I2NSF Capability YANG Data Model
draft-hares-i2nsf-capability-data-model-03

Susan Hares*, Jaehoon Paul Jeong, Jinyong Tim Kim, Robert Moskowitz, and Liang Xia (Frank)

IETF 99, Prague, Czech
July 18, 2017
Introduction

• This draft is an updated version from draft-hares-i2nsf-capability-yang-01.

• This draft introduces YANG data model for Security Controller to express description and discovery of the capabilities of NSF devices.

• Security Controller can give the information of optimal NSFds to service function forwarder or other components with capabilities.

• We verified our YANG data model through a prototype in IETF-99 Hackathon.
Updates from -02 Version

• Grouping
  – I2nsf-net-sec-control-caps
    • Retrieve the network security control information
  – I2nsf-con-control-capabilities
    • Retrieve the network content control information
  – I2nsf-attack-mitigation-control-caps
    • Retrieve the attack mitigation control information

• Capabilities-information
  • Retrieve the information of capabilities such as capability location and IT resources.
Difference Between NSF-Facing and Capability YANG Data Model

• NSF-Facing YANG Data Model: NSF-Facing Interface YANG Data Model is used to configure the rules of a policy into NSFs.

• Capability YANG Data Model: Capability YANG Data Model is used to retrieve capability information of an NSF.
The administrator is confused about setting up.

Company (A) Interface: `ls`

Company (B) Interface: `dir`

Company (C) Interface: `le`
Show Directory List
Interface: DL

Company (A)
Interface: DL -> ls

Company (B)
Interface: DL -> dir

Company (C)
Interface: DL -> le
Capability Data Model (1/2)

- SFF (Classifier)
- Security Controller

1. Packet payload
2. Query based on the Capability description
3. NSF’s information (e.g., NSF₁)
4. NSF₁’s IP address

NSF₁’s IP address

NSH includes:
- Capability description

NSH: Network Service Header
SFF: Service Function Forwarder
Security Controller

2 Query based on the Capability description
3 NSF’s information (e.g., NSF₂)

Capability-based NSF discovery

SFF (Classifier)

1 NSF₁’s IP address
4 NSF₂’s IP address

PFH includes - Capability description

NSH: Network Service Header
SFF: Service Function Forwarder
Next Steps

• We will improve the contents for IT-Resources.

• We will verify our YANG data model by implementing a prototype in IETF-100 Hackathon.