

Network Services Interface

Message Routing Requirements, Sep 2014

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Incongruent Signalling and Data Plane



- The NSA signaling plane topology does not need to be congruent with data plane topology
- Aggregator NSAs may be setup as part of a project (e.g. LHCONE) and may not be associated with any uPAs or network domains (i.e. dataplane resources)
- Requests may result in arbitrary (message) tree workflows with only the leaf NSAs controlling resources (i.e. uPAs)

Sparse connectivity between NSAs



- Not all NSAs will be directly interconnected with every other NSA through the signaling plane
- Pair-wise peering arrangements will dictate the signaling plane topology
- NSA inter-connectivity will be guided by security and administration considerations and NOT exclusively data plane considerations

Supporting Arbitrary Message Workflows



- Users may request a reservation from an NSA that is not directly managing resources in the data plane (i.e. AG)
- The NSA servicing the request may not have direct signaling plane peering with all the NSAs involved in the reservation request
- Users may request reservations between endpoints that are not in their network, or the network of their NSA which implies the user request may not originate from the NSA managing the source end of the data path.

Applying policy to topology



- uPA SHOULD be able to send out a subset of topology based on the uRA credentials (not a MUST since ultimately we rely on the uPA enforcing policy at the point of connection request)
- There is no requirement for resource availability based on policy to be included in topology. I.e policy is not part of the topology.
- It MUST be possible for a pathfinder to perform pathfinding based on topology filtered using the policy associated with an entity. An 'entity' can be an NSA, a user group, project or network.

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