



WIRELESS LAN ASSOCIATION

WLA STANDARDS COMMITTEE

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Wireless LAN Design Framework: Diagnose

Assess networks and their design

Note: The purpose of this book is to characterize the network and identify its potential issues. Corrective action will not be explored.

The following outline is a framework to assist in the “diagnose / validate” stage of creating and implementing a WLAN design. Please note that, because of the cyclical nature of this process, and considering the fact that not every project is a “greenfield” design, the WLAN professional may need to begin their process at this stage.

Not all items in this document will apply in every situation. The WLAN professional may need to adapt some of the items to meet the needs of their individual client, and/or the order in which select relevant tasks will be performed. However, the WLA believes that using the following framework will ensure accuracy, consistency, and efficiency, thus bringing the work of any WLAN industry professional who uses it, to a higher level.

The associated publication, which will explore and expand each of the points in this document will be published shortly.

- 1. Identify Organization, Business, and Technical Environment**
- 2. Identify Requirements and Review Initial Design Documentation**
Which may include any results / files / output from initial delivery such as:
 - 2.1. Coverage
 - 2.2. Interference
 - 2.3. Configuration
 - 2.4. Features
 - 2.5. Security
- 3. Identify the Purpose of the Assessment**
 - 3.1. Change in Wireless LAN requirements
 - 3.2. Scheduled WLAN health check
 - 3.3. Reported WLAN performance or connectivity problems
 - 3.4. WLAN refreshment

4. Conduct WLAN Assessment

Which may include any combination of the following, per type:

- 4.1. RF Assessment
 - 4.1.1. Coverage (RSSI)
 - 4.1.2. SNR
 - 4.1.3. Overlap and CCI
 - 4.1.4. Roaming
 - 4.1.5. Spectrum
 - 4.1.6. Channel plans
 - 4.1.7. Performance metrics (throughput, latency, jitter)
- 4.2. Network Assessment
 - 4.2.1. Network infrastructure
 - 4.2.2. PoE
 - 4.2.3. VLANs
 - 4.2.4. Addressing
- 4.3. Application and Services Assessment
 - 4.3.1. DNS
 - 4.3.2. DHCP
 - 4.3.3. WNMS
 - 4.3.4. Location services / RTLS
 - 4.3.5. Captive portals
 - 4.3.6. RADIUS server
 - 4.3.7. Authentication
- 4.4. Physical Assessment
 - 4.4.1. Cabling
 - 4.4.2. Validating antenna orientations
 - 4.4.3. Validating effective mounting

5. Complete Assessment Report

This may include any, or all, of the following:

- 5.1. Test plans
- 5.2. Test results
- 5.3. Recommended modifications