



ATIS-0200013

ATIS Standard on -

**INTER-ADMINISTRATIVE DOMAIN
NFV TECHNICAL REQUIREMENTS**



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Inter-Administrative Domain NFV Technical Requirements

Alliance for Telecommunications Industry Solutions

Approved March 8, 2016

Abstract

A number of multi-administrative domain Network Functions Virtualization (NFV) use cases have been documented in ATIS-0200012. These use cases are highly relevant to the needs of wireline, wireless, cable, and enterprise networks. Based on these use cases, this document establishes a high level architecture and associated requirements to enable new business opportunities based on open standards to the communications industry.

Foreword

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The Network Functions Virtualization Forum (NFV Forum) provides the inter-provider technical requirements and solutions to help ICT companies realize the benefits of rapidly advancing software-defined networking and NFV technologies. This work is part of a sweeping evolution that is moving the industry from integrated, hardware-centric solutions to modular, hardware-agnostic frameworks by abstracting the hardware resources into a consistent operating environment for the software.

The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word *may* denotes an optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, NFV Forum, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, the NFV Forum, which was responsible for its development, had the following leadership:

Tom Anderson, NFV Co-Chair (Cisco)

Ben Campbell, NFV Co-Chair (Oracle)

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1 Executive Summary

1.1 Scope

This document defines a high level architecture and associated requirements for support of inter-administrative domain Network Functions Virtualization (NFV). This architecture and these requirements support, but are not limited to, the use cases defined in [ATIS-0200012].

1.2 Assessment and Conclusions

The architecture defined in this document, based on a Consumer Administrative Domain and a Producer Administrative Domain, can enable new business opportunities by addressing use cases such as those defined in [ATIS-0200012]. This framework is applicable to the operation of all three NFV service models in an inter-administrative domain context: Network Functions Virtualization Infrastructure as a Service (NFVaaS), Virtual Network Functions as a Service (VNaaS), or Virtual Network Platform as a Service (VNPaaS). This architecture allows both complete Service Functions and/or NFV Infrastructure Capabilities to be traded between the Consumer and the Producer. From this architecture requirements have been derived that include the operational, administrative, and security aspects.

This architecture and these requirements provide a foundation for further standardization to enable open, discoverable, and interoperable NFV services in an inter-administrative domain context.

2 References

The following standards contain provisions which through reference in this text, constitute provisions of this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

[ATIS-0200012], *NFV Forum Use Cases*.¹

[ATIS-I-0000043], *Big Data Analytics Focus Group: BDA Data Value Chain Reference Model & Use Cases*.²

[ETSI GS NFV 001], V1.1.1, *Network Functions Virtualisation (NFV); Use Cases*.³

[NIST 800-145], Special Publication 800-145, *The NIST Definition of Cloud Computing*.⁴

3 Definitions, Acronyms, & Abbreviations

For a list of common communications terms and definitions, please visit the *ATIS Telecom Glossary*, which is located at < <http://www.atis.org/glossary> >.

¹ Available at: < <https://www.atis.org/docstore/product.aspx?id=28218> >.

² Available at: < <https://www.atis.org/docstore/product.aspx?id=28144> >.

³ Available at: < www.etsi.org/ >.

⁴ Available at: < www.nist.gov/ >.