The Bloor Group

HP Security Voltage and the Hadoop Ecosystem

VENDOR PROFILE

Hadoop's Insecurities

Hadoop is causing paradigm shifts across the board, from the types of data we collect, to the way we analyze it. It is also presenting new challenges in the area of data security.

Hadoop has some security capabilities. Apache Knox can be used for perimeter security, Apache Kerberos handles authentication and Apache Argus enables monitoring and management. But while each layer mitigates specific threats, collectively they tend to impose a piecemeal security strategy that leaves security gaps in its wake. In our view, end-to-end data protection should be data-centric and focus on security from storage through to the application layers. If complemented by a robust authentication capability, it delivers a comprehensive solution.

HP Security Voltage for Big Data

As Hadoop evolves from a dumping ground for data to an enterprise data store to serve analytics and BI, more departments and business units, and even individual staff, will want access to that data. However, data-at-rest protection does not secure data-in-motion, and with big data arriving from so many external sources, often in data streams, security policy needs to be kept under review. In a traditional data warehouse environment, data encryption is almost always implemented at the disk level, but in the emerging Hadoop ecosystem, data protection can not be implemented as device specific or application specific. It must span the entire enterprise, and it must do it well.

HP Security Voltage has the capabilities to play a critical role in the future of Hadoop security. It takes a data-centric approach to security, providing standards-based solutions to keep data safe while at rest or in motion.

As we've clearly seen in recent headline data breaches, once a hacker gets past the initial line of defense, data is ripe for picking and is quickly picked. HP Security Voltage leverages several versatile techniques to protect the data, not just when it resides in Hadoop, but wherever it may travel throughout the business:

- Encryption – HP Security Voltage offers three types of encryption:
  - Format-preserving, which encrypts data at the field level and offers full referential integrity, thereby reducing the performance penalty often paid with disk-level encryption
  - Identity-based, which removes the need for certificates, instead generating private decryption keys that correspond to public entities
  - Page-integrated, which encrypts browser data, only decrypting when it is safely inside the host system
- Stateless key management – Unlike traditional systems that maintain a key database, keys are not stored within the system; rather, they are generated and regenerated on demand, based on policy and permissions
- Stateless tokenization – Designed to address the security of sensitive data such as Personal Card Information (PCI), Personal Identity Information (PII) and Personal Health Information (PHI), this solution includes random tokens that are not stored or synchronized

This combination of encryption methods and key management practices allows HP Security Voltage to offer a scalable, performant solution for Hadoop data and data throughout the enterprise.

The Bottom Line

Hadoop will inevitably evolve into an architectural fixture, whether for a data lake that feeds analytics or a backup store for historical data. Keeping information assets on a Hadoop cluster is convenient, yet it can also make the data an easy target for hackers. Data breaches will happen. And when they do, the best insurance is to make it impossible for data thieves to read the data. HP Security Voltage offers that kind of insurance, and organizations that take security seriously would do well to take a closer look.

About The Bloor Group

The Bloor Group is a consulting, research and technology analysis firm that focuses on open research and the use of modern media to gather knowledge and disseminate it to IT users. Visit both www.TheBloorGroup.com and www.InsideAnalysis.com for more information.

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