



Instantiation of IETF Network Slices in service providers networks

draft-ietf-teas-ns-models-applicability-02

S. Barguil (*Nokia*), [L.M. Contreras \(*Telefonica*\)](#), V. Lopez (*Nokia*), O. Gonzalez de Dios (*Telefonica*), M. Boucadair (*Orange*)

Contributors: D. King (Old Dog Consulting), R. Rokui (Ciena)

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Context & Scope

Scope: the document describes the relationship between the RFC 9543 Network Slice Service model and both Service (L3SM, L2SM) and Network (L3NM, L2NM) models used during Network Slice realization, as well as the communication between the Network Slice Controller (NSC) and network controllers.

What's new in -02:

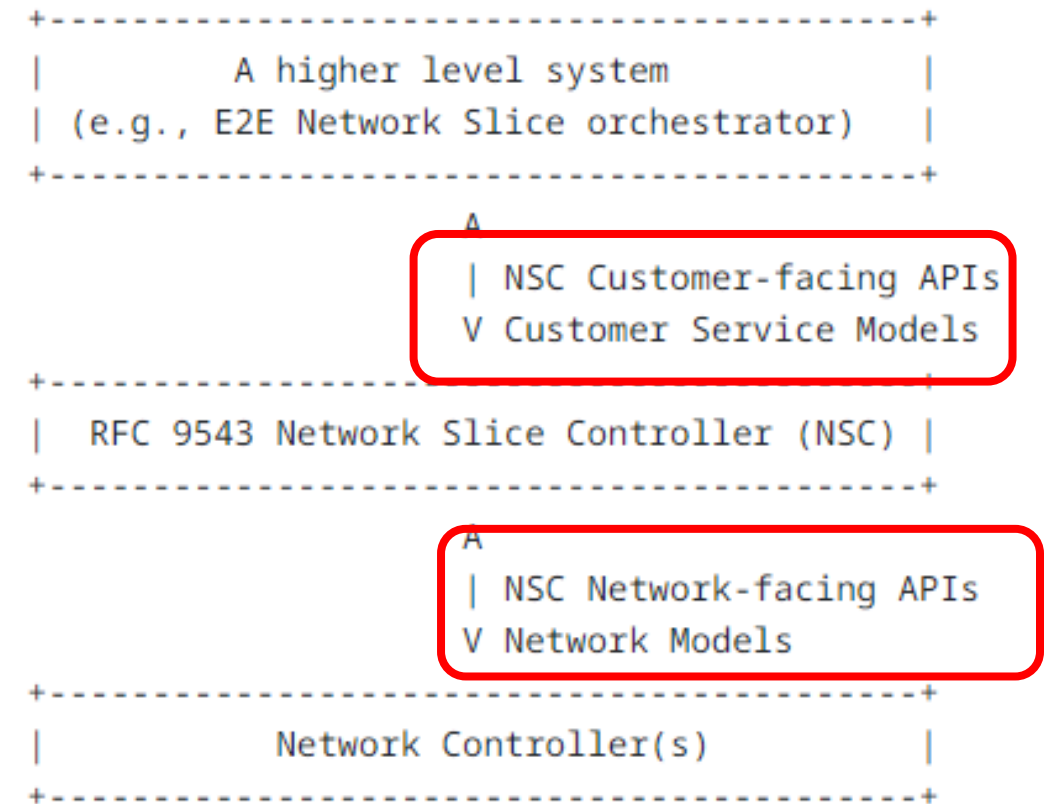
- Completed the initial Functional and Capability Alignment analysis between the Network Slice Service Model and the LxSM and LxNM models (Sections 5.1.2 and 5.2.2).
- Completed the Functional and Capability Alignment tables between the Network Slice Service Model and the LxSM/LxNM models.
- Expanding the parameter relationships to include elements such as VPN nodes and VPN Network Access to better align with SDPs

Differentiators

Practical Implementation Guidance: Our draft offers concrete guidance on how service providers can implement NSCs, focusing on how the intended slice requests are translated into service and network models.

Detailed Parameter-by-Parameter Mapping: We delve into the specific parameters of network slice requests and provide analysis on how these can be mapped to the underlying network infrastructure.

Impact on Service Realization: By closely examining how different models interact during network slice instantiation, our draft helps operators understand the potential impact on service realization, which is a critical aspect of network slicing.



The I-D provides useful guidance for the IETF Network Slice service instantiation and realization.

Functional & Capability Alignment: NSSM vs. LxSM

Initial analysis of the functional and capability alignment between the RFC 9543 Network Slice Service Model (NSSM) and the L3SM/L2SM Service Models (Table 2)

NSSM Capability	L3SM	L2SM	Comments / Status
SLO/SLE templates	Not supported	Not supported	Gap: no reusable templates
SLO/SLE hierarchy	Not supported	Not supported	Gap: no inheritance model
Connection groups	No direct equivalent	No direct equivalent	Partial
Custom topology	Limited	Limited	Partial / Gap
Performance monitoring	Limited service state	Limited service state	Partial
Feasibility check	N/A	N/A	NSC capability
Test-only	N/A	N/A	NSC capability

Table 2: Alignment of RFC 9543 Network Slice Service and the LxSM Service Models (draft-ietf-teas-ns-models-applicability-02, 5.1.2)

Functional & Capability Alignment: NSSM vs. LxNM

Initial analysis of the functional and capability alignment between the RFC 9543 Network Slice Service Model (NSSM) and the L3NM/L2NM Network Models (Table 4)

NSSM Capability	L3NM	L2NM	Comments / Status
SLO/SLE templates	No direct equivalent	No direct equivalent	Gap / Partial
SLO/SLE hierarchy	Not supported	Not supported	Gap: controller logic needed
Connection groups	Not explicit	Not explicit	Partial
Custom topology	Requires extra models	Requires extra models	Partial / Gap
Performance monitoring	Telemetry / state	Telemetry / state	Partial
Feasibility check	Uses network data	Uses network data	NSC capability
Test-only	N/A	N/A	NSC capability
Recursive slice usage	Not supported	Not supported	Architecture capability

Table 4: Alignment of RFC 9543 Network Slice Service and the LxNM Network Models (draft-ietf-teas-ns-models-applicability-02, 5.2.2)

Next Steps

Providing additional examples to illustrate potential multi-domain Network Slice realizations.

Gathering feedback and comments from the Working Group to further refine and strengthen the document.