NGFI specification for NW slicing

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| NGFI specification for NW slicing			
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Levels of support to NW slicing in NGFI

- Slicing-Aware
  - Full support
- Slicing-Agnostic
  - Compatible with NW slicing but not optimum
- Propose to remove the slicing-based option ➔ Too complex and might not be realistic, at least from current status of NGFI

Slicing-Aware Transport
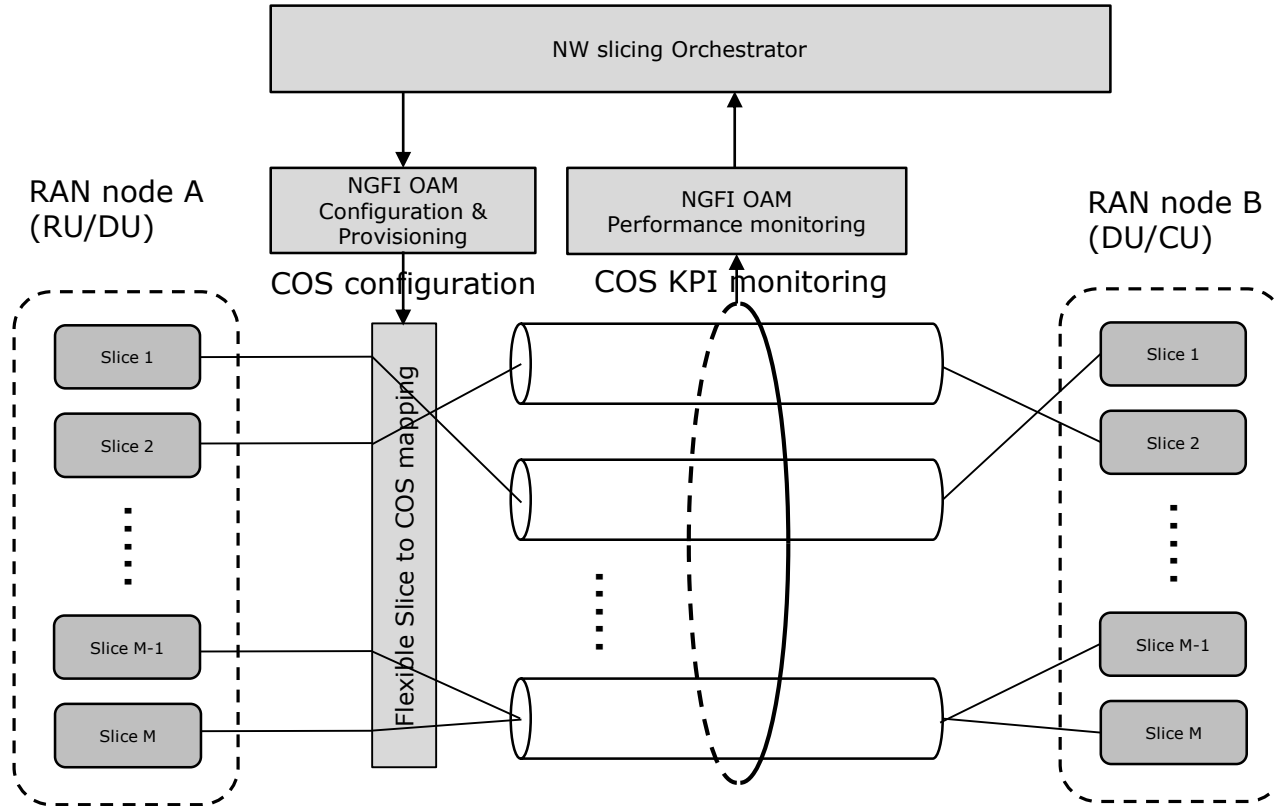
- NGFI Transport OAM interfaces with the network slicing orchestrator
- Flexible/reconfigurable slice-to-COS mapping upon change of slicing services
- Finer granularity of COS KPIs
- Minimum performance requirement on low priority COS
- OAM KPI monitoring reported to NW slicing orchestrator

Slicing-Agnostic Transport
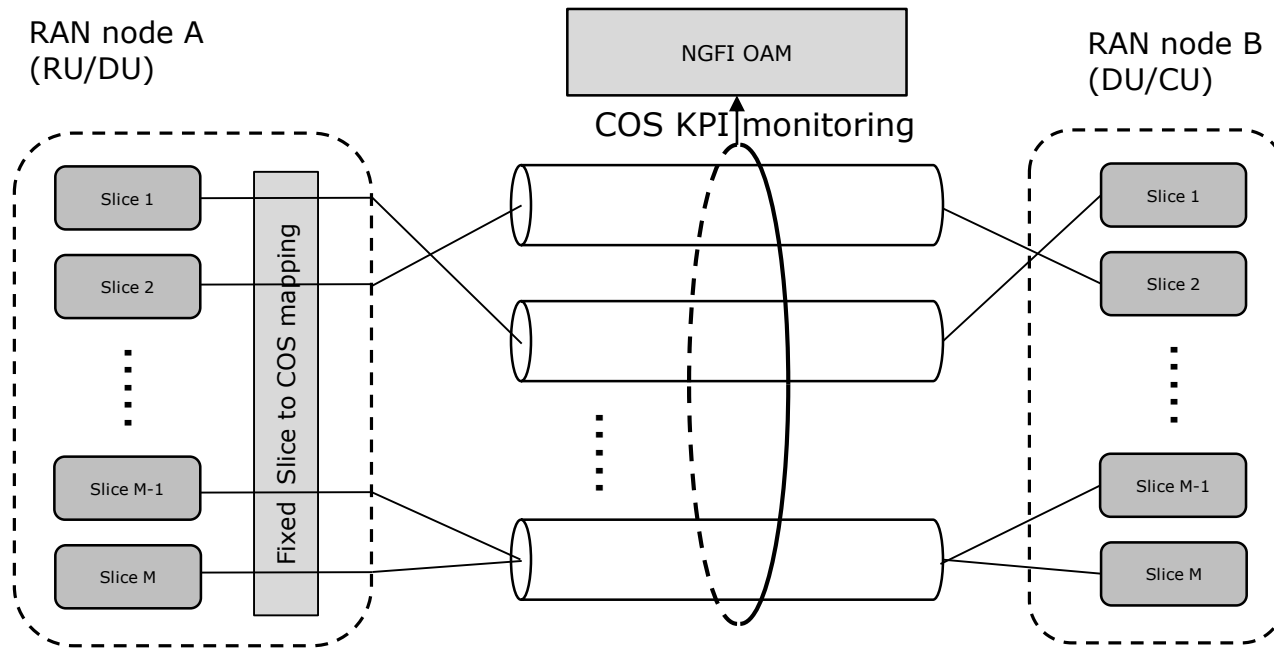
- Standalone transport provisioned at initial deployment
- Capacity sufficiently large to handle the worse case scenarios
- Fixed slice to COS mapping, done in RAN node
- No minimum performance requirement on low priority COS
- KPI status not reported to top layer network controller

Relation of other sections to NW slicing section

For slicing-aware transport support
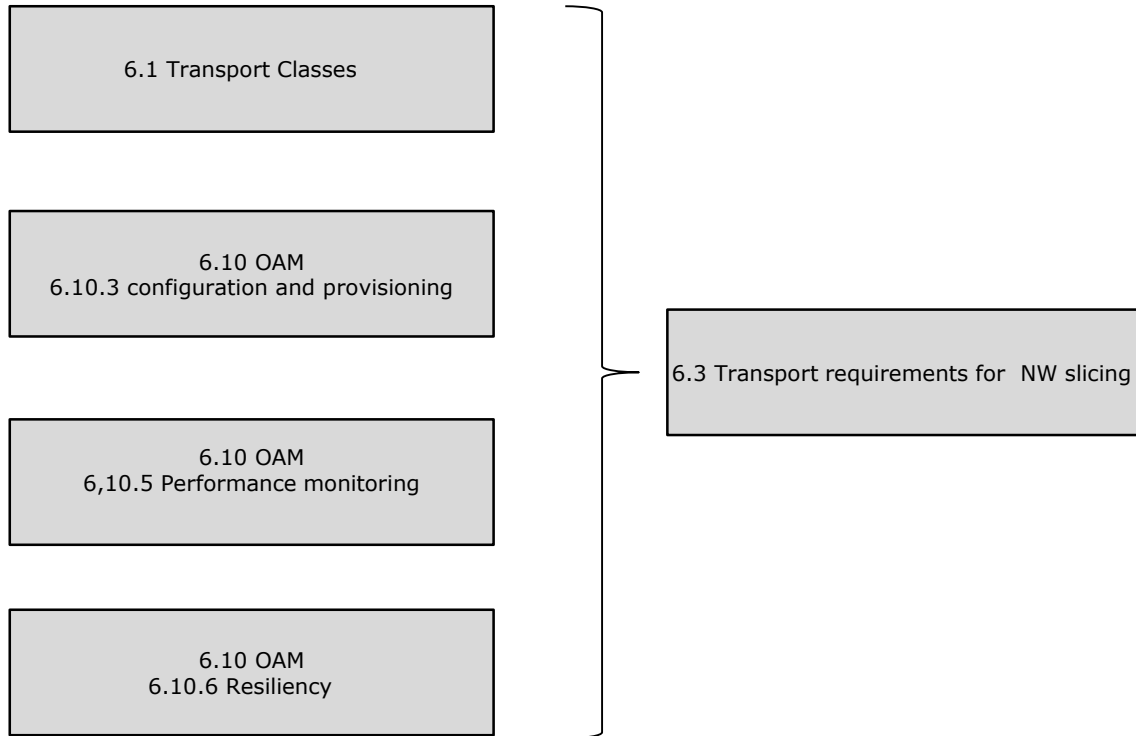
Finer granularity of COS latency for Data-plane

Current:

subclass 1: <50us

subclass 2: <100us

subclass 3: <1ms

subclass 4: <10ms

Propose new: subclass x: <3ms
  – To support longer transport link (therefore more connection nodes) for NGFI-II
  – More granularity for latency variations of applications
  – To accommodate NW slicing
  – Seeing this configuration from some RAN vendors
  – To be more future proof

Example KPIs of mMTC/cMTC

Scenario	End-to-end latency (note 3)	Jitter	Survival time	Communication service availability (note 4)	Reliability (note 4)	User experienced data rate	Payload size (note 5)
Discrete automation – motion control (note 1)	1 ms	1 µs	0 ms	99,9999%	99,9999%	1 Mbps up to 10 Mbps	Small
Discrete automation	10 ms	100 µs	0 ms	99,99%	99,99%	10 Mbps	Small to big
Process automation – remote control	50 ms	20 ms	100 ms	99,9999%	99,9999%	1 Mbps up to 100 Mbps	Small to big
Process automation – monitoring	50 ms	20 ms	100 ms	99,9%	99,9%	1 Mbps	Small
Electricity distribution – medium voltage	25 ms	25 ms	25 ms	99,9%	99,9%	10 Mbps	Small to big
Electricity distribution – high voltage (note 2)	5 ms	1 ms	10 ms	99,9999%	99,9999%	10 Mbps	Small
Intelligent transport systems – infrastructure backhaul	10 ms	20 ms	100 ms	99,9999%	99,9999%	10 Mbps	Small to big
Tactile interaction (note 1)	0,5 ms	TBC	TBC	[99,999%]	[99,999%]	[Low]	[Small]
Remote control	[5 ms]	TBC	TBC	[99,999%]	[99,999%]	[From low to 10 Mbps]	[Small to big]

Reference: 3GPP TS 22.261