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The Security of First Data's STAR® Network

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Payment card fraud is a big business. The perpetrators of fraud work diligently to find vulnerabilities—in physical terminals, computer systems and websites—allowing them to steal payment card data. According to the 2016 Nilson Report, losses incurred by banks and merchants due to payment card fraud reached $21.8 billion in 2015. In the U.S., card fraud accounts for about 13 cents of every $100 spent in the retail sector.[1]

Meanwhile, the pace of technological innovation in the payments space is accelerating, and it is imperative that participants in the payments industry take advantage of technological advances and the opening of new payment channels, including online and smartphone purchases, without compromising convenience or security.

As a result, the payment card industry has developed many safeguards. For example, organizations handling payment card data must comply with the Payment Card Industry Data Security Standard (PCI DSS), a multifaceted security standard that includes requirements for security management, policies, procedures, network architecture, software design and other critical protective measures.

In the U.S., card issuers are also switching to the global EMV® (Europay, MasterCard, and Visa) standard for chip-card technology to protect customers and reduce card-present fraud.[2] These cards incorporate computer chips that are more secure than magnetic stripes, and prevent card skimming and reduce counterfeiting.

Accenture's Perspective on Payment Security

Accenture has significant experience working with technology providers and financial services companies to help those companies provide safe and secure payments infrastructure. Accenture's engagement with First Data includes testing many First Data solutions and assisting in integrating First Data solutions with other elements of hardware and software technology. Through this experience, Accenture has gained significant insight into and understanding of First Data's STAR® Network, and its effectiveness in helping issuers, acquirers, and retailers use the most up-to-date technology to enhance the customer experience while safeguarding data and preventing and detecting fraud.

Accenture's Assessment of STAR Network Security

First Data's STAR is a leading debit acceptance network in the United States that connects millions of cardholders from approximately 3,600 financial institutions and community banks, to more than one million POS and ATM locations. The network encompasses numerous third-party payment processors, ATM processors and card processors, working together to provide a first line of defense in securing and encrypting payment information.

STAR Network's security features make it one of the safest payment card networks available to issuers and cardholders. First Data employs sophisticated processes and technologies to prevent and detect fraud and provide end-to-end data protection. Through the use of these tools and technologies, STAR provides its customers with state-of-the-art security capabilities. These technologies are described more fully below:

1. TransArmor Solution

The TransArmor® solution provides encryption and tokenization technology to protect payments routed over the STAR Network. A comprehensive payment security package, the TransArmor solution helps reduce the risk of compromise to cardholder data through the entire transaction process. TransArmor, which is incorporated into payment terminals and systems, protects data before it is even received by First Data by encrypting data from the moment it is collected from POS device and then returns a token protecting data through authorization and settlement. TransArmor also complements card authentication technologies such as EMV, which is included in the terminal and POS devices offered by First Data for every vertical market.

2. PCI DSS

The payment card industry has developed safeguards for organizations handling payment card data. STAR complies with the Payment Card Industry Data Security Standard (PCI DSS). The PCI DSS is a multifaceted security standard that includes requirements for security management, policies, procedures, network architecture, software design and other critical protective measures. Once data is received from the POS, it enters STAR's PCI DSS-compliant network, which is designed to exceed baseline industry minimum requirements. STAR validates compliance annually, and is listed on MasterCard and Visa's compliant service provider web pages as being PCI DSS compliant.

3. STAR Predictive Fraud Score

STAR Predictive Fraud Score applies big data and machine-learning technology to analyze historical and real-time data transactions across First Data's U.S. payments portfolio. When both issuers and merchants route through STAR, using the STAR Predictive Fraud Score, fraud can be *predicted* as opposed to merely being *detected*, as done by other networks.

4. Fraud Detection Solutions

STAR offers 3 ways to protect against fraud for transactions routed over the STAR Network: Fraud Risk Identification Service (FRIS), PremierDefenseSM solution, and DefenseEdge® Decisioning solution. All three solutions provide a high level of transaction security through real-time fraud detection. These solutions accurately measure potential fraud risk while also reducing the number of false-positive indications of fraud. First Data also collaborates frequently with merchants and issuers to develop fraud-related strategies and provide investigative services to help them detect and prevent fraud in eCommerce and other card-not-present transactions.

5. Industry Experts and Investment

Strict adherence to security and safety forms the backbone of First Data's platform infrastructure. To help maintain and preserve network security and safety, First Data engages industry-leading cyber security and network experts who review its systems and networks and monitor transactions 24 hours a day, 365 days a year. First Data also makes substantial annual investments in technology and continuously develops fraud and security products that work seamlessly with STAR to provide end-to-end security.

Conclusion

The STAR Network complies with the highest standards of data protection. The end-to-end data protection of STAR Network, combined with First Data's continuing investment to confirm availability, throughput, security, and compliance with evolving industry standards, makes STAR Network a highly secure network to offer a range of POS and new payment channels, including online and smartphone purchases, without compromising convenience or security.

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[1] https://www.nilsonreport.com/upload/content_promo/The_Nilson_Report_10-17-2016.pdf

[2] https://nrf.com/news/new-different-better

ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions—underpinned by the world's largest delivery network—Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 401,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives.

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ABOUT FIRST DATA

First Data is a global leader in commerce-enabling technology and solutions, serving approximately six million business locations and 4,000 financial institutions in more than 100 countries around the world. The company's 24,000 owner-associates are dedicated to helping companies, from start-ups to the world's largest corporations, conduct commerce every day by securing and processing more than 2,800 transactions per second and $2.2 trillion per year.

For more information about First Data security products, please visit: www.star.com

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