Realizing Network Slices in IP/MPLS Networks

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Agenda

- Updates

- Next steps

Updates

- Incorporated the new term "Network Resource Partition" into network slice realization solution

- Expanded on the steps required to realize the IETF network slice service using Slice Aggregates

- Addressed review comments from several WG participants

Network Resource Partition

Slice Aggregate:
  a collection of packets that match a slice policy selection
  criteria and are given the same forwarding treatment; a slice
  aggregate comprises of one or more IETF network slice traffic
  streams; the mapping of one or more IETF network slices to a slice
  aggregate is maintained by the IETF Network Slice Controller.

Network Resource Partition:
  the collection of resources that are used to support a slice
  aggregate.

Slice Policy:
  a policy construct that enables instantiation of mechanisms in
  support of IETF network slice specific control and data plane
  behaviors on select topological elements; the enforcement of a
  slice policy results in the creation of a Network Resource
  Partition.

- The 'Network Resource Partition' is instantiated on associated link/nodes using Slice Policy

- The NSC aggregates a collection of IETF network slice service traffic streams and that forms the Slice Aggregate

- The Slice Aggregate traffic streams share a set of common SLOs and get similar forwarding treatment on traversed nodes

- Slice Aggregate traffic is steered on the Network Resource Partition

Steps to realize the IETF network slice service

- Expanded on the following steps (Section 3):
  - Network Topology Filters
  - Slice Aggregation Mapping
  - Path Placement over Slice Aggregate Topology
  - Slice Policy Installation
  - Path Instantiation
  - Service Mapping
  - Network Slice Aggregate Relationships

Addressed Review Comments

- Review from Jie Dong and Robin (Lizhenbin)
  - Addressed comments raised by Jie and Robin
    - Addressed editorial nits

- Feedback from Zafar Ali (during IETF111)
  - Included/rearranged in section 6 to expand on how solution can be realized over existing SR constructs

- Clarified relationship of IETF network slice realization solution to Diffserv
  - Diffserv is not mandated as part of the network slice realization solution, but when present allows for supporting multiple classes of service over the same Network Resource Partition (i.e., H-QoS)

Next Steps

- The authors believe that the document is ready for WG adoption

- We welcome further review and feedback from the WG