



**SLOVENSKI STANDARD**  
**SIST ES 203 682 V1.2.1:2024**

**01-junij-2024**

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**Okoljski inženiring (EE) - Zelena abstraktna plast (GAL) - Zmožnosti upravljanja energije v prihodnjih energijskih vozliščih fiksnega telekomunikacijskega omrežja - Izboljšan vmesnik za upravljanje omrežne energije v okoljih z virtualizacijo omrežnih funkcij (NFV)**

Environmental Engineering (EE) - Green Abstraction Layer (GAL); Power management capabilities of the future energy telecommunication fixed network nodes - Enhanced Interface for power management in Network Function Virtualisation (NFV) environments

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33.040.01	Telekomunikacijski sistemi na splošno	Telecommunication systems in general

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# ETSI ES 203 682 V1.2.1 (2024-03)



**Environmental Engineering (EE);  
Green Abstraction Layer (GAL);  
Power management capabilities of the future energy  
telecommunication fixed network nodes;  
Enhanced Interface for power management in Network  
Functions Virtualisation (NFV) environments**

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**ETSI**

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650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

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Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

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# Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Environmental Engineering (EE).

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# 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](#) (Verbal forms for the expression of provisions).

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# Introduction

Green Abstraction Layer (GAL), specified in ETSI ES 203 237 [1], provides means of exchanging information about capabilities and parameter settings between energy-aware networking devices and their network management primitives. It allows hiding the specificities of devices and their internal operations by means of an abstract interface, through which only a description of energy-related parameters can be conveyed, read and configured.

The scenario introduced by the advent of Network Functions Virtualisation (NFV) possibly accompanied by the further increase in flexibility and programmability brought forth by Software Defined Networking, is changing the network paradigms and the associated GAL design. With NFV, network functionalities become virtualised network functions which can be automatically deployed, migrated, re-configured. The same physical machines of a provider's infrastructure may well serve the needs of different VNFs. In this NFV context, establishing a mapping between the Energy-Aware States of logical entities (e.g. virtualised network functions) and the energy consumption of the hardware hosting the virtualisation containers (e.g. virtual machines, OS containers) that execute these logical entities is a challenging task. There is therefore the need to adapt ETSI ES 203 237 [1] to the NFV environment, and to address its use in the ETSI NFV architectural framework ETSI GS NFV 006 [i.1].

The present document specifies the impact on the NFV architecture of providing virtual energy-aware states capabilities for VNFs.

The present document was developed jointly by ETSI TC EE and ITU-T Study Group 5. It is published respectively by ITU and ETSI as ETSI ES 203 682 (the present document) and Recommendation ITU-T L.1362 [i.7].

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