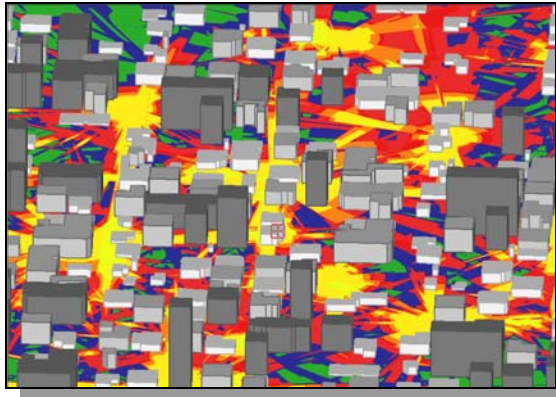


EDX® SignalMX™ is a network design application that specifically addresses the needs of designing, maintaining and optimizing mesh and WiFi networks. Intelligently scale mesh network design by performing easily implemented area studies and mesh link analyses, which reduces your time to deployment and increases your return on investment.



Why SignalMX?

In order to effectively deploy large mesh networks it is necessary and advantageous to perform network design in SignalMX. Quickly create projects for specific markets, predict coverage of initial deployment scenarios, increase or decrease site density based on fast what-if iterations which leads to an intelligently scaled mesh network in a relatively short design cycle. Utilizing SignalMX will reduce your guesswork, allow for fast, accurate and sophisticated pre-sales activities, shorten time to market, increase customer quality of service and increase overall return on investment.

Return on Investment from SignalMX

Design cycle accomplished in SignalMX reduces network deployment costs by:

1. Streamlining Pre-Sales Activities
2. Optimizing Infrastructure Investment
3. Shortening Time to Market
4. Decreasing Network Optimization Iterations
5. Intelligently Scaling Large Networks
6. Increasing Customer Satisfaction
7. Reducing Truck Rolls

Mesh Network Design Process

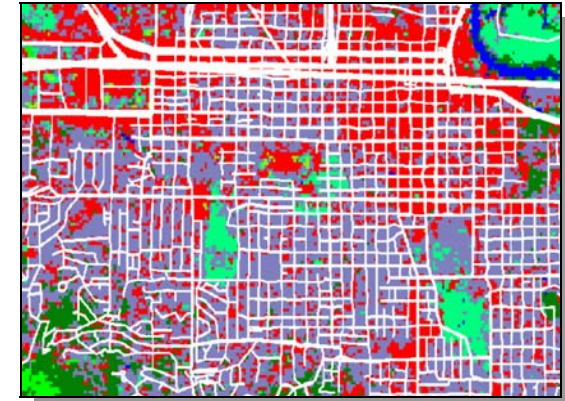
EDX's ongoing technical relationship with leading mesh equipment manufacturers has resulted in a straightforward process for performing mesh network design that will give accurate results thereby optimizing infrastructure investments. This also reduces your planning tool learning curve and will increase your planning efficiency.

Pre-Sales Planning to Final Network Design

If you are performing simple pre-sales coverage maps, then network design can be realistically accomplished in half a day by an experienced EDX user. This short cycle allows for a cost effective bidding process. After you win the contract, the network designer is then able to finalize network design by performing successive design iterations and then finally utilizing traffic analysis to ensure Quality of Service for end users of the mesh network.

Initial Project Development

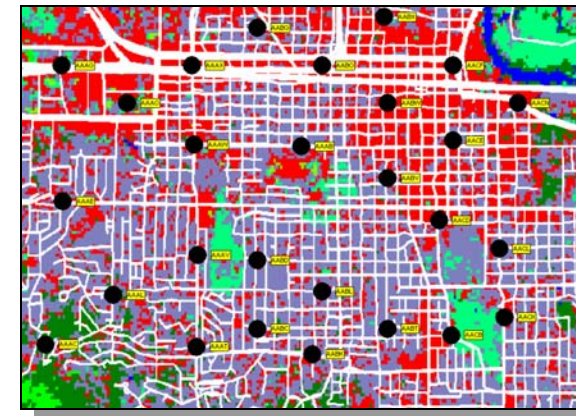
Build your base project utilizing high resolution terrain data, telecom specific GIS data, and current or best available clutter data. Locate and define your study area by navigating SignalMX's intuitive mapping system. Utilize SignalMX's unique clutter carving utility to create economical, fast and effective study environments which drives down overall design costs.



Create initial project using Terrain, GIS and Clutter data of market location. Carve Clutter of market area in easy to use dialog box

Initial Mesh Node Layout

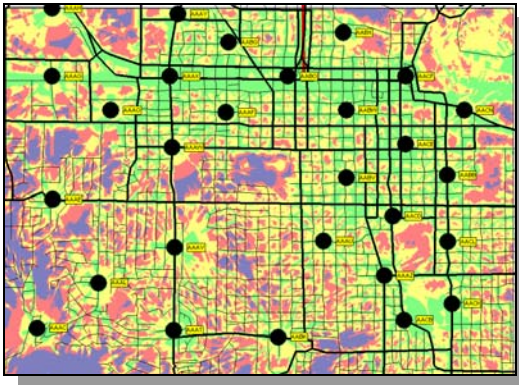
Populate network area grid with mesh nodes that are defined in a template format in SignalMX. There are multiple ways to initially layout transmitter locations. Utilize automatic mesh layout with manufacturer defined recommendations for spacing. Also, you are able to import a list of possible site locations via Microsoft® Excel® and then automatically place nodes on those locations or manually place sites on desired locations based on designer's best judgment.



Network area populated with MetroMesh Routers via automatic mesh layout

Initial Mesh Coverage Study

Analyze initial mesh layout by executing an area study with a recommended propagation model.



Initial mesh coverage given by automatic mesh layout

Successive Mesh Coverage Studies

Based on initial coverage results, successive iterations can be performed to fill in coverage holes by adding new sites. The iterations can be accomplished in a relatively short period of time, hence increasing planning efficiency and accuracy.

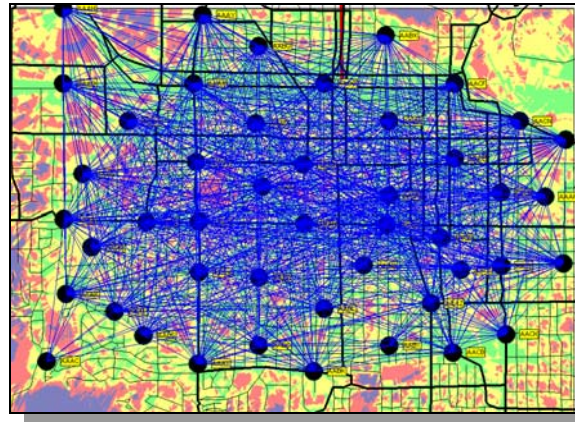


Complete coverage map that has optimized transmitter deployment locations

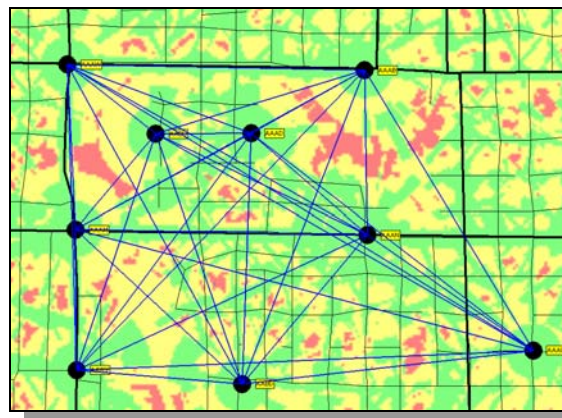
Mesh Link Analysis

Following the completion of feasible coverage study iterations you are able to run a mesh link analysis which allows the designer to:

- Determine path loss between all nodes using point-to-point link calculations
- Calculate received signal at each node from all other nodes
- Calculate the number of hops from each node to the nearest backhaul point



Mesh Link Analysis overlaid on coverage study results



Close up of strategic market area with localized mesh link analysis

Based on results from the Mesh Link Analysis, the designer is then able to drill down into problem nodes by simple right-click access to the following Link Details dialog box. The designer is able to easily relocate problematic sites based on the specific link results.



Link analysis showing terrain profile and detailed link information

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

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