IETF Network Slice Intent

<draft-contreras-nmrg-transport-slice-intent-06>

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Summary of the draft (reminder)

• Target: to leverage on IBN technologies to request IETF Network Slices

• Use case:
  • Upper systems processing end-to-end network slices will elicit requirements for setting up IETF Network Slices
    • E.g., 3GPP Management System processing SLOs from slice templates to connect radio access and core slice parts for 5G services
  • IETF Network Slices will be requested as intents to IETF Network Slice Controller

• Benefits:
  • Portability of the solution across implementations and networks
  • Simple way of expressing transport slice needs by e.g. vertical customers
  • Focus on what, not on how

• This work complements TEAS work by offering an intent-based approach for slice request through transport slice controller NBI interface
Updates from -05 version

- Restructuring of section 3 adding a new sub-section on “Additional information needed for a network slice at the IETF domain”
- Details on assurance phase of the intent lifecycle

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- Analysis of the reported metrics against the slice request
- Trigger of actions if needed, e.g., slice modification (outer closed loop)
- Checking of monitored data for internal closed loops to ensure committed SLOs and SLEs (inner closed loop)
- Aggregation of data producing an abstracted view fitted to the slice request
- Collection of monitoring info related to the slice (i.e., SLOs and SLEs of connectivity constructs, sdp, etc.)
Next step: Targeting a PoC

Use case: 5G/3GPP slicing

Question: should be this use case fully documented in the draft, or it is enough to reference TEAS work only adding here the potential additions?
Key questions from the chairs

• Objective of the work in regards to NMRG activities
  • Elaborate intents to facilitate the request of IETF Network Slice Services, complementing the effort in TEAS WG by defining IBS suitable for interaction with the IETF Network Slice Controller

• Remaining steps to finalize
  • Propose a structure to express IETF Network Slice Service intents and validate them (through a PoC for a concrete example, i.e. 5G/3GPP slices)

• How long this would take
  • Fulfillment phase ① of intent lifecycle foreseen by April’23 (i.e., after IETF 116)
  • (Basic) Assurance phase ④ targeting Q4’23 (i.e., IETF 118) – outer closed loop
  • Validation ⑤ within assurance phase for further analysis - inner closed loop
Moving forward the draft ideas

• Define the structure of the IETF Network Slice intent template
  • Adaptation to IETF Network Slice NBI YANG model
  • It could be complemented with additional information that could be required for slicing
    • E.g., consider the initial slicing phases defined in 3GPP (preparation / instantiation, configuration and activation / run-time / decomissioning)
• Fulfillment phase - elaborate on translation approaches and interaction with the upper systems
• Assurance phase – explore monitoring/telemetry data enabling reporting and validation

• Feedback is more than welcomed!!