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Network Functions Virtualisation (NFV) Release 4;

Protocols and Data Models;

Specification of protocols and data models for Container Infrastructure Service Cluster Management

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**Group Specification**

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# Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Network Functions Virtualisation (NFV).

# Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](https://portal.etsi.org/Services/editHelp%21/Howtostart/ETSIDraftingRules.aspx) (Verbal forms for the expression of provisions).

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# 1 Scope

The present document specifies the service interfaces to fulfil the functional requirements of the container infrastructure service cluster management (CIS Cluster Management, or CCM in abbreviation) as specified by ETSI GS NFV-IFA 036. It analyses the NFV object model for CIS cluster management and the managed objects of the referenced open-source solutions (e.g. Kubernetes® cluster API) and provide a mapping between them. Based on the analysis results, the referenced solutions are profiled for specifying the CIS cluster lifecycle, configuration, performance, fault and security management service interfaces.

# 2 References

## 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

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The following referenced documents are necessary for the application of the present document.

[1] ETSI GS NFV-IFA036: "Network Functions Virtualisation (NFV); Network Functions Virtualisation (NFV) Release 4; Management and Orchestration; Requirements for service interfaces and object model for container cluster management and orchestration specification".

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] ETSI GR NFV 003: "Network Functions Virtualisation (NFV); Terminology for Main Concepts in NFV".

# 3 Definition of terms, symbols and abbreviations

## 3.1 Terms

For the purposes of the present document, the terms given in ETSI GR NFV 003 [i.1] apply.

## 3.2 Symbols

Void.

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI GR NFV 003 [i.1] apply.

# 4 Overview

Editor’s Note: This clause provides an overview of the requirements of the CCM service interfaces as specified by ETSI GS NFV-IFA 036, as well as the referenced open-source solutions to meet these requirements.

## 4.1 Summary of ETSI GS NFV-IFA036

## 4.2 Profiled protocol and data model solutions

# 5 NFV object models mapping to profiled solution objects

Editor’s Note: This clause provides the mapping between the NFV object model for CIS cluster management and the managed objects of the referenced open-source solutions.

## 5.1 CIS cluster object

## 5.2 CIS cluster node object

## 5.3 CISM instance object

# 6 CIS cluster lifecycle management service interface

Editor’s Note: This clause specifies the interface exposing the CIS cluster lifecycle management service offered by the CCM function.

## 6.1 Description

# 7 CIS cluster configuration management service interface

Editor’s Note: This clause specifies the interface exposing the CIS cluster configuration management service offered by the CCM function.

## 7.1 Description

# 8 CIS cluster performance management service interface

Editor’s Note: This clause specifies the interface exposing the CIS cluster performance management service offered by the CCM function.

## 8.1 Description

# 9 CIS cluster fault management service interface

Editor’s Note: This clause specifies the interface exposing the CIS cluster fault management service offered by the CCM function.

## 9.1 Description

# 10 CIS cluster security management service interface

Editor’s Note: This clause specifies the interface exposing the CIS cluster security management service offered by the CCM function.

## 10.1 Description

Annex A (informative):
Analysis on the open-source solutions based on the CCM service interface requirements

Editor’s Note: This part provides analysis and comparison of the open-source solutions against the CCM service interface requirements. It analyses the gap between the referenced open-source solutions and CCM functional requirements in detail.

Annex B (informative):
Change History

| Date | Version | Information about changes |
| --- | --- | --- |
| February 2023 | 0.0.1 | First version providing the document skeleton and scope. |
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# History

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