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It’s Time for Open RFID

The software industry had Linux. What will RFID users have to “open” up their systems? It’s time to put enabling technology in the hands of the masses, says RFID Alliance Lab’s Daniel Deavours.

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By Daniel Deavours, Director, RFID Alliance Lab

RFID is the future, at least that’s what everyone says, but RFID equipment sure seems expensive. Last fall I bought a high-end multi-protocol reader for close to $3500. It sure does a lot of nifty things, but all I really need it to do is read RFID tags.

If you haven’t heard, the trends in radio designs are increasingly moving something called "software-defined radios." Basically, it means that the RF hardware is as simple as possible, and all the signal processing is done in software. That makes radios a lot more flexible. The RF module is tied to a particular frequency band, but the rest is software. I haven’t cracked open the case, but my guess is that my $3500 reader is really just a software-defined radio.

Everybody knows about open software from the popularity of Linux (and other successful open source projects). Open source is a way for people to share ideas and technologies, and for ideas to rapidly evolve. Sure, people still pay for Microsoft Windows, Word, and PowerPoint, but Linux certainly has found a niche, from desktop systems to Linksys access points to, yes, even my $3500 RFID reader.

What I propose is starting an “OpenRFID” initiative along the lines of the GNU Radio (www.gnu.org/software/gnuradio). Basically, OpenRFID will be a software module that drives a software radio to issue basic RFID commands, like read a tag ID. EPCglobal touts its "open specificatons" (though I have some reservations about just how complete the specs are). Once we have the protocols worked out, the cost of a simple reader should be no more than the cost of hardware.

I haven’t figured out how to fund it, or the right open software model (there’s a dizzying number to choose from, each with pros and cons). But I have figured out that a good RFID reader should cost a lot less than $3500. In fact, I priced building my own portable, battery-operated prototype, in low quantity, using expensive, high-end components and custom boards, for about $2000. In quantity, I estimate the cost well under $1000, and I’ve seen similar radios for less.

The commercial impacts of OpenRFID are clear: cheaper RFID readers. But it goes much deeper than that. Opening up RFID puts technology in the hands of the masses. That means more innovation and more companies bringing innovative ideas to market. It means more choices in RFID equipment. It especially means products that meet demand, not products that have the highest profit margins.

Sound interesting? Think you’d like to participate? Let me know.

About the Author

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