RFarchitect

OPTIMIZED RADIO FREQUENCY COMMUNICATIONS

Proven, integrated network planning and management for reliable and efficient connectivity.

The primary problems facing Radio Frequency (RF) network planners, engineers and managers are limited spectrum resources, increasing network complexity and throughput requirements, and unintentional Electromagnetic Interference (EMI).

THE INDUSTRY'S LEADING EXPERTS

Wireless providers today are faced with increased demand for reliable, high-speed service for voice, data and video. As the electromagnetic environment evolves to accomodate these needs, future networks will feature increased signal density and node complexity. Dynamic awareness of these networks will require tools to give planners fast, thorough and precise analysis to help establish reliable network plans.

HII experts have over 30 years of electromagnetic environmental effects expertise. We have developed sophisticated, time-tested algorithms for Electromagnetic Spectrum Operations (EMSO) and RF network planning and engineering (NP&E), allowing us to build a comprehensive network planning and deconfliction application.

AN INTEGRATED SOLUTION

RFarchitect allows spectrum network operators to optimize spectrum usage while maintaining interference-free RF network plans. RFarchitect uses equipment characteristics and high-fidelity GIS data to model and optimize network deployments, showing network planners the best options for maintaining links and data throughput.

Users can input equipment data and optional parameters, and RFarchitect calculates, models and displays network configurations and geographic locations for resource deployment. RFarchitect features integrated tools to refine plans as deployment requirements change.

RFarchitect operates in the Windows environment. Selected terrain and digitized map data are provided with the RFarchitect installation. Data for additional areas can be loaded directly from National Geospatial-Intelligence Agency (NGA) CD-ROMs (CADRG, DTED) or directly from any available web mapping server (WMS) as needed for

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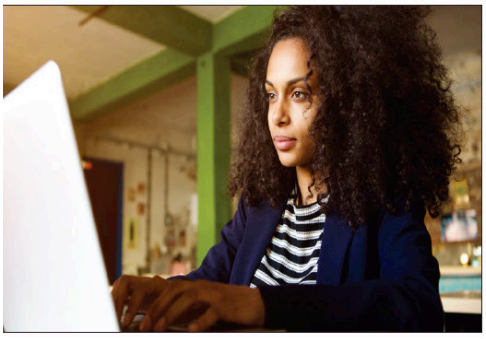
RELIABLE PERFORMANCE

RFarchitect has been fielded by the DoD for use in high-adversity environments, repeatedly demonstrating reliability and adaptability. RFarchitect decentralizes network planning and frequency assignment capabilities through modular deployment and customizeable installation. Additionally, each RFarchitect installation is able to manage multiple deployment scenarios, and can view terrain data and supporting imagery even offline. RFarchitect can distribute network plan updates between users whenever requirements change, helping guarantee resilient network connections.

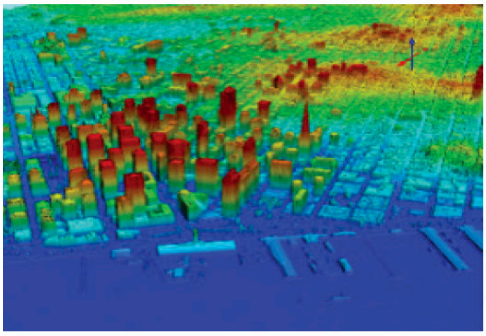
REDUCED TIME

RFarchitect provides link optimization tools that search local areas for high-elevation points when planning communications assets positions. This occurs while RFarchitect maintains link reliability to ensure a fully-oper- ational RF network even in the presence of Electronic Warfare (EW) emitters.



PATH RELIABILITY

Our terrain-based propagation analysis tool (TIREM) allows RFarchitect to integrate RF network analysis for Line-of-Sight (LOS) paths with terrain analysis (high point retrieval, path profiling, area coverage) and analysis of worldwide geoclimatic factors, including tropospheric-scatter and knife-edge refraction.



INTERFERENCE ANALYSIS

RF network congestion analysis facilitates a complete network RF assignment. RFarchitect includes default radio characteristics, but also accepts user modified radio characteristics, guaranteeing accurate modeling of the RF environment and potential interference sources.

NETWORK LAYDOWN PLANNING

Our analysis tools support EMI prediction, prevention, detection, and mitigation. Federal agencies and private sector partners alike trust HII to provide accurate and timely analysis to enable spectrum-sharing without EMI.

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HII is a global, all-domain defense provider. HII's mission is to deliver the world's most powerful ships and all-domain solutions in service of the nation, creating the advantage for our customers to protect peace and freedom around the world. As the nation's largest military shipbuilder, and with a more than 135-year history of advancing U.S. national security, HII delivers critical capabilities extending from ships to unmanned systems, cyber, ISR, AI/ML and synthetic training. Headquartered in Virginia, HII's workforce is 43,000 strong. For more information please visit HII.com.

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