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# DMTF Profiles

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Contains Some Preliminary Information – May Be Subject To Change

# Agenda

- What is a Profile?
- Motivations for Profiles
- Profile Definition Status
- Profile Management Domains
- Advertising Profile Compliance
- Profile Divisions Overview
- Profile Content Definitions

# What is a “Profile”

- A profile is a specification that defines the CIM model and associated behavior for a management domain.
  - The CIM model includes the CIM classes, associations, indications, methods and properties.
  - The management domain is a set of related management tasks.
  - A profile is uniquely identified by the name, owning organization name and version.

# Motivations for Profiles

- A Profile provides a bridge between
  - A management domain (customer facing issues)
  - A CIM Schema (implementation issues)

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- Customer facing Issues
  - Tasks (use cases)
  - Discovery of elements & their capabilities
  - Management functions
  - Health and Fault Management
- Implementation Issues
  - Classes
  - Methods
  - Indications
  - Error Messages

# Motivations for Profiles

- Interoperability
  - CIM classes may be used in different management domains
    - Profile specification has requirements for classes in a particular domain
    - E.g., “in this profile, the members of a CIM\_SystemSpecificCollection shall be CIM\_DiskDrives”
  - A profile specification documents domain-specific requirements for methods, classes, properties, and indications
- Enables 3rd-party client introspection without prior knowledge of provider-side instrumentation



# Profile Definition Status

DMTF DSP1001

Management Specification Profile Usage Guide

Version 1.0.0f

- Currently in Company Review in the DMTF
- Target Publication Date as Preliminary Standard is December 2005
- All SMASH Profiles will be conformant
- Nickname is “PUG”
- The PUG defines rigorous content requirements for profiles



# Profile Management Domains

- Autonomous and Component Profiles
  - **An autonomous profile** defines an autonomous and self-contained management domain.
  - **A component profile** describes a subset of a management domain.
- A complete management domain is typically an **autonomous** profile and a referenced collection of **component** profiles.
  - In this case, the autonomous profile is referred to as the scoping profile.
  - Component to component and autonomous to autonomous profile references are also valid.
- Specialized and Abstract Profiles
  - A **specialized profile** is based on and constrains another profile specification.
  - An **abstract profile** specifies common elements and behavior that form the base for specialized profiles.



# Advertising Profile Compliance

- The “Profile Registration Profile”
  - Required as a referenced profile by all profiles.
  - Specifies 2 methodologies that an implementation can use to advertise profile compliance in the Interop namespace.
    - Central Class Methodology
    - Scoping Class Methodology (from SNIA Server Profile)
  - Defines the use of:
    - CIM\_RegisteredProfile
    - CIM\_ElementConformsToProfile
    - CIM\_ReferencedProfile





# DMTF Profile Divisions

- Mandatory Profile Specification Divisions
  - Synopsis
  - Description
  - Implementation Requirements
  - Methods
  - Use Cases
  - CIM Elements
- Optional Divisions
  - Front Matter – defined by owning organization
    - For SMWG Profiles, Front Matter includes an Introduction section with subsections for:
      - Target Audience, Conventions, Normative References
      - Terms and Definitions, Symbols and Abbreviated Terms
  - Back Matter – defined by owning organization
    - For SMWG Profiles, Back Matter includes Acknowledgements



# Profile Synopsis Division

- This division starts with the profile's name, organization, and version number formatted as follows:
- **Profile name:** <profile name>
- **Version:** <version>
- **Organization:** <organization name>
- **CIM schema version:** <CIM schema version>
- **Central Class:** <CIM Class Name>
- **Scoping Class:** <CIM Class Name>



# Profile Description Division

- The Description division describes the management domain implemented by this profile and provides an overview of the model.
- The Description division shall not include normative documentation.
- This division should describe how the classes of the profile relate to the management domain.



# Profile Implementation Requirements Division

- The Implementation division shall contain requirements of the model that are not covered by other divisions (such as the Methods division) and guidelines related to implementation.
- The profile author may include requirements here and reference them from other divisions, and describe the relationship between the model and underlying instrumentation.



# Profile Methods Division

- The “Methods” division provides a list of methods supported by this profile – in other words, methods of the classes of the profile.
- Profile usage of both extrinsic methods and generic operations (for example intrinsic methods) are included.

# Profiles Use Cases Division

- This division specifies use cases that demonstrate interesting behaviors or tasks provided by the profile.
  - The use cases may be presented as pseudo-code or free-form text or both.
    - SMWG Profiles use SNIA SMIRL pseudo-code.
  - The use cases should include tasks that change the CIM elements or change the behavior of the instrumentation managed through the profile.

# Profile CIM Elements Division

- This division consists of:
  - An overview subclause consisting of a table listing the profile's classes, indications, and queries.
  - A subclause for each class including a short description of the class and a table including the profile's use of properties and methods

# Profile Content Definitions

- Class and Object (Instance) Diagrams
  - Specific rules for diagram construction
- Property Value Definitions
  - Regular Expression requirements for values
- Method Definitions
  - Extrinsic and Intrinsic method definitions are required
  - Parameter, Message, and Behavioral description formats are specified
- Mandatory, Conditional, or Optional “Requirement”
  - Definitions are required for all classes, methods, properties and referenced profiles
- Conditional requirements are specified in terms of CIM elements
  - Another profile
  - Capabilities property
  - Existence of a singleton (e.g. Service class)





# End Of Presentation

- Questions?
- Comments?
- Thanks!