How to overcome the challenges of security in a DevOps environment

With Certificate and Key Management by KeyTalk

What kind of security challenges

Securing DevOps IT environments with certificates and keys is challenging, mainly because the procurement and provisioning process is mostly done manual and therefor too slow, sensitive for human error and can easily disrupt the workflow. DevOps teams can easily use ten times the number of SSL/TLS certificates as other departments, while they often ignore security guidelines to make their deadlines.

Like any developer, DevOps engineers take shortcuts when obtaining or using TLS keys and certificates – like using weak cryptographic keys, unknown, self-signed or duplicate certificates, or make use of internal unapproved certificate authorities (CAs) with little to no validation and oversight from IT security office. And ignoring security in DevOps exposes the companies IT infrastructure to expensive application downtime.

All of this makes it easier for attackers to look trusted or hide inside encrypted traffic. And the sheer volume of untrusted and unprotected certificates makes an outage from expired certificates an inevitability.[1]

Why cryptographic keys & digital certificates matter to DevOps

TLS keys and certificates determine what can and can't be trusted on the Internet, enabling software to communicate privately and preventing man-in-the-middle, spoofing and other trust-based attacks.

New DevOps approaches like containerization and orchestration increase the demand for near instantaneous availability of trusted TLS keys and certificates.[1]

With this all important increasing need for on-demand certificates, stronger crypto keys and trusted CA's within a DevOps environment, the KeyTalk Certificate and Key Management System is there to do just that, to automate the process of request, enroll, revoke, replace, install and configure the wright certificate and key pair in the wright place on the wright time.

The KeyTalk API can integrate with DevOps platforms like Terraform, Saltstack, Docker, etc.

1. Bridgwater, Adrian. Computerweekly.com. Why Cryptographic Keys and Digital Certificates Matter to DevOps. 22 July 2016