

## 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

```
|validate| : +----+
                                    +----^--+ <---- monitor/
                   : +----- +----+ : | observe/
Assure
        |report | <---- |abstract |<---| analyze | <----|
                : +-----+ |aggregate| : +
   Slice Customer
                                    Slice Provider
 - Analysis of the : - Checking of monitored data : - Collection of
  reported metrics : for internal closed loops : monitoring info
  against the slice : to ensure committed SLOs and : related to the
  request : SLEs (inner closed loop) : slice (i.e.,
 - Trigger of actions : - Aggregation of data : SLOs and SLEs of
  if needed, e.g., : producing an abstracted view:
                                                  connectivity
  slice modification : fitted to the slice request :
                                                   constructs, sdp,
  (outer closed loop):
                                                   etc.)
```

#### Next step: Targeting a PoC **IETF Network Slice Service** IETF NS NBI YANG model (draftrequest (e.g., draft-gcdrb-teasietf-teas-ietf-network-slice-nbi-yang) 5g-network-slice-application) Use case: 5G/3GPP slicing **IETF Network Slice realization** (e.g., draft-srld-teas-5g-slicing) Translation / IBS User Space Network Ops Space Space 2 TEAS wg Fulfill |recognize/|---> |translate/|-->| learn/ -->| configure/ generate plan/ provision render Upper **Systems** (e.g., 3GPP) monitor/ observe/ Assure analyze

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?

IETF Network Slice monitoring (e.g., OPSAWG SAIN)

## 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 / decomisioning)
- 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 tan welcomed!!