Voltage Secure Commerce

PROTECT SENSITIVE DATA FROM BROWSER TO BACK-OFFICE

Safely Enable Mobile and E-commerce Channels while Simplifying PCI Compliance

If your business runs credit card transactions, PCI DSS compliance and its associated costs and complexities have to be top of mind. But are you exploring new ways to reduce your risk of a data breach while reducing your compliance costs? And, in the meantime, are your mobile e-commerce initiatives moving forward as quickly as you'd like?

Tokenization and encryption technologies will certainly play a key role helping you achieve all of the above. Yet as you move forward, it's important to maintain control of your business processes, applications and workflows. Outsourcing security services is a last resort when you're trying to maintain operational agility, system integrity and control costs. For example, performing tokenization in-house (vs. using tokens from a payment processor) provides the flexibility to leverage multiple payment processors as needed. Ideally, the tokenization and encryption solution remains in house, yet home-grown and conventional commercial tokenization systems can be costly. What's more, you need proven resiliency and scalability. You can't afford to have a new technology deployment bring down the system or a failed PCI audit prevent you from accepting customer payments.

When it comes to maintaining in-house control, maximizing PCI scope reduction and protecting customer data, only one vendor offers superior PCI scope reduction (far beyond tokenization alone) with the lowest cost of operation. That vendor is Voltage Security.

The Voltage Secure Commerce Solution

Presenting the Voltage Secure Commerce solution. It's been described by customers as innovative, revolutionary and game-changing. However, to us, the Voltage Secure Commerce solution is simply a smarter, more effective and more affordable way to protect credit card data, PII, and private data. This groundbreaking solution is not only changing the way merchants and enterprises look at protecting customer and corporate data, it also radically simplifies the way compliance auditors look at the systems and applications that would otherwise fall within the scope of PCI DSS audits. More on that later.

If you are looking for data protection and PCI scope reduction, most likely your analysts, consultants and auditors are recommending tokenization. Tokenization is a powerful way to address these concerns, but its impact is normally limited to back-office applications and databases.

Protect credit card data and other sensitive information the instant it's entered into any browser or POS device, and dramatically lower the costs and complexity of PCI compliance by removing systems from scope throughout the enterprise.

"*Mobile transactions are open to a wide range of attacks…that take advantage of unsecure communication channels, such as…mobile browsers. Addressing mobile transaction vulnerabilities will foster consumer confidence and drive business to the companies who are prepared.*"

– *Proliferating Mobile Transaction Attack Vectors and What to Do About Them,* Gartner Research Note G00249766, 1 March 2013

Moreover, traditional tokenization comes with added costs and complexities.

Voltage Secure Commerce provides a simplified tokenization solution for the back-office while extending protection and scope reduction all the way to the point of data capture. E-commerce merchants can significantly reduce PCI compliance costs and scope as potentially vulnerable systems and applications that previously handled payment data no longer have access to it.

Two breakthrough technologies, one integrated solution

The Voltage Secure Commerce solution is based on today's most innovative encryption and tokenization technologies.

Voltage SecureData Web with Page-Integrated Encryption

Voltage SecureData Web delivers inventive new technology for securing payment and personal data in browser-based transactions. It includes our patent-pending Page-Integrated Encryption (PIE) technology, which encrypts data in the browser at the moment of capture and keeps it protected all the way through the web tier, the application tier, cloud infrastructure, and upstream IT systems and networks to the trusted host destination. Unlike Secure Socket Layer (SSL) encryption, which only protects data in motion, but leaves security gaps between systems, networks, and applications, the Voltage Secure Commerce solution protects cardholder data from the moment it's entered into a web browser or POS device all the way to the trusted host destination where it can be decrypted. This shields data from theft in front-end and intermediate systems, and also reduces audit footprints. And, unlike solutions that use redirect or embedded iFrames, PIE enables a seamless user experience, and it won't obscure web tracking data.

Voltage PIE technology uses Voltage's patented Format-Preserving Encryption (FPE) to protect data in the most transparent manner possible, allowing for quick deployment with minimal change to existing applications. This means credit card numbers can flow through intermediate applications without those applications needing to change.
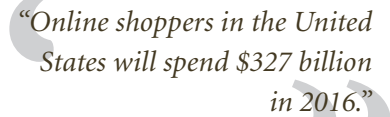
Voltage Secure Stateless Tokenization (SST) Technology

Voltage SST technology is an advanced, patent-pending, data security technology that provides merchants and enterprises with a new approach to help assure protection for payment card data. Voltage SST technology is stateless because it eliminates the token database that is central to other tokenization solutions, and, it removes the need for storing cardholder or other sensitive data. In addition, eliminating the token database greatly improves the speed, scalability, security and manageability of the tokenization process. IT organizations lacking deep database expertise can now manage a tokenization system.

Both PIE and SST effectively protect sensitive data, and enable quick deployment with minimal change to existing applications, databases or other systems. Many applications—if they only need the first six or last four digits in the clear, for example—will not need any change. Both PIE and SST are integrated under the Voltage SecureData umbrella—they share the same core key management servers and are managed through a single web-based management console.

Improve Security While Reducing Complexity

The Voltage Secure Commerce solution significantly reduces the risk of a data breach by eliminating token databases, clear text PANs and PII data in most systems (the primary targets of hackers), without impacting application function-

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> *"Online shoppers in the United States will spend $327 billion in 2016."*
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> – *U.S. Online Retail Forecast, 2011 to 2016, Forrester Research*

U.S. Airline Puts PCI Compliance on Autopilot

> *"Voltage Page-Integrated Encryption (PIE) technology is a game-changer. From an e-commerce standpoint, we would not have been able to become PCI-compliant without it unless we resorted to alternatives, which no one wanted to do from a usability or customer experience perspective."*
>
> *- Manager, Systems Security, CISSP, CISM, CISA, U.S. Airline*

Challenges:
- Failed PCI Audit, facing steep fines
- Aggressive compliance deadlines
- The core application that runs the business—from e-commerce travel booking to boarding pass scanners and dispatch—could not easily be made compliant

Solution:
- Voltage Secure Commerce solution with Voltage SST and Voltage PIE technologies

Results:
- Quickly brought systems into compliance, solving their problem with the core business application by taking the front-end, customer-facing systems out of scope
- Achieved 95% PCI DSS scope reduction
- Eliminated the storage of 5 million credit cards, taking almost all back-end systems out of scope
- Re-directed resources to more profit-enhancing software development projects
- Took all of the servers handling the airline's mobile app out of scope and enhanced the security of its business that offers travel-related services to customers on the go
- Up and running in 4 hours, scalable for planned growth and ready for audit at both Level 1 and Level 2 classifications

ality. With Voltage, you maintain complete control of your systems, applications and business processes without process re-engineering, application recoding or architectural changes. The solution implements quickly and easily—typically within days—with virtually any application or system, including decades-old custom applications and mainframe environments.

- **Protect sensitive data as soon as it is entered into the web browser, as well as data captured elsewhere**, such as social security numbers, account numbers, employee salaries and more

- **Ensure high-performance, carrier-grade high availability and linear scalability**, with proven tokenization performance of up to 250,000 tokenization operations per second on a single system

- **Keep your web analytics team happy** by maintaining full visibility into the customer experience at checkout

Achieve PCI Compliance with Dramatic Cost Savings through Reduced Audit Scope

Want to quickly make your business compliant with PCI DSS while removing 70 to 95 percent of your systems from PCI compliance scope? How much would that save your business in ongoing administration, QSA engagements and remediation expense? The Voltage Secure Commerce solution gets it done through encryption or tokenization of credit card data at the point of capture, and tokenization of data before storing and using it in back-end systems. This allows systems that previously handled cardholder data to be removed from PCI scope.

- **Remove systems that previously handled cardholder data from PCI scope**—web servers, application servers, database servers, routing hardware and more

- **Avoid costs for database** hardware, software acquisition/licensing and replication software by eliminating the need for tokenization databases

- **PCI scope reduction is validated by Coalfire Systems, Inc.**, a leading independent IT governance, risk and compliance firm (see sidebar on page 4)

Safely Embrace the Mobile Commerce Explosion

Millions of consumers are now using smartphones and tablets to conduct transactions. Retail trade through smartphones grew 81 percent in 2012 and is expected to grow over 55 percent in 2013 (eMarketer, Jan 2013). It easy to see why when you consider mobile internet users will surpass desktop internet users by 2014 (comScore). The Voltage Secure Commerce solution allows you to safely extend sales to consumers anytime, anywhere, while maintaining the user experience.

- **Quickly and confidently extend sales opportunities** to smartphones, mobile kiosks, wireless POS devices, Android/iPhone scanners and other mobile devices without browser add-ons or plug-ins

- **Protect credit card information** (and any PII data string up to 256 characters) from the instant it's entered into a mobile web form, eliminating a critical security gap for sensitive data which is not addressed by SSL

- **Ensure a seamless customer experience** that is transparent to the user unlike payment redirect services which display blank screens and URL updates as they reroute users

Questions Other Security Vendors Would Rather Avoid

Any security system upgrade requires careful analysis and exploration. As you consider different vendors, the following questions can help you determine true solution differentiation and real competitive value.

1) **Can the solution encrypt PCI and PII in the browser at the moment of capture without complex iFrames or redirects?**
Only Voltage has Page-Integrated Encryption (PIE) to instantly protect data in the most transparent manner possible, without user interaction and without compromising the user experience. No other premises-based solution offers this capability.

2) **Does the solution provide PCI scope reduction beyond tokenization?**
With Voltage, PCI scope reduction extends beyond back-office systems to include e-commerce web servers, routers and other customer-facing systems.

> **Leading Online Retailer Reduces PCI Scope and Remediation Costs**
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> *" With Voltage, our onsite QSA audit went from two weeks to three days, with remediation expense shrinking by 50 percent, saving us over $1 million annually."*
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> *- Director, Security Architecture, Top 5 Internet Retailer*

3) **How does the solution impact system performance? How much latency does it introduce?**
How will token database growth/storage/replication affect performance? Voltage SST doesn't require tokenization databases. High-speed tokenization occurs in memory, avoiding bottlenecks.

4) **Does the solution use proven tokenization techniques based on industry standards, and is it validated by independent analysis?**
Voltage's adherence to industry standards has been consistently confirmed by third-party analysts, and proven and published academic research. Voltage SST is independently validated by third-party QSA assessments and published security reports.

5) **Can the solution protect non-PAN data types?**
Voltage can protect any data type up to 256 characters, without changing its format.

6) **Does the solution offer streamlined mainframe integration by simply inserting a single line of code to tokenize or de-tokenize?**
Voltage SST offers integration with z/OS security frameworks like ACF2 and Top Secret for determining permission of an application or a user to de-tokenize.

7) **Can the solution guarantee 100% consistent assignment of exactly one token for each distinct input value without collisions, even when deployed in active/active mode across multiple data centers?**
Traditional tokenization systems (using databases) cannot guarantee a one-to-one correspondence between card numbers and tokens. Hiccups in database synchronization can result in two tokens being assigned to the same PAN. Voltage guarantees 100% consistency in the PAN/token mappings provided by all servers in all data centers: two tokens never exist for one PAN. Voltage SST keeps analytics running smoothly for business applications such as loyalty, marketing and fraud.

Secure Sensitive Data Across the Extended Enterprise

Voltage Security offers a single data protection framework that unlocks the full value of data across Cloud, Mobile, Big Data and Enterprise environments. The following solutions allow you to easily extend Voltage Security advantages across your enterprise and vendor ecosystems.

- **Integration with Enterprise Data Security.** Bring a unique data-centric approach to enterprise protection—where the policy travels with the data itself—without changes to data format or integrity.

- **Big Data Integration.** Respond immediately to Big Data analytics opportunities by implementing high-performance data security with extensibility, scalability and adaptability to Hadoop and other Big Data technologies.

- **Secure Migration to Cloud Services.** Achieve the efficiencies and cost savings of cloud-based services by protecting your data as soon as it is acquired and ensuring it is always used, transferred and stored in a protected form as it moves around the cloud.

- **Secure Mobility.** Protect mobile emails and attachments as well as sensitive data captured via the browser on mobile devices and mobile payment devices.

Respected QSA Validates PCI DSS Scope Reduction

"A properly designed and deployed Voltage SecureData Web with PIE Technology-integrated e-commerce application can significantly reduce PCI DSS scope and validation requirements similar to merchants implementing a host payment page solution."

- Coalfire Systems, Inc.
Leading IT Governance, Risk & Compliance Firm

Coalfire, Inc., a leading Qualified Security Assessor (QSA), conducted an independent review of Voltage SecureData Web with PIE Technology to assess its application security and data field encryption capabilities, as well as to analyze the impact on PCI DSS scope for merchants that implement it. The independent Coalfire review determined a properly designed and deployed Voltage SecureData Web-integrated e-commerce application:

- Reduces the risk of consumer cardholder data compromise and removes exposure of plain text cardholder data to the e-commerce merchant by encrypting cardholder data in the consumer's browser

- Represents an attack surface and threat environment similar to that of a hosted payments page

- Can significantly reduce PCI DSS scope and validation requirements similar to merchants implementing a host-payment page solution

The Coalfire Systems Report is available at www.voltage.com/resources/#PaymentSecurity

Merchant Environment
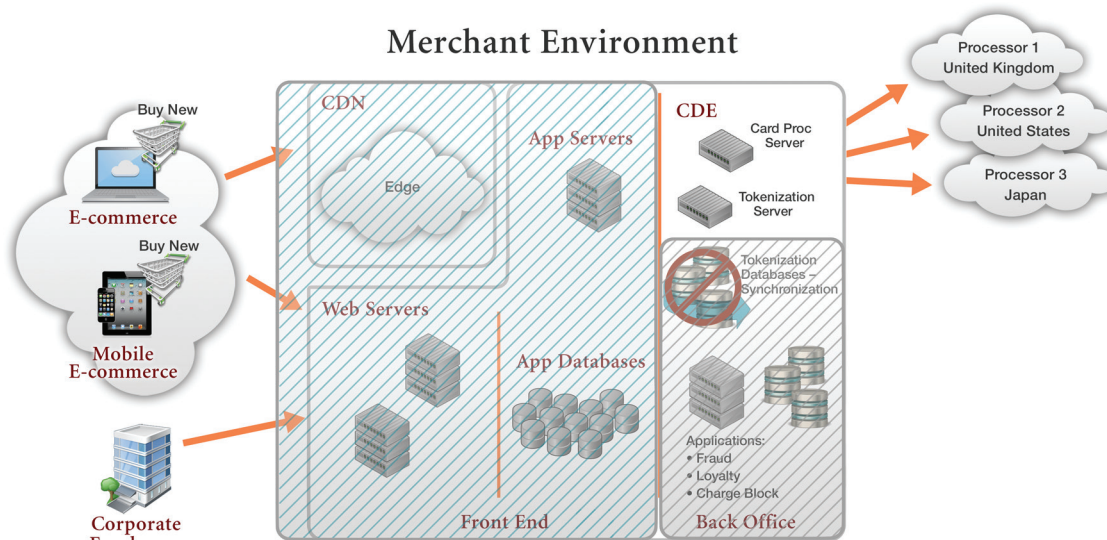
Scope Reduction with Voltage Secure Commerce (SST + PIE)

Voltage Secure Commerce delivers merchants and enterprises numerous benefits in PCI DSS compliance and enhanced security. You can integrate and comply rapidly. Reducing scope from the front and back office environments delivers significant cost savings in maintaining compliance, and reduces QSA pre-work and remediation costs. The solution enables the enterprise to have a powerful, scalable tokenization system and, by eliminating tokenization databases, it eliminates costs for database hardware, and software acquisition/licensing and replication software. Security is enhanced by removing major attack targets, such as stored cardholder data, from the system.

The Secure Commerce solution also allows data to be secure beyond the web tier, augmenting SSL security by preventing SSL breaches or configuration errors which can reveal clear text data. The solution protects sensitive data as soon as it is entered into the web browser, without disrupting existing data flows such as web analytics, BIN routing, fraud screening and back-office processes. With the Secure Commerce solution, you can put your web servers in the cloud and pay only for what you need. You can scale up and down for services across time of day or time of year, providing data-centric security from the point of data capture, so you can be responsive to rapid changes in business requirements, markets, and technology.

Learn more today

Voltage Secure Commerce protects customer and employee data, delivers radical reduction in PCI audit scope enterprise-wide, enables the secure use of cloud services with sensitive data protected at capture, and provides greater security for e-commerce transactions from smartphones, tablets and computers. What's more, it does all of this while delivering increased control and business agility, and significantly raising the overall security profile of your business.

About Voltage Security

Voltage Security®, Inc. is the leading data protection provider, delivering secure, scalable, and proven data-centric encryption and key management solutions, enabling our customers to effectively combat new and emerging security threats. Leveraging breakthrough encryption technologies, our powerful data protection solutions allow any company to seamlessly secure all types of sensitive corporate and customer information, wherever it resides, while efficiently meeting regulatory compliance and privacy requirements.

For more information, please visit **www.voltage.com**.