



Hardware Pro's and Con's

WiFi vs ethernet (including PoE)

WiFi may seem a nice option but to benefit from a robust and stable signal, precautions need to be in place to ensure 24/7 connectivity.

Speed. Although WiFi speeds have increased thanks to 802.11ac and 802.11n, signal distance and signal sharing quickly slow down the stated max speeds of 866.7 Mb/s (ac), in comparison with wired ethernet which if using Cat6 cable can reach upto 10GB/s. But even if using a Cat5e cable which supports up to 1 Gb/s the speed is consistent.

Distance from the signal router or extender/bridge (both of which are additional expenses) need to be within 10m from the terminal. Ensure that the signal is not interrupted or 'diluted' by man-made obstacle eg: solid doors, steel wall structures, electrical interference, thick concrete walls

Latency is the delay in how long it takes for traffic to get from a terminal device to its server destination. This is sometimes referred to as a "ping".

All this interference can cause any number of problems:

- Dropped signals: Occasionally, Wi-Fi will lose the signal and have to reacquire it. This may not be a big deal for some browsing or video streaming, but **if you need to be online and server connected 24/7** then you are not doing the service any justice.
- Higher latency: Increased interference can mean higher latency and a slower 'ping'.
- Lowered speeds: More interference also means lower signal quality, which results in lower connection speeds.

In conclusion, Ethernet (or PoE) offers a more reliable connection than Wi-Fi.
It's just that simple.