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Distributed mesh system supports public-safety communications

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by (<https://urgentcomm.com/author/adminurgentcomm/>)

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MeshDynamics of Santa Clara, Calif., announced the addition of 4.9 GHz radio technology to its line of MD4000 Wi-Fi wireless-mesh nodes to support the public-safety communications sector.

According to Francis daCosta, the company's chief technology officer, the MD4000 employs separate radios for wireless backhaul and client access. Specifically, it combines licensed and unlicensed radio technologies in a single node, with two modular slots used for the 802.11a/b/g-compliant backhaul radios that operate at 5.8 GHz or 2.4 GHz.

The system is protocol-agnostic, and because it is based on a multiradio platform, users can mix and match radios in several combinations, daCosta said. For example, one set of nodes can simultaneously serve public-works users as well as first responders. In addition, traffic can be pushed aside automatically so the full bandwidth can be used to serve first responders in the field. The same enclosure might house up to four modular radios to meet a variety of applications without the need to install a different chassis.

The system also is automated and self-healing, daCosta said, as the nodes are programmed to listen to the environment, determine interference sources and locate other nodes when necessary. At the same time, the company's proprietary dynamic distributed-radio intelligence lets available channels be reused to increase performance in the overall network and supports the reuse of channels in larger networks with a throughput delay of 2 milliseconds or less per node, he said.

"It's a very interesting application of a distributed intelligence model," daCosta said. "It's the reason we can put nodes in motion. For example, in border security we have these in Humvees driving at high speed, and they can stay in communication because the nodes are constantly listening to the environment." The MD4000 starts at \$2400.

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