

A Proposal for Model Convergence

Diego R. López

I2NSF @ IETF 104, March 2019

The Problem

- Slow convergence of models and interfaces
 - Actually, a serious risk of divergence
- Capabilities make sense at the policy level
 - Registration
 - Security Controller NBI (*consumer-facing*)
- But imply problems at the Controller SBI
 - *NSF-facing* and even monitoring
 - Current model requires per-function translations
 - Or an omniscient translator
 - And limits the incorporation of new models

The Proposal

- Associate each capability with a model (fragment / variable /...)
 - The one to be used for managing the capability at the NSF
- This association would take place at capability registration
 - Via the registration interface
- The Security Controller would
 - Keep a registry of models and associations
 - Use this registry for *policy translation*
 - And make the translator a part of the Security Controller

The (Rough) Means

- Extend the registration interface
 - An additional element per capability
 - Identifying the model or model fragments
- Decide what to do with the NSF-facing interface
 - Shall we use it to encapsulate the registered models?
 - A wrapper datamodel
 - Or use them straightforward?
 - No datamodel at all
- Need to refine the means
 - And find the appropriate constructs

Concluding

- Yes, the devil is in the details
 - Surely will be here as well
- But this proposal would preserve
 - The I2NSF concept and framework
 - Leveraging their interfaces
 - The capability model as means for *reasoning* about security functions and services
 - Decoupled from their actual implementation
 - The applicability of current and future specific models for NSF management
 - With the recent IPsec YANG model as a canonical example
 - The architecture and most of the models already defined
 - Not blocking further deliveries