SUPA WG:
I2NSF Client Facing Interface Requirements

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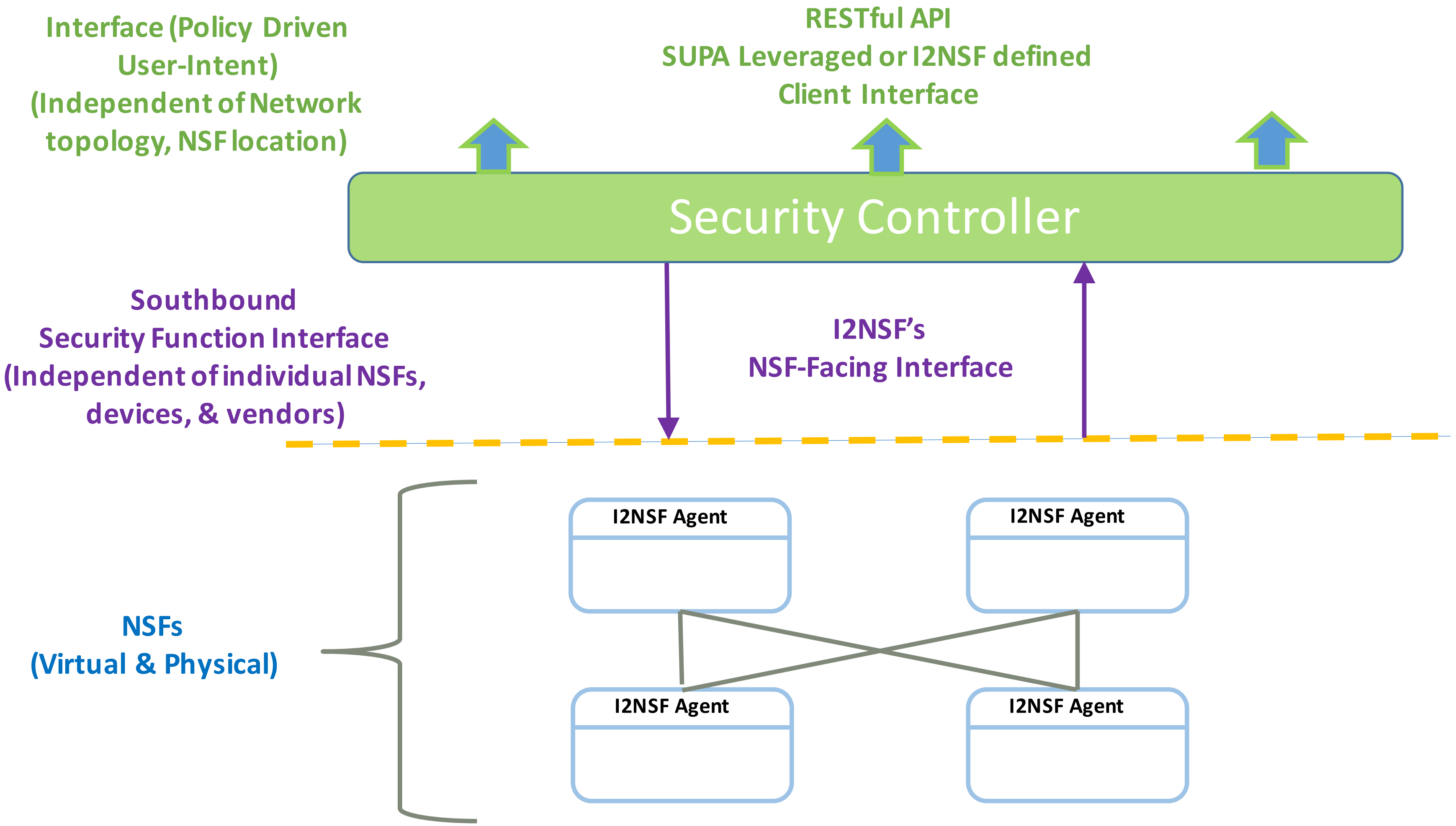
Version 1.0

Jul 21, 2016

Agenda

- ❑ Security Controller Architecture
- ❑ I2NSF framework for Security Controller
- ❑ I2NSF Client Facing Interface requirements
- ❑ Leverage SUPA Policy driven framework for client interfaces
- ❑ Draft proposal
  - ➢ https://www.ietf.org/internet-drafts/draft-kumar-i2nsf-controller-northbound-framework-00.txt

Security Controller Architecture



Interface (Policy Driven User-Intent) (Independent of Network topology, NSF location)

RESTful API
SUPA Leveraged or I2NSF defined
Client Interface

Southbound
Security Function Interface
(Independent of individual NSFs, devices, & vendors)

I2NSF's
NSF-Facing Interface

NSFs
(Virtual & Physical)

I2NSF Framework for Security Controller

- ❑ Security Controller – I2NSF Client Interface
  - ➢ Security Controller's interface to the client
    - ▪ GUI Portal, RESful API, Template Engine, Natural Language Parser (NLP)
  - ➢ Agnostic of network topology and NSF location in the network
    - ▪ Declarative/Descriptive model instead of Imperative/Prescriptive model
      - How a user would like to see security policy instead of how it would be actually implemented
  - ➢ Leverage SUPA policy interface, if possible
    - ▪ Client Interface can be modeled as a special case of SUPA's management policy

I2NSF Client Interface Requirements …(1/3)

- ❑ User-Intent modeling requirements
  - ➢ Meta-data driven groups
    - ▪ User-group
      - e.g., HR-users, Finance-users
    - ▪ Device-group
      - e.g., Windows-devices, Lynix-devices
    - ▪ Application-group
      - e.g., Finance-apps, Legal-apps, HR-apps
    - ▪ Location-group
      - e.g., US-sites, EMEA-sites, APAC-sites
  - ➢ Group definition
    - ▪ Fixed definition
      - IP address
    - ▪ Dynamic mapping
      - LDAP, Active Directory, CMDB
- ❑ Policy modeling requirements
  - ➢ Policy lifecycle management
    - ▪ User-action based activation
    - ▪ Time-profile based activation
    - ▪ Event-profile based activation

I2NSF Client Interface Requirements ...(2/3)

- Policy rules
  - Threat management
    - Botnet access
    - Malware handling
    - DDoS handling
    - Parental control (URL/domain filtering)
    - Application threats
  - Inter-group access
    - User-group, Application-group, Device-group, Location-group
  - Intra-group access
    - User-group, Application-group, Device-group, Location-group
- Policy actions
  - Permit, Deny
  - Metering, QoS profile
  - Quarantine/Redirect
  - Log, Monitor/Mirror

I2NSF Client Interface Requirements ...(3/3)

- Authentication requirements
  - Deployment and operational model governs the actual scheme
- Authorization requirements
  - Deployment model operational governs the actual scheme
- Operational requirements
  - Multi-tenancy
  - Telemetry
    - Threat visibility, Policy violations, Big-data analytics
  - Notification
    - Alarm, Event
  - Affinity
    - TPM
    - Other possible requirements
  - Capability discovery
    - Need further investigation
  - Test Interface
    - Test whether a client request can be implemented
    - Potential policy conflict assessment