

Wi-Fi Survey Services

Many organisations are now adopting a Wi-Fi first approach for both internal and external connectivity. This provides flexibility, cost-efficiency, scalability, and a better customer and user experience, supporting hybrid working and the integration of and increasing number of IoT and smart devices. Well-designed Wi-Fi also aligns with evolving user expectations in today’s digital, content heavy and mobile-centric environment.

However, numerous issues can arise from badly implemented wireless networks such as interference, signal degradation, connection drops, instability and the inability to scale. Ultimately, this results in inconsistent coverage, slow speeds, connection dropouts and poor performance which in turn cause an unpredictable and often poor user experience.



North has broad experience in the design and deployment of business-critical wireless connectivity within a multitude of environments, from large campus dwellings to Public Wi-Fi and Private 5G. With this experience and knowledge, the majority of issues can be mitigated by carrying out wireless surveys to help achieve optimal performance.

North’s wireless survey services are ideal for organisations looking to migrate to a Wi-Fi first approach, upgrade their existing wireless infrastructure to the latest wireless standards or address infill or the addition of new services such as Voice and Video over Wi-Fi.

North offers the following survey services:

Desktop Survey

A predictive survey carried out remotely utilising customer-supplied drawings, measurements and building material details. The survey involves evaluating the wireless signal strength, coverage, interference, and the overall network environment to ensure that the wireless infrastructure meets the needs of users. This typically includes checking for dead zones, adjusting Wireless Access Point (WAP) placement, and identifying potential sources of interference like walls, other devices, or overlapping channels.

Desktop Wireless Surveys encompass:

- **Signal Coverage Mapping:** Analysis of wireless signal strength and coverage areas based on available data.
- **Frequency Spectrum Analysis:** Overview of the radio frequency spectrum in the area to identify interference or congestion.
- **Interference Identification:** Detection of potential sources of interference, such as other wireless networks or electronic.
- **Capacity Planning:** Assessment of how much wireless capacity the area can handle, including user density and load.
- **Wireless Network Design Recommendations:** Insights for optimal placement of access points or wireless infrastructure.
- **Site-Specific Data:** Information on building layout, obstacles, & other environmental factors affecting signal propagation.
- **Wi-Fi Channel Allocation:** Analysis of the best channel selection to reduce interference and optimise network performance.
- **Performance Predictions:** Estimated performance (e.g. speed, latency) of the wireless network in different areas.
- **Compliance & Regulations:** Review of compliance with relevant wireless communication standards or regulations.

Onsite Survey

A more detailed and accurate approach using a ‘WAP on a Stick’, this survey is conducted by network engineers who physically visit the site/s. Factors measured include signal strength, coverage, interference, and capacity. This approach helps to identify issues such as dead zones, weak signals, or interference sources such as building materials. It also determines the optimal placement of APs to ensure reliable and efficient wireless connectivity across the entire area.

Onsite Surveys

- **Real-Time Signal Strength Measurements:** Direct measurement of wireless signal strength across different locations on-site.
- **Access Point Placement:** Identification of optimal locations for access points to ensure optimal coverage and performance.
- **Interference Detection:** Real-world identification of physical or electronic interference affecting the wireless network.
- **Capacity Testing:** Evaluation of the wireless network’s ability to handle expected user loads and traffic.
- **Channel Utilisation:** Detailed analysis of channel usage to avoid congestion and reduce interference between networks.
- **Heatmaps:** Creation of visual representations (heatmaps) showing signal strength, coverage areas, and weak zones.
- **Identification of Dead Zones:** Detection of areas with weak or no signal coverage.
- **Environmental Factors Impacting Wi-Fi:** Assessment of obstacles like walls, furniture & materials that affect signal propagation.



North builds stronger, more reliable networks and creates smarter, more sustainable places. Our intelligent technology solutions and robust network infrastructures transform the way people, places & organisations work. Working across three specialist sectors: Public Services, Enterprise & Data Centres, and Defence & Justice. We collaborate closely with our clients to understand their unique needs and challenges and take pride in delivering impactful solutions that make their environments better connected, simpler to manage, safer to be in, and more efficient to run.