CNP WHITE PAPER

eCommerce in the Wake of Data Theft

A Three-Pronged Approach to Rebuilding Customer Trust

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For those who work in the payments field, social gatherings can sometimes be a bit of a challenge. Things invariably start out pleasantly enough, but at some point, predictably, someone will ask what they do. That means, inevitably, the subject of the seemingly never-ending consumer data breaches comes up with a guest (or, unfortunately, more than one) relating their personal horror story of a stolen credit card number – introducing a palpable sense of dread to a formerly merry gathering.

Consumers whose data has been hacked often feel helpless, fearful of what might happen now that their personal data is "out there," and irritated at the inconvenience of having to update all their recurring accounts with reissued card information. According to Nick Stice, vice president of engineering for online marketing company Orange Soda, "I was discussing data breaches with a partner, and he felt a sense of relief to know that we were doing everything possible to protect our customers' credit card information, and that we took data security very seriously."

Unfortunately, these hacks are becoming increasingly frequent. According to a New York Times article, "Security experts like to say that there are now only two types of companies left in the United States: those that have been hacked and those that don't know they've been hacked."[1]

The numbers tell the shocking story. According to the Identity Theft Resource Center's Data Breach Report, by mid-August 2016 there were already 601 total breaches in calendar year 2016 alone, representing more than 21 million exposed records of personal information as a result.[2]

Lag times between breach and discovery also give thieves a big head start. While 82 percent of compromises took only minutes to infiltrate an organization, 68 percent of data breaches took days to be discovered.[3]

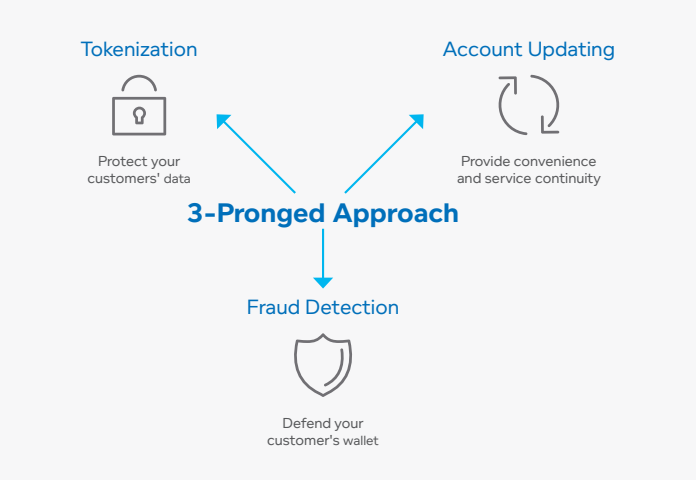
Moreover, the damage goes beyond just the businesses that get hacked. Bill Cohn, director of eCommerce product management at Vantiv, notes, "It's not just the companies that were victims of data breaches that are impacted. Everyone in the ecosystem, everyone in the payment space, everyone in commerce is, in fact, impacted."

So what can each merchant within the commerce ecosystem do to regain customers' trust? Cohn suggests a three-pronged approach: **tokenization**, **fraud detection**, and **account updating**.

[1] http://nyti.ms/1h6y8n5
[2] http://www.idtheftcenter.org/images/breach/DataBreachReport_2016.pdf
[3] 2016 Data Breach Investigations Report; Verizon, p.10

Tokenization

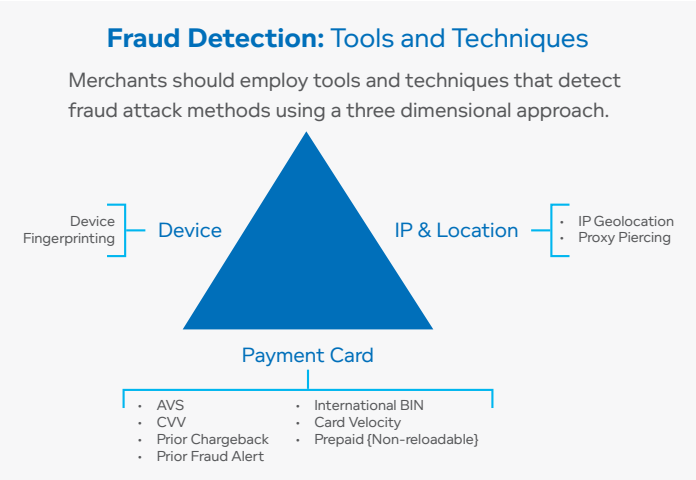
First, merchants can regain customer trust by protecting customer data through tokenization. A token is a benign, untranslatable numerical reference sequence that is useless and worthless outside of the transaction between a merchant and its payments processor. Using eCommerce data security solutions, such as Vantiv eProtect, Javascript code is placed on the merchant's payment page which on submission replaces the sensitive card data with a non-sensitive value (token) prior to submitting it to the merchant's eCommerce engine. Simply put, thieves can't steal what a merchant doesn't have. Thus, even in the event of a breach, tokenization protects customer data and reduces merchants' exposure.



Of course, merchants have to do more than just protect customer data. They must also take steps to prevent fraudsters from using stolen card numbers to purchase their goods and services. The second prong, therefore, is fraud detection.

Fraud Detection

The link between data theft and fraud is clear: Breaches supply the card inventories that fraudsters demand. There is an increasingly sophisticated black market for selling stolen cards, and it is easier than ever for fraudsters to obtain consumers' personal data. Through fraud detection, merchants can defend their customers' wallets, while protecting themselves from further financial losses due to chargebacks. What's more, fraud detection can help merchants protect their reputation, retain their customers, and reduce the amount and cost of lost business.



According to the LexisNexis 2016 True Cost of Fraud Study, every dollar of fraud cost merchants $2.40, up from $2.23 a year ago. Also, the report finds that the volume of fraud has risen sharply in the last year – from a monthly average of 156 to 206 *successful* fraudulent transactions, and from 177 to 236 *prevented* fraudulent transactions – while the level of fraud as a percentage of revenue increased from 1.32 percent to 1.47 percent.[4]

[4] LexisNexis 2016 True Cost of Fraud

Some merchants, particularly smaller businesses, may be tempted to forgo implementing fraud-detection measures, figuring fraudsters won't bother with their site. They would do well to consider, however, that fraudsters are looking to exploit any weakness they can find in the payment system as a whole. They will often use unprotected sites to test stolen card numbers. Once the card gets approved there, they then go and use it elsewhere. "You can't say that detection of fraud is going to regain the trust of the entire ecosystem," says Cohn, "but you don't want to be that weak link in the payments chain."

There are a variety of tools and techniques merchants can use to detect fraud, and Cohn believes the most effective systems take a three-dimensional approach, covering (1) the device, (2) the location, and (3) the payment card. Merchants can use device fingerprinting, IP geolocation, and proxy piercing, and then a host of techniques relating to the card itself, ranging from the basic tools (address verification and CVV) to the more advanced (prior chargeback, prior fraud alert, international BIN, and card velocity).

An effective fraud strategy might, for example, fingerprint the device from which a transaction originates and check the velocity on it, that is, check how many times this device has done a transaction in a given period of time. Or, it might check how many times over a given period of time a transaction has been originated from a certain IP address. Filtering transactions through these three dimensions can reveal aberrant behavior patterns that can indicate fraud. Each merchant needs to figure out a strategy that works for their business, bearing in mind that strategies need to be constantly evolving as fraudsters frequently change tactics.

Account Updating

The third prong in the three-pronged approach to restoring customer trust is account updating. When a breach occurs and a customer's card is reissued, the inconvenience of contacting service providers with new card information can be overwhelming and irritating. If a customer forgets to update his card information with a merchant, his recurring payment may not go through and his service or purchase might be delayed or canceled, causing disruption and headaches for himself and the merchant.

As of December 1, 2015, it's estimated that U.S. banks had reissued appropriately 500 million of a total 1.2 billion cards in circulation, the majority of which have been credit cards. Vantiv's Cohn notes, "The issuers have replaced millions of cards, and you, the merchant, can help your customers when these events take place."

Merchants can serve their customers by requesting account updates and applying them on their behalf. This supports continuity of service for the customer and can boost the merchants' revenue by ensuring that payments are collected on time and that the customer's business is retained.

The basic account updating model entails the merchant compiling an account update request file, which they submit to their processor, who submits it to the card networks. They match the accounts submitted with their new account number and send them back to the merchant, who updates the cards on file for the next billing cycle. An advanced account updating service shifts the work from the merchant to the processor: The processor determines which cards to submit to the card networks for an update, then stores the updates locally within their own system. The next time the merchant charges the original account number, the processor automatically substitutes the reissued card number before submitting it to the card networks for authorization.

Either of these options is preferable to attempting to contact customers directly and asking them to update their information. Nick Stice at OrangeSoda says their company "found that about two percent of our revenue last year was attributed to updated credit card information from subscribing to the account updater service [provided by Vantiv]. That may sound like a small number, but it's actually quite large."

Conclusion

In order for the commerce ecosystem to thrive, it is important for every merchant to do their part to regain and preserve their customers' confidence. Deploying a three-pronged approach of tokenization, fraud detection, and account updating is an excellent way for merchants to rebuild the consumer trust that has been shaken by ongoing data breaches.

Says Cohn of Vantiv, "By demonstrating to customers that you're protecting them, that you're making their lives easier, you can regain their faith and hopefully have a committed, long-term, loyal relationship with them."

About Vantiv, Inc.

Vantiv, Inc. (NYSE: VNTV) is a leading payment processor differentiated by an integrated technology platform. Vantiv offers a comprehensive suite of traditional and innovative payment processing and technology solutions to merchants and financial institutions of all sizes, enabling them to address their payment processing needs through a single provider. We build strong relationships with our customers, helping them become more efficient, more secure, and more successful. Vantiv is the second-largest merchant acquirer and the largest PIN debit acquirer based on number of transactions in the U.S. The company's growth strategy includes expanding further into high-growth channels and verticals, including integrated payments, eCommerce, and merchant bank. For more information, visit Vantiv.com.

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