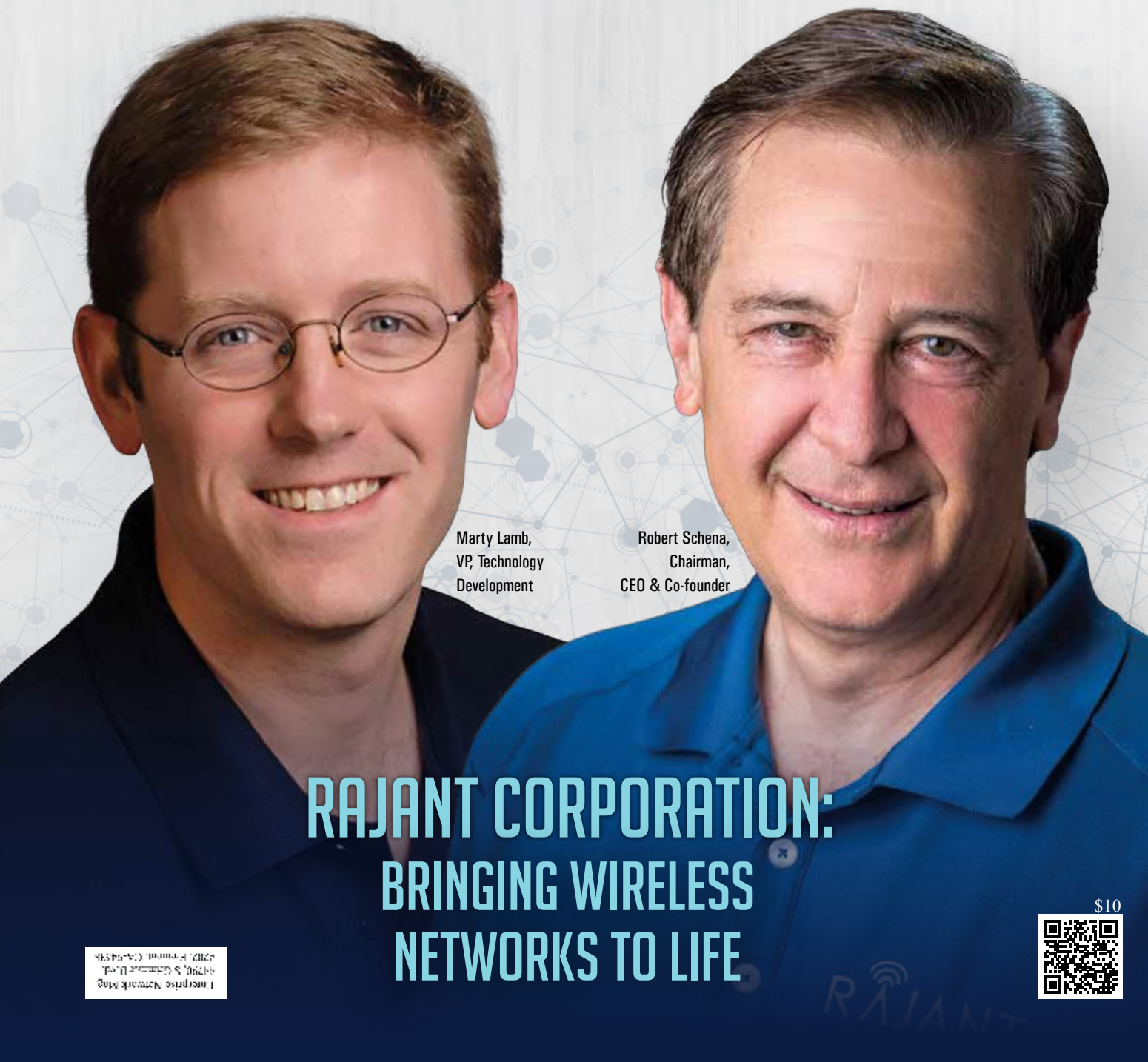


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Marty Lamb,
VP, Technology
Development

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CEO & Co-founder

**RAJANT CORPORATION:
BRINGING WIRELESS
NETWORKS TO LIFE**

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RAJANT CORPORATION: BRINGING WIRELESS NETWORKS TO LIFE

By Brian Jackson



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It came as no surprise when the 9/11 Commission Report identified communications failures as a critical element that hampered the post-attack rescue operations. Soon after the incident, a majority of the first responders faced real time network issues that affected the communication process. Incidentally, at the same time, back at his office in Wayne, Pennsylvania, Robert Schena was holding an important discussion around the network capabilities and features required to support mission-critical networks that will hold up when put to the test. For Schena, 9/11 sparked the idea of developing an advanced wireless communication system that can minimize communication failures faced by first responders. “The network failure could partially be pinned on infrastructure damage. Shortly after the attacks, there was a major black-out that further intensified the situation. This pushed us to explore the possibilities of empowering first responders with network portability,” recalls Schena, Chairman, CEO & Co-founder at Rajant. His idea of employing robust wireless mesh technology in a cost-effective way gave birth to Rajant—an enabler of secure communications-on-the-move through a real-time, portable wireless technology.

As a provider of robust mesh technology and pervasive multi-frequency wireless solutions, Rajant allows data networks to be completely mobile and effective. “Of course we provide the things you would expect from an office WLAN—like security, high throughput and remote management, but we go beyond that to include extreme mobility, speed of deployment, and operation in harsh environments—from hot deserts to the Arctic regions,” says Marty Lamb, VP, Technology Development at Rajant.

Networking in Wireless Mode

The ever-growing demand for anytime, anywhere, access to networks is driving organizations to broaden their mobility capabilities. Rajant answers the challenge with its Kinetic Mesh technology, which offers the most adaptable, scalable, and readily deployable private mobile broadband networks in the market. The flexibility and mobility of the network is one reason why Kinetic Mesh networks thrive over other technologies. It enables people and organizations to deploy networks into places where communication infrastructure has been destroyed or damaged, achieving real-

stationary controller node to manage decisions across the network. Rajant’s Kinetic Mesh technology offers a “living network” where all nodes communicate with each other to provide stability and flexibility regardless of the environment. It utilizes Rajant’s patented peer-to-peer



Our Kinetic Mesh provides customers with a secure, multi-frequency, private network where data is encrypted and authenticated

InstaMesh networking technology to perform real-time evaluation and direct data traffic between any wired or wireless points while in motion. This ultimately

private network where data is encrypted and authenticated, protecting users from eavesdropping, packet injection, replay, traffic analysis, and other types of attacks often found on wireless networks. This is critical both to Rajant’s commercial customers who use Kinetic Meshes to support large industrial operations and to the U.S. Military, which has fielded multiple Kinetic Mesh networks from Rajant,” Lamb explains.

In one example, a customer in the sports industry approached Rajant to replace their problematic voice communication system with a version of Rajant’s mesh solution. The client wanted a portable device which runs on batteries and also operates on a licensed frequency. The client also wanted the device to provide voice traffic for stadiums during sporting events as stadiums typically present a host of radio challenges with spectators accessing Wi-Fi during these events. Rajant’s solution enabled the client to solve all these challenges along with providing high quality voice traffic.

Maximizing Broadband Connectivity

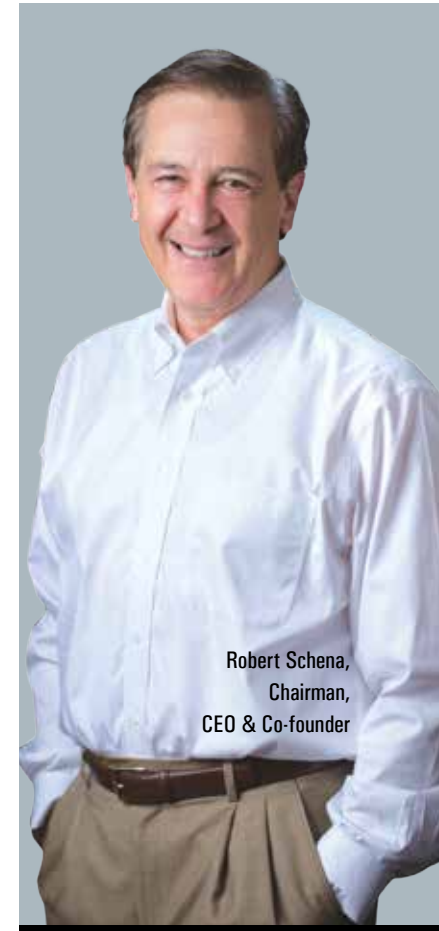
Rajant has developed and deployed over 30,000 net nodes, known as Rajant BreadCrumb wireless nodes, across industries like military, stadiums, telecom, transportation, mining, oil and gas, and first responders, ensuring flexible and reliable communication networks. “Each BreadCrumb contains up to four radio transceivers which operate in different frequencies, providing conventional Wi-Fi access point services for wireless clients, and also connecting with multiple peer BreadCrumb nodes at the same time,” states Schena. The BreadCrumbs support numerous transceivers; any two BreadCrumbs that are paired with each other can have up to four redundant wireless links to one another while simultaneously maintaining similarly redundant connections to hundreds of other peers. “The networks can split and join one another to provide customers the fluidity that they demand,” he adds. Clients can also

utilize the BreadCrumbs to communicate via any Wi-Fi or Ethernet-connected device to deliver low-latency, high-throughput data, voice, and video applications across the meshed, self-healing network. For example, a military convoy in the desert could temporarily join another convoy for some period and form a single network and then split into different networks for maintaining independence.

The company has a number of different models of BreadCrumbs that support multiple combinations of Radio Frequencies (RF), distinct sizes, and separate horsepower CPUs. “We have developed our product lines to fit into several different problem spaces and usage scenarios” asserts Lamb. Using a combination of BreadCrumb wireless network nodes and InstaMesh networking software, Rajant Kinetic Mesh networks employ any-node to any-node capabilities to continuously and instantaneously route data for an optimal cost.

Today, mesh technologies are used across industries for multiple purposes, such as for connecting drones in remote areas with weak or distant communication networks or for quickly standing up a network where none exists at all. With the growing usage of drones across various industries, a key innovation of Rajant lies in strengthening its mesh networks to meet the aerial broadband connectivity drones require to maximize business advantage. Last year, the company partnered with UgCS, a developer of mission planning software for all types of unmanned vehicles, to develop the AirMast Tethered Drone System offering companies and governments a smart way to establish a broadband network for their drones. The light-weight BreadCrumb module integrated on the drone overcomes the obstacles of long distances, flight time, and limited functionality.

Recently the company secured an FAA waiver which is allowing them to further their drone innovation into swarms. With their InstaMesh routing technology, significant advancements



Robert Schena,
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Our manufacturing facility, EFE Labs, is a state of the art OEM that relies on cutting-edge skills and expertise to produce both capital and industrial strength products

in drone swarms is accomplishable such as enabling a single pilot to fly 20 drones in parallel while providing HD video and other essential sensor information instantly.

Delivering Strategic Value to Network Users

Rajant is vertically agnostic—be it manufacturing processes, components, or resources, the company has a keen eye for offering a seamless communication process. They have a one-of-a-kind manufacturing facility to strengthen their production. “We manufacture our products right here in Pennsylvania. Our manufacturing facility, EFE Labs—a state-of-the-art OEM, relies on cutting-edge skills and expertise to produce industrial strength products,” explains Schena.

According to Schena, organizations today require network infrastructures that can react to change in real-time, fluidly shift, and self-heal in order to deliver on-demand actionable intelligence. “Our technology allows us to adapt to that constant change which puts us in an advantageous position to support the applications and demands being placed upon the network. Companies will be better positioned to streamline their operations, reduce expenses, and strengthen their competitive outlook,” says Schena. That being said, any innovative solution that can strengthen or add value to the network will reflect an improved return of investment.

Focused on this, Rajant will continue to break new grounds by enabling the ‘always-on’ communications that will enhance the access of critical applications in real-time in other markets versus the ones they currently serve. Rajant’s fully mobile wireless connectivity and its “living network” is a winner in today’s diverse, ubiquitous mobile environments. **en**



LX5 BreadCrumb®

time mobility. “When we say mobility, we mean that everything can move, including the infrastructure, allowing an expansive network footprint,” states Lamb, indicating that the majority of meshing technologies were dependent on a single

results in achieving optimal connectivity across an enterprise’s dynamic environment of fixed and mobile assets, to deliver robust applications in real-time.

“The Kinetic Mesh also provides customers with a secure, multi-frequency,

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Top 10 WLAN Solution Providers 2017

Enterprise Mobility has increasingly become a requirement for organizations across industries. In the epoch of delivery models and global business, the mobility and security functionalities for Bring Your Own Device (BYOD) and consumer-oriented devices presented by WLAN are ideal for enterprises that have large numbers of knowledge workers. Additionally, WLAN tenders the possibility for an organization to be nimble with the ability to adapt quickly to changing business demands.

Furthermore, Enterprise WLAN plays a crucial role enabling IoT (Internet of Things). According to the reports, the installed base of IoT devices will grow from 15.4 billion in 2015 to 30.7 billion in 2020, and it will require nearly 1 billion WLAN network devices for connecting to the networks.

With enterprise WLANs under constant pressure from growing mobility demands and an influx of new devices, there is a ubiquitous requirement for WLAN solution providers to understand the quandaries, and put together an appealing and comprehensive end-to-end WLAN service offering.

To help CTOs, CIOs, and CEOs to find the right WLAN solution provider, our distinguished selection panel, comprising CEOs, CIOs, VCs, industry analysts and the editorial board of Enterprise Networking has selected the Top 10 WLAN Solution Providers 2017 that exhibit innovative technologies, methodologies and customer service in this space.

We present to you Enterprise Networking's Top 10 WLAN Solution Providers 2017.



Company:
Rajant Corporation

Description:
An enabler of secure communications-on-the-move through a real-time, portable technology

Key Person:
Robert Schena,
Chairman, CEO & Co-founder
Marty Lamb,
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