A Proposed SACM Information Model
with implications to a SACM Data Model

Henk Birkholz
Nancy Cam-Winget
Proposal

• SACM Information Model
  – Defines structure for Data Models guidance
  – Defines guidance on SACM interfaces
    • Can include Data Model Guidance
    • Can include inference to Data Model operations
Proposed Information Model

• Intention is to provide structure to SACM information layout

• Structure is a container that includes:
  – Description of the SACM information (metadata)
  – The content itself

• The Structure allows for different Data Models
Information Model Abstract

• Highest level ➔ SACM statement
  – Statement Metadata
    • Globally Unique ID (of Statement)
    • Data Origin (of Statement)
    • Data Source (of Content)
    • Creation Timestamp (of Statement & Content)
    • Publication Timestamp (of Statement)
    • Type (of Content)
  – Statement Content
    • The Proposed DM
    • Additional DMs OVAL, SCAP(-AI), DMTF CIM, etc.
Structure of the DM Content Format provided by the IM

- IM MUST define elements to proof interoperability and use-cases
  - Being too abstract is (probably) bad
  - BUT some abstraction is needed to allow agility

- Should the elements be abstract, e.g. by defining semantic structures that provide guidance to DM definitions?

- Example: What is the “atomic leaf“ for: Address, IPAddress, IPv6Address
  - DM decision? Probably varies from DM to DM
Structure of SACM Content

• Statement Content includes one or more:
  - Atomic Elements
  - Grouped Elements
  - Categorized Elements

• Statements can be Categorized Elements themselves
  - “recursive“ nesting to facilitate correlation, relay, etc.
Structure of the DM Content Format provided by the IM

• **Grouping** *(has_a)*
  
  • Example:
    NETWORK
    - IPAddress
    - SubnetMask

• **Categorizing** *(is_a)*
  
  • Example:
    Address
    - IPAddress
    - IPv6Address
SACM defines a MUST set of elements

- A set of Elements will be defined and (most?) identified as MUST to ensure interoperability

- Elements have clear semantic understanding to allow DMs to map to SACM’s intent
Element sample

• Atomic Elements:
  – IPv4Address
  – IPv6Address

• Grouped Element:
  – Endpoint
    • Endpoint Identifier
    • <other elements that can identify the Endpoint>

• Categorized Element
  – Software Asset
    • Software Identifier
    • Software version
    • <other elements to identify the asset>
Next steps

• Is there enough interest in this approach for presenters to generate draft text and detail the structure and elements?
Comments?
Terms and Mapping of Terms

• One set of IM Terms for Atomic Elements (Canon)
• Various sets of DM terms (already existing and future ones)
• A mapping/dictionary is required that should be part of each DM
  - Mapping DM Terms with IM Terms
• The atomic elements included in the DM content format are intended to be 100% in sync with the IM Terms