SUPA Information Model

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IETF95
Agenda

• Motivation for building an Information Model
• I-D Status and Open Issues
• Next Steps
Motivation (1)

• Information Model is independent of language, protocol, repository, and content and structure of policy
  – BUT, changes being made to help build YANG data models

• Without an Information Model…
  – Resulting data models will be silos, making interoperability difficult
  – Different types of policies (e.g., imperative, procedural, declarative, functional) will themselves be silos
  – Different actors want to author different policies using different grammars
  – No Interoperability with Chef/Puppet/, AWS Cloud Formation Templates, …
Motivation (2)

• Policies are used by multiple actors
  – App developers, operators, security and compliance teams, administrators, end-users, … each has different concepts and terms

• Policies exist at different levels of abstraction
  – Per-port, -device, -network, -VM, -application, -service, …

• Different Policies exist for different operations on the same device
  – Monitoring vs. configuration vs. audit
  – Deployment vs. backup vs. provisioning vs. billing vs. retirement …

• Policies focused on different technologies and vendors must be able to work collaboratively
  – Requires a common set of concepts and vocabulary across domains
  – An E2E policy affects multiple actors, technologies, and vendors

• Policies help heterogeneous systems interoperate
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Main Changes from -05

- The Declarative Model Has Ceased To Be
  - Even removed from the Appendix
- Clarifications made in response to questions from the SUPA mailing list
- Relationship multiplicity has been fine-tuned
  - Otherwise, class model is stable
- Produced a **preliminary** YANG model (covered in Joel’s presentation)
- Various additional typos have been fixed
GPIM Class Hierarchy

(Class of another model that SUPA is integrating into)

- SUPAPolicyObject (5.2)
  - SUPAPolicyStructure (5.3)
  - SUPAPolicyComponentStructure (5.4)
    - SUPAPolicyClause (5.5)
      - SUPAEncodedClause (5.6)
    - SUPAPolicyComponentDecorator (5.7)
    - SUPAPolicyTerm (5.8)
      - SUPAPolicyVariable (5.9)
    - SUPAPolicyOperator (5.10)
    - SUPAPolicyValue (5.11)
    - SUPAGenericDecoratedComponent (5.12)
  - SUPAPolicyCollection (5.13)
  - SUPAPolicySource (5.14)
  - SUPAPolicyTarget (5.15)
- SUPAPolicyMetadata (5.16)
  - SUPAPolicyConcreteMetadata (5.17)
  - SUPAPolicyMetadataDecorator (5.18)
    - SUPAPolicyAccessMetadataDef (5.19)
    - SUPAPolicyVersionMetadataDef (5.20)
EPRIM Class Hierarchy

(Class of another model that SUPA is integrating into)

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Next Steps

• Feedback is Always Welcome

• In the Meantime...

• ...Chairs Issued WG Call for Adoption...
Questions?

“Create like a god. Command like a king. Work like a slave”
- Constantin Brancusi
The GPIM

Base class for Policy Rules and Components of Policy Rules

Different types of Policy Rules

Different types of Policy Rule Components
Types of Policy Components

Policies are made up of PolicyClauses

PolicyClauses may be wrapped by other PolicyComponents
The Decorator Pattern

Concrete Subclasses, Concrete Subclasses
(e.g., SUPAEncodedClause) (e.g., SUPAPolicyCollection)
(object being wrapped) (wrapping object(s))
Decorated Policy Components

A

SUPAPolicyComponentDecorator

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I
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SUPAPolicyTerm

SUPAPolicyCollection

(for defining)

(for defining sets and/or groups of objects)

canonical form)

SUPAGenericDecoratedComponent

SUPAECAComponent

(for decorating concrete subclasses of SUPAPolicyClause)

(for defining reusable event, condition, and action objects)
Metadata Hierarchy Overview
Constructing ECA Policies

SUPA Information Model - Strassner