



Novarum Fills 802.11n vs. 802.11a/g Information Void with Release of Industry's First Benchmark Report on Campus Mesh Networks

Study Sets a Baseline for Performance Expectations, Reveals Surprising Price/Performance Results for 802.11n over Legacy Systems

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Novarum, a strategic consulting and analysis firm for the wireless broadband data industry, announced today the release of its study, measuring the performance of the recently ratified 802.11n standard against currently available 802.11a/g products in an outdoor campus mesh network. The report establishes a benchmark by which network planners can determine the impact and value of the emerging 802.11n standard.

The study accurately reflects campus-level mesh network metrics within the microcosm of a single benchmark deployment. Because campus installations typically have dense access point (AP) deployments, Novarum focused the study on two key areas, throughput performance and coverage predictability (as measured by equity between clients)

Key Findings

This real world benchmark of campus mesh networks revealed several major conclusions:

- A new generation of 802.11n MIMO based high-performance mesh networks are available that provide high throughput, effective indoor and outdoor coverage, and are simple to deploy.
- There is an enormous price/performance disparity, up to a 12:1 ratio, between the available outdoor mesh products.
- The 802.11n solution tested showed a demonstrable performance advantage over industry leader's legacy systems, reflecting as much as a 4:1 and 6:1 improvement in serving laptops through a campus Wi-Fi 802.11n mesh network.

Interested parties can download the complete report, entitled "The Value of Smart Antennas: Campus Mesh Network Performance Benchmark" here: www.novarum.com/publications.php

"2009 saw the beginning of a major transition in WLAN installations, as many new large scale deployments began moving to upgrade from legacy 802.11a/g to contemporary dual band 802.11n networks. However, this technology change has been slow to move to outdoor mesh networks, with only a few vendors announcing products, and until now, no comparative data by which to measure their value," said Ken Biba, founder and chief technology officer at Novarum. Without an accurate benchmark study, there was doubt and sometimes skepticism about the value that 802.11n technology can bring to the campus environment. There is no more doubt. While we expected 11n to outperform 11g, we did not expect that it would do so at a 12:1 price/performance advantage. This really makes 802.11n the only real choice for campus mesh network deployment."

About the Testing

Two major categories for benchmarking a wireless LAN (WLAN) include, synthetic (simulated) and real world. Wireless network deployments, particularly modern WLANs with advanced antenna systems are extraordinarily complex. It is almost impossible to construct a synthetic benchmark that adequately models the reality of multipath radio environments indoors or outdoors.

Consequently, Novarum structured its benchmark testing to represent a realistic deployment environment, designing and using an Over-The-Air (OTA) test of wireless systems. One of the key capabilities of a WLAN is dealing with an RF environment that naturally consists of imperfect RF transmission, interference and contention between clients and access points for airtime on the shared channel. In fact, 802.11n depends on imperfect RF conditions from multipath reflections for the majority of its performance improvement over legacy WLAN technology. RF simulations emulate RF conditions poorly and are best used for evaluating functional behavior rather than system performance.

About Novarum

Novarum Inc. provides comprehensive broadband wireless network design, analysis and testing services. Novarum's technical, business and executive experience in the wireless industry make it the ideal partner for service providers, municipalities, investors, enterprises or wireless infrastructure vendors seeking trusted information and guidance on broadband wireless technologies and services. The company is headquartered in San Francisco. For more information, please visit www.novarum.com or EMAIL info@novarum.com

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