

IKEv2 Notification Codes for IPv4/IPv6 Coexistence

<https://tools.ietf.org/html/draft-ietf-ipsecme-ipv6-ipv4-codes>

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Address Family Failure Cases

- An initiator asks for IPvx but IPvx is not supported: **UNSUPPORTED_AF**
- An initiator requests both IPv4 and IPv6 addresses but only IPv4 is supported: **IP4_ONLY_SUPPORTED**
- An initiator requests both IPv4 and IPv6 addresses but only IPv6 is supported: **IP6_ONLY_SUPPORTED**
- An initiator asks for both IPv4 and IPv6 addresses but only one address family can be assigned (policy-based): **SINGLE_AF_SUPPORTED**

Processing Received AF Notifications

- UNSUPPORTED_AF
 - The initiator should not ask for IPvx. If supported, IPvy should be requested
- IP4_ONLY_SUPPORTED
 - The initiator must not ask for IPv6 in subsequent exchanges with that peer
- IP6_ONLY_SUPPORTED
 - The initiator must not ask for IPv4 in subsequent exchanges with that peer
- SINGLE_AF_SUPPORTED
 - The initiator may re-issue another configuration request to ask for an additional address family

Design Choices (1)

- Why this I-D updates RFC7296?
 - Because it updates the behavior defined in Section 3.15.4 of RFC7296
- Error or Status Type?
 - Went for "status type" (thank you Valery)
 - RFC7296 says the following:

"An implementation receiving a Notify payload with one of these types that it does not recognize in a response MUST assume that the corresponding request has failed entirely."

"Notify payloads with status types MAY be added to any message and MUST be ignored if not recognized."

Design Choices (2)

- How to encode the AF failure error(s)?
 - Option 1: Assign four (4) new status types
 - Straightforward
 - Enough available space: 16438-40959
 - Option 2: Assign one single status type
 - Multiplex the 4 failure cases under one single status code
 - The payload indicates the sub-type
- Option 1 is implemented in -01
 - Any objection?

What's Next?

- (Reminder) The milestone for this I-D is

Oct 2018

The internal address failure indication in
IKEv2 to IESG

- Ask for WGLC