Applicability of Interfaces to Network Security Functions to Networked Security Services
(draft-ietf-i2nsf-applicability-01)

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Motivation of This Draft

- I2NSF Applicability
  - I2NSF Chartered Working Item
  - This draft explains how I2NSF framework and interfaces can be used for real network security services.
- Contents
  - Security service procedure in I2NSF framework
  - Use Case: Time-dependent web access control
    - Firewall & Web filter

I2NSF Framework

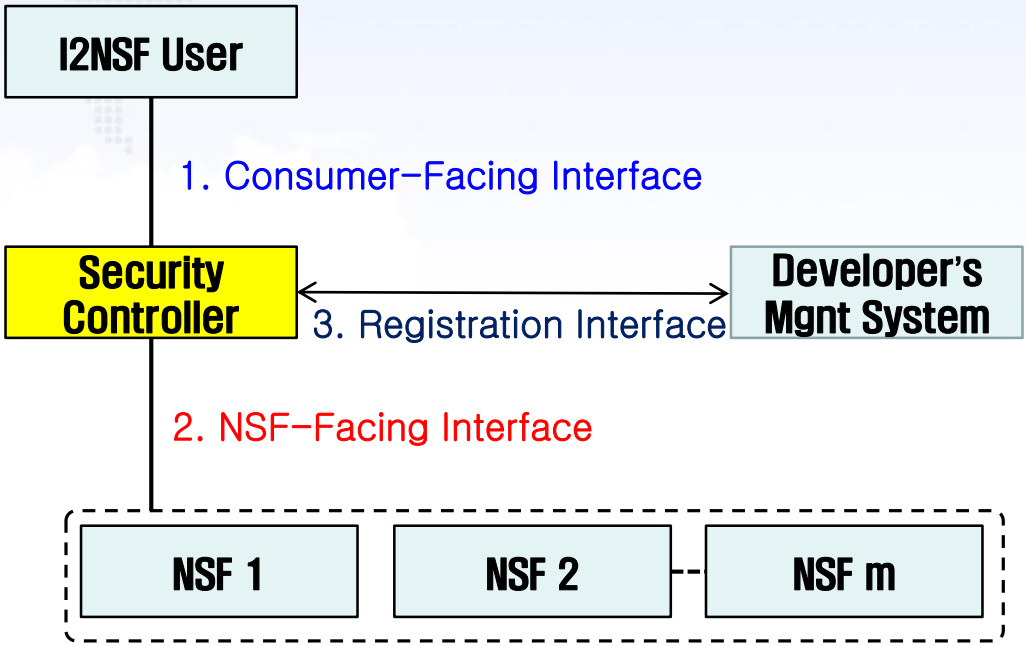
I2NSF Framework for user-friendly and efficient security service provisioning

1. **I2NSF User** asks for security services with high-level security policies to **Security Controller** via **Consumer-Facing Interface.**

2. **Security Controller** delivers low-level security policies to **NSFs** via **NSF-Facing Interface.**

3. **Network Security Function** configures such low-level security policies into its local system.

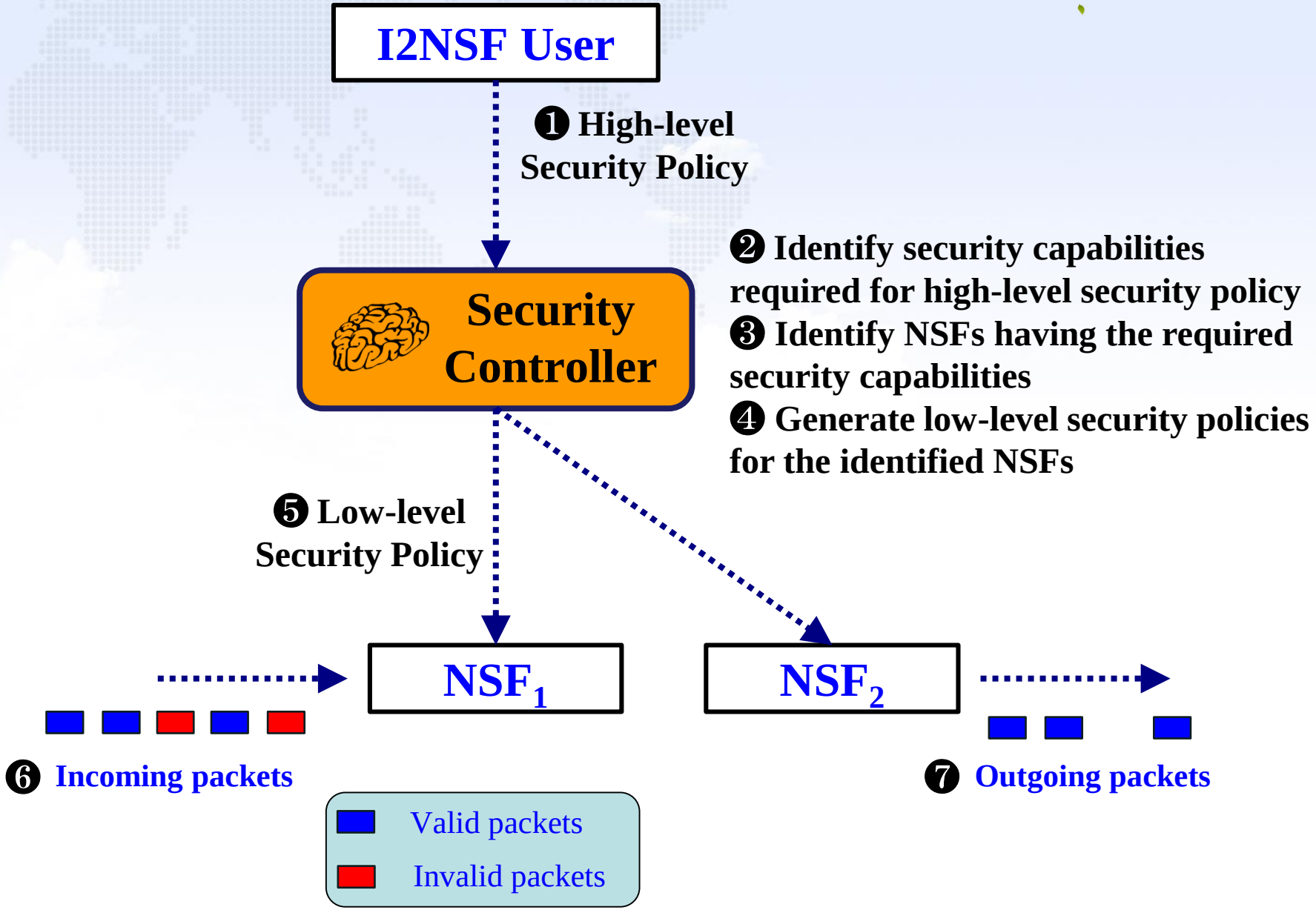
4. **Developer's Mgnt System** registers the capabilities of NSFs via **Registration Interface**.



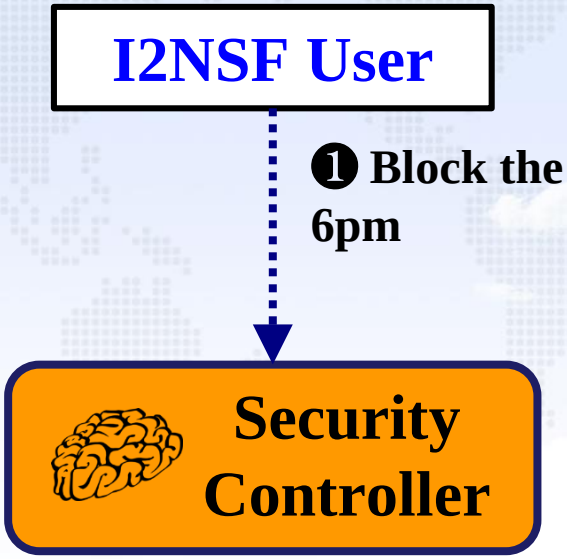
Information and Data Models for I2NSF

- Consumer-Facing Interface
  - Information Model
    - draft-kumar-i2nsf-client-facing-interface-im-04
  - Data Model
    - draft-jeong-i2nsf-consumer-facing-interface-dm-04
- NSF-Facing Interface
  - Information Model
    - draft-ietf-i2nsf-capability-00
  - Data Model
    - draft-kim-i2nsf-nsf-facing-interface-data-model-04
- Registration Interface
  - Information Model
    - draft-hyun-i2nsf-registration-interface-im-03
  - Data Model
    - draft-hyun-i2nsf-registration-interface-dm-02

Security Service Procedure in I2NSF Framework



Use Case: Time-dependent Web Access Control

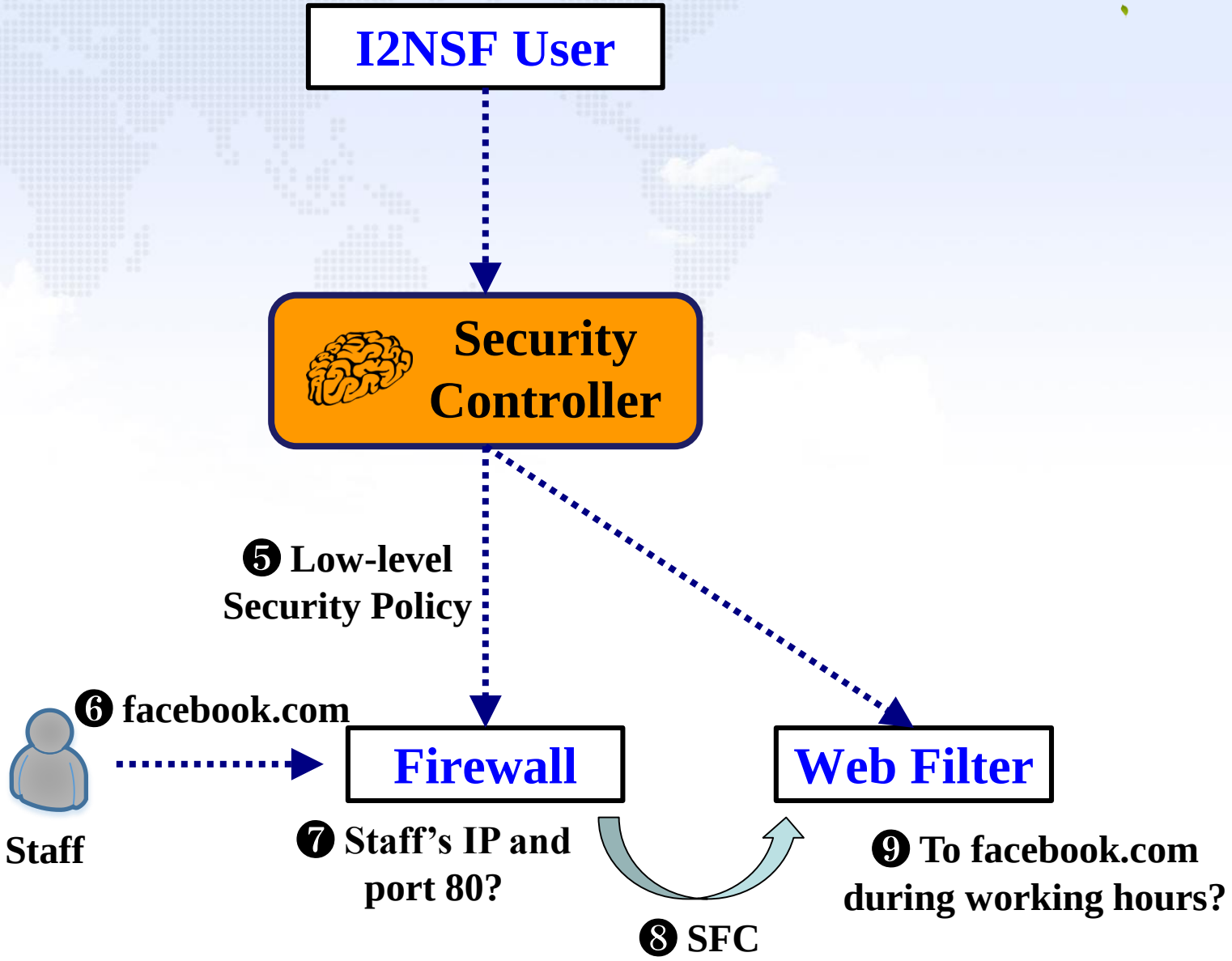


❷ ❸ Required security capabilities and NSFs

- IP address and port number inspection ➔ Firewall
- URL inspection and time check ➔ Web filter

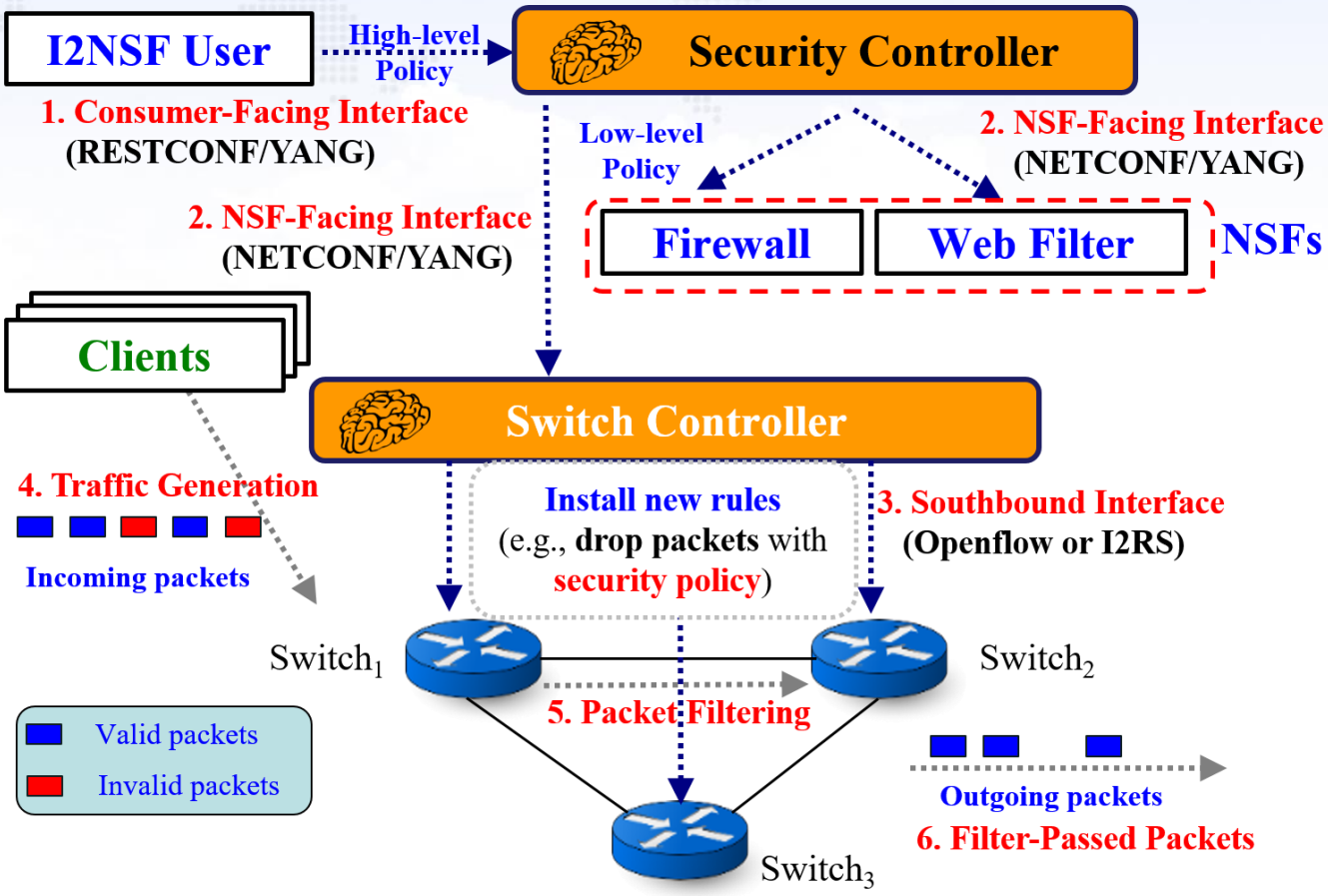
❹ Generate low-level security policies for Firewall and Web filter

Use Case: Time-dependent Web Access Control



Combination of I2NSF and SDN

- Accelerated Security Service
  - Simple packet filtering rules by SDN switch
  - Complicated security inspection by NSFs



Update from -00 Version

- The following changes have been made from draft-ietf-i2nsf-applicability-00.
  - In **Section 3**, **time-based web access control service** is added as a general use case in the I2NSF framework.
  - In **Section 4**, we explained the **I2NSF framework with SDN** to support the **divided security policy enforcement** for efficient security service.
  - In **Section 4.2**, the **centralized VoIP/VoLTE security system** is clarified as a use case to explain the **security service chaining** using SFC.

Next Steps

- Reflection of new use cases of I2NSF
  - This draft will be extended with new use cases.
  - This draft will be described in more detail with the experience and lessons from IETF I2NSF Hackathon Project.
- Plan: WGLC at IETF 101?
- Welcome your Feedback!