



I E T F[®]

Registration Interface Information Model and YANG Data Model

**(draft-hyun-i2nsf-registration-interface-im-04, and
draft-hyun-i2nsf-registration-interface-dm-03)**

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Updates from the Previous Version

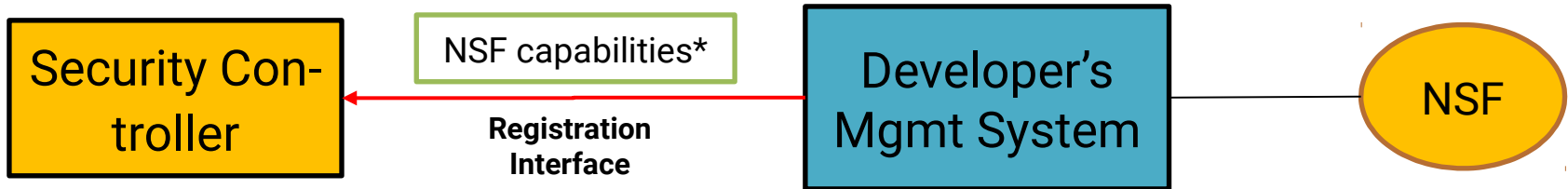
- In draft-hyun-i2nsf-registration-interface-im-04
 - We revised Section 4 to discuss about destructing an NSF instance no longer required via the registration interface.
 - We changed the term of NSF profile into NSF capability information.
- In draft-hyun-i2nsf-registration-interface-dm-03
 - We updated the YANG data model accordingly in order to align with the updates in draft-i2nsf-registration-interface-im-04.

Introduction

- Information Model (IM) & YANG Data Model (DM) for the Registration Interface are required for the following functions :
 - To Register
 - To *register the capabilities of NSF* created by Developer's Management System (DMS)
 - To Query
 - To *send a general request of NSF capabilities* to DMS
 - To Interact with NFV MANO
 - To *request DMS to instantiate/deinstantiate an NSF*
- Secure the registration of distributed NSFs via Registration Interface in a centralized manner.

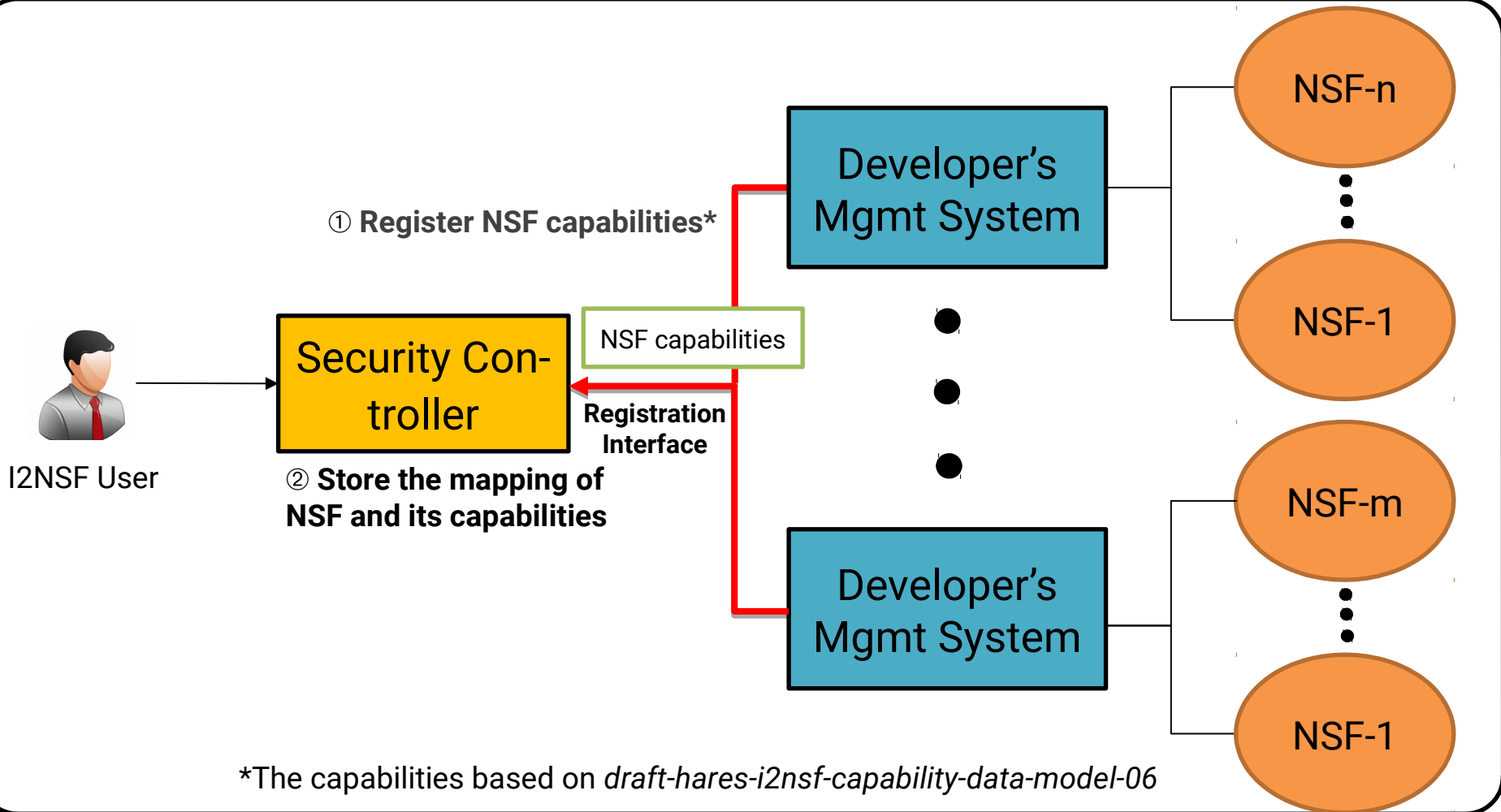
NSF Registration (1/2)

- Developer's Management System (DMS) registers the NSF to Security Controller via Registration Interface



* The capabilities based on draft-hares-i2nsf-capability-data-model-06

NSF Registration (2/2)



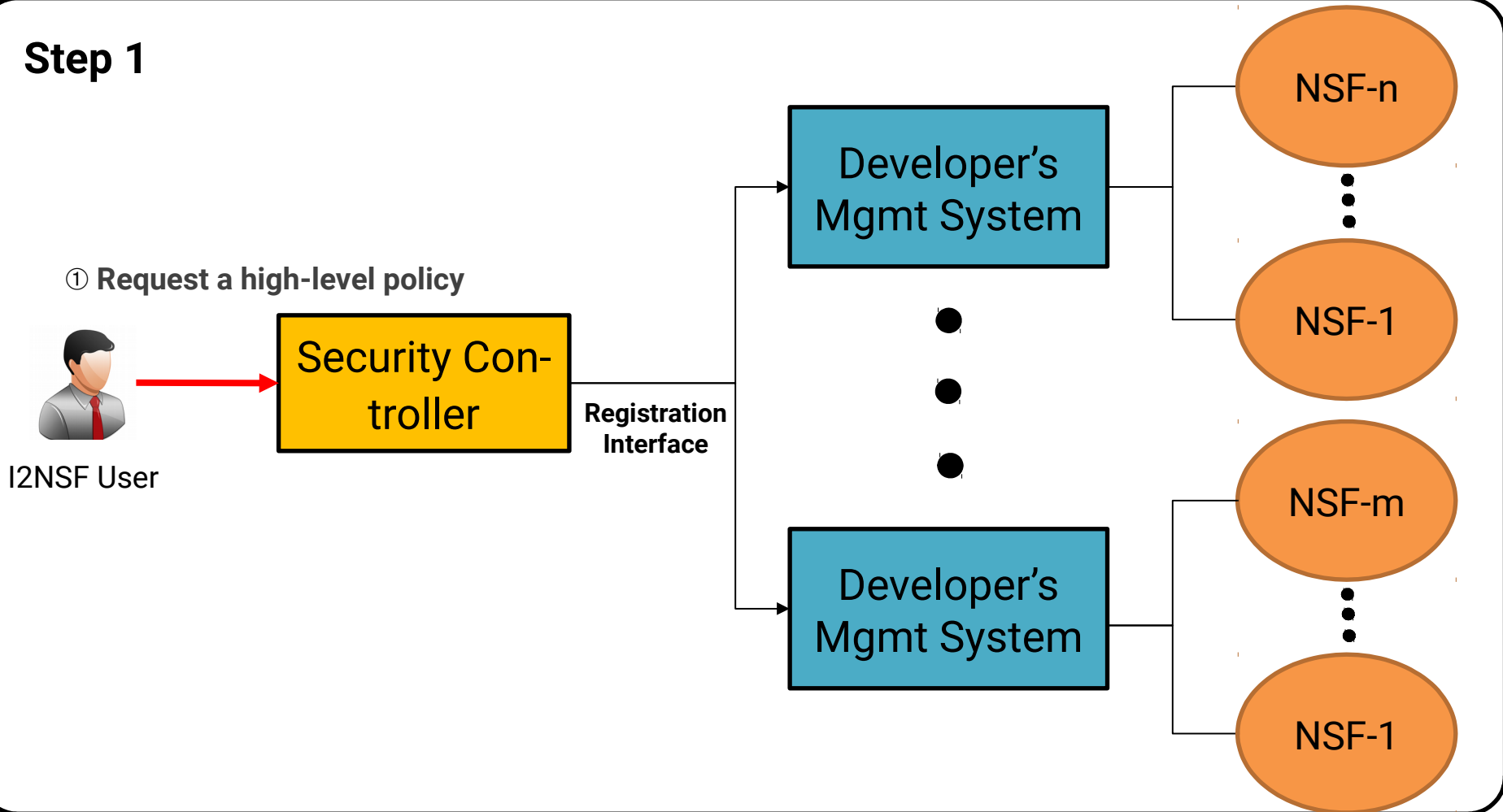
Additional Usage of Registration Interface

- Motivation
 - Query
 - Security Controller sends a query to DMS to search NSFs with required capabilities via Registration Interface.
 - Interaction
 - Security Controller requests the instantiation/deinstantiation of NSFs to DMS (or NFV MANO).

Note: The existing information model (draft-ietf-i2nsf-capability-00) & YANG data model (draft-hares-i2nsf-capability-data-model-06) are used to describe the security capability of an NSF.

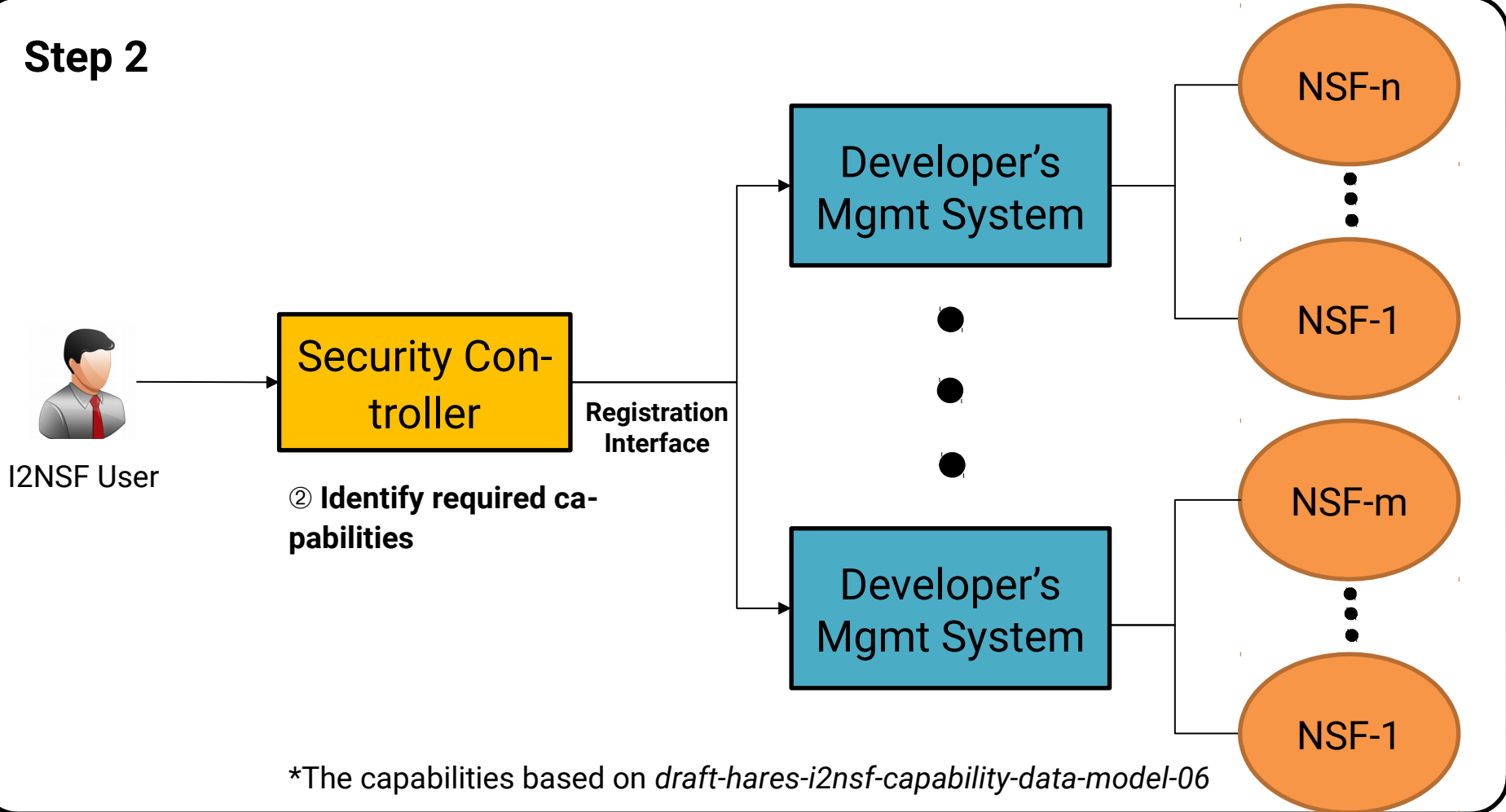
Capability-based NSF Search (1/5)

Step 1



Capability-based NSF Search (2/5)

Step 2

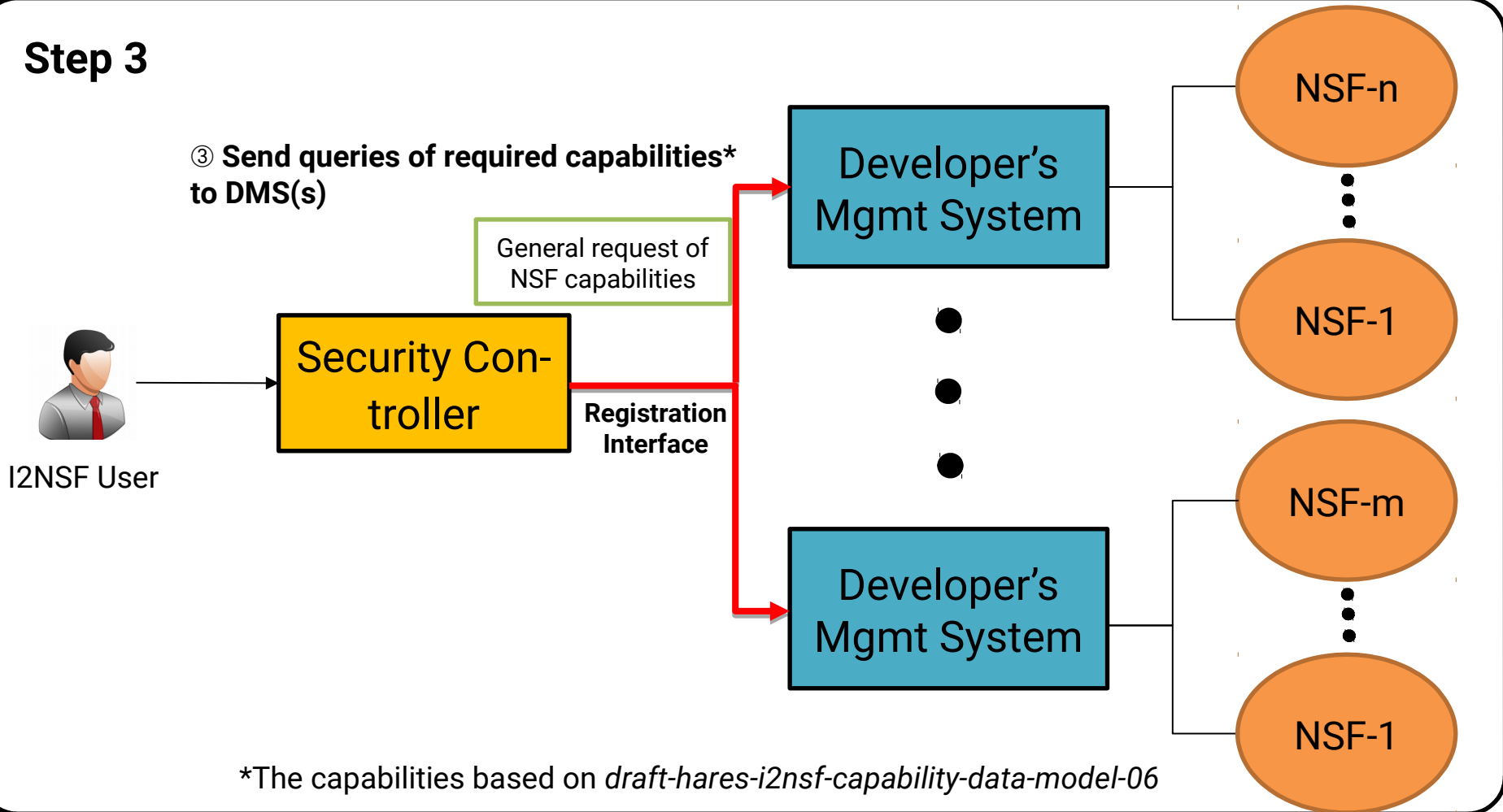


*The capabilities based on *draft-hares-i2nsf-capability-data-model-06*

Capability-based NSF Search (3/5)

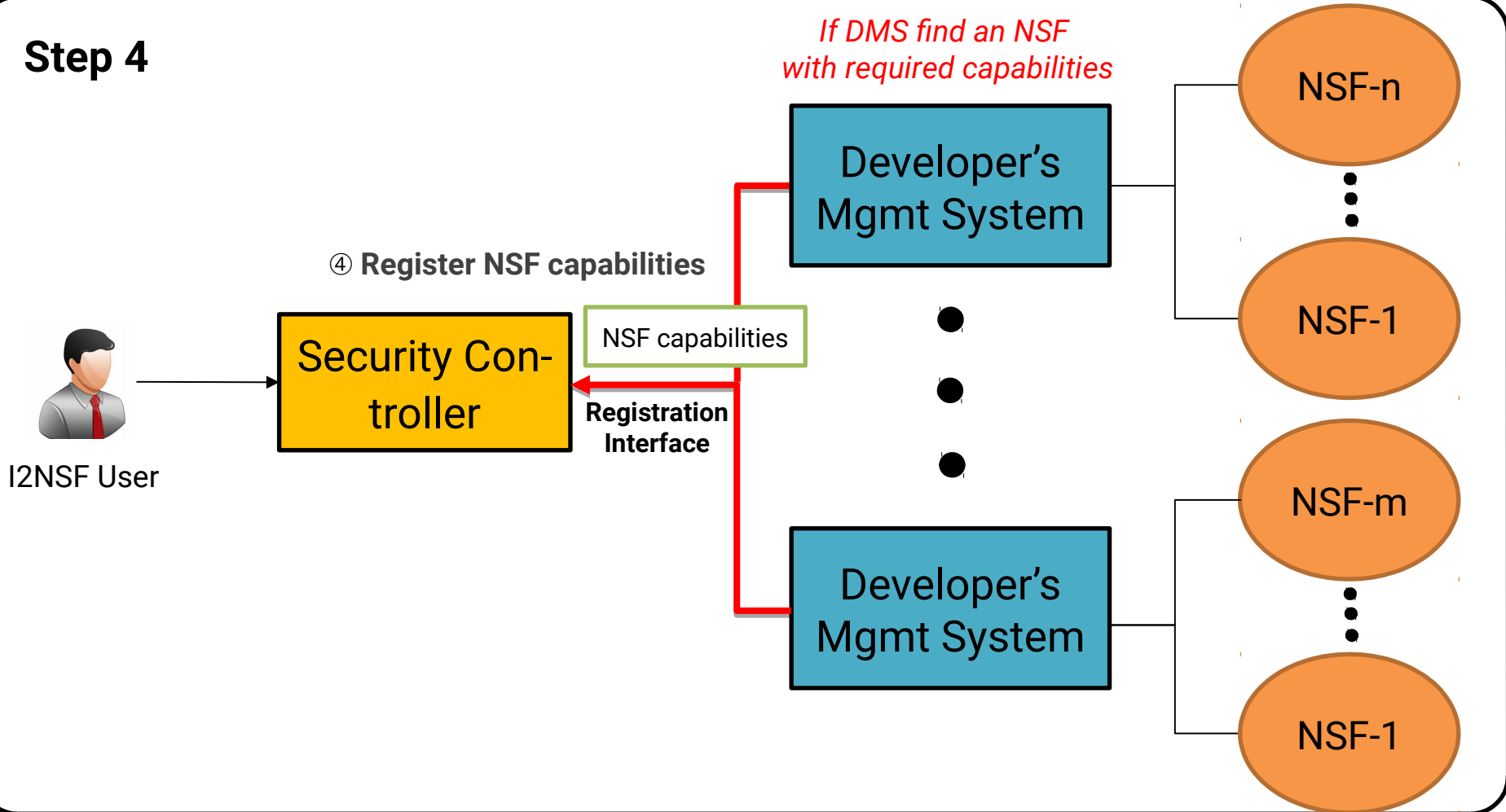
Step 3

③ Send queries of required capabilities* to DMS(s)



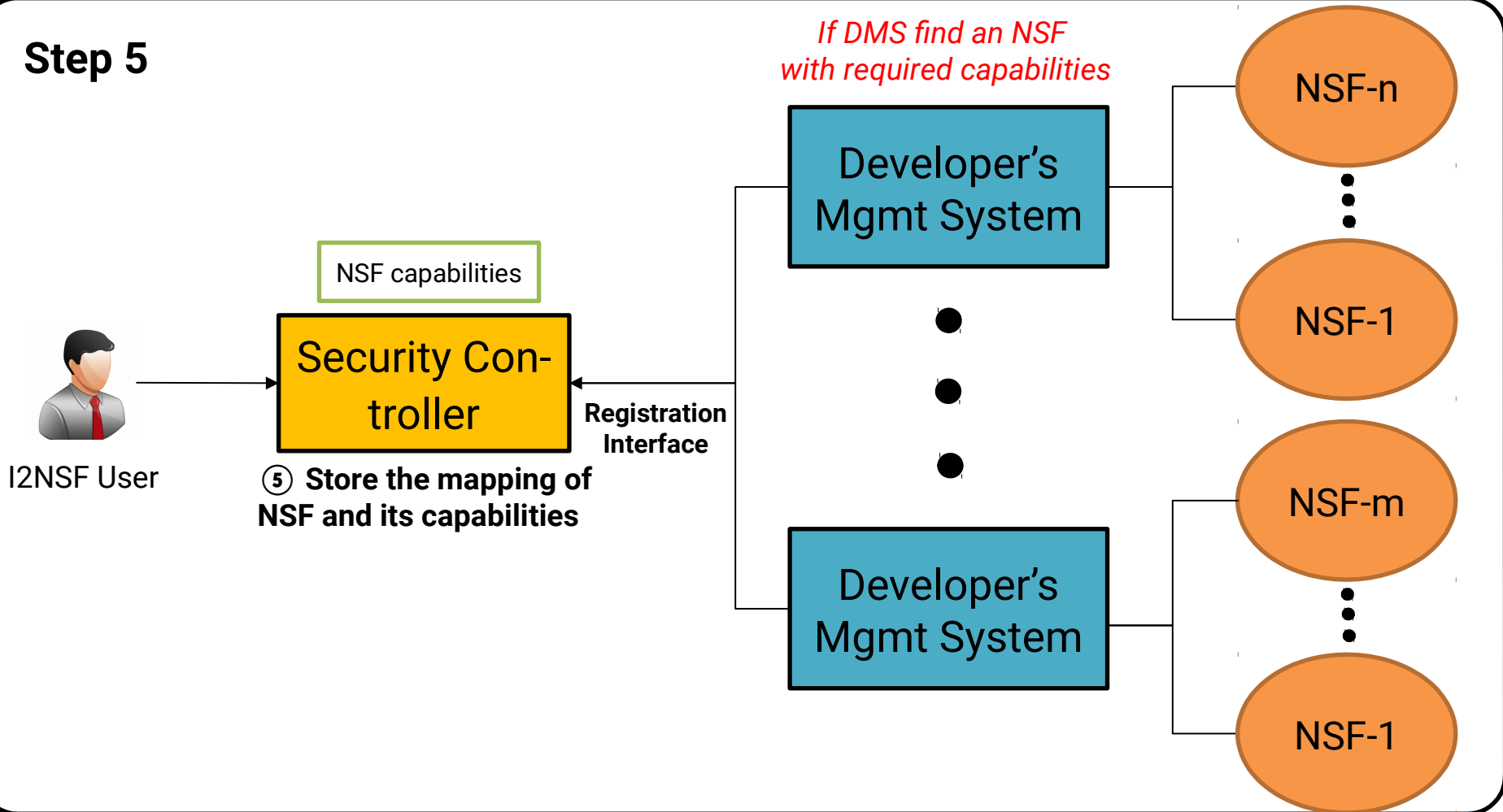
Capability-based NSF Search (4/5)

Step 4

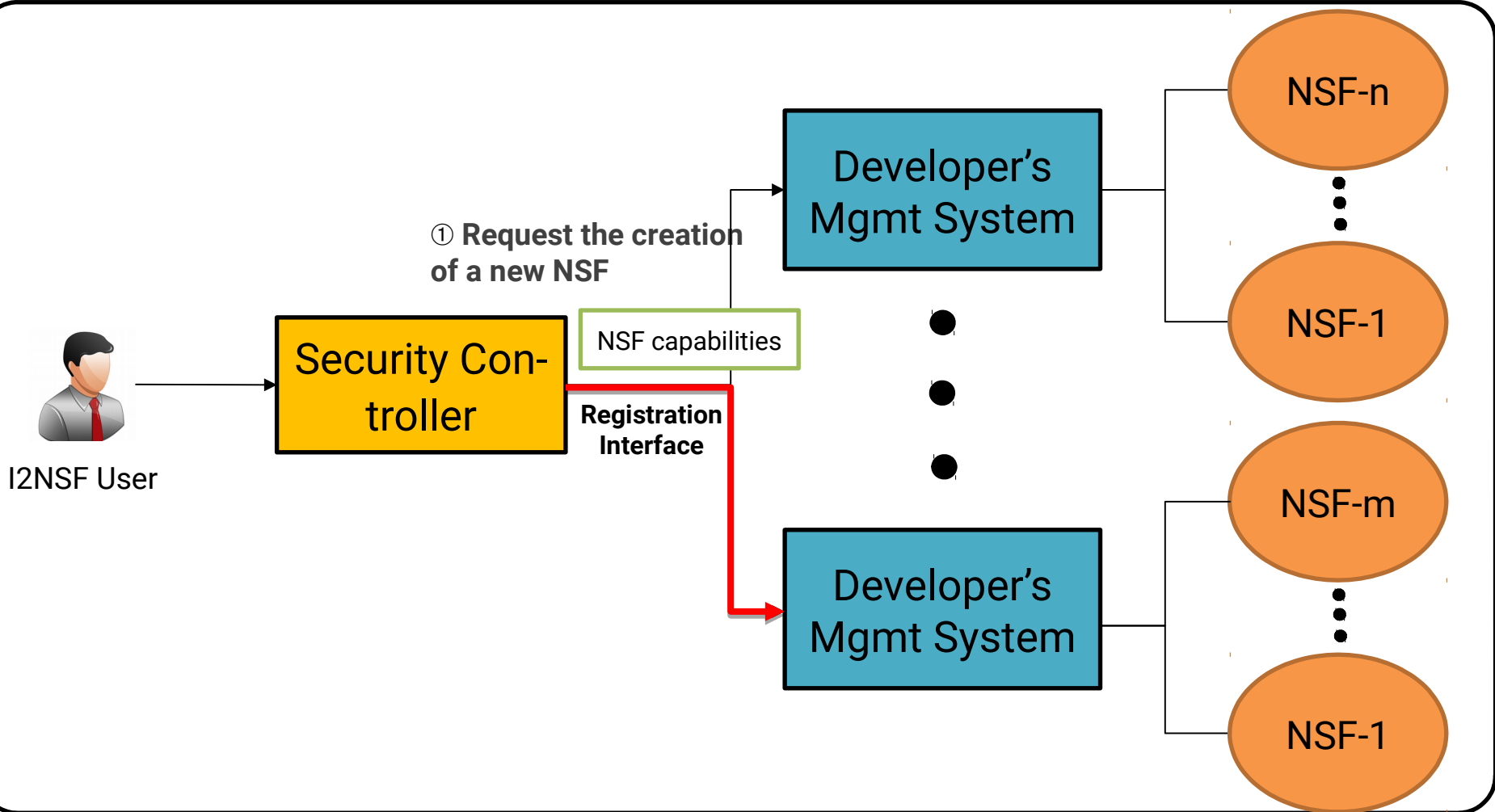


Capability-based NSF Search (5/5)

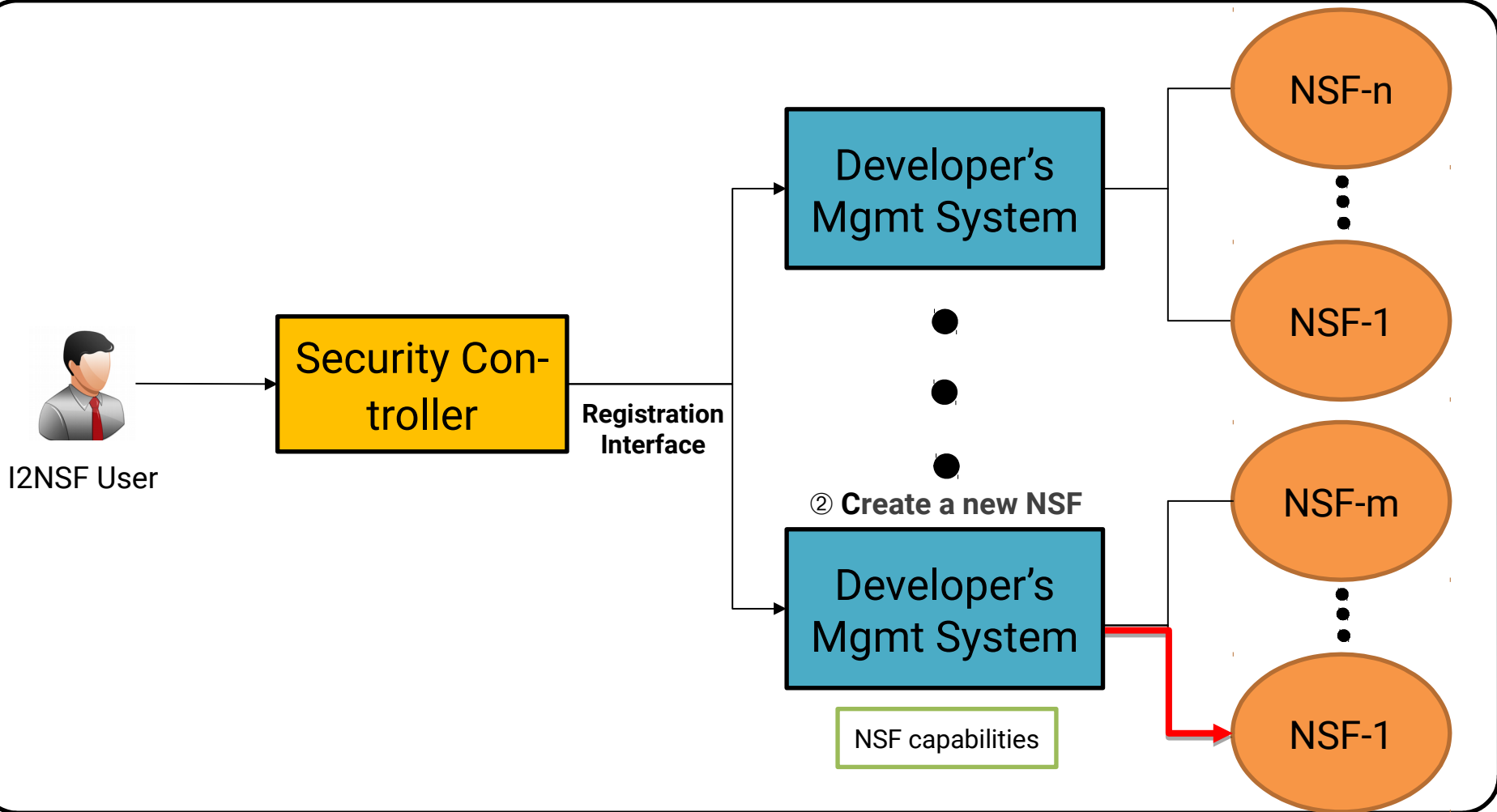
Step 5



Instantiation Request of NSF (1/2)



Instantiation Request of NSF (2/2)



Next Steps

- We will extend our I2NSF Hackathon implementation to demonstrate the feasibility of Registration Interface.
 - To construct I2NSF Framework in OpenStack environment along with OPNFV and Open Source MANO (OSM).
 - To implement the interaction with NFV MANO to instantiate and deinstantiate NFVs through Registration Interface in OpenStack environment.