



Identify the potential.

SignalMX® is a carrier-class add-on module for EDX® SignalPro® that specifically addresses the needs of designing, deploying and optimizing wireless mesh networks. With automatic node layout, automatic traffic loading, and automatic gateway selection features specific to today's Wi-Fi and mesh network designs, SignalMX provides detailed performance predictions that save operators time and money in their network planning processes.

Studies

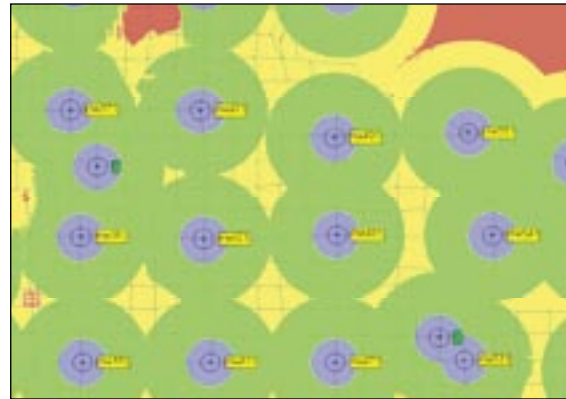
Detailed Consideration of the 3D Environment

EDX SignalPro, the basic 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 the specific locations of building walls. These considerations are essential for accurate predictions of coverage and interference in mesh networks where the equipment is located amongst the clutter with low power and dense spacing.

Use Clutter for Fast 3D Modeling

SignalMX provides an innovative way to effectively model the 3D environment. A Clutter Carving™ technique is used to provide a realistic description of the street canyon propagation environment in which the network operates. The technique provides network designers with the ability to build a reasonable location-specific model of the environment without purchasing building/structure databases. Just a few simple steps:

- Add relevant height values to terrain, based on underlying clutter categories
- Overlay the resulting 3D clutter model with GIS data, such as streets/major roads/highways/ interstates.
- Assign the width of the “carve”, specific to each GIS category. The GIS data “carves” into the 3D model, back to the terrain height accordingly,



Wi-Fi client coverage before Carved Clutter technique



Wi-Fi client coverage after Carved Clutter technique.

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 Access Points (APs) using point-to-point link calculations and taking into account terrain, buildings, and clutter

- Calculate received signal at each AP from all other APs above your threshold
- Calculate interference at each AP from all other APs based on frequency or channel above your threshold
- Take into account directional antennas



Mesh Routing display along with coverage from routers. Mesh link color selection determined by available data rate.

Features

Automatic AP Layout

SignalMX provides automatic layout of cells/Access Points (APs). Whether you're in the bidding process, initial deployment, or planning for growth, the ability to automatically distribute APs in your market area will give you the ability to plan your network to meet capacity demands

The automatic distribution of APs is based on market-specific databases such as census/population information or land use/clutter specifications, and can make use of databases that provide potential locations, such as geographically referenced street lamp databases. An intelligent “snap to intersections” feature places APs at street intersections to make the most of street canyon environments.

Multiple groups of APs can be automatically generated, with each group having specific RF parameters and distribution techniques, providing for easy modeling of multiple service level agreements.

Also, 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.

Automatic Selection of Gateway Nodes Based on Backhaul Conditions

This feature Automatically identifies and assigns nodes as gateways based on the best connectivity conditions to a WiMAX or Multipoint backhaul network. Save time and make it easy to reliably repeat network designs with consistent criteria.



SignalMX® Add-On Module

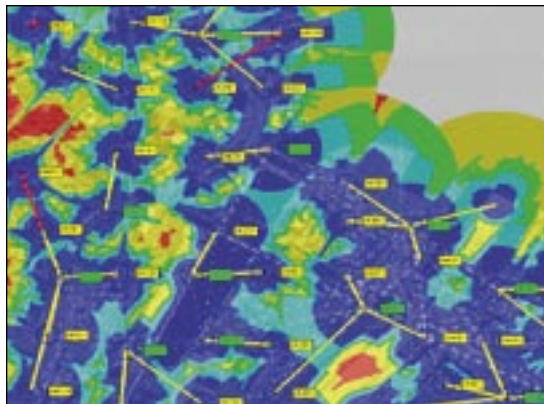
Automatic Traffic Loading

Model the traffic in your service area with more accuracy. 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.

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. A generalized “fewest hops to the gateway” routing technique is included.

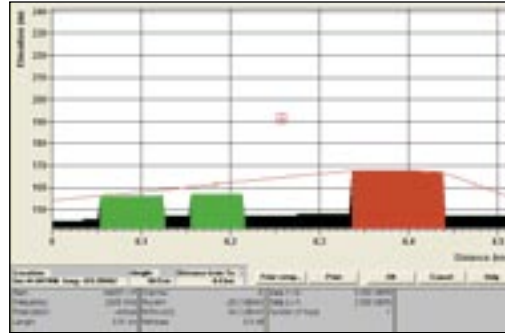
SignalMX also includes Application Programming Interfaces (APIs) that provide for proprietary routing algorithms to be used in your traffic analysis and what-if scenarios. Check with your equipment manufacturer to see if an EDX API is available for use with SignalMX.



Wi-Fi client coverage map with mesh routes to gateways, colored by number of hops, and alternate mesh paths that meet connectivity thresholds.

Path Profile & Quick Reports for Complete Details

With quick right-click commands, you can access path profile details that provide you with information about obstacles and clutter types along the link paths. You can also quickly generate a report that tells the power and path loss to the next AP, as well as the data rate in both directions and how many hops to the gateway.



Detailed path profile available with right-click commands.

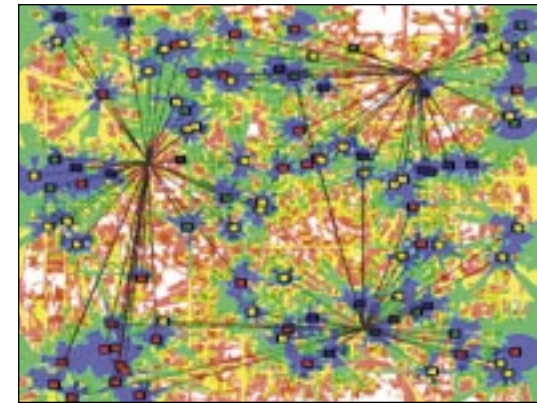
Complete Municipal Network Planning Tools

If you have EDX SignalPro with the Network Design Module, the carrier-class tool, you can also easily add APs at each Customer Premise Equipment (CPE) location or vice-versa when you are using fixed broadband networks for your internet gateway backhaul networks. This gives you a single tool that integrates the design work for your mesh client service, mesh interconnect (AP-to-AP), point-to-multipoint backhaul, consecutive point backhaul and also wide-area systems.

Studies and map views can be simultaneously displayed so that you can see the performance of multiple networks in a single study.

Modules

- **SignalProof™**
Toolkit for customer pre-qualification and call center support.
- **Building Editor:**
For importing and editing floor plans and outdoor building databases.
- **Microcell/Indoor Module:**
For use with EDX SignalPro or SIGNAL; optional module for microcell indoor and outdoor communication system design; features 2D and 3D ray-tracing models.



Multiple network performance displayed in a single view. Point-to-Multipoint backhaul system colored at CPE by performance results along with link lines to assigned server, overlaid on Wi-Fi gateway coverage study. Available only with EDX SignalPro®.

Contact

EDX Wireless, LLC
PO Box 1547
Eugene, OR 97440-1547
USA

Tel: +1-541-345-0019
Fax: +1-541-345-8145
Email: info@edx.com
Web: www.edx.com

Identify the potential.