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Voltage Security Tries To Put The Spark Back Into Secure Email

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EXECUTIVE SUMMARY

With its Identity-Based Encryption approach to cryptography, Voltage Security offers several distinct benefits over other secure email solutions. It's easy for people to use, it's easy for IT shops to manage, and it's easy to integrate into other systems and processes. Voltage is off to early success, and its unique solution is worthy of attention and consideration.

IDENTITY-BASED ENCRYPTION: VOLTAGE SECURITY'S SECRET SAUCE

Identity-Based Encryption (IBE) is the technology on which Voltage Security is based. It was developed by researchers at Stanford University, who invented a method for building cryptographic keys from a simple character string. If this string is based on a well-known and unique identifier for a person, such as his email address, then keys become trivial to generate. In turn, such an improvement in the key generation process eases management and integration efforts.

- **It's easier to get people to use keys.** IBE makes it easy both to generate and to use keys. Typical Public Key Infrastructure (PKI) systems require participants to go through an enrollment process to create their private and public keys. Then they have to engage in the cumbersome ritual of key exchange: "Here's my key, now send me yours." Any efforts to deploy the solution require users to act first, and reap benefits later.

  With IBE, one user can email the other without having to exchange keys first, and this could even be prior to the recipient enrolling in the system. People don't need to exchange and manage each other's public keys because the user's identity — such as an email address — is the key, rather than some seemingly random-looking series of numbers.

- **It's easier to manage keys.** With the ability to automatically generate or determine keys, IBE does away with certificate revocation lists (CRLs) and various life cycle tasks, such as key escrow. IBE handles policy and management dynamically, making it more scalable than PKI. As the CSO at a financial services firm, and a Voltage customer, attests: "It was very easy to deploy, and from a backup/recovery standpoint, it's far easier than PKI."

- **It's easier to integrate into other products.** Being able to generate keys on the fly allows Voltage to more easily integrate its technology into other products. IBE can be placed into any systems and processes for dynamic encryption or decryption. Voltage has established partnerships with several email content vendors, as well as other security vendors.

What Voltage offers is in fact a security platform, and secure email is but one application. Presently, Voltage also offers secure file transfer and secure instant messaging, with secure voice over IP, and secure document applications slated for the future.

UNACKNOWLEDGED STRENGTH IN EMAIL OPTIONS AND CLIENT SUPPORT

Perhaps as a byproduct of the technology's ease of integration, or perhaps as a testament to the company's development team, Voltage has developed a rich set of deployment options. The gateway solution offers email protection over the Internet, integration with other gateway content security solutions per partnerships, centralized control over secure email policy, and user transparency. There are also several options for the desktop. Voltage offers the stock support for enterprise email clients like Outlook and Notes, as well as a clientless option to read and reply to messages securely. But Voltage goes further, and also supports Outlook Web Access and iNotes for browser access to enterprise email, as well as the consumer Web mail services like Yahoo! Mail and MSN (Gmail coming soon). Voltage is also unique in supporting RIM devices through a BlackBerry Enterprise Server component.

RECOMMENDATIONS

VOLTAGE IS A PROMISING NEW ENTRANT TO THE MARKET

- **Don't be scared off by the new technology.** New doesn't mean untried or untested. At its core, IBE is simply a new approach to generating and managing keys. The cryptography behind Voltage's solution is mature, well-tested, and sound.
- **Yet Voltage is still a new company.** The product and company are new, which calls for a higher level of scrutiny. As with all early-generation products, Voltage needs to improve its enterprise deployment and management. And while the company has achieved some early successes, especially in the financial services and government sectors, Voltage is still a startup. Long-term corporate viability and stability of the product architecture are typical concerns that apply here.
- **And the solution doesn't solve all the challenges of secure email.** While Voltage offers several technology improvements, other hindrances to secure email implementations remain. The lack of widely accepted standards means that conducting secure email across organizations requires coordination and collaboration among partners. In these B2B secure email environments, Voltage faces the same hurdles as other vendors in getting companies to adopt, and serve as proponents for, a proprietary technology.