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WBEM Discovery Using the Service Location Protocol (SLP)

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35 # CONTENTS

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Foreword

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

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- Erik Guttman – Sun Microsystems, Inc
- Michael Walker – IBM

Introduction

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

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

This specification, along with the *WBEM SLP Template* (DSP0206), is the complete specification for WBEM Discovery using SLP.

WBEM Discovery Using the Service Location Protocol (SLP)

1 Scope

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

The objectives of this specification are to:

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

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

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

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

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

2 Normative References

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

2.1 Approved References

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

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

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

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

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

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

2.2 Other References

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

3 Terms and Definitions

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

3.1
can
used for statements of possibility and capability, whether material, physical, or causal

3.2
cannot
used for statements of possibility and capability, whether material, physical or causal

3.3
conditional
indicates requirements to be followed strictly in order to conform to the document when the specified conditions are met

3.4
mandatory
indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted

3.5
may
indicates a course of action permissible within the limits of the document

3.6
need not
indicates a course of action permissible within the limits of the document

3.7
optional
indicates a course of action permissible within the limits of the document

3.8
shall
indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted

3.9
shall not
indicates requirements to be followed strictly in order to conform to the document and from which no deviation is permitted

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

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

4 Symbols and Abbreviated Terms

The following symbols and abbreviations are used in this document.

4.1
CIM
Common Information Model

4.2
DA
Directory Agent

4.3
SA
Service Agent

4.4
SLP
Service Location Protocol

4.5
UA
User Agent

4.6
WBEM
Web-Based Enterprise Management

5 WBEM Discovery using the SLP

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

This specification requires the information in the *WBEM SLP Template* specification to be complete.

5.1 WBEM Server

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

A WBEM Server shall advertise its services using the *WBEM SLP Template*.

A WBEM Server shall provide values for each required property in the *WBEM SLP Template*.

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

ANNEX A
(informative)

Change Log

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

Bibliography

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