	**Vendor**
386	Source: CIMv2.15 `CIM_Product.Vendor`
387	SDD Usage: `PropertyConstraint`
388	Valid Values: `String`
389	**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
393	**Directory**
394	Source: CIMv2.15 `CIM_Directory.Name`
395	SDD Usage: `PropertyConstraint`

396	Valid Values: `String`
397	
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**
407	**Name**
408	Source: CIMv2.15 `CIM_Product.Name`
409	SDD Usage: `Name`
410	Valid Values: `String`
411	**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	Hosts: `CIM_DatabaseFile, CIM_DatabaseSegment`
434	Completion Actions: N/A
435	SDD Usage: `Resource.`type
436	
437	**Attributes**
438	**Type**
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	
479	**ArtifactTypeEnumeration**
480	SDD Usage: `Artifacts`
481	Valid Values: `MSI, RPM, TAR, ZIP, JAR, XMT, EXE, SCRIPT, DDL, other`
482	

B. Acknowledgements

The following individuals have participated in the creation of this specification and are gratefully acknowledged:

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