SUPA Charter Proposal
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http://cnds.eecs.jacobs-university.de/users/ schoenw/supa/supa-charter-2015-06-15.txt

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SUPA (Simplified Use of Policy Abstractions) is defining an interface to a network management function that takes high-level, possibly network-wide policies as input and creates element configurations snippets as output.

SUPA will define a generic policy information model (GPIM) for use in network operations and management applications. The GPIM can represent different types of policy rules for controlling managed entities throughout the service development and deployment lifecycle. The GPIM will be translated into corresponding YANG data models to define interoperable implementations that can exchange and modify generic policies using protocols such as NETCONF/RESTCONF.

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SUPA defines technology to express management policies that control the configuration of network elements. Management policies can be interpreted outside of network elements, and the interpretation typically results in configuration changes of collections of network elements.

Policies embedded in the configuration of network elements are not in the scope of SUPA. In contrast to policies targeted by SUPA, embedded policies are usually interpreted on network elements in isolation, and often at timescales that require the representation of embedded policies to be optimized for a specific purpose. Some examples of embedded policies that are not in the scope of SUPA:

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- packet filtering policies
- packet marking and scheduling policies
- route import and export policies
- authorization policies (configured on network elements)

SUPA will be designed to work together with network service models. In particular, the creation of a network service instance should be able to trigger the execution of SUPA policies, and the same is true for the deletion of network service instances, or any other major state changes, during the network service development and deployment lifecycle. SUPA will be loosely bound to network service models. In particular, SUPA will also allow operators to express policies that are not bound to specific network service instances.

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The SUPA working group will develop an information model for expressing policy at different levels of abstraction. Specifically, three information model fragments are envisioned: (i) a generic information model that defines concepts needed by policy management independent of the form and content of the policy, (ii) a more specific information model that refines the generic information model to specify how to build policy rules of the event-condition-action paradigm, and (iii) a more specific information model that refines the generic information model to specify how to build policy rules that declaratively specify what goals to achieve (but not how to achieve those goals); this is often called "intent-based" policy. The SUPA working group will translate the generic policy information model into concrete YANG data models that define how to manage and communicate policies between systems.

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List of work items:

1. A framework document that explains the scope of the policy-based management framework and how it relates to existing work of the IETF.

2. A generic policy information model consisting of a base policy information model for representing policy management concepts independent of the type or structure of a policy, an extension of the base policy information model for defining policy rules according to the event-condition-action paradigm, and an extension of the base policy information model for defining policy rules according to a declarative, or intent-based, paradigm.

3. A set of YANG data models that express the concepts defined in the generic policy information model in concrete data models. These models will be designed to be generic and extensible.

4. An applicability document providing a number of examples that demonstrate how the generic policy models can be used to express policies that are relevant for network operators. The examples may tie into network service models developed by other working groups.

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The working group will decide how the work items are best mapped into deliverables.

The working group will communicate with the L3SM working group working on layer 3 VPN service models and the I2RS working group working on generic network topology models in the context of the use cases.

The working group will communicate with other SDOs (MEF, TMF, ETSI) that are working on related issues.

Milestones:
- TBD

Suggestions by Jon Saperia

- Add a paragraph at the beginning of the charter summarizing and motivating the problem to be solved.

- Support multiple device configuration interfaces right from the beginning instead of focusing on YANG and NETCONF/RESTCONF.

- Different understanding what the data models achieve and how many are needed.

- Removal of text saying that the WG is not tasked to work on 'embedded' policy models.

- Request for the framework to explain how it relates to existing work of other SDOs.