ssh
Securing the path to your information assets

Customer Success: Universal SSH Key Manager

Top 5 Global Bank

Universal SSH Key Manager Restores Compliance, Reduces Risk

One of the largest banks in the world - with over $2.5 trillion in assets - was alerted to a security and compliance issue during an external audit. The bank utilized OpenSSH to drive thousands of mission critical transactions every day but they needed to get a handle on their identity and access controls for application-to-application and privileged users in order to ensure the security of their secure shell environment.

Background

Secure Shell (SSH) is a infrastructure level security protocol that is widely used in enterprises, yet it is not widely understood. SSH is used by IT functions that are critical to the life of the enterprise. These include automated file transfers, backups, disaster recovery readiness and system administration. SSH employs a public key based authentication system that in most enterprises operates completely outside of controls provided by RADIUS, AD and other centralized authentication and authorization mechanisms.

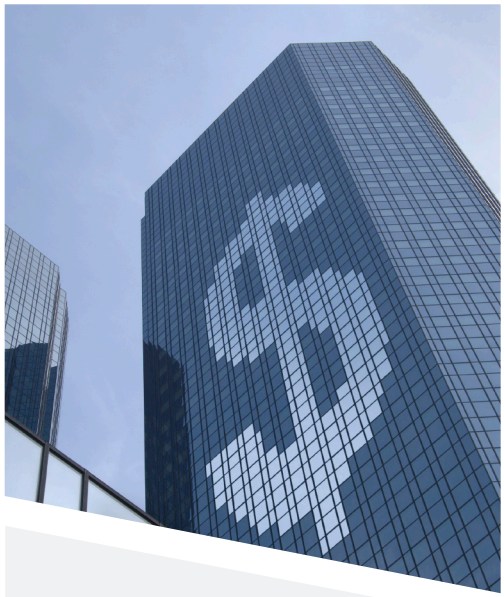
The Problem

At a Top 5 Global Bank*, a security audit raised attention to the risk and compliance issues stemming from lack of governance over SSH user keys – the keys that grant access to systems and enable functions critical to many banking operations. Auditors advised management that the existence of this unmanaged authentication system was in violation of compliance mandates (MAS & SOX) and even more serious, represented an existential threat to the organization itself.

The compromise of just one key granting root access to server infrastructure would expose the bank to information theft, tampering and loss – even including the loss of backups. Operations staff were charged with the task of bringing the SSH infrastructure under security compliance.

> "During the discovery phase the scope and extent of the issue became clear: Over time the number of SSH keys had grown to an unmanageable level and with little to no visibility into what each key did. With over 85% of all SSH transactions being critical application-to-application data transfers, the first step was to lock down the environment and identify trust relationships. Then we were able to redeploy new keys - all without causing an outage."
>
> *- Joe Scaff, SSH Director of Technical Services*

Banking and Financial Services



Quick Facts:

Size & Type of Environment:
10,000+ hosts using OpenSSH

Number of User Accounts:
20,000+

Number of Applications:
500+

Number of Keys:
1.5 million

Compliance Issues:
SOX, Monetary Authority of Singapore

Choosing a Solution

The Bank needed a partner that could not only provide an SSH key management product but also the advice and expertise to design and implement a solution. The Bank realized that they simply did not have sufficient in house SSH knowledge and expertise to deal with this problem that had been growing for years. After contacting several vendors the Bank selected SSH Communications Security.

> "One of the first things SSH Communications did was demonstrate the scope of the problem. Their SSH Key Discovery tool showed us the problem was even more widespread and serious than our auditors were saying. SSH's technical deployment team found we had over 1.5 million SSH user keys distributed across our entire infrastructure, including over 150,000 user keys granting root access, with no records as to who was in possession of the corresponding private keys."
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> "We found some of our critical security safeguards such as those ensuring separation of test and production environments were easily circumvented via SSH. SSH Communications showed us how Universal SSH Key Manager combined with their professional services would enable us to take back control. No other vendor had the products or expertise to do this."
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> *- The Bank's Project Manager*

A Structured Approach

Key discovery is only the first step. Understanding key usage - identifying which keys are essential to automated processes – is an essential next step before remediation can begin. Universal SSH Key Manager (UKM) provides the monitoring capability to capture key usage. Unneeded keys are removed and actively used keys brought under administrative control. UKM provides central administration to ensure policy control over key usage, key lifetimes and authority over key creation. Lastly, UKM monitors and alerts security administrators to any policy violations. Global Bank purchased the solution in November 2012 and is well under way to controlling their SSH infrastructure.

> Says the Project Manager: "SSH Communications has been a true partner in this endeavor. Their expertise and attention to detail have been invaluable in helping us address this major risk and compliance issue. "

*The company has requested anonymity, but all the facts are accurate as stated.

Further Reading:

- SSH User Key Remediation: Getting Control of One of the Most Significant Hidden Threats to Your Enterprise Security
- SSH User Keys and Access Control in PCI-DSS Compliance Environments
- The Technical Complexities and Risks of Public Key Authentication