The Payments Land Grab: How Mobile Devices and the PCI Hammer are Shattering Old Models and Forcing Hardware Vendors into the Clouds

Incumbents in the payments industry are nervous. The combination of new technologies, particularly rich apps and mobile communication, coupled with the PCI mandate suggests tectonic shift is coming to the traditional payments value chain. No one knows if change will come in convenient baby steps or in a few major leaps but, with adoption cycles getting ever shorter, the sense of déjà vu among those who have lived through the PC revolution and the Internet' global transformation is strengthening. Discussions with payments industry participants, across the entire ecosystem, tell few expect business as usual to last much longer.

Mobile Communications, PCI and Shattered Models

Many believe smartphones are beginning what will be a long term incremental assumption of POS terminal functions. The opportunities to build payments into mobile applications are manifold and, for both merchants and their customers, compelling. Starbucks is rolling out its 2D barcode-using closed loop iPhone application to 1,000 stores. No magstripe reader needed. PayPal's x.com initiative is giving software developers unprecedented control over how payments are made and shared. Using card-on-file payments, taxi dispatch companies are (MORE) … In short, cards and payment terminals are losing their lock on payment transaction origination.

The merchant-pounding PCI hammer is also coming down on long standing roles and relationships in the acquiring side of the payments industry. Merchant desire to shift liability for card and personally identifiable information to someone else (*"take my card liability, please!"*) is producing an efflorescence of card number tokenization and encryption offerings. Built around payment gateway switching software, these services offer hardware companies reliable software-based revenues, processors competitive differentiation and gateway operators a new set of services to bring to market. All three will collide as they compete for the services and transaction revenues of PCI-weary merchants.

The PCI DSS imperative is a "no BS" fact of life for merchants and the acquiring chain. While merchants are bearing the majority of PCI pain, for many vendors, its compliance mandate has been a boon. If you are a firewall vendor, you are happy the PCI mandate has shown up just as the HIPAA and SOX mandates complete their systemic spread. If you are a gateway operator, you are looking at adding PCI services such as card number tokenization to your platform (see Mercator Advisory Group's December 2009 report *Gateway Providers Look Toward the Cloud: There'll Be a Lot of Company Up There*). If you build POS terminal hardware, you're looking at how to provide a solution rather than just another box. Complete solutions require software and services and new business models.

A quick look at the activity and plans of some representative companies is revealing.

Reinventing NCR, Again

NCR stands for National Cash Register. Formed in 1884, , the company has weathered the transition from mechanical to electronic machines, the long term growth of the ATM industry, personal computing consolidation, minicomputer death at the hands of networked PCs and acquisition and spin-off by AT&T. That's resilience.

The company is now looking at this services imperative as yet another opportunity / threat threshold having actively experimented with its software future. It has experimented with mobile banking and mobile-based airline boarding passes. NCR has tied up with mobile banking and commerce software vendor mFoundry to offer a mobile closed loop prepaid program for merchants. The solution is already in production at Starbucks with the mobile "app" including a 2D barcode to represent the customer's prepaid Starbucks account.

While NCR is in no way an all software, all the time company, it's clear that software and services will become a more substantial part of its delivered value.

VeriFone Hits the Clicks

Traditional POS vendors like VeriFone, Ingenico and Hypercom, besiege by Asian competitors, are finding that life with gross margins in the low 30s is tough. Furthermore, mobility and the smartphone phenomenon stand at the beginning of a long term shift of POS functionality i into consumer handsets. While magstripe readers aren't going to be replaced (or built into handsets!) there will be many more ways to work around the classic POS model. That fact is not lost on these vendors.

Given that unappetizing reality, VeriFone is looking to participate in the click-stream to turn transactions and services into an annuity revenue stream. Its New York City taxi platform provides transaction revenue. Its recent acquisition of the advertising portion of the NY taxi service affirms its interest in recurring revenue streams.

VeriFone's end-to-end encryption offer, VeriShield Protect, is another transaction-based example as it charges the merchant or its channel partner for each card swipe encrypted at the POS. Its VeriFone Connect gateway service, sold directly to merchants and through the ISO channel, is a VeriFone software asset that can be leveraged to deliver a range of payments services.

Ingenico Considers the Clouds

VeriFone's fierce competitor Ingenico is also considering its services options. The firm recently hired Deborah Dixson, former Chief Information Security Officer at Best Buy to guide the evolution of company's security services. She is experienced with large- scale deployment of software-based security services for card data. That expertise should guide the company's product direction and give credibility to its software, hardware and services offerings.

MagTek Creates Magensa

Magstripe reader and components manufacturer MagTek has been promulgating its magstripe fingerprinting technology called MagnePrint. A strong set of tools for card authentication, the company's technology has strained to gain traction without a strong service component. Magensa.net is its authentication service, functioning as a repository for authenticated cards and a fraud management tool in the transaction flow. Again, hardware, software and services blend to create a solution.

Heartland Goes Vertical

Vertical integration was once a discredited business model but has returned with vigor. Proving that what was once old is new, Apple's end-to-end control of everything from component manufacturing to customer experience has produced the unexpectedly popular success of iTunes, the App Store and of course the iPhone. Such vertical control limits what can go wrong due to supplier

dependencies and third party ecosystem perturbations.

In the payments business, Heartland Payments Systems is taking a similar approach to its largely Level 4 merchant base. As a processor, it controls the networks and data centers that aggregate all of that merchant payment traffic before hand-off to card brand networks. But, responding to both its January 2009 data breach and the need for real security in the payments industry, Heartland has gone vertical. Through its E3 initiative, Heartland is building its own line of payment terminals with encrypting magstripe readers and the infrastructure to support end-to-end encryption—at least between the merchant and the card brands.

Heartland, working with Taiwanese hardware vendor UIC and Voltage Security for key management and encryption software, is building a line of encrypting terminals and card swipe devices to encrypt card data at the point of swipe with a trusted security module (TSM) at the maghead. By placing its own E3-conformant terminals in merchant hands, Heartland is able to manage the process end-to-end (vertical control) and take the bulk of the PCI burden out of the merchant's hands.

Let the Musical Chairs Begin

Security is a blend of hardware and software, services, and internal policies and procedures. Without all elements in place, security is a chimera. And it is very challenging for a single entity to craft an entire solution. With merchants eager to shift PCI liability to payment services providers and software developers pouring in through the AppStore door, the traditional payments industry is under pressure to respond. That response will shift business models (POS terminal vendors in the clickstream) and upend long-standing business partnerships and value chain relationships. Merchants will have a number of choices.

What we do know is that more payments functions will be sold through software-as-a-service (SaaS), more merchants will stop handling card numbers themselves, tokenization vaults operated by payment services providers will become the new targets for sophisticated hackers and hardware vendors will find themselves competing with software and services companies.

Déjà vu all over again?

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