DevSecOps and Zero Trust Architecture (ZTA)
For Multi-Cloud Environments

Welcome to the second NIST-Tetrate Conference!

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NIST
National Institute of Standards and Technology
U.S. Department of Commerce

Tetrate
The Enterprise Service Mesh Company

90% of web-enabled applications will be more exposed to attack by API weaknesses than via the user interface.

According to Gartner, by 2022, API abuses will be the most-frequent attack vector for enterprise web applications data breaches.

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Source: https://www.zdnet.com/article/top-8-trends-shaping-digital-transformation-in-2021/

DevSecOps != More burden on Developers

Eric Brewer,

VP Infrastructure, Google
at Service mesh day run by Tetrate:
March 2019

When developers are writing a service, they worry a lot about the API, what are the methods, how does it work?

Dev

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But when you're deploying microservices, then you start need to think about other questions:

What are the policies that are calling this service?

Does it have a quota?
Does it have a denial of service?
How does it get authenticated?
How is it secured?

Deploy

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Does it have a denial of service?
How does it get authenticated?
How is it secured?

All of these questions are not about what the API does, but are operations pieces.

Deploy

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Why should the devs be burdened with implementing security?

or be concerned with defining security policies?

Can we make “secured by default” - the norm?

Can the app runtime provide guarantee that a developer will never get security wrong?

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Istio at its core decouples developers from operations

Istio's core security features

- Authentication & Authorization
- Encryption of service communication at scale
- Service communications are secured by default
- Enforce policies consistently across diverse protocols

NIST IR 8313 – Attribute-based Access Control for Microservices-based Applications using Service Mesh

- an authenticatable runtime identity for services
- the ability to authenticate application (user) credentials
- encryption in transit of communication between services
- A Policy Enforcement Point (PEP) separately deployable and controllable from the application — the service mesh's sidecar proxies
- And logs and metrics for monitoring policy enforcement

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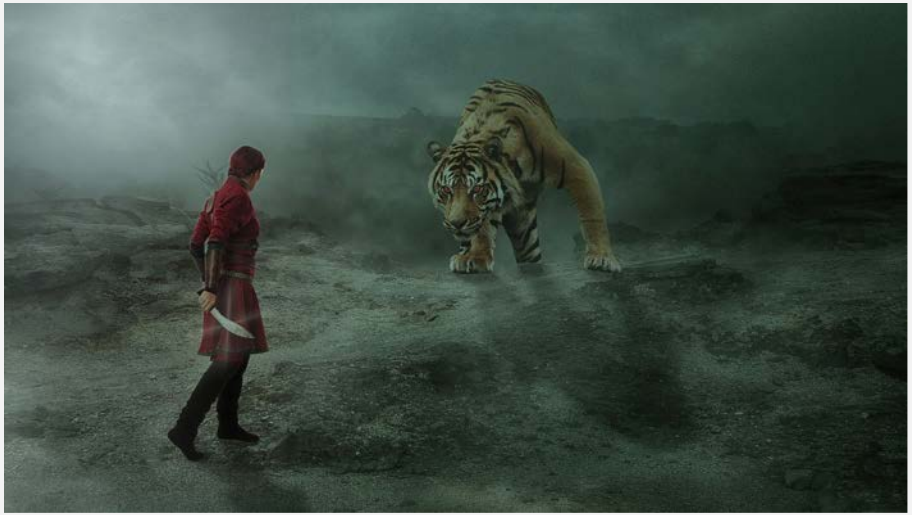

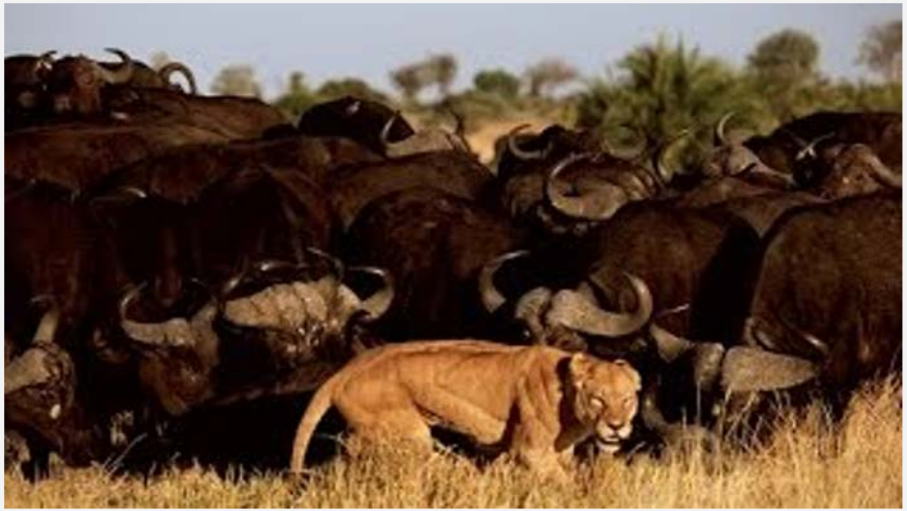

Application level Security OR Zero Trust

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Thank you for tuning in!

Enjoy the conference

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