CCN Control Messages

ICNRG Interim Meeting - Boston
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PARC / Cisco
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Messages

End-to-End
Application Messages

Feedback
Hop-by-hop
Not independently generated

Neighbor
Forwarder to forwarder
State maintenance
Messages

End-to-End
Application Messages

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State maintenance
Interest Return
Interest Return

A

B

C

X
Interest Return

A → B → C

X
Interest Return

**Let the network decide**
Let the network elements decide if they can perform local repairs or return the error upstream

**Low overhead**
At most, the same overhead as processing valid data

**Not required**
A router is not required to generate Interest Return messages
A router is not required to process Interest Return messages
Interest Return Codes

No Route
The router has no route to the name

Hop Limit Exceeded
The hop limit has decremented to 0

Interest MTU too large
The interest MTU is too large to be forwarded

No resources
The forwarder doesn’t have enough resources to process this interest
Interest Return Codes

**Path Error**
A transient error on the path to be followed

**Congestion**
A transient error due to congestion

**Prohibited**
Administrative policy forbids processing this interest
Messages

**End-to-End**
Application Messages

**Feedback**
Hop-by-hop
Not independently generated

**Neighbor**
Forwarder to forwarder
State maintenance
Status

Work in progress

https://datatracker.ietf.org/doc/draft-mosko-icnrg-ccnxmlsemantics/
https://datatracker.ietf.org/doc/draft-mosko-icnrg-ccnxmlmessages/