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| Layout Chapter 8: Network Virtualization Functions |
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Abstract

This document provides the outline of the new structure of chapter 8 Network Virtualization Functions, as agreed in the July 2016 plenary meeting. The document is aimed to support the editor of P802.1CF in setting up the new structure.

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# Network Virtualization Functions

## SDN Functional Decomposition

>>>insert here text of chapter 8 of D0.1; downgrade chapter numbers, e.g. 8.1=> 8.1.1; 8.2=>8.1.2, …)<<<

## Network Function Virtualization

>>>insert text of <https://mentor.ieee.org/omniran/dcn/16/omniran-16-0037-02-CF00-network-function-virtualization.docx><<<

## Virtual Network Instantiation

### Introduction

In dense deployment scenarios, like shopping malls, airports, stations or office buildings, often multiple ANs are installed to serve various needs for building management, public access, and corporate networking. Coverage areas of these ANs are widely overlapping what creates challenges due to interference and congestion in the shared radio resource. To make the operational challenges of multiple overlapping ANs more manageable, and to reduce installation and operation cost, access network operators might consider sharing the access networks.

A single IEEE 802 access network infrastructure can be shared among multiple access network operators by creation of virtual access networks for each of the operators. Effectively all functions of multiple access networks can be established through multiple instances on the same hardware, e.g. virtual LANs on bridges or virtual Access Points on IEEE 802.11 hardware.

The virtualized AN approach is different to a roaming scenario by each access network operator having full access to their virtual slice of the access network infrastructure, instead of allowing users of different service providers to connect to the same AN.

Before operating such a virtualized AN, the AN has to be instantiated. The access network infrastructure requires an orchestrator with the possibility to create multiple instances of the NMS, the ANC, the NAs and the backhaul connectivity. The orchestrator has not only to create the virtual network entity instances but has also to establish the connections between the network entities to establish an instance of a virtual AN. In addition the orchestrator has to set up the connectivity between the virtual AN and its subscription services and access routers.

### Roles and identifiers

t.b.d.

### Use Cases

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### Functional Requirements

t.b.d.

### Network instantiation specific attributes

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###  Network instantiation specific basic functions

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### Detailed procedures

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### Mapping to IEEE 802 Technologies

#### Overview

#### IEEE 802.3 specifics

#### IEEE 802.11 specifics

#### IEEE 802.16 specifics

#### IEEE 802.22 specifics