

# **SUPA Information Model**

**John Strassner, Huawei**

**IETF94**

# Agenda

- **Motivation for building an Information Model**
- How this I-D relates to the SUPA milestones
- I-D Status and Open Issues
- Next Steps

# Motivation (1)

- **Define a single, extensible framework for representing different types of policies**
  - This version focuses on ECA policies
  - Declarative policy work put in Appendix
- **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*

# Agenda

- Motivation for building an Information Model
- **How this I-D relates to the SUPA milestones**
- I-D Status and Open Issues
- Next Steps

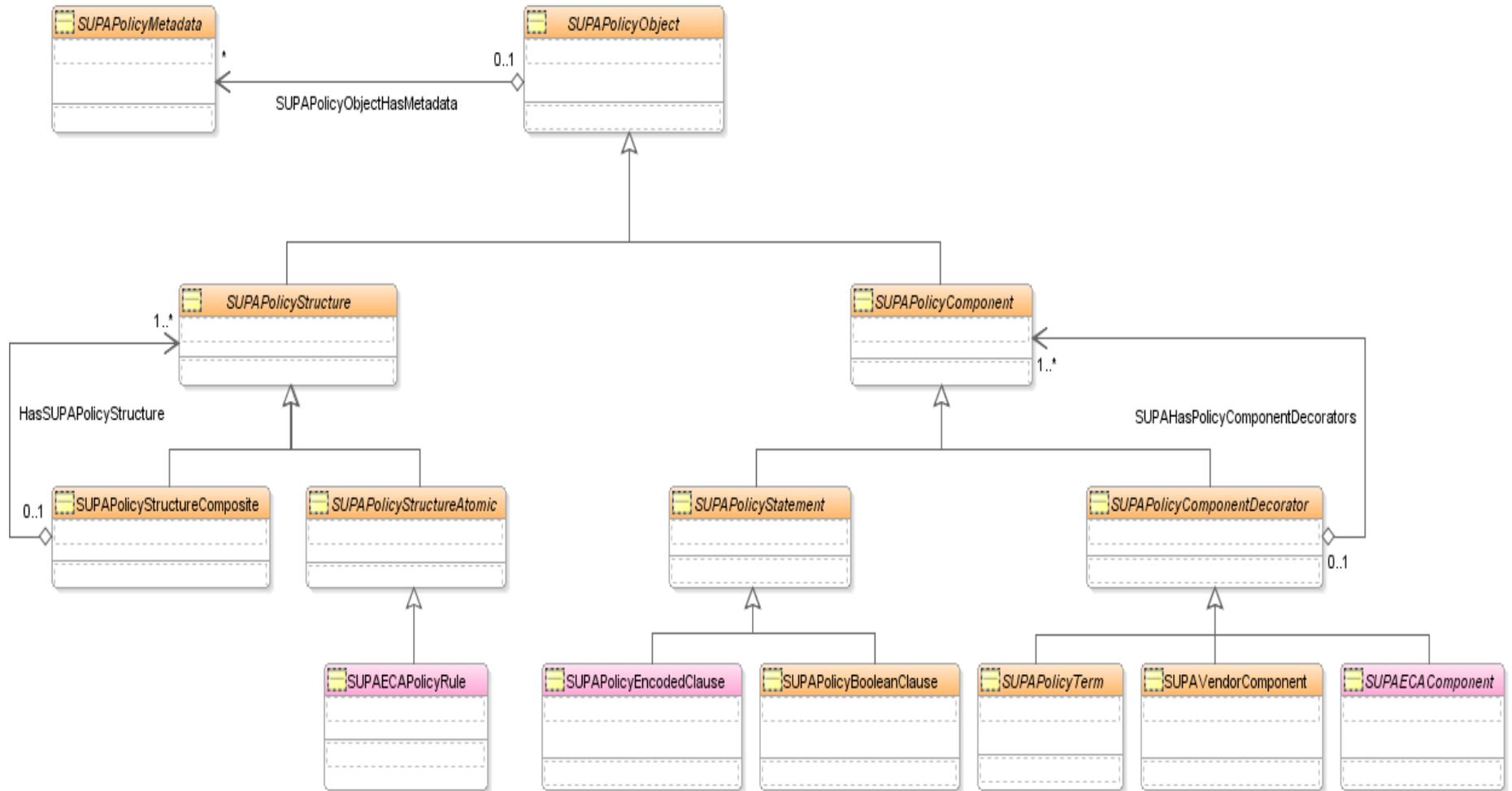
# Relation to SUPA WG Milestones

- **Policy-based management framework scope, and how it relates to existing IETF work**
  - Information Model defines common terminology and concepts that different vendors and technologies can use
- **Different YANG models**
  - Shows how to standardize common policy concepts with different YANG models
- **Applicability Document**
  - Shows how different examples are supported by the model
- **Other**
  - Strong synergy with TMF and ONF
  - Thinking of writing open source model and examples

# Agenda

- Motivation for building an Information Model
- How this I-D relates to the SUPA milestones
- **I-D Status and Open Issues**
- Next Steps

# Policy Info Model Overview



# Status

- **Model Changes**
  - Simplified model, and building out the rest
  - Including examples where possible
- **Document Changes**
  - Moved declarative policy to a set of Appendices
  - More complete and illustrated rationale for model
- **Open Questions**
  - Should it contain comparisons to previous IETF policy work?
  - Should it contain comparison to other notable policy work?
  - Should it contain detailed worked examples (e.g., policy-based SFC)?
- **Status**
  - Roughly 70% finished

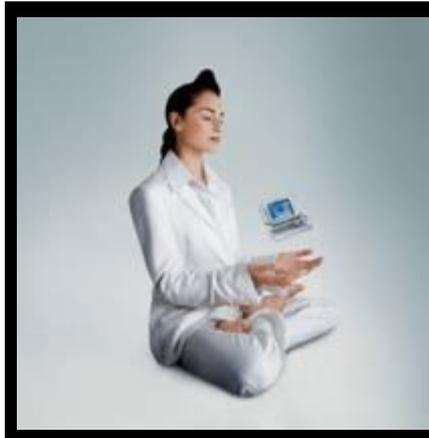
# Agenda

- Motivation for building an Information Model
- How this I-D relates to the SUPA milestones
- I-D Status and Open Issues
- **Next Steps**

# Next Steps

- **Synergy with Other SDOs**
  - I-D is focused on building YANG data models
  - TMF ZOOM is focused on building a complete info model; data models are less developed
  - ONF focused on intent-based (i.e., declarative) policy, but needs a way to interoperate with other types of policies
- **Thinking of building DSL(s) based on the info model to show advantage in translating to multiple data models**
- **Need more feedback**

# Questions?



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

# Four Different ECA Policy Examples

- **draft-ietf-netmod-acl-model-02** (uses ‘matches’ and ‘actions’ lists)
  - Defines filtering on source & dest port range, DSCP, protocol, IP version, and MAC address
  - Defines permit and deny packet handling action
- **draft-hares-i2rs-bnp-eca-data-model-00** (uses ‘rule group’ and ‘rule’ leaf-lists, and ‘rule-match-act’ list containing ‘bnp-matches’ and ‘bnp-action’)
  - Defines filtering on interface, L1-L4 header, packet size, or service header
  - Defines L1-L4 actions, service actions, or forwarding on interface, next hop, route attributes, or RIB route attributes
- **draft-dunbar-i2rs-discover-traffic-rules-00** (uses RBNF)
  - Defines filtering on L2-L4 header, VLAN, VNID, service chain ID, size, event, ...
  - Defines egress port specific actions including adding VLANID tags, removing service header fields, forwarding traffic out of a particular interface or tunnel, ...
- **draft-shaikh-rtgwg-policy-model-00** (uses ‘policy-definition’ leaf-lists with ‘conditions’ and ‘actions’ presence containers)
  - Defines filtering on how a route was installed, neighbor set, BGP-specific parameters, ...
  - Defines accept & reject route and IGP actions