

## **Infrastructure Sub-Committee**

**Dated April 1, 2008**

**The information provided below is subject to change and reflects the current knowledge of the Sub-Committee.**

### **Management Problem(s) and Environment**

Management of Information Technology requires interaction with a large number of systems from a variety of vendors and suppliers as well as systems customized in a particular environment. While these IT systems are frequently connected using standard communication protocols, such as the protocols for Internet communication, these protocols alone do not provide an integrated set of management standards. An integrated set of systems management standards facilitates managing these systems effectively.

The DMTF provides the Common Information Model (CIM) for describing the configuration and other properties of these systems. The DMTF also provides standards that define interfaces, formats, and protocols used by components of the management infrastructure to interoperate in distributed computing environments using the CIM and other information models.

### **Sub-Committee Charter**

#### **Overall Scope and Responsibility**

The Infrastructure Sub-Committee and its child working groups develop and maintain standards used by management components to interoperate with each other and with resources being managed (which collectively make up the management infrastructure). These standards are not generally limited to use with particular languages or operating environments. The scope includes the principal components, each of their required and provided interfaces, and the required or allowed message sequences between those interfaces. Specific responsibilities include:

1. Profiles for the management of the defined components and their interfaces.
2. Discovery and cataloging of management infrastructure implementations and their attributes in support of a distributed management environment.
3. Protocols utilized to send messages, including bindings between those protocols and interfaces defined by the management infrastructure.
4. A meta-model that specifies the behavior of the common elements utilized across the various languages.
5. Techniques required to federate information from disparate data schemas.
6. Specification of the various languages utilized, including for example: Managed Object Format (MOF), CIM Query Language (CQL), CIM Simplified Policy Language (CIM-SPL), CIM-XML, WS-CIM, and Call Processing Language (CPL). Such specifications may include recommendations for the use of externally developed languages, as for instance the recommendation that various qualifiers utilize Object Constraint Language, (OCL, [http://www.omg.org/technology/documents/modeling\\_spec\\_catalog.htm#OCL](http://www.omg.org/technology/documents/modeling_spec_catalog.htm#OCL))
7. Language transformations, such as specified by DSP0219.
8. Specification of various message registry infrastructure and schemas and ownership of all message registries not specifically delegated to other groups.
9. Representation of CIM schema and management profiles in standards based modeling and constraint languages such as UML (<http://www.uml.org>) and OCL.
10. Means to express behavior and state within CIM.
11. Means to express the policies implemented by management resources and a means to manage those policies

The sub-committee works with the Schema SC to define schema required for management of the defined components and their interfaces. Schema developed as part of this activity must be approved by the Schema SC before it can become part of a standard developed by this sub-committee.

Within its scope, the sub-committee also:

1. Gathers requirements affecting its work output.
2. Provides consultation and advice, including recommending best practices, to other organizations within the DMTF.
3. Identifies and establishes relationships with other organizations to accelerate the adoption of DMTF specifications and technology in the marketplace and enhance the DMTF work to avoid duplication of efforts and to create a coherent management interface for the consumer. These two-way alliances are used to align DMTF specifications with standards defined in those groups, and to provide feedback or receive guidance on use of those standards. The current relationships with other organizations are listed below in the section titled "Alliance Partnerships"

## **Alliance Partnerships**

The Sub-Committee maintains alliances with:

- The Network Applications Consortium (NAC) for the purpose of enhancing alignment with CIM and other DMTF specifications
- The OASIS (Organization for the Advancement of Structured Information Standards) for the purpose of advancing CIM and other DMTF specifications in the area of Web services. There is a further alliance specifically with the OASIS WSDM (Web Services Distributed Management) Technical Committee to utilize WSDM to carry CIM-based data.
- The Open Group for the purpose of sharing implementation experience of and component architectures for WBEM technologies.
- The SNIA for the purpose of ongoing coordination of the Management Protocol and Management Application Working Groups.
- The Open Grid Forum for the purpose of advancing CIM in the area of Grid services and to align DMTF specifications with grid services models as they evolve.
- The OMG (Object Management Group) for the purpose of enhancing the overall alignment of CIM, WBEM and other DMTF specifications with the UML specification.
- The W3C (World Wide Web Consortium) for the purpose of advancing CIM and other DMTF specifications in the area of Web services. This alliance should also be used to align DMTF specifications with standard Internet and Web service protocols and provide feedback or receive guidance on use of those protocols.
- The TMF (TeleManagement Forum) for the purpose encouraging better alignment and coordination in information modeling.

## **Reliance/Coordination with other WG Models**

The sub-committee coordinates its work with the Platform Sub-Committee and the Schema Sub-Committee.

The sub-committee coordinates its work with its child working groups, and with other DMTF working groups, as required.

## **Prior Work**

The Infrastructure Sub-Committee is responsible for the ongoing maintenance of the following specifications. Additional specifications may be listed within the various working groups under the sub-committee. A complete list of all specifications is found in .../DSPLIST.html.

- DSP0004 – CIM Infrastructure Specification
- DSP0200 – Specification for CIM Operations over HTTP
- DSP0201 – Specification for the Representation of CIM in XML
- DSP0202 – CIM Query Language Specification
- DSP0203 – CIM DTD
- DSP0205 – WBEM Discovery
- DSP0206 – WBEM SLP Template
- DSP0207 – WBEM URI Specification
- DSP0210 – CIM-XML Test Specification
- DSP0211 – CIM-XML White Paper
- DSP0212 – DMTF Standard Error Messages
- DSP0213 – DMTF BNF Specification
- DSP0219 – UML 2.0 Profile for CIM
- DSP0220 – Meta-Elements of CIM
- DSP0221 – CIM Managed Object Format
- DSP1000 – WBEM Profile Template
- DSP1001 – Management Profile Specification Usage Guide
- DSP1003 – Policy Profile Specification
- DSP1033 – Profile Registration Profile
- DSP2011 – Standard Messages Whitepaper

## **Current Work – Overview, Deliverables and Timeline**

See the charters of the child working groups and the Subcommittee Website for specific deliverables and timelines.

## **DMTF Contacts**

Chairs can be contacted at [infrastructure-sc-chair@dmtof.org](mailto:infrastructure-sc-chair@dmtof.org)

To join the DMTF, see <http://www.dmtf.org/join/>

To join the subcommittee, see  
<http://www.dmtf.org/apps/org/workgroup/infrastructure-sc/index.php>