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

**Terminology:**

**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