

1



2

3

Document Number: DSP0205

4

Date: 2009-07-29

5

Version: 1.0.0

6

WBEM Discovery Using the Service Location Protocol (SLP)

7

8

Document Type: Specification

9

Document Status: DMTF Standard

10

Document Language: E

11

12 Copyright Notice

13 Copyright © 2009 Distributed Management Task Force, Inc. (DMTF). All rights reserved.

14 DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems
15 management and interoperability. Members and non-members may reproduce DMTF specifications and
16 documents, provided that correct attribution is given. As DMTF specifications may be revised from time to
17 time, the particular version and release date should always be noted.

18 Implementation of certain elements of this standard or proposed standard may be subject to third party
19 patent rights, including provisional patent rights (herein "patent rights"). DMTF makes no representations
20 to users of the standard as to the existence of such rights, and is not responsible to recognize, disclose,
21 or identify any or all such third party patent right, owners or claimants, nor for any incomplete or
22 inaccurate identification or disclosure of such rights, owners or claimants. DMTF shall have no liability to
23 any party, in any manner or circumstance, under any legal theory whatsoever, for failure to recognize,
24 disclose, or identify any such third party patent rights, or for such party's reliance on the standard or
25 incorporation thereof in its product, protocols or testing procedures. DMTF shall have no liability to any
26 party implementing such standard, whether such implementation is foreseeable or not, nor to any patent
27 owner or claimant, and shall have no liability or responsibility for costs or losses incurred if a standard is
28 withdrawn or modified after publication, and shall be indemnified and held harmless by any party
29 implementing the standard from any and all claims of infringement by a patent owner for such
30 implementations.

31 For information about patents held by third-parties which have notified the DMTF that, in their opinion,
32 such patent may relate to or impact implementations of DMTF standards, visit
33 <http://www.dmtf.org/about/policies/disclosures.php>.

34

35

CONTENTS

36	Foreword	5
37	Introduction	6
38	1 Scope	7
39	2 Normative References.....	7
40	2.1 Approved References	7
41	2.2 Other References.....	8
42	3 Terms and Definitions.....	8
43	4 Symbols and Abbreviated Terms.....	9
44	5 WBEM Discovery using the SLP	9
45	5.1 WBEM Server	9
46	ANNEX A (informative) Change Log	11
47	Bibliography	12
48		

50

Foreword

51 The *WBEM Discovery Using the Service Location Protocol (SLP)* (DSP0205) was prepared by DMTF
52 WBEM Infrastructure Model Working Group.

53 DMTF is a not-for-profit association of industry members dedicated to promoting enterprise and systems
54 management and interoperability.

55 **Acknowledgments**

56 The authors wish to acknowledge the following people.

57 Contributors:

- 58 • Jim Davis – WBEM Solutions, Inc.
- 59 • Karl Schopmeyer – Inova Europe
- 60 • Erik Guttman – Sun Microsystems, Inc
- 61 • Michael Walker – IBM

62

Introduction

63 The *WBEM Discovery Using the SLP* specification defines WBEM Discovery using the Service Location
64 Protocol (SLP) Version 2.

65 The Service Location Protocol is defined by the Internet Engineering Task Force (IETF) in [RFC 2608](#). The
66 reader is expected to have a working knowledge of SLP and WBEM.

67 This specification, along with the *WBEM SLP Template* ([DSP0206](#)), is the complete specification for
68 WBEM Discovery using SLP.

69 WBEM Discovery Using the Service Location Protocol (SLP)

70 1 Scope

71 This specification describes an efficient method for WBEM Clients to discover WBEM Servers and WBEM
72 Server capabilities.

73 The objectives of this specification are to:

- 74 • provide a mechanism that allows WBEM Clients to discover WBEM Servers
- 75 • use existing standards and protocols for rapid development and deployment
- 76 • provide a mechanism that scales from small environments to enterprise environments
- 77 • provide WBEM Clients sufficient information in the advertisement to determine the WBEM
78 Servers to communicate with
- 79 • scope the level of advertisement to avoid security holes

80 The Service Location Protocol provides a flexible and scalable framework for providing clients,
81 represented by User Agents, with access to information about the existence, location, and configuration
82 of services, represented by Service Agents.

83 Traditionally, clients have had to know the name and access method of services. The SLP eliminates the
84 need for a client to know the name and access point of services. With SLP the client supplies a request
85 for the desired type of service. The client receives information regarding the requested services.

86 The SLP uses Directory Agents that offer a centralized repository for advertised services. This allows the
87 SLP to scale from very small to very large environments.

88 WBEM Servers acting as Service Agents advertise their services. WBEM Clients acting as User Agents
89 query for the WBEM Server(s). A Directory Agent may be deployed in environments where there are
90 many User and Service Agents.

91 2 Normative References

92 The following referenced documents are indispensable for the application of this document. For dated
93 references, only the edition cited applies. For undated references, the latest edition of the referenced
94 document (including any amendments) applies.

95 2.1 Approved References

96 DMTF, *Common Information Model (CIM) Schema*, Version 2.8

97 DMTF DSP0004, *Common Information Model (CIM) Infrastructure 2.5*,
98 http://www.dmtf.org/standards/published_documents/DSP0004_2.5.pdf

99 DMTF DSP0200, *CIM Operations over HTTP 1.3*,
100 http://www.dmtf.org/standards/published_documents/DSP0200_1.3.pdf

101 DMTF DSP0206, *WBEM SLP Template 1.0*, <http://www.dmtf.org/standards/wbem/wbem.1.0.en>

102 IETF RFC 2608, *Service Location Protocol, Version 2*, June 1999,
103 <http://www.ietf.org/rfc/rfc2608.txt>

104 IETF RFC 2609, *Service Templates and Service: Schemes*, June 1999,
105 <http://www.ietf.org/rfc/rfc2609.txt>

106 **2.2 Other References**

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

109 **3 Terms and Definitions**

110 For the purposes of this document, the following terms and definitions apply.

111 **3.1**

112 **can**

113 used for statements of possibility and capability, whether material, physical, or causal

114 **3.2**

115 **cannot**

116 used for statements of possibility and capability, whether material, physical or causal

117 **3.3**

118 **conditional**

119 indicates requirements to be followed strictly in order to conform to the document when the specified
120 conditions are met

121 **3.4**

122 **mandatory**

123 indicates requirements to be followed strictly in order to conform to the document and from which no
124 deviation is permitted

125 **3.5**

126 **may**

127 indicates a course of action permissible within the limits of the document

128 **3.6**

129 **need not**

130 indicates a course of action permissible within the limits of the document

131 **3.7**

132 **optional**

133 indicates a course of action permissible within the limits of the document

134 **3.8**

135 **shall**

136 indicates requirements to be followed strictly in order to conform to the document and from which no
137 deviation is permitted

138 **3.9**

139 **shall not**

140 indicates requirements to be followed strictly in order to conform to the document and from which no
141 deviation is permitted

142 **3.10**
143 **should**
144 indicates that among several possibilities, one is recommended as particularly suitable, without
145 mentioning or excluding others, or that a certain course of action is preferred but not necessarily required

146 **3.11**
147 **should not**
148 indicates that a certain possibility or course of action is deprecated but not prohibited

149 **4 Symbols and Abbreviated Terms**

150 The following symbols and abbreviations are used in this document.

151 **4.1**
152 **CIM**
153 Common Information Model

154 **4.2**
155 **DA**
156 Directory Agent

157 **4.3**
158 **SA**
159 Service Agent

160 **4.4**
161 **SLP**
162 Service Location Protocol

163 **4.5**
164 **UA**
165 User Agent

166 **4.6**
167 **WBEM**
168 Web-Based Enterprise Management

169 **5 WBEM Discovery using the SLP**

170 This specification defines a mechanism that allows WBEM Servers to advertise their service access point
171 and capabilities using the SLP.

172 This specification requires the information in the [WBEM SLP Template](#) specification to be complete.

173 **5.1 WBEM Server**

174 A WBEM Server shall be a Service Agent as defined by the SLP.

175 A WBEM Server shall advertise its services using the [WBEM SLP Template](#).

176 A WBEM Server shall provide values for each required property in the [WBEM SLP Template](#).

177 A WBEM Server should support all attributes listed in the [WBEM SLP Template](#).

- 178 A WBEM Server shall provide a separate SLP advertisement for each remote service access point of the
179 CIM object manager (that is, each instance of CIM_ObjectManagerCommunicationMechanism class).
- 180 The SLP advertisement contains a single unique ID for a WBEM Server as defined in the Service ID
181 section of the [WBEM SLP Template](#). The entry in the service-location-tcp attribute defines the
182 address/port/CommunicationMechanism that a WBEM Server is advertising.
- 183 A WBEM Server shall reregister the advertisement before the time period expires as defined in the SLP.
- 184 A WBEM Server should deregister any advertisements on shutdown.
- 185 A WBEM Server on initialization shall advertise its services.
- 186 If the attributes change, a WBEM Server shall update the advertisement. If a WBEM Server registered
187 with a DA, it shall update the DA.
- 188

189
190
191
192
193

ANNEX A (informative)

Change Log

Version	Date	Author	Description
1.0.0	07/29/09		DMTF Standard Release

194

Bibliography

195 *Service Location Protocol for Enterprise Networks*, James Kempf, Pete St. Pierre, Wiley, 1999, ISBN 0-
196 471-31587-7

197