



**25. India Focus NFC, Mobile Payments via Secure Memory Card**

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Among the factors hampering growth of the mobile payments market are differences between telecom carriers and payment institutions, and a lack of NFC-enabled handsets on the market. Tyfone, a US-based company with a development center in India, offers a solution that gets round both problems.



Narendra

Tyfone's u4ia platform includes the standard memory card form factor-based mobile payments solution with integrated NFC chipset (secure element), controller and integrated antenna. The technology operates in any standard

memory card slot. The u4ia secure memory card (SMC) does not require new device drivers since universal device drivers are used, enabling it to convert virtually any non-NFC phone to one that can be enabled for mobile contactless payments.

*u4ia Secure Memory Card*

The SMC has Tyfone middleware that communicates over-the-air with bank servers and the embedded smart card controller, using preloaded Tyfone software that provides a user interface. The Tyfone card works independently of the phone's SIM card which in most NFC scenarios, determines when and whether payments can take place. "The u4ia SMC utilizes an NFC chip and enables a neutral secure element without requiring a

change to mobile phone architecture (SIM or non-SIM)," said Siva Narendra, CTO and co-founder of Tyfone.

The technology is compatible with ISO14443 contactless payment standards or MIFARE standards. It can be used for any 13.56MHz-based RFID applications including the ones developed by HID and Sony. These include closed-loop implementations (like transportation systems) and open-loop implementations such as MasterCard's PayPass or Visa's payWave.

Tyfone's hardware is built into memory cards, so no special hardware is needed from handset vendors. The service allows issuers to launch contactless services on any phone that accepts SD memory cards. "Tyfone's platform is issuer-centric," said Narendra. "We are aiming at segments like financial institutions, merchants, transportation companies." Tyfone enables device- and carrier-independent mobile services under the issuer's brand.

Tyfone's approach can be contrasted with mobile operators' preference for the Single Wire Protocol (SWP) form for NFC implementation. SWP is expected to account for a majority of NFC phone shipments. Several companies have also developed SIM-only NFC solutions, incorporating the RF, microcontroller and secure element in the SIM card. Narendra expects several technologies to co-exist. "Each solution has its own set of unique selling points that would appeal to different markets." Tyfone's strategy is to free banks and card networks from dependence on wireless carriers.



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"Some 60% of phones in the US and 45% of phones globally have memory card slots as of 2008. By 2012 it is expected that well over 70% of phones sold globally will have memory card slots. NFC around the same time is expected to be in less than 20% of phones. Since NFC has applications other than contactless payments we expect integrated NFC and SMC to co-exist," Narendra said.

Narendra claims that Tyfone's SMC, which is currently undergoing trials in several countries, can be good for carriers too: "It eliminates the requirement for carriers to invest in multiple related technologies, including: SIM, SWP and NFC handsets, which together diminish the return on investment from NFC. It is rapidly gaining market acceptance as a single-strategy approach to mobile contactless payments for both GSM and CDMA phones."

<http://techon.nikkeibp.co.jp/article/HONSHI/20090120/164318/>

**Mobey comment: It is good that there are alternative business models. That is healthy for market development. In the end it is the market parties that will make the selections – based on their business considerations. This may lead to several technologies co-existing, or to a de-facto standard.**