IEEE P802.19
Wireless Coexistence

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| Proposed update to reference model |
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Abstract

This document is a submission to IEEE 802.19 TG1 proposing update to reference model.

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# Proposed update

*It is proposed to substitute Section 5 Reference Model by the text below.*

# Reference model

# Overview

The reference model of a CE is shown in Figure 2. The reference model of a CM and a CDIS is shown in Figure 3.



Figure 2. CE reference model.



Figure 3. CM and CDIS reference model.

The CE has two service access points (SAPs): the coexistence transport SAP (COEX\_TR\_SAP) and the coexistence media SAP (COEX\_MEDIA\_SAP). The CM and CDIS have one SAP: the COEX\_TR\_SAP.

# COEX\_TR\_SAP

The COEX\_TR\_SAP provides means for a CE, a CM, and a CDIS to communicate with each other and with external entities by using transport services provided by underlying layers. The underlying layers could be application layer and below or transport layer and below. TCP/IP shall be used. Example reference model of two entities communicating with each other using COEX\_TR\_SAP is shown in Figure 4.



Figure 4. COEX\_TR\_SAP example.

Information required for coexistence and reconfiguration commands that are exchanged between a CE and a CM over the interface B1 are forwarded to transport layer, for example, to TCP, for transmission. This is done using the COEX\_TR\_SAP of the CE and the CM.

# COEX\_MEDIA\_SAP

The COEX\_MEDIA\_SAP defines the interface A between the CE and a WSO. An example reference model of a CE describing an example implementation of the interface A inside a base station is shown in Figure 5.



Figure 5. COEX\_MEDIA\_SAP example.

The left side of the Figure 5 shows a typical reference model of a radio interface including data, control and management planes for physical layer, MAC sublayer, and convergence sublayer. The middle part of the Figure 5 shows the base station management entity. The right part of the Figure 5 shows the CE.

Typically, the radio interface is implemented in such a way that it provides a management interface for the base station management entity. In Figure 5, such interface is represented by the PHY\_ME\_SAP, MAC\_ME\_SAP, and CS\_ME\_SAP, corresponding to the physical layer, the MAC sublayer, and the convergence sublayer. These SAPs can be used to obtain information from the radio interface and to request reconfiguration of the radio interface. Correspondingly, the CE can use these SAPs to implement the interface A. The interface A is defined by the COEX\_MEDIA\_SAP. Communication between the radio interface management service access points PHY\_ME\_SAP, MAC\_ME\_SAP, and CS\_ME\_SAP and the COEX\_MEDIA\_SAP is done via the base station management entity. The base station management entity (i.e., WSO management entity) provides the coexistence primitive mapping (CXPM) service. The CXPM converts CX\_MEDIA\_SAP primitives into WSO-specific management/control primitives. The CXPM implementation is out of scope of this standard.