

# Elektrobit Unveils UHF RFID Suite

The EB Identification Network consists of RFID interrogators, controllers and software to help companies more easily implement, tune and manage networks of RFID readers, thereby reducing interference and congestion.

By Beth Bacheldor

Nov. 5, 2007—[Elektrobit](#), a Finnish provider of embedded technologies, wireless systems and automotive software to myriad companies, primarily in the automotive and manufacturing sectors, is unveiling its latest RFID system this week. The company is introducing its EB Identification Network at this week's [RFID Journal LIVE! Europe 2007](#) conference and exhibition in Amsterdam.

Designed to help companies more easily implement, tune and manage networks of RFID readers, the EB Identification Network consists of ultrahigh-frequency (UHF) RFID interrogators able to operate with any UHF RFID tag, as well as reader controllers and related software. The system is built on newly patented technology from Elektrobit that focuses on the automated tuning of multiple RFID interrogators networked together via wired or wireless Ethernet networks, including Wi-Fi. The technology, known as Facility Sounding, automatically configures and tunes readers so they won't interfere with each other as information is collected from RFID tags and passed on to RFID middleware or business software, such as enterprise resource planning (ERP) systems.

Typically, companies must manually tune each interrogator as it is installed so the readers don't interfere with one another, which can happen when multiple devices—even EPC Gen 2 interrogators supporting dense reader mode—transmit data simultaneously. "EPC dense reader mode still allows readers to interfere and be interfered [with] by intra-system and external signals," says Antti Sivula, Elektrobit's senior VP of wireless sensor solutions. "In EB Identification Network, we can reduce these effects."

Facility Sounding technology directs interrogators to measure the strength of signals they sense from proximate readers, and passes that signal information to the reader controller. The controller analyzes all the different signal strengths, then allocates frequencies to the various networked readers and synchronizes them to minimize interference.

Until recently, Sivula says, manually configuring and tuning RFID interrogators hasn't posed much of a problem, mainly because most RFID implementations have been relatively small. In the coming year, however, Elektrobit predicts companies will begin scaling up their implementations—installing RFID, for example, throughout distribution centers and manufacturing facilities.

"Think about the systems integrator or IT manager who builds these RFID systems," Sivula states. "They are spending a lot of time manually tuning to make sure the network doesn't have any problems. We are providing the tools that can solve most of the problems. We think building RFID networks should be about the business applications and the tags, not about how to make the readers read the tags."

One controller can tune and manage dozens of interrogators. Companies can use multiple controllers, grouped

together for easier network management. The related software, which is the intelligence of the EB Identification Network, can be installed to run on a PC so a company can view the networked information and manually control readers if necessary. "There may be a specific area of the building or a certain group of readers that you need to manage specifically," Sivula says. For example, he adds, companies may need to manually tune interrogators unsupported by the EB Identification Network. "We want to allow the use of any other readers, in addition to ours."

There are a few similar products on the market designed to help companies automatically manage and tune RFID readers. Reva Systems, for example, offers its Tag Acquisition Processor (TAP), which provides real-time adaptive control of, among other things, interrogators.

Although Sivula praises Reva's offering as being a good product, he says Elektrobit believes it has developed a more robust system by distributing the intelligence across controllers and readers. "When you have an intelligent reader combined with an intelligent controller, you can localize functionality," Sivula explains. A company might wish to be alerted when a specific group of products are received through a dock door, for instance. The EB Identification Network allows that firm to distribute some intelligence from the controller to the reader so an alert can be issued once those products arrive. "That way," he notes, "the reader can recognize the event, even if the controller is not available at that time for some reason."

RELATED\_ARTICLES What's more, readers can be directed to intelligently sift through all the data collected during tag reads, then transmit only the pertinent information. "In a dense reader environment," Sivula says, "such as a distribution center with lots of dock doors, all of the readers might be reading lots of tags at the same time. If all the readers have to pass all of the data they collect, there is heavy risk of overloading the network. It is absolutely vital that you distribute intelligence so you don't move data, you only move information—you don't pass read events that aren't needed at the upper levels of the network."

The EB Identification Network will begin shipping in the first quarter of 2008. In addition to RFID interrogators, reader controllers, and related software, Elektrobit also offers systems integration and implantation services for the product suite, for any companies that require it.

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