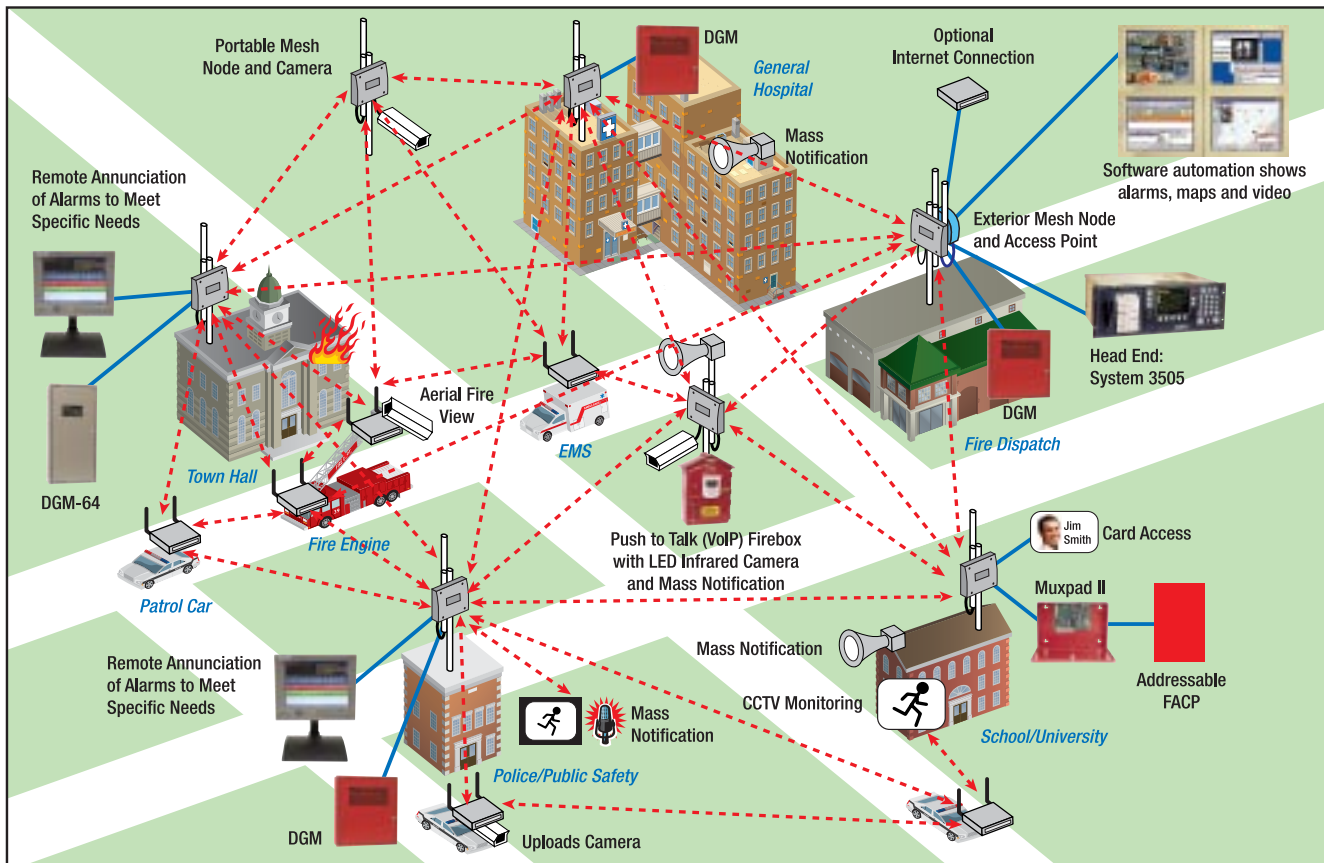


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Mesh network nodes provide wireless connectivity to any location and enable Ethernet-capable devices. Chart courtesy Digitize International, Inc.

## Clouds, Self-Forming, Hops, Self-Healing: Wireless Mesh Moves Decidedly Into Fire and Security

By Bill Zalud, Editor

They seem to be able to do everything; so why has it taken a while for wireless mesh to grab hold of the fire, security and life safety industry? There have been access control pioneers with mesh nodes. There are also some niche players.

But you got to know something is happening with the news that Digitize International, a designer and manufacturer of alarm monitoring systems, is now, a provider of multi-service mesh networks for industrial and municipal applications. The outcome, according to Digitize Vice President Arnon Amir, is what the company calls the Digitize Mesh Data/Communications Network. "We will take Firetide technology and redesign it for our current and new customers with an eye on our niche market of alarm monitoring," Amir said. The bottom line: the company is adapting the technology for the fire alarm business.

### Diverse Applications

The radio node-based networks can carry more, much more than Fire Alarm information, including:

- Mass Notification
- Security alarm information
- Electronic Access Control
- Security Video
- Building Controls
- HVAC
- And even VoIP, an application embraced by businesses sooner than security

Firetide, considered by some to be a kind of Cisco Systems of mesh, is on its own roll recently, grabbing customers and attention, especially in law enforcement, government and special events areas. For example,

at the Super Bowl last month, the Phoenix Police Department watched over the safety of more than 200,000 spectators, citizens, dignitaries and U.S. officials who visited downtown Phoenix during the weekend. The secure wireless network was provided by Firetide.

Which also proves the mobility of the networks. Said Amir, "You can create a Digitize Wireless Mesh Network between fixed or mobile command posts and police, fire and other emergency vehicles to provide timely and point specific video and text information when and where it is needed."

### **So What's a Wireless Mesh Net?**

A wireless mesh network is a communications network made up of radio nodes in which there are several pathways of communications to each node. The coverage area of the radio nodes working as a single network becomes a mesh cloud. Access to this cloud is dependent on the radio nodes working in harmony with each other to create a radio network. A mesh network is reliable and offers redundancy. When one node can no longer operate, all the rest can still communicate with each other, directly or indirectly, through one or more intermediate nodes.

Wireless Mesh Network builds routes between nodes only as

desired by the originating nodes, thus limiting the potential of signal interference. Network survivability is maintained by creating multiple paths between nodes, which are self-forming and self-healing.

Symbolically, a wireless mesh network is represented by a network cloud.

So now fire and life safety officials, chief security officers and facility managers need to get comfy with such "in the sky" terms. But, as Amir pointed out, it should not be too hard because this technology will become even more prevalent in the future.

Wireless Mesh Network seamlessly supports Ethernet-based devices to handle a myriad of applications at one time. In addition, it boasts plug-and-play set up, self-learning, self-healing capabilities and handles strong encryption.

Those end-users attracted to the technology also realize that, by installing one radio system that "does it all," they are eliminating the dollars for cable installation and saving considerable dollars. The next step for companies such as Digitize is to draw more interest from enterprise markets that go beyond municipal and public safety fields. But there's no doubt that, one way or another, a growing number of enterprises will find business value in these self-forming, self-healing private wireless networks. **SECURITY**

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