



BSI Standards Publication

Information technology — Telecommunications and information exchange between systems — Local and metropolitan area networks — Specific requirements

Part 21: Media independent services framework

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National foreword

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exchange between systems — Local
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Specific requirements —**

**Part 21:
Media independent services
framework**

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Réseaux locaux et métropolitains —
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Partie 21: Cadre des services indépendants des supports



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IEEE Std 802.21b™-2012, IEEE Std 802.21c™-2014,
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**IEEE Standard for
Local and metropolitan area networks—**

Part 21: Media Independent Services Framework

Sponsor

LAN/MAN Standards Committee
of the
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Approved 14 February 2017

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Abstract: An extensible IEEE 802® media access independent services framework (i.e., function and protocol) is defined that enables the optimization of services including handover and other services when performed between heterogeneous IEEE 802 networks. These services are facilitated by this standard when networking between IEEE 802 networks and cellular networks.

Keywords: broadcast, downlink only, group, group management, group security, IEEE 802.21™, management, media independent handover, media independent service, mobile node, mobility, multicast, point of attachment, point of service, proactive authentication, seamless, security protection, service access authentication

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Introduction

This introduction is not part of IEEE Std 802.21-2017, IEEE Standard for Local and metropolitan area networks—Part 21: Media Independent Services Framework.

This standard defines an extensible IEEE 802® media access independent services framework (i.e., function and protocol) that enables the optimization of services including handover service when performed between heterogeneous IEEE 802 networks. It also facilitates these services when networking between IEEE 802 networks and cellular networks.

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IEEE Standard for Local and metropolitan area networks—

Part 21: Media Independent Services Framework

1. Overview

1.1 Scope

This standard defines an extensible IEEE 802® media access independent services framework (i.e., function and protocol) that enables the optimization of services including handover service when performed between heterogeneous IEEE 802 networks. It also facilitates these services when networking between IEEE 802 networks and cellular networks.

1.2 Purpose

The purpose of this standard is to improve the user experience of mobile devices by describing a framework and knobs that several services can utilize in a media independent manner, including the handover service between heterogeneous IEEE 802 networks. This framework is also applicable for interworking between IEEE 802 networks and cellular networks.

1.3 General

This standard provides link-layer intelligence and other related network information to upper layers of a mobile device or a network element to support several use cases, such as handovers between heterogeneous networks, radio resource management, home energy management, software-defined radio access networks, and device-to-device (D2D) communication as described in IEEE Std 802.21.1™-2017. In this standard, unless otherwise noted, *media* refers to the method/mode of accessing a telecommunication system (e.g., cable, radio, satellite), as opposed to sensory aspects of communication (e.g., audio, video).

The following items are not within the scope of this standard:

- Enhancements specific to particular link-layer technologies that are required to support this standard (they should be carried out by those respective link-layer technology standards)
- Media-specific protection mechanisms
- Higher layer (layer 3 and above) enhancements that are required to support this standard

The purpose of this standard is to provide a framework with several knobs so that they can be utilized to enhance the experience of mobile users while they are performing functions, such as handovers between heterogeneous networks when mobile, managing link-layer radio resources with or without presence of