

# WBA In-Home Wi-Fi

## Multiple Access Point Solutions Trial – Use Cases

Wi-Fi is the most widespread access technology to connect to the Internet within the home environment. To this end, operators have realized that they must own the Wi-Fi experience in the home, provide a quality of service expected by customers, and deliver an excellent Wi-Fi performance that is achieved by adopting best practices.

The **Wireless Broadband Alliance (WBA)** believes Wi-Fi is a key pillar and of increasing importance to deliver a high-quality broadband service in the home. Never has this been more true or more important than with the onset of the COVID-19 pandemic, with people working from home, children and teens studying and the rest of the population seeking comfort and distraction through video calling between family and friends, finding new opportunities and entertainment and the myriad ways to access information and knowledge.

In 2019 the WBA outlined in a white paper the current Wi-Fi landscape and the recommended industry guidelines and best practices for operators to achieve high-quality In-Home Wi-Fi. With building construction and layout having a material impact on coverage of Wi-Fi within a home, it was identified that homes are increasingly needing Wi-Fi networks comprising of multiple access points, which can bring the complexity of delivery and management, ultimately can impact performance and customer satisfaction.

In this latest WBA program for in-home Wi-Fi, we are building on this previous report with the goal of extending it and providing a clear guide on the best practice and standards to create the ultimate in-home Wi-Fi experience. The full report is only available to WBA members, but the following pages will provide an understanding of what it contains and if of interest, please **contact us** to find out more.



Download the original deliverable entitled

## In-Home Wi-Fi Industry Guidelines

CLICK HERE 

In 2020 the **WBA is focused** on how networks with multiple access points should be deployed to **optimize performance** and coverage.

The endgame for the work of this second stage is to:

- ✓ Allow operators to gain an understanding about current multiple access point solutions in the areas of deployment models, management, and diagnostics
- ✓ Enable operators to maintain performance while reducing correspondent operational costs
- ✓ Focus on the best deployment model(s) for an end-to-end network
- ✓ Increase perceived value and reduce consequential churn

**Multiple access point solutions** for the enterprise have been around for many years. Whereas most homes have relied on one access point, they often now require multiple access points for reliable whole home coverage.

The availability and low cost of modern hardware have brought enhanced Wi-Fi capabilities into the home, driving a new level of complexity for those who install and manage the networks. Taking a standards-based approach will help to mitigate this complexity and deliver the value and benefits outlined above.

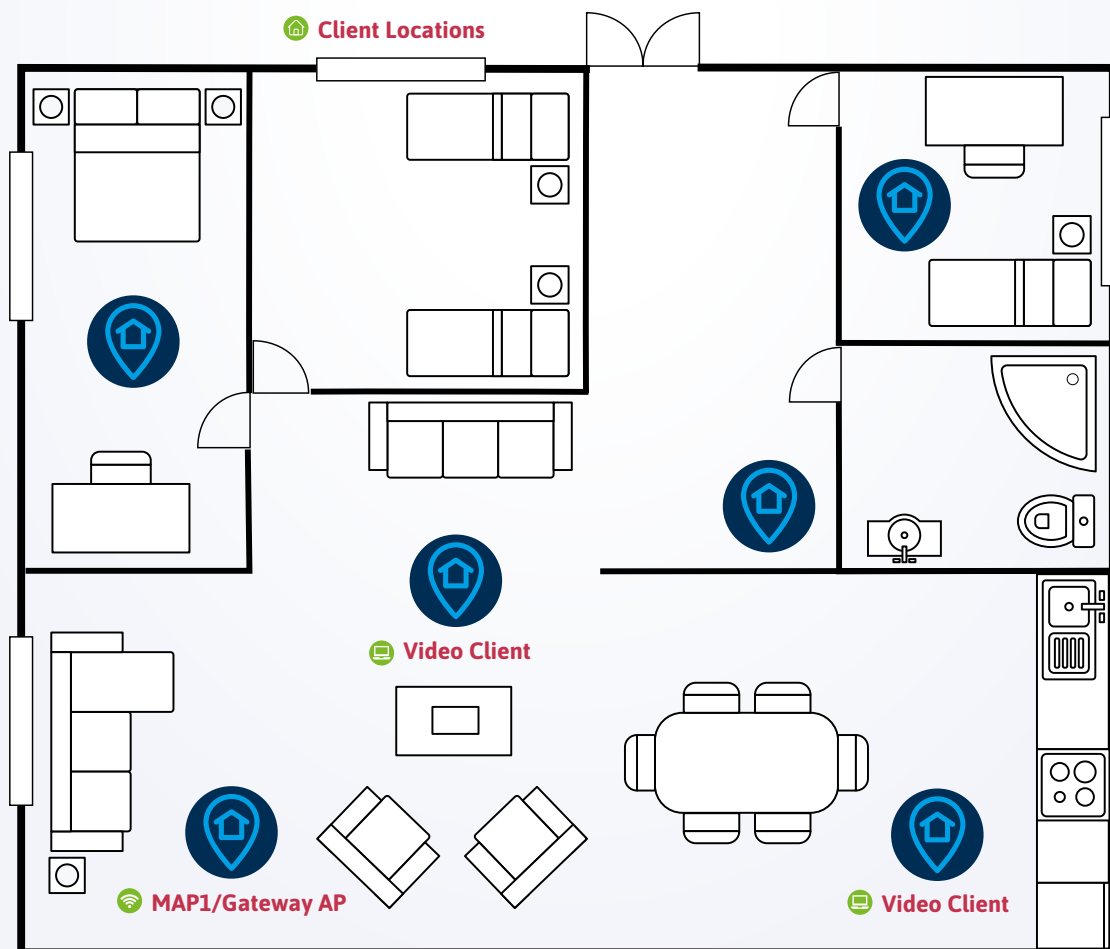


Figure 1 - Illustration of home with multi-AP coverage

In the industry survey ran by WBA at the end of 2019, the following was identified:



**What are the most important criteria to meet customer expectations?**  
**What services are operators now providing to their home subscribers?**

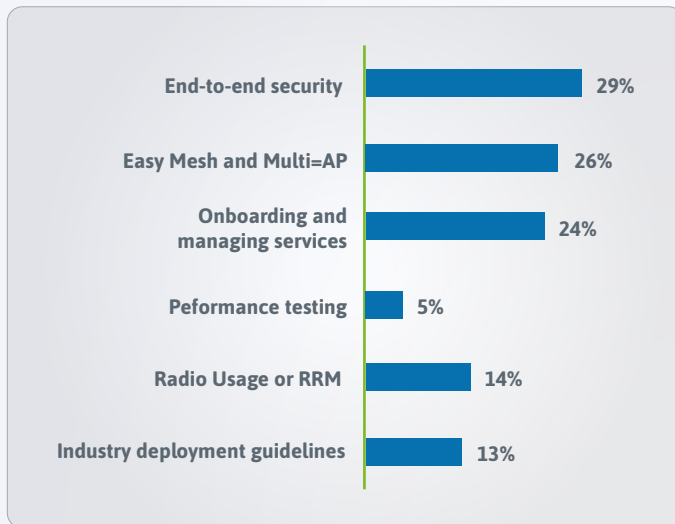


Figure 2 - Top criteria to meet customers satisfaction

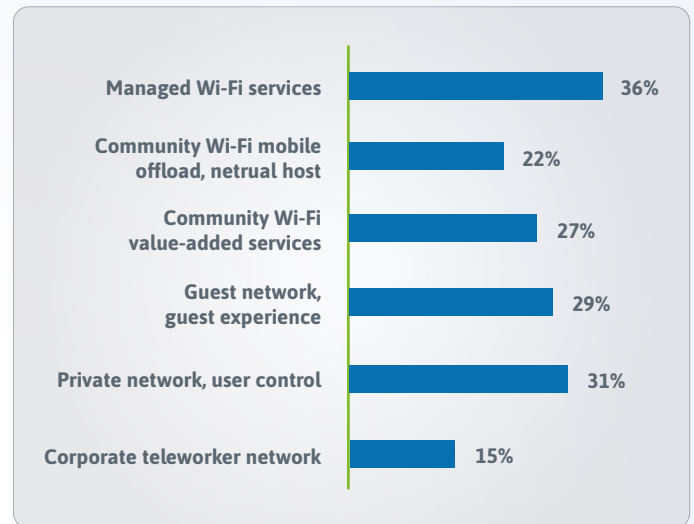


Figure 3 - Services provided to home customers

## For effectively trialing and measuring the optimal results of network deployment, the WBA divided the work into three different stages:

- ✓ Use Cases
- ✓ Test Plan
- ✓ Trial and a white paper on the latest best practices

For stage I, the group contributors, comprising companies such as CableLabs, AirTies, BT, Rogers, ASSIA, Google, and others, have raised a set of use cases that will be the core components of the trial.

By means of use cases, this paper describes features that should be found in multi-AP-capable In-Home Wi-Fi solutions and thereby highlights some of the advantages of adopting them.

*The use cases are divided into broad functional areas of:*



Operation



Deployment



Management and  
Diagnostics

Amongst the newer features covered by the use cases, a reader will find multi-AP functionality; using Wi-Fi CERTIFIED EasyMesh™; zero-touch onboarding and Wi-Fi Easy Connect™, along with diagnostic features supported by Wi-Fi CERTIFIED Data Elements™. The full extent of the use cases collected can be seen below:



## Deployment of multi-AP solutions

**Methods and challenges of installing Wi-Fi solutions in home environments, that consist of more than one Access Point, to enable whole home coverage and optimal performance**

- ✓ Initial installation of a multi-AP network by an end-user
- ✓ Professional installation of multi-AP networks
- ✓ Channel allocation and selection
- ✓ Challenges of connecting all types of client devices (including IoT) to the Wi-Fi network with and without Wi-Fi CERTIFIED EasyConnect™
- ✓ Adding an access point to an already installed system
- ✓ Detecting and specifying location of access point's



## Ongoing operation

**As the environment around the network is continually changing, the network must make dynamic adjustments to account for those changes to keep the network operating optimally.**

- ✓ Automatically fixing channel interference issues
- ✓ Preventing access points from being disconnected from the network
- ✓ Handling and detection of unmanaged access points using same SSID as the managed network
- ✓ Ensuring client devices are connected to the best access point.

*SSID means 'service set identifier' – effectively it is the name of the Wi-Fi network*



## Management and Diagnostics

**Continuously gathered information allows the user and operator to observe the performance of the network and to diagnose and resolve problems.**

- ✓ Using an 'app' provided to the end-user for managing the Wi-Fi network
- ✓ Wi-Fi network topology management by operator
- ✓ Proactive diagnostics and analytics by operator

The full Use Cases Scope document is accessible to WBA Members and Industry Partners only. For the next stage of the initiative, which is development of the test plan – the WBA In-Home Wi-Fi team will be taking input from all members and participants to ensure the test plan meets the required outcomes and delivers true best practice which ultimately will be proven by live trials of the in-home environment.

We highly encourage you to be part of this initiative, particularly if you are an operator with subscribers with homes rarely perfectly covered from a connectivity standpoint.

**Learn more on our website and feel free to get in touch with WBA Program Management Office for further information or to get involved in the work.**