

Introduction

This document is one of a series to explain technological developments in Wi-Fi 6 and 7 in 'lay terms' so that everyone can get a better understanding of how they work and the benefits they can deliver.

This document focuses on **Orthogonal Frequency Division Multiple Access (OFDMA)**.

OFDMA

OFDMA has been used in the cellular industry for several years and was introduced into Wi-Fi in Wi-Fi 6 (802.11ax) in 2021.

Prior to Wi-Fi 6, a Wi-Fi channel could only carry a single user transmission at any given point in time.

With OFDMA, a Wi-Fi channel is divided into sub-channels called Resource Units (RU).

By dividing a channel into several sub-channels, parallel transmissions to multiple users can be supported.

The use of OFDMA is controlled by the Wireless Router / Access Point.

OFDMA can be used on the 2.4, 5 and 6GHz frequency bands.

For OFDMA to work, both the Wireless Router / Access Point and the client device need to be certified as Wi-Fi 6 or 7.

A simple analogy of OFDMA is an Amazon delivery van. With Wi-Fi 5 and prior, the van only carries parcels for one customer. With Wi-Fi 6, the van carries parcels for multiple customers.

Benefits

- Higher throughput
- Lower latency
- Higher user device densities

Who is Saytelco?

Saytelco is an independent consultancy that specialises in Wi-Fi. We help our clients to devise Wi-Fi strategies, build business cases, procure products/services and project manage implementations.

We can also survey sites and advise on equipment and security configurations. To arrange a no obligation discussion on how we can help you to address your Wi-Fi challenges, please email Mark Sayers via msayers@saytelco.com or call 07970 573428.