A Proposal for Model Convergence

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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