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Multi-chip RFID packages to substitute multiple RFID cards

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The Massachusetts Institute of Technology (MIT) demonstrated at the RSA Security Conference a four chip RFID card that integrates a contactless sensor manufactured by HID. Dan Greenwood, MIT's Media Lab lecturer, said that the technology - which was integrated in to a prototype card - will enable users to flip a switch to activate one chip to open a door or flip another switch to buy groceries.

The prototype is slightly bigger and thicker than a credit card and contains four passive RFID chips. The chips are activated one at a time by flipping an on/off switch located on each chip. The advantage: By combining multiple chips into a single card, users won't have to lug around four different cards.

According to Greenwood, users will also be able to protect their privacy a little more by only exposing the RFID chip needed to perform a particular action. Since only one chip has a complete circuit to the antenna at any given time, the other three chips are protected from being accessed. This enables companies to tailor different chips for different actions.



If MIT can fit four RFID chips into a single card, is there an upper limit where the chips either start interfering with each other or where the card needs to made bigger? Greenwood told us that he does not know what the ultimate limit is, but enthusiastically added: "I can't wait to find out." On the flip side, there can be a point where there are too many chips for people to keep track of. "Each chip needs a switch, how many switches can a normal person handle? Is it six or eight? I'm not too sure," Greenwood said.

Greenwood is also looking into putting RFID chips into wearable jewelry such as earrings, necklaces and ties. "You can have a pearl necklace where some pearls are real, while others are clear spheres with chips inside of them," he said.

Some companies are already using proximity cards embedded in jewelry and HID's Deb Spitter told us one example with where Fedex employees wear a specially built Proximity card that is built into a watch. "In the Fedex sorting room, employees aren't allowed to wear ties or anything that hangs off their body because the conveyor belts can catch things. So we made them a wristwatch," Spitter said.

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