OBERON
WIRELESS COMMUNICATIONS SOLUTIONS

DOT11 Monitor™
by Oberon Inc.

Wi-Fi™ RF Connectivity Monitoring Application

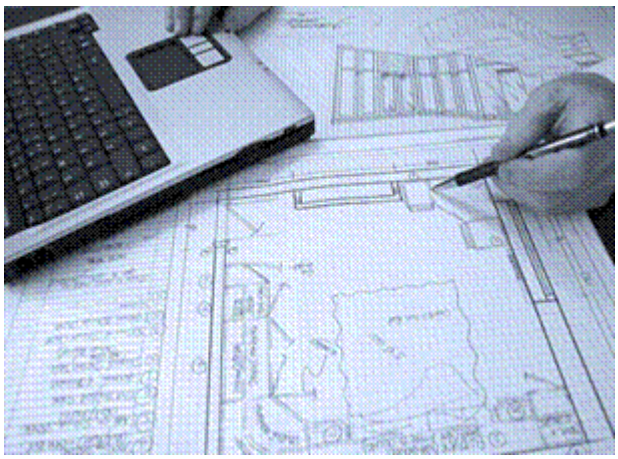
Enterprise Wi-Fi deployments have become mission critical. Mobile users are dependent upon a robust radio frequency (RF) connection between their mobile client device and the network infrastructure. Disconnects between the mobile client device and the network infrastructure are disruptive, and, because of the nature of the radio frequency signal, can be difficult to resolve. Frequently, disconnects perceived to be caused by inadequate radio frequency signal strength are due to radio signal interference, poor wireless network design, or faulty device driver performance.

Oberon's *DOT11 Monitor* ™ is designed to permit fast, real-time assessment of RF connectivity between mobile devices and the infrastructure access point or controller. The network administrator can preemptively determine if mobile connectivity issues are related to RF signal coverage.

DOT11 Monitor ™ resides on a PC and no appliance or special hardware is required. The application is based on Oberon's database, logging and charting software, and intuitive Web Interface. The infrastructure access points (APs) store client device signal strength and interference levels internally, in a file called the Manufacturer's Information Base, or MIB. *DOT11 Monitor* ™ queries the APs for signal strength & interference using SNMP.

The application User Interface (UI) is web based, so it can be brought up on any network connected PC with a Web browser for convenient monitoring and analysis. The user can request that the application display signal level and/or interference level over a user-selected period of time for any selected mobile device. The application does not interfere with normal network operation, other than a slight amount of network overhead.

Using *DOT11 Monitor*™ network support staff responding to a problem report can track mobile device signal level to see if the problem is related to RF coverage.

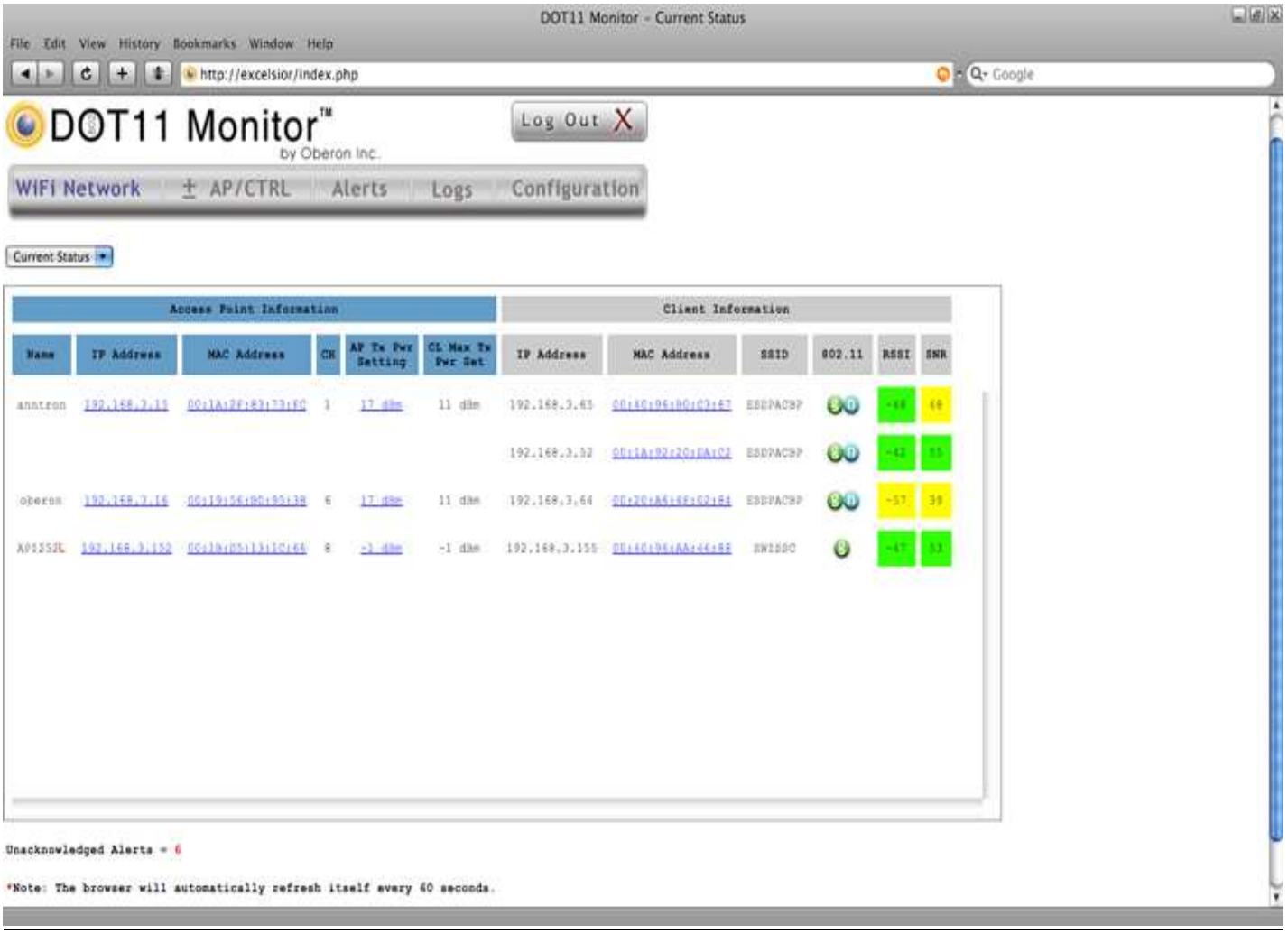


The support staff can also configure *DOT11 Monitor* ™ to store and alert personnel to problems associated with low signal level or high interference, for preemptive problem resolution.

DOT11 Monitor ™ can generate automatic reports over user specified time periods and can activate (e-mail) reports based on connectivity dropping below user specified thresholds.

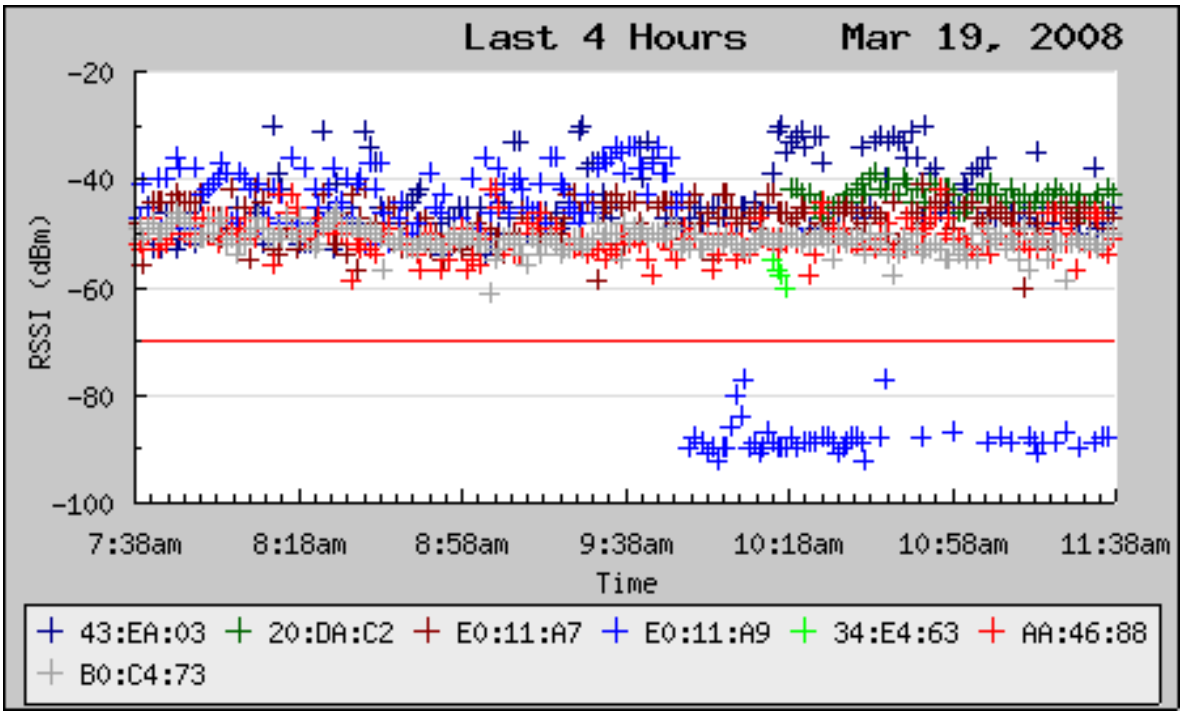
BENEFITS

- Easy to use, dedicated application for monitoring wireless network connectivity
- Preemptive detection and notification of devices falling below user specified thresholds over user specified timer intervals
- Display received signal strength and signal to noise ratio over user selected time intervals, or display histograms
- Manage and set access point AND client device transmit power level, for optimum network performance
- Validate wireless network designs
- Diagnose wireless network problems
- Enforce service level agreements
- Remotely monitor customer networks

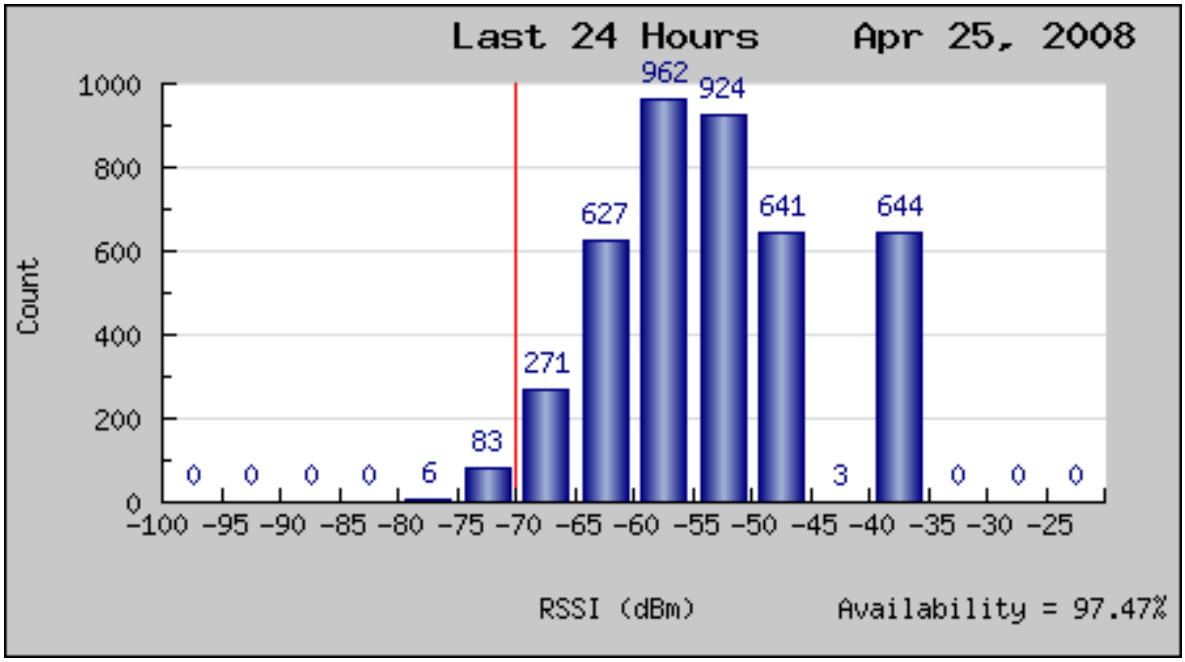


DOT11 Monitor™ Displays:

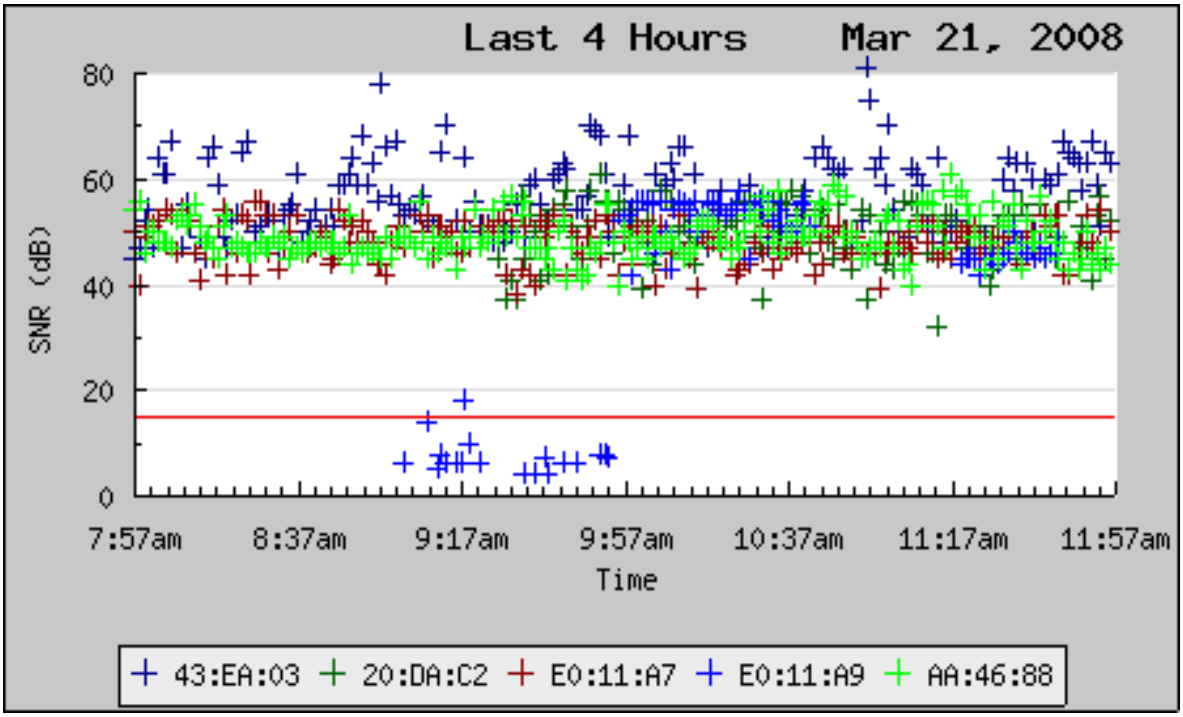
- Access point and connected client device MAC and IP Address
- Client device associations to access points and channel settings
- Access point AND connected client devices transmit power settings
- Color coded Received Signal Strength (RSSI) and Signal to Noise Ratio (SNR) from each client device, plotted over time
- Histograms of RSSI and SNR over user selected timeframes
- Client device availability and SNR compliance metrics
- Time-plots of client device RSS and SNR, color coded to show roaming across access points



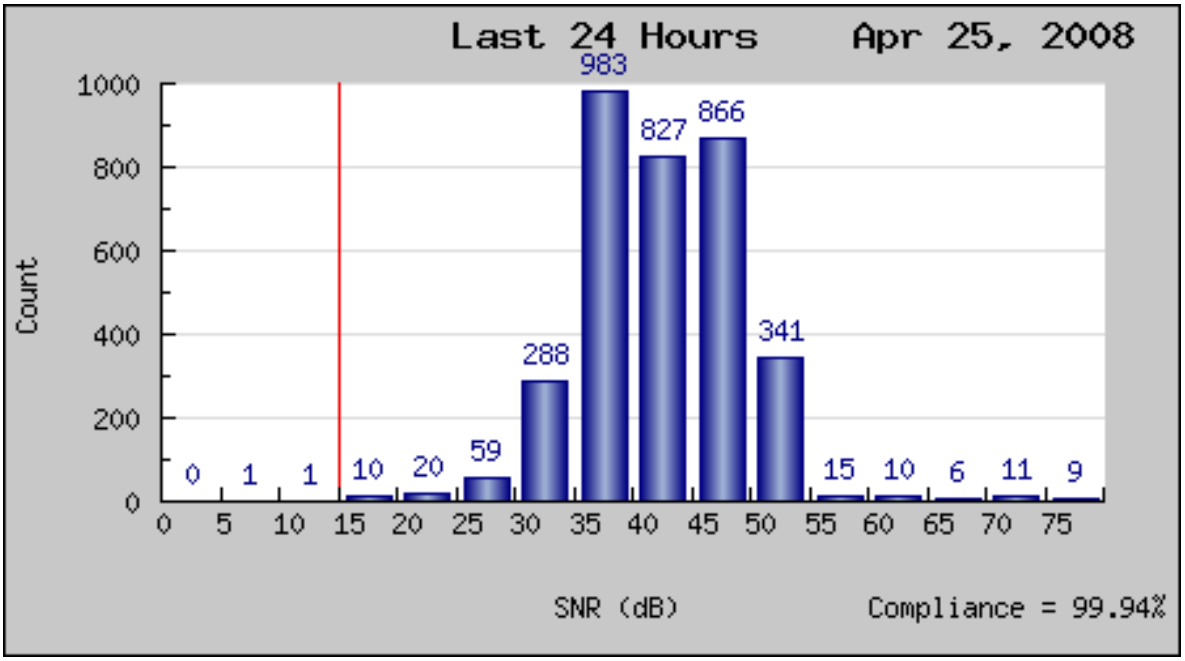
Time-plot: Color-coded client device received signal strength (RSSI) at the access point



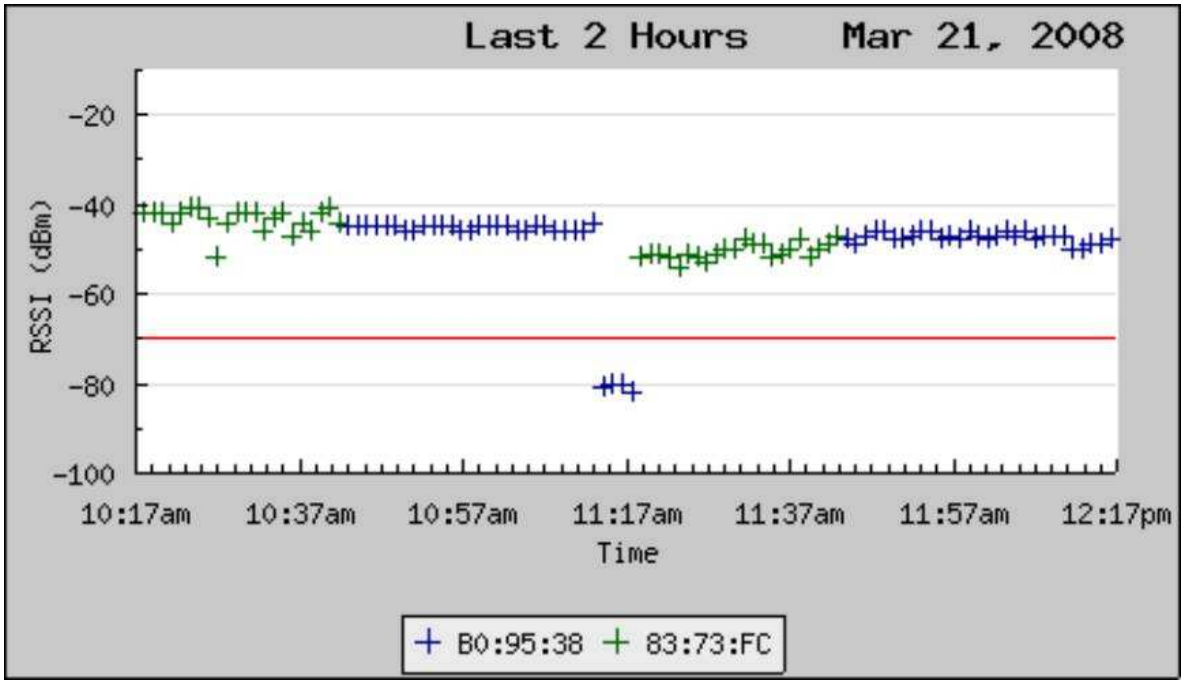
Histogram: Client Devices received signal strength (RSSI) at the access point, and network "Availability" Metric



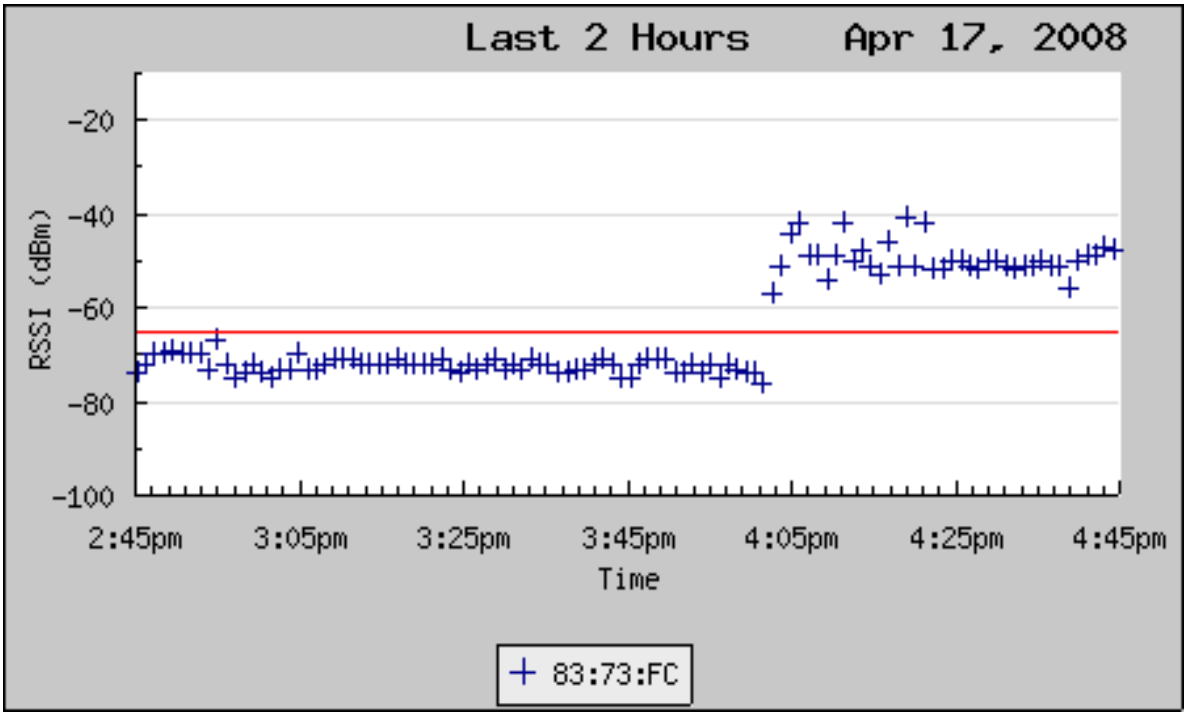
Time-plot: Color-coded client device Signal to Noise Ratio (SNR) at the access point



Histogram: Client devices Signal to Noise Ratio (SNR) at the access point, and SNR “Compliance” metric



Time-plot: Selected client device received signal strength (RSSI), roaming across two access points



Time-plot: Below threshold client device receive signal level at access point. Client device is commanded to increase transmit power, so receive signal is about threshold

SPECIFICATIONS and REQUIREMENTS

DOT11 Monitor contains built-in Apache web and Firebird database servers. These services will co-exist with existing or future web or database server installs. If you require DOT11 Monitor to run using existing web or database servers, please contact Oberon technical support. DOT11 Monitor should be installed on a computer that resides on the same subnet as the access points to be monitored.

Server or PC OS: Linux or Windows
Processor: 600 Mhz
RAM: 256 MB
Hard Drive Space: 100 MB

Supported Products: Cisco 1130, Cisco 1240, and Cisco 1250 series access points and Cisco WLAN Controller 2106.

Supports IOS Versions: 12.3(11)JA1 through 12.4(3g)JA1, Cisco Certified eXtension (CCX) clients recommended.

SNMP v1, v2c, or v3 enabled on every access point to be monitored. Access Point or Controller must have a STATIC IP address.

Supported standards: IEEE 802.11 a/b/g/n

Network Information Provided: AP name, AP SSID, AP IP Address, AP MAC Address, Channel number, AP TX Power setting, Client Max. TX power setting, Client IP address, and Client MAC address.

Time intervals which can be graphed: Last 60 minutes, 2 hr, 4 hr, 8 hr, 24 hr, 7 days, and 30 days.