ssh communications security

DATA SHEET

CRYPTOAUDITOR

Trust is Good - Monitoring is Essential.

CryptoAuditor is a centrally managed virtual appliance for monitoring, auditing and controlling encrypted privileged access and data transfers. It lowers security risk, increases resiliency, and enables compliance.

THE PROBLEM

Privileged users need access to critical systems, devices and data to do their jobs. Their activities are secured by protocols such as Secure Shell (SSH), Remote Desktop Protocol (RDP) and Secure Socket Layer (SSL). Shared accounts and encrypted communications make it difficult to know which privileged user is doing what, where and when, especially in today's virtual office environment and outsourced IT administration set-ups. There has to be accountability and true visibility, while enabling efficient working practices. Every session and command must be traced to an individual and individuals should not have more access than they need to do their jobs. Finally, malicious activity must be stopped in real time. These are not just "nice to have" capabilities. Lack of accountability, control and real-time response expose your organization to costly data breach, denial of service and compliance failures.

MONITOR

Privileged identities are in a unique position of elevated trust. Make sure you know what they are doing.

RECORD

Maintain searchable records of privileged activities in case you need to investigate an incident.

CONTROL

Go beyond visibility. Gain accountability and enforce who can access what over a privileged connection.

ENABLE

Your layered defenses are probably blind to encrypted traffic - SSH, SFTP and RDP. Empower your DLP, IDS, and SIEM to do their job.

awsmarketplace

Certified for Amazon Web Services Marketplace and available for 1-click deployment

McAfee COMPATIBLE

Certified integration with McAfee WebGateway for powerful DLP and McAfee ESM enterprise-grade incident management

TECHNOLOGY RSA READY PARTNER

Ceritified integration with RSA Security Analytics for powerful enterprise-grade incident management

VBLOCK READY

Certified to work with VCE Vblock System converged infrastructure

Business Partner IBM

Ready for Security Intelligence

Certified integration with IBM QRadar SIEM for improved enterprise incident management

CRYPTOAUDITOR

THE SOLUTION

CryptoAuditor is a network-based, inline traffic monitor that decrypts and records the activities of privileged users without interfering with their normal workflow. There are no agents to deploy; it works regardless of what devices users connect with and what they connect to.

CryptoAuditor is more than a passive monitor; it provides identity-based policy controls that specify where privileged users can go in your network and what they can do. CryptoAuditor also integrates with your DLP, IDS and SIEM systems, enabling real-time detection and prevention of data loss. Here is how CryptoAuditor protects your critical assets:

- **Accountability:** You know exactly who the users are and what they did.
- **Control:** Privileged access on a “need to know, need to do” basis.
- **Audit:** An indexed database of privileged sessions including video replay of graphical sessions.
- **Real-time defense:** Your SIEM, DLP and IDS gain real-time visibility into encrypted sessions.
- **Easy deployment:** Transparency and distributed architecture enable efficient, low-cost deployment.

HOW IT WORKS

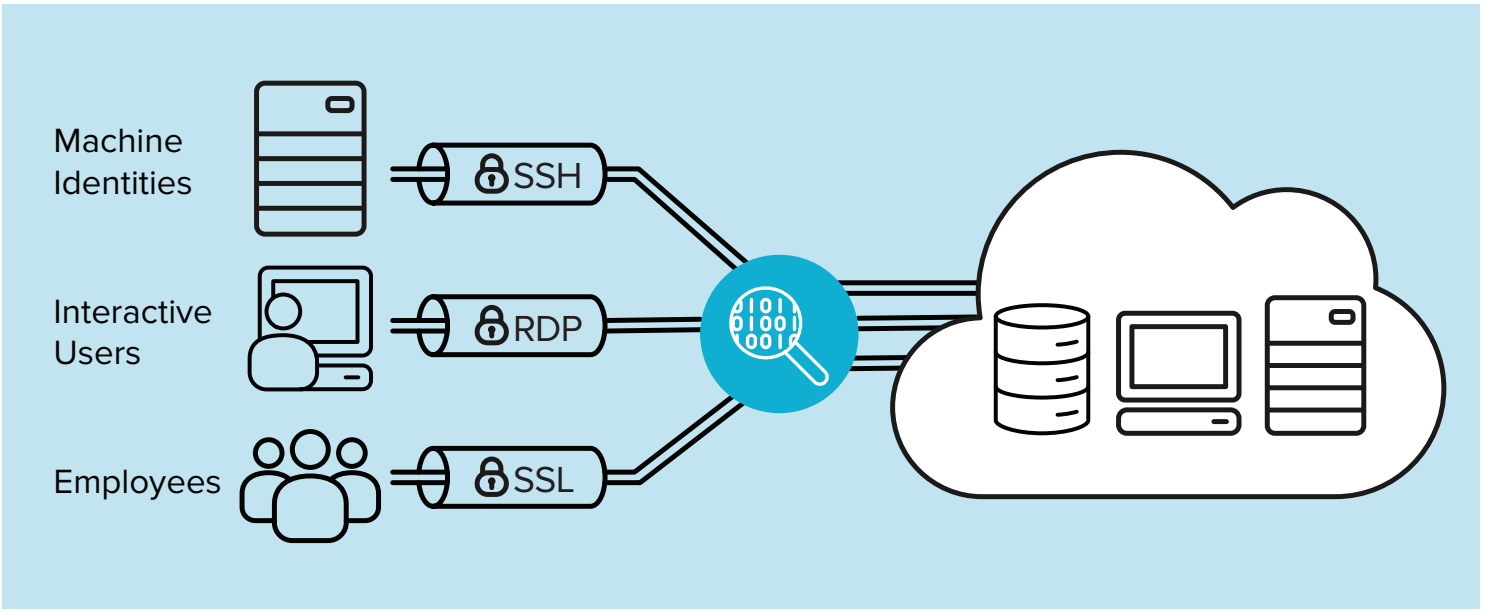
CryptoAuditor works as a trusted audit point. It terminates and re-opens privileged user sessions, and inspects and records those sessions in real time before re-encrypting and pushing the session forward. Virtual appliances are deployed at key locations in the network - in front of server farms, databases and network entry points. It can be deployed in a fully transparent mode so you don’t need to change end-user access and login procedures. A centralized console provides unified management. Sessions are indexed and stored in an encrypted database for reporting, replay and forensic investigation.

SOME OF OUR CUSTOMERS

CryptoAuditor solves diverse security challenges in the cloud and traditional data centers:

- **Cloud and Hosting Provider:** Meets the security SLAs customers demand.
- **Global Financial Services:** Protects multi-trillion dollar financial settlement services.
- **Gaming Operator:** Monitors Windows and Unix administrators.
- **Technology Company:** Prevents contractors from removing source code and designs.

CryptoAuditor - Privileged access monitoring



TECHNICAL SPECIFICATIONS

FEATURES AND BENEFITS

Features	Benefits
Multiple deployment modes: Bridge, Router, Bastion	Fits into diverse network topologies including VLAN-based audit and policy control.
High-availability clustering for Hounds, and configurable failure-tolerance policy	Minimal downtime in event of a single Hound node failure. If a single Hound node fails, the system can recover and continue relaying new connections.
Transparent network appliance	No need to retrain users to have them use another SSH client or portal, or provide them with new SSH keys.
Session replay, including video sessions	Straightforward audit of privileged activity.
Searchable database	Quick and easy access to recorded session information.
Encrypted storage with audit zones	Audited activity is secured from unauthorized access. Separate audit zones enable access on a need to know basis.
Monitors and records SSH, SFTP, RDP, SSL/TLS, HTTPS	Audit high value, privileged access. Comply with security mandates.
Customizable auditing policies	Focus on high value targets, activities.
Real-time 4-eyes authorization. HTTP REST API for requesting connection authorization from third-party solutions.	Extra security layer for accessing critical servers.
Identity-based policy control with integration to directory services	Control which users can access which servers and what activities they can perform.
Distributed architecture with multiple freely-distributable Hound audit-points, and shared Vault storage.	Adapts easily to changes in network topologies and business processes, enabling fast deployment and low Total Cost of Ownership.
Integrates with SIEM, IDS, DLP, Network AV	Certified compatibility with major vendors such as McAfee, RSA, IBM and VCE vBlock.

Public and Private Cloud Instance	Virtual Appliance
• Amazon Machine Image (AMI) available in AWS Marketplace • OpenStack (on KVM hypervisor)	• Supported platforms: VMware ESXi and MS Hyper-V • For evaluation purposes Oracle VirtualBox and VMware Workstation (no production use support)

PERFORMANCE

Throughput	• 930 Mbit/s (unaudited passthrough) • 400 Mbit/s (single encrypted SFTP connection)
Connections	• Simultaneous connections: 3000 SSH or 300 RDP or 300 SSL/TLS • New connections per second: 3 SSH or 3 RDP or 10 SSL/TLS

* Setup used in the performance test: HP DL320e Gen8 server running VMware ESXi 5.5, CryptoAuditor VM (4 CPUs, 12 GB RAM)

DEPLOYMENT AND SYSTEM ADMINISTRATION

High Availability	• Active-Passive redundancy (Hound) * VMware (and hardware appliance) in production use
Operation	• Transparent bridge and router modes • Non-transparent bastion mode • SOCKS proxy functionality for HTTP/HTTPS auditing
VLAN	• Supported in bridge mode
Management	• Web-based admin UI (current version of Mozilla Firefox for optimal experience) • Dedicated management interface • CLI
Administration	• On device management accounts • AD/LDAP-based management accounts • Customizable role-based administration and audit rights
HTTP REST-based API	• Managing users and credentials

CRYPTOAUDITOR TECHNICAL SPECIFICATIONS

AUDITING, END-USER AUTHENTICATION & AUTHORIZATION

Inspected Protocols	• SSH (v2), SCP, SFTP, RDP, SSL/TLS-protected TCP, HTTP/HTTPS • Supported protocols can be audited also recursively in SSH tunnels
Audit Levels	• Options between “Metadata only”, and “Full channels”
Monitoring and Policy Control	• Rules by protocol, address, port, VLAN, or user group • Easy-to-use rule verification tool • Flexible user credential management (through HTTP REST-based API)
End-User Authentication & Authorization	• On device password or SSH public key • Passthrough password or keyboard-interactive • AD/LDAP-compliant directories • RADIUS • RSA SecurID/OTP • X.509 certificate (SSH only), with PIV/CAC smart card support • HTTP REST API for user authorization • 4-eyes authorization. Alerts via e-mail; connection accept/reject in the web-based admin UI
Shared account management	• Secure password and SSH-key safe
Other	• OCR-based content recognition for RDP (Latin and Cyrillic) • Indexing-enabled free-text content searching

SECURITY

Encryption	• Key Exchange: Diffie-Hellman, RSA • Host Key: RSA, DSA • Connection: AES-CTR/CBC (128-, 192-, 256-bit), 3DES-CBC, Blowfish, RC4
Data Integrity	• HMAC SHA-1 (160-bit, 96-bit) • HMAC MD5 (128-bit, 96-bit)
Compliancy	• FIPS 140-2 compliant operation through certified OpenSSL library
System Security	• All communication between Hound and Vault secured by TLS • All information stored in the Vault is encrypted with 128-bit AES • No user passwords captured and stored
Alerts and Reports	• System and connection-based alerts to SIEM and syslog • Customizable e-mail reports

THIRD-PARTY APPLICATION SUPPORT

SIEM & Syslog	• IBM Security QRadar SIEM • McAfee Enterprise Security Manager • Splunk Enterprise • RSA Security Analytics • HP ArcSight Logger • Rsyslog • Syslog-ng
IDS	• RSA Security Analytics • Bro
DLP and Network AV	• RSA Data Loss Prevention Suite • Symantec Cloud Protection Engine • McAfee Web Gateway • F-Secure Internet GateKeeper * DLP and network AV integration support through the standard ICAP protocol