I2NSF Security Controller-Facing Interface YANG Data Model for Cross-Domain Security Parameter Exchange

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Security Controller-Facing Interface

• Security Controller-Facing Interface (SFI):

- The RFC 9061 covered flow protection between NSFs located in one I2NSF domain.

- As the SDN network expands (SD-WAN), I2NSF needs expansion to exchange security parameters and cooperate with I2NSFs located in different I2NSF domains (Peer-to-Peer scenario).

- Also, need a centralized point to manage multiple I2NSF domains (Hierarchical scenario).

- For this expansion, SFI is required to exchange security parameter information between security controllers located in different domains.
I2NSF Framework for Cross-Domain Security Parameter Exchange (Peer-to-Peer Case): IPsec Tunnel for SFC and BGP
I2NSF Framework for Cross-Domain Security Parameter Exchange (Hierarchical Case): IPsec Tunnel for SFC and BGP
Information Model for Security Controller-Facing Interface

- Security Policy Information: 
  - Security Policy (e.g., SFC for firewall and web-filter) that a security administrator wants to configure.

- Flow Protection Parameters: 
  - Security Parameters required to establish IPsec SAs [RFC9061].
Peer-to-Peer Case for the Security Controller-Facing Interface in Cross-Domain Environments
Hierarchical Use Cases for the Security Controller-Facing Interface in Cross-Domain Environments
Next Step

• This draft introduces Security Controller-Facing Interface (SFI) for cross-domain security parameter exchange for IPsec tunnels for SFC and BGP.

• It suggests I2NSF expansion architecture with SFI and its use cases (e.g., peer-to-peer and hierarchical cases).

• The revision of the draft will include another example for setting up an IPsec tunnel for BGP.

• This draft is proposed as a WG item in I2NSF Re-chartering.