Managed Wi-Fi Experience

Everything starts with excellent Wi-Fi

A Communication Service Provider's (CSP) managed Wi-Fi service requires network equipment that's up to the task. Legacy Wi-Fi systems optimized to solve yesterday's connectivity problems are ill-suited to delivering networked applications and experiences to modern subscribers. New applications like 4K streaming, Google Stadia cloud gaming platforms, live video communications, and an influx of smart connected devices are stressing home Wi-Fi networks in ways that were never anticipated. Outdated equipment results in support calls, customer churn and plunging profitability. Next generation Wi-Fi solutions require:

- Support for the Wi-Fi 6 standard
- Wall-to-wall coverage
- Mobility within the home
- High sustained throughput

The Wi-Fi 6 standard solves legacy Wi-Fi issues while improving performance

Today, there's no secret sauce for delivering a top-notch managed Wi-Fi experience. The answer lies in adopting the new Wi-Fi 6 standard. Stresses on modern connected homes are particularly acute because older generations of Wi-Fi are non-deterministic: home devices are essentially competing with each other for scarce bandwidth. While many vendors offer proprietary ways to address legacy Wi-Fi issues, the evolution of the Wi-Fi standard itself puts many of those older concerns to rest.

The latest generation of Wi-Fi technology, 802.11ax or 'Wi-Fi 6', is a radical departure from Wi-Fi 5. It introduces deterministic Wi-Fi connections and managed quality of service (QoS) for the first time. Think of it this way: With Wi-Fi 5, competing Wi-Fi devices all shout for attention, jostling to be next in line on a narrow digital highway. Wi-Fi 6 introduces OFDMA - essentially a traffic cop, orderly directing Wi- Fi clients through a much larger dynamic multi-lane highway whose lanes respond instantly to "vehicles" on the road. Wi-Fi 6 is not only future proof, but it's supported by the latest handsets, has a higher top speed (30-40% faster), lowers latency (by 75%), and excels at handling large numbers of clients.

Whole home Wi-Fi is no longer optional

When a CSP sells a managed Wi-Fi experience, they assume full responsibility for Wi-Fi performance and quality of service that ensures wireless connectivity extends to every corner of the home. Subscribers care about results and regardless of the application they are using, Wi-Fi = Internet. That means CSPs must prepare for all the typical variations and challenges within a home: whether it's masonry walls, reflective metal cabinets, noisy microwave ovens, or a less-than-ideal access point location. That's where the right equipment can really make a difference: a large number of antennas, beamforming capabilities, ample processing power, modern Wi-Fi features like OFDMA, or the availability of an easily deployed mesh Wi-Fi satellite access point.

Mobility within the home

Wall to wall coverage assumes in-home mobility as a given. While some connected devices are fixed, most aren't. Subscribers take it for granted that they can nomadically roam throughout the home while enjoying a rock-solid Wi-Fi connection: whether it's walking between rooms during a FaceTime session or streaming a movie on a tablet while they make popcorn. Wireless network connections need to offer sustained throughput without any interruption, even when handoffs occur.

High sustained throughput

4k streaming, live video sessions, and internet gaming have demanding connectivity requirements: high sustained throughput, low packet loss, and low latency connections. Meeting those needs requires both a quality connection to the home, as well as Wi-Fi hardware that's capable of saturating it. A 1-Gig connection to the home makes little sense if an underpowered Wi-Fi router can't deliver more than 100 Mbps in practice or handle the number of simultaneous streaming connections that the subscriber requires.

One size does not fit all

Both CSPs and subscribers have different needs and budgets. Homes exhibit an enormous variation in terms of size, layout, occupants, and connectivity requirements and network equipment must be able to accommodate that variation. So instead of one-size-fits all solution and hardware, offerings and hardware need the flexibility to be tailored to the needs of the CSP and subscriber. The growth of modern connected applications places unprecedented strains upon legacy home networking equipment, and today's CSP is held responsible for the quality of home networked experiences. It's essential to offer Wi-Fi performance that's not only adequate for today's subscriber but will continue to scale to their future application and networking needs.

Ultimately, Wi-Fi 6 is a basic requirement for modern managed experiences and CSPs should make this top priority when choosing potential suppliers. Wi-Fi 6 provides greater throughput, increased range, and supports a higher number of simultaneously transmitting devices, making it the obvious choice moving forward.