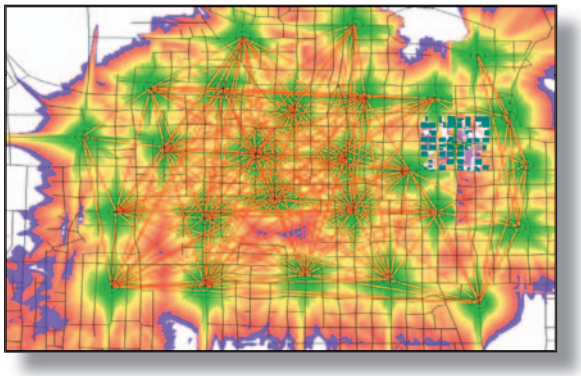
Identify the potential.

SignalMX™ is an add-on module to EDX® SignalPro® that specifically addresses the needs of designing, maintaining and optimizing mesh and WiFi networks with pico cell architecture.

Studies

Detailed Consideration of the 3D Environment

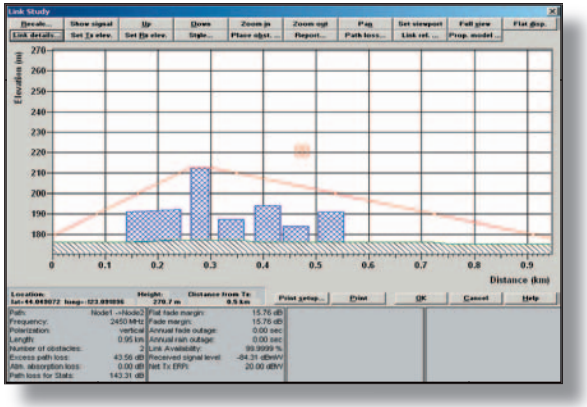
EDX SignalPro, the basic wireless network design tool to which SignalMX attaches, offers the most comprehensive selection of propagation models. The included models use deterministic calculations that predict path loss in clutter-rich environments by considering the attenuation of the local clutter and/or the specific locations of buildings. These considerations are essential for accurate predictions of coverage, interference, data rate, and bit error rate in mesh and pico cell networks where the equipment is densely spaced and located amongst the clutter.



"Clutter Carve" is used to model the 3D area, showing better coverage along roads and streets.

Use Clutter for Fast 3D Modeling

SignalMX provides an innovative way to effectively model the 3D environment. A clutter carving technique provides network designers with the ability to assign height values to clutter categories, then overlay the resulting 3D clutter model with GIS data, such as streets/major roads/highways/interstates. The GIS data can "carve" down into the 3D clutter model resulting in a realistic description of the propagation environment in which the network operates. The width of the "carve" can be set by the network designer, specific to each GIS category. This integration of clutter and GIS data gives network designers a quick and location-specific model of the market area when time and/or budgets do not provide for higher-resolution clutter and building databases.



Mesh Analysis

SignalMX gives you powerful analyses for mesh networks, providing specific studies and displays that are meaningful for mesh architecture. The mesh studies:

- Determine path loss between all nodes using point-to-point link calculations and taking into account terrain, buildings, and clutter
- Calculate received signal at each node from all other nodes
- Take into account directional antennas where present
- Calculate interference at each node from all other nodes based on frequency or channel

Features

Automatic Layout

SignalMX provides automatic layout of nodes and access points (APs). Whether you are in the bidding process, initial deployment, or planning for growth, the ability to automatically distribute nodes in your market area will give you the ability to plan your network to meet the capacity demands.

The distribution of nodes is based on market-specific databases such as census/population information or land use/clutter specifications, and can make use of specialized databases that provide potential node locations, such as geographically referenced street lamp databases. Multiple groups of nodes can be automatically generated, with each group having specific RF parameters and distribution techniques, providing for easy modeling of multiple service level agreements.

If you have EDX SignalPro with the Network Design Module, you can also easily add Customer Premise Equipment (CPE) at specified node locations when you are using fixed broadband networks for your internet gateways.

With the advanced mapping features in EDX SignalPro, the ability to display aerial photos and satellite images as map backgrounds also adds to the ease of laying out mesh networks.

Traffic Loading

Automatically calculate traffic loading on individual nodes based on real service areas and a selection of multiple service types. You can consider multiple service mixes such as voice, e-mail, web browsing, audio streaming, and video streaming. Model the traffic in your service area with more accuracy using relevant criteria from underlying databases, such as:

- Demographic
- Traffic
- Land use/Clutter/Morphology
- Uniform loading

Planning with Routing Information

In order to do meaningful traffic analysis on mesh networks, it is important to consider the routing techniques used by equipment. SignalMX includes Application Programming Interfaces (APIs) that provide for proprietary routing algorithms to be used in your traffic analysis and what-if scenarios. Check with your equipment manufacturer to see if an EDX API is available for use with SignalMX.

Quality of Service Sampling

This unique feature gives you a multimedia presentation of the quality of the signal experienced by a user in your network. As you move your mouse around your study, you are provided with a sample of a video or sound file responding to the quality of the network. As the network performance degrades the multimedia file will fade.

SignalMX™