QSC 18

QUALYS SECURITY CONFERENCE 2018

Regaining Our Lost Visibility

Sumedh Thakar
Chief Product Officer, Qualys, Inc.

Agenda

Why are we doing what we are doing?

The State of IT Now

Security Today

The Future of Security

How Qualys is Leading the Way

IT Transformation

Infrastructure & Application

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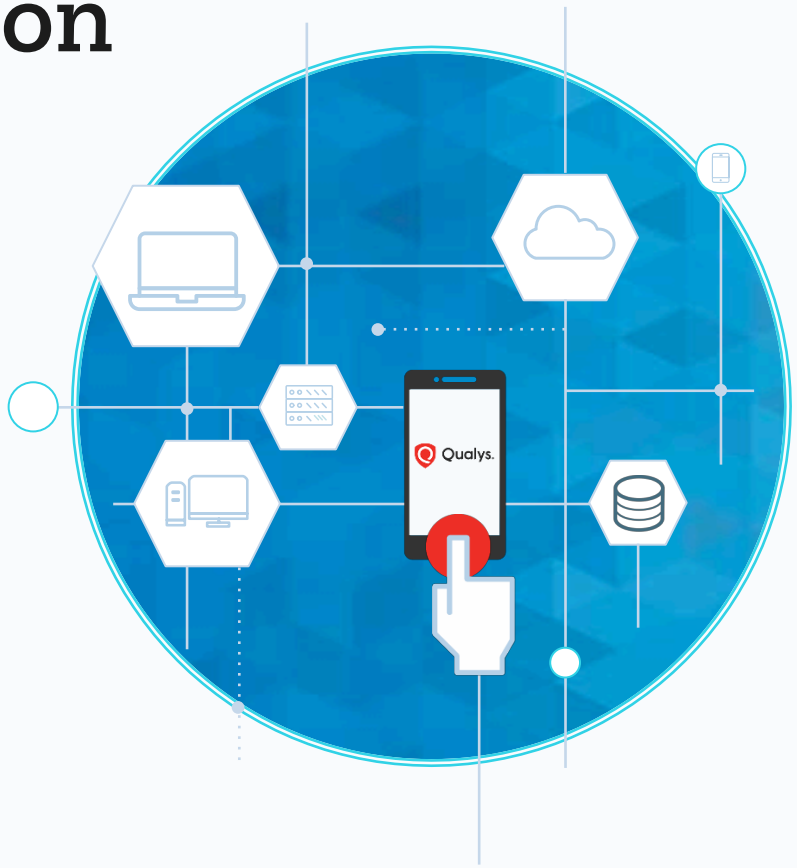
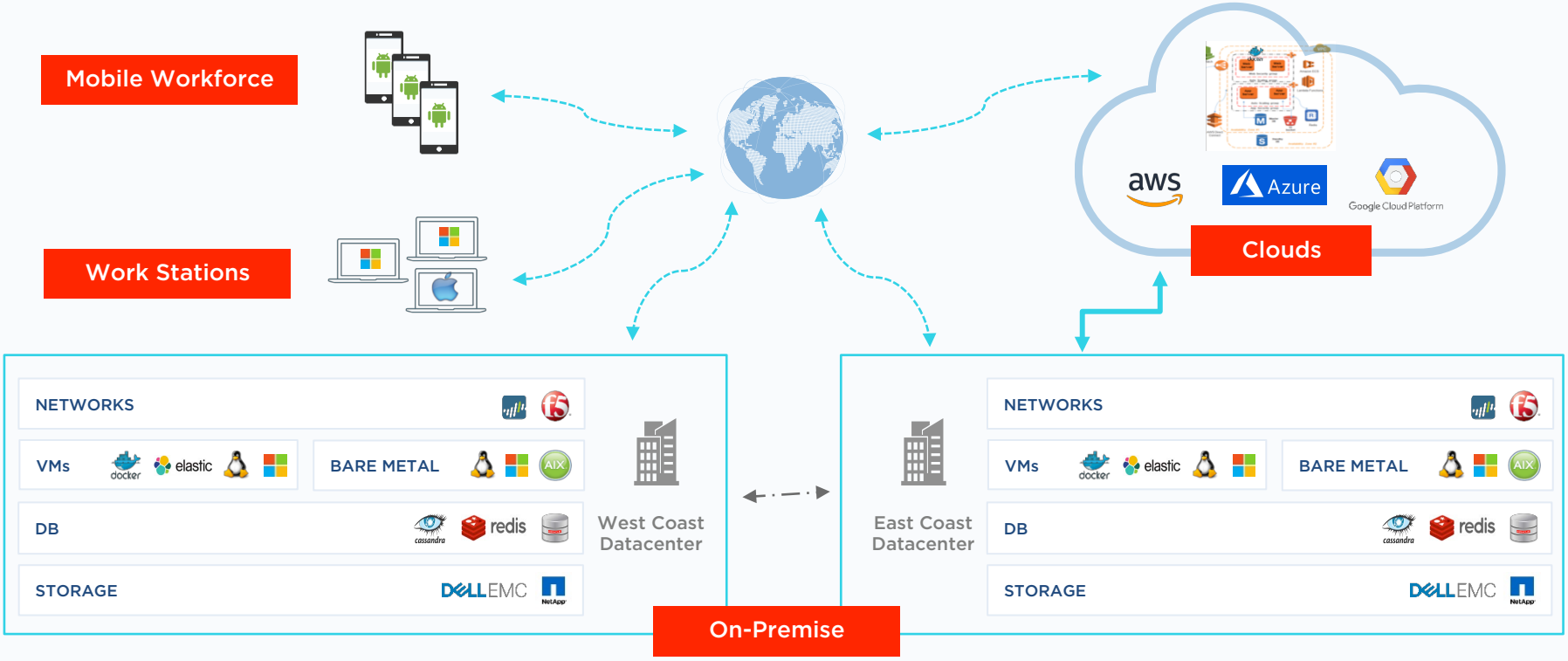
Digital Transformation

Holistic Transformation of Business to Digital

Cloud, Containers, IaaS, PaaS, OT, IIoT, IoT, Mobility, Web apps, APIs, Mobile Apps



Hybrid Cloud Overview Architecture



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Containers

Real game changer

Hypervisor disappearing, bare metal is back

Kubernetes Infrastructure-as-code

Container-as-a-Service AWS Fargate

AWS Lambda function-as-a-service, serverless!

Kubefed?

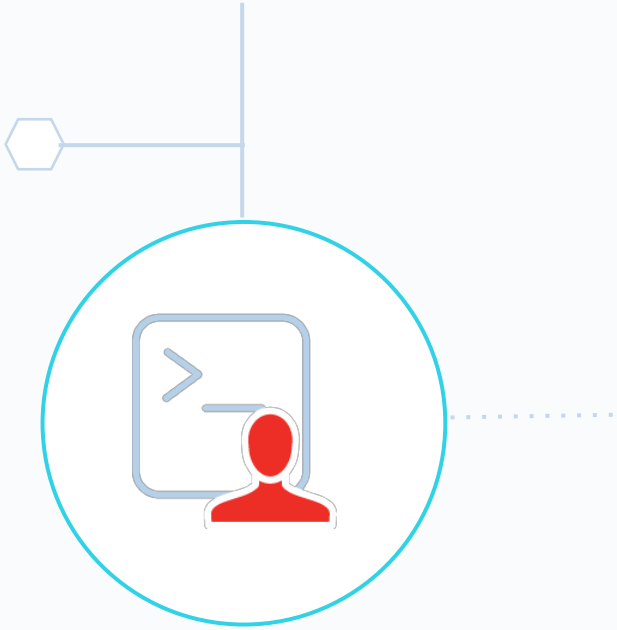
“Priceline” for Containers?

DevOps

This is real and highly contagious

Developer decides how infrastructure runs in production

Speeds up significantly how fast code goes to production



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On-Prem

Shrinking Datacenter Footprint

Increasing OT & IIoT

Corp IT – more distributed & mobile

More IoT!

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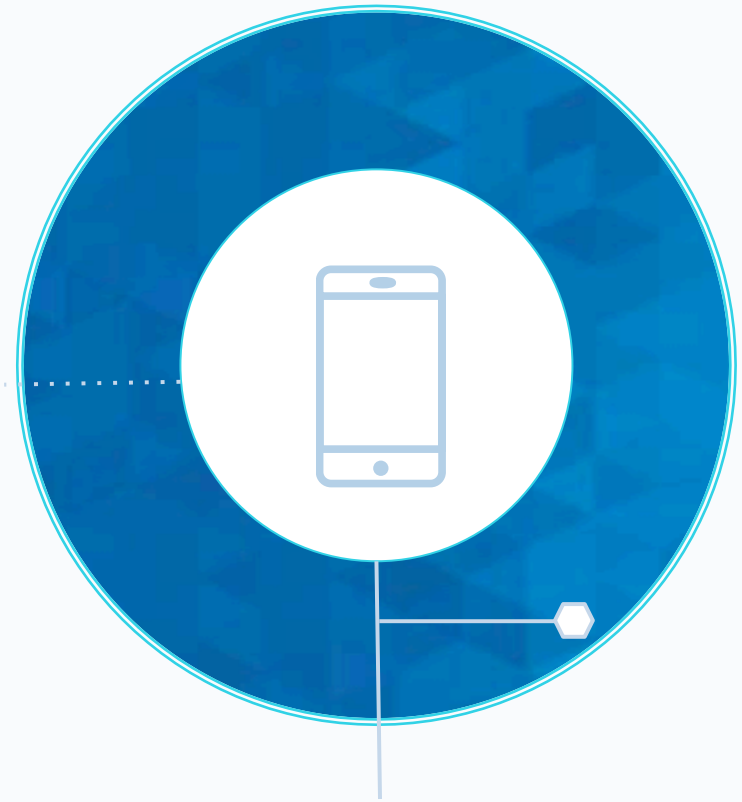
Enterprise Mobility != BYoD

Enterprise owned handheld devices

Indispensable to modern business

Running apps handling sensitive business & consumer data

Mobile!



Web Apps & APIs

Web Apps for the humans

APIs for the inhumans

Wide window into all your data

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SaaS

More aaS everywhere

No infrastructure to manage

No Applications to code or manage

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SaaS

Lead the charge
against bloated
cloud software.
hworks
fresh.
gagement software

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Security

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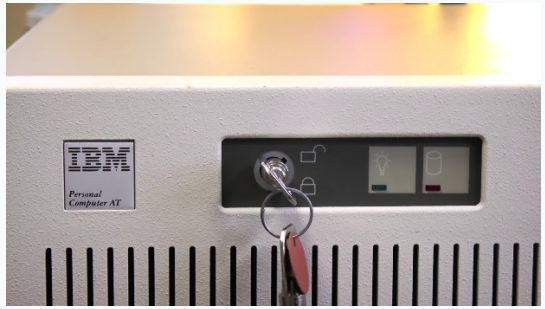
IBM PC AT

November 13, 1984

PC Magazine about IBM PC AT

"The AT provides the first real system for allowing executives to sleep at night:

A hard-to-duplicate 'tubular' key locks all but key holders out of the system"



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34 years later

No magic key = No sleep at night!

Same challenges x 10

No visibility across global hybrid infrastructure

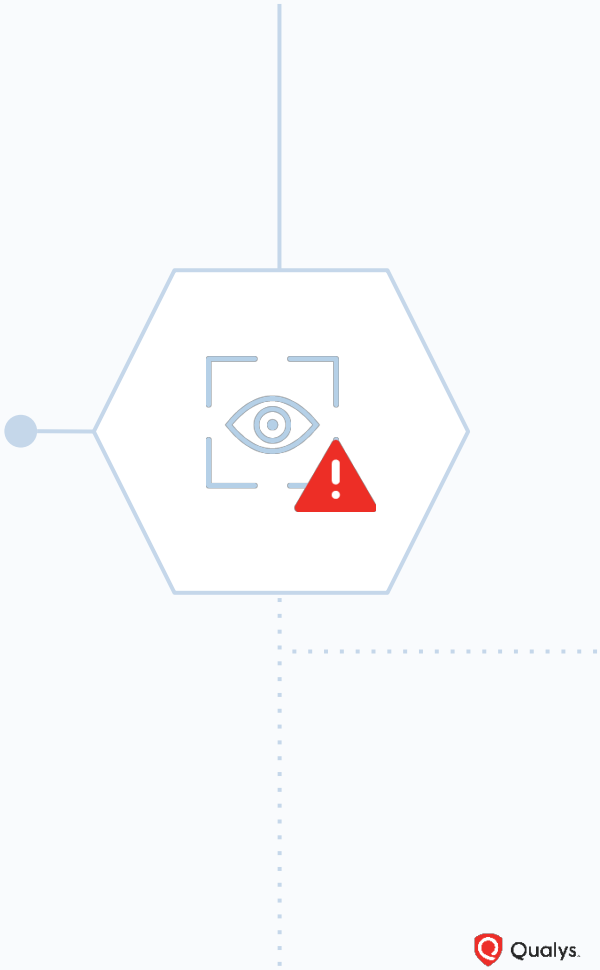
Still need to do Vulnerability & Configuration management

Still need to monitor integrity of systems(?)

More data incoming into “SIEM” deployments

Basically no visibility to respond

Compliance demands on new infrastructure



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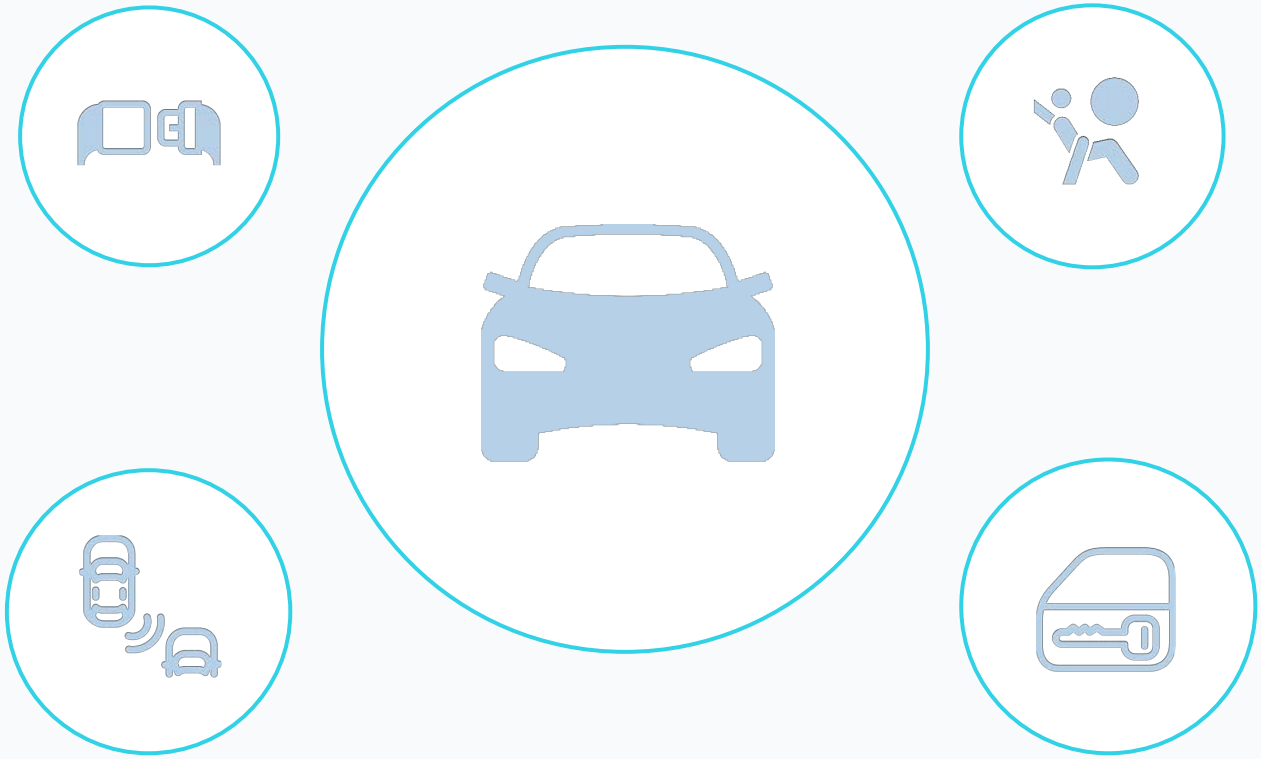

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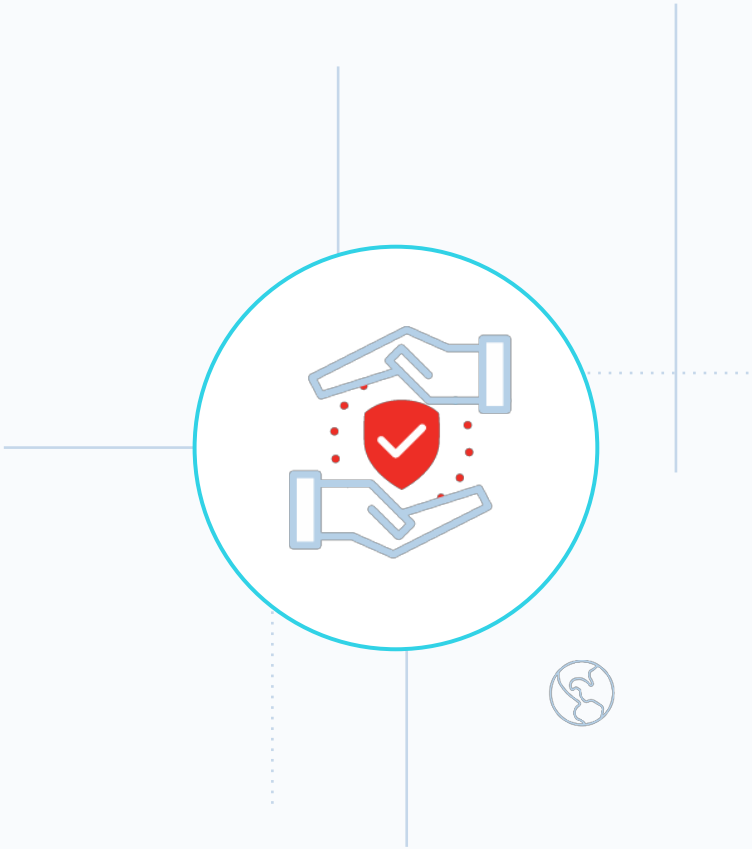
Future of Security

Transparent Orchestration

Built-in Automation the only real solution

Starts in DevOps

New generation of Security Analytics platforms



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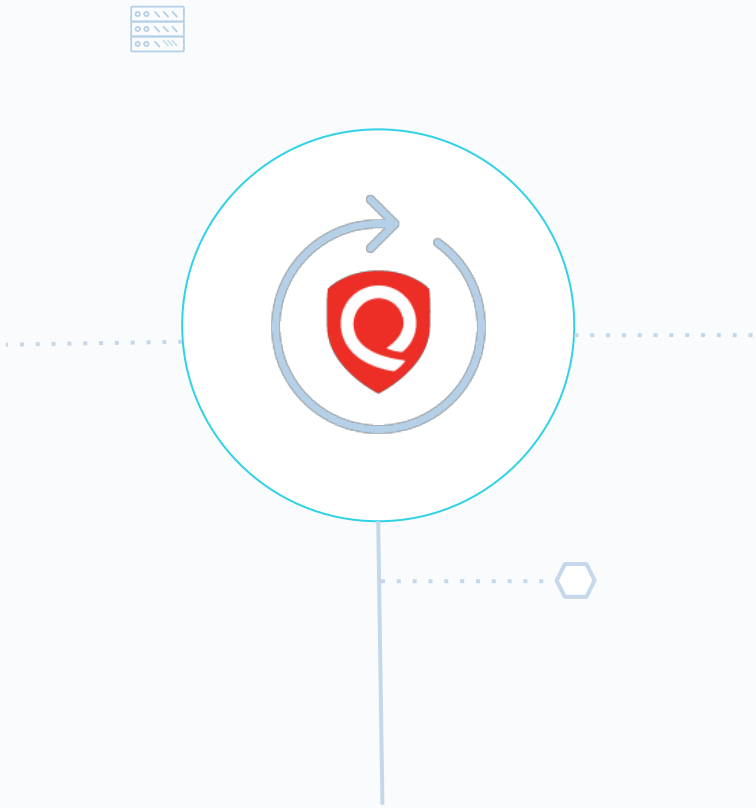
Qualys Platform Approach

Embracing our own Digital Transformation

Massive expansion of backend for visibility – **620 Billion** security datapoints indexed

Comprehensive coverage of sensors – scanners, agents, cloud connectors, container sensors, passive sniffers and mobile agents



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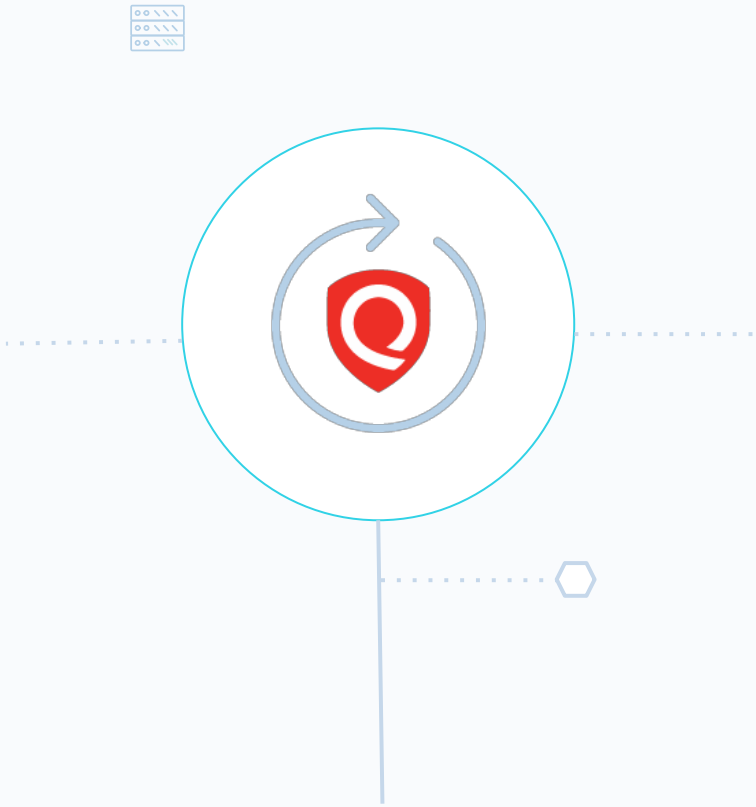
Qualys Platform Approach

Extending solutions into remediation & response

Building dedicated Data science team

Rapid expansion of R&D org

Key technology acquisitions & Investments



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Acquisitions & Investments

Nevis	Passive Scanning & Secure Access Control
Netwatcher	Event Correlation Platform
1Mobility	Enterprise Mobility
Layered Insight	Built-in Runtime Container Security
42Crunch Investment	API Security
Frog 1	
Frog 2	

Qualys Cloud Apps

ASSET MANAGEMENT

AI — Asset Inventory
Maintain full, instant visibility of all your global IT assets

SYN — CMDB Sync
Synchronize asset information from Qualys into ServiceNow CMDB

CI — Cloud Inventory
Inventory of all your cloud assets across AWS, Azure, GCP and others

CRI — Certificate Inventory
Inventory of TLS/SSL digital certificates on a global scale

IT SECURITY

VM — Vulnerability Management
Continuously detect and protect against attacks, anytime, anywhere

TP — Threat Protection
Pinpoint your most critical threats and prioritize patching

CM — Continuous Monitoring
Alerts you in real time about network irregularities

IOC — Indication of Compromise
Continuously monitor endpoints to detect suspicious activity

CS — Container Security
Discover, track, and continuously protect containers

CRA — Certificate Assessment
Assess all your digital certificates for TLS/SSL vulnerabilities

COMPLIANCE MONITORING

PC — Policy Compliance
Assess security configurations of IT systems throughout your network

PCI — PCI Compliance
Automate, simplify and attain PCI compliance quickly

FIM — File Integrity Monitoring
Log and track file changes across global IT systems

SCA — Security Configuration Assessment
Automate configuration assessment of global IT assets

CSA — Cloud Security Assessment
Get full visibility and control across all public cloud instances

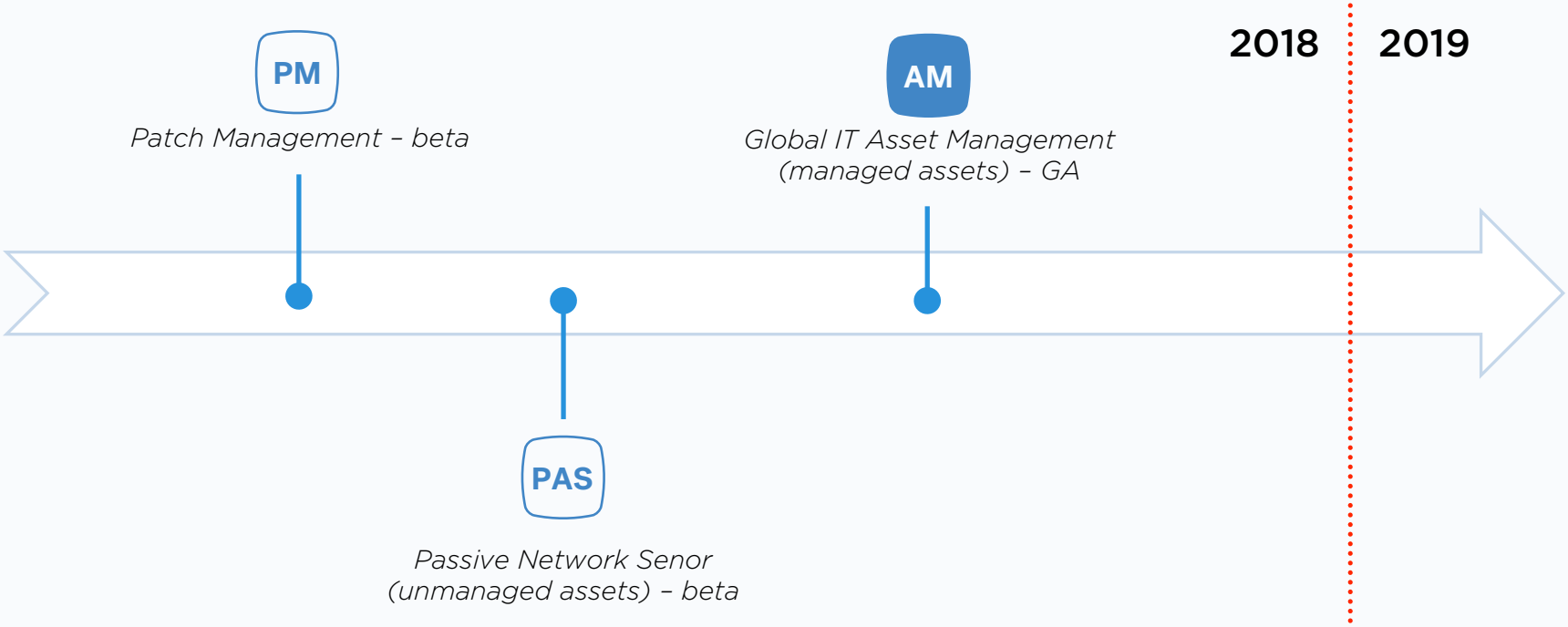
SAQ — Security Assessment Questionnaire
Minimize the risk of doing business with vendors and other third parties

WEB APPLICATION SECURITY

WAS — Web Application Scanning
Secure web applications with end-to-end protection

WAF — Web Application Firewall
Block attacks and virtually patch web application vulnerabilities

Q4 2018 – more apps to come



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2019 – even more apps to come!

Secure Enterprise Mobility

Secure Access Control

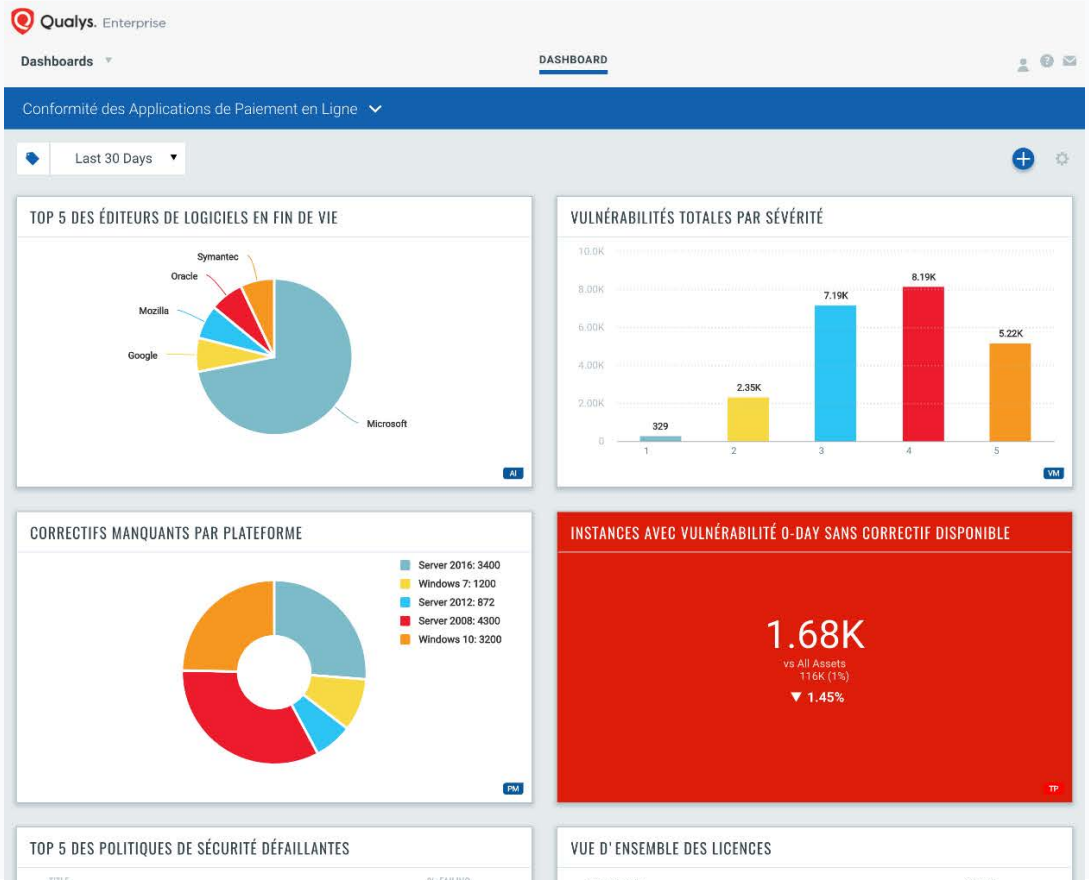
API Security

Software Composition Analysis

Breach and Attack Simulation

Security Data Lake & Correlation Platform

Unified Dashboards



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DEMO

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It’s the Platform!

(a real one)

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Qualys Cloud Platform

Looking Under the Hood: What Makes Our Cloud Platform so Scalable and Powerful

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Cloud Platform Environment

Security at scale on hybrid clouds

15+ products providing comprehensive suite of security solutions

10,300+ customers

7 shared cloud platforms across North America, Europe & Asia

70+ private clouds platforms deployed globally… on-prem, AWS, Azure, GCP

16+ PB storage and **16,000 cores**

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Cloud Platform Highlights

1+ trillion security events annually

3+ billion scans annually

2.5+ billion messages daily across Kafka clusters

620+ billion data points indexed in our Elasticsearch clusters

Unprecedented **2-second** visibility

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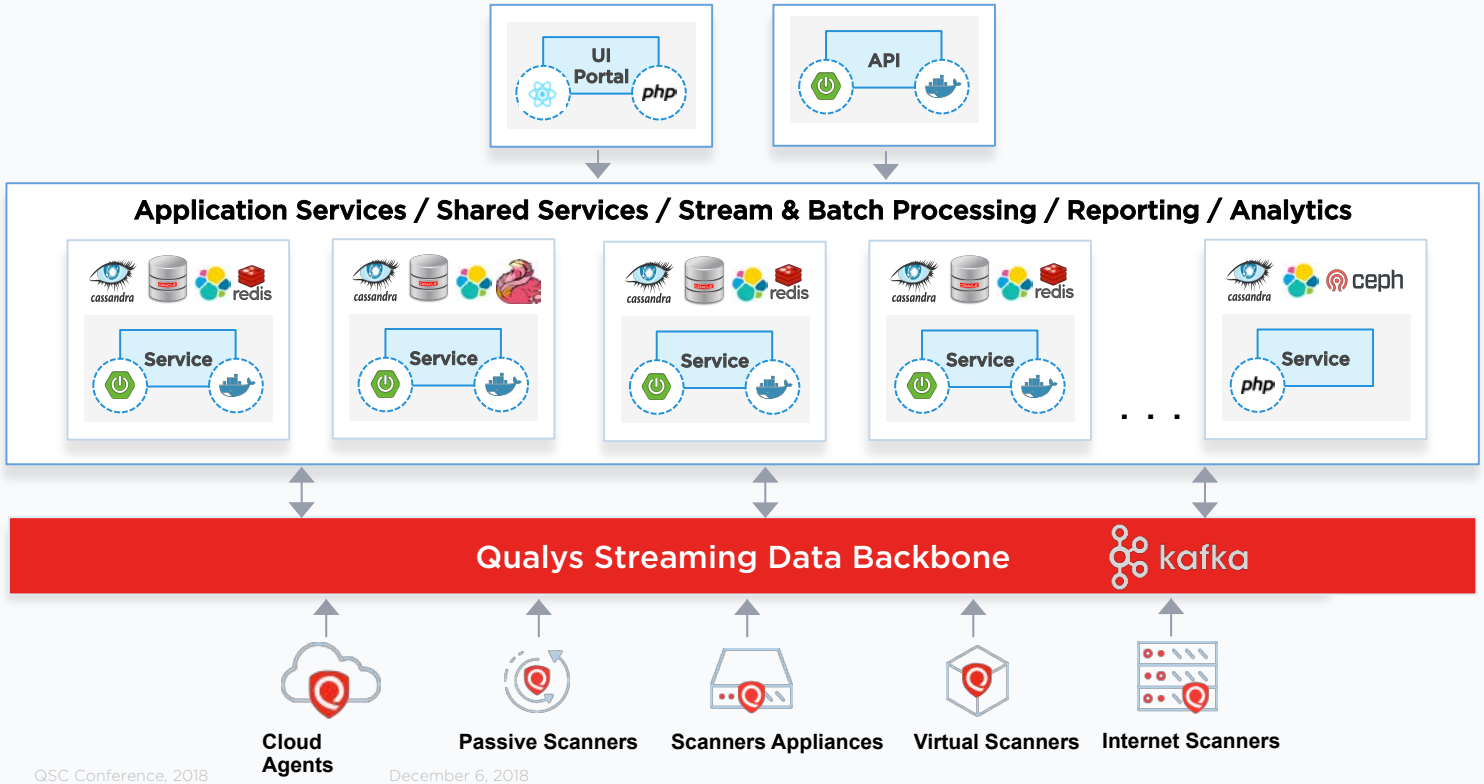
Qualys Cloud Platform

Sensors, Data Platform, Microservices, DevOps



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Qualys Sensor Platform

Scalable, self-updating & centrally managed

Physical

Legacy data centers

Corporate infrastructure

Continuous security and compliance scanning

Virtual

Private cloud infrastructure

Virtualized Infrastructure

Continuous security and compliance scanning

Cloud/Container

Commercial IaaS & PaaS clouds

Pre-certified in market place

Fully automated with API orchestration

Continuous security and compliance scanning

Cloud Agents

Light weight, multi-platform

On premise, elastic cloud & endpoints

Real-time data collection

Continuous evaluation on platform for security and compliance

Passive

Passively sniff on network

Real-time device discovery & identification

Identification of APT network traffic

Extract malware files from network for analysis

API

Integration with Threat Intel feeds

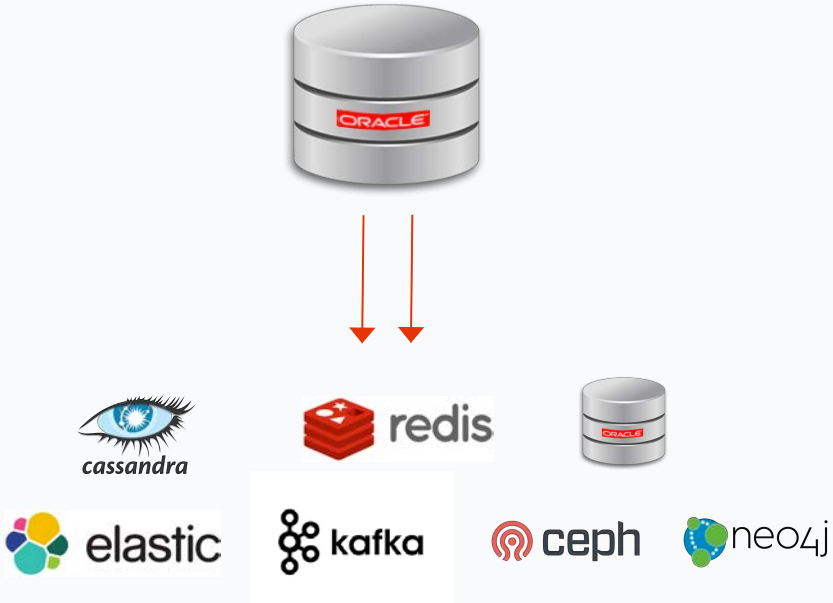
CMDB Integration

Log connectors

Data Platform-as-a-Service

Right database for the right use case

- Highly scalable architecture
- Predictable performance at scale
- Distributed and fault-tolerant
- Multi-datacenter support
- Open-source
- Commodity hardware



Data Platform-as-a-Service

Kafka

Asynchronous, event-driven architecture

Foundation for Qualys Cloud Platform

Over 2.5 billion messages per day

Elasticsearch

Search for anything

Over 620 billion data points indexed

Estimating about 1 trillion data points be year end

Cassandra

Low latency storage

Source of truth for data across multiple products

Redis

In-memory cache

Improved system performance for frequently accessed data

Ceph

Object storage

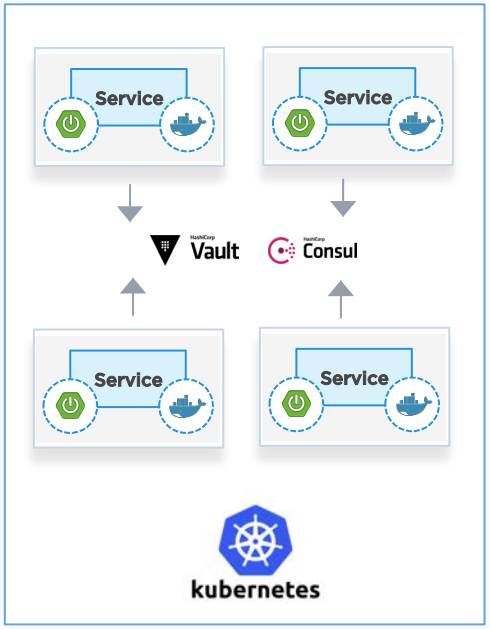
Moving Oracle and in-house blob storage into Ceph

Microservices & Cloud Native Architectures

Reduce risk and ship faster

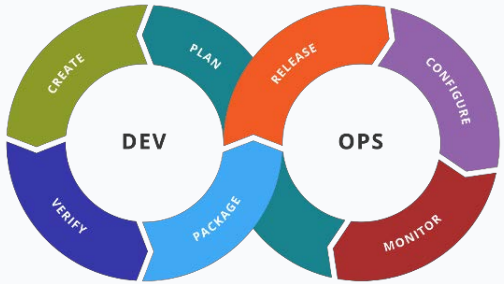
Change how we design and build applications and services

- Monoliths to microservices
- Well defined APIs
- Packaged in containers
- Deployed on elastic infrastructure
- 12-Factor apps
- CI/CD, Service Registry, Config Servers



DevOps – Increased Efficiency

Goal is to make software delivery vastly more efficient



Supporting about 80 shared and private cloud deployments

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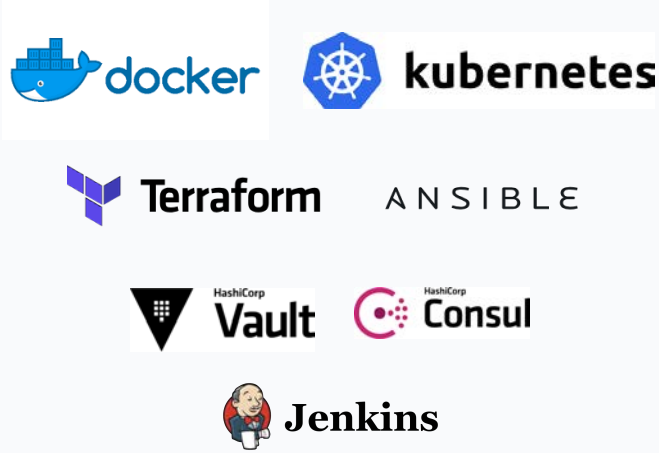
Automation - Infrastructure as Code

Treat systems running your software as if they themselves are software

Automate
- Infra provisioning
- Configuration management
- Deployments…



….all using code

Monitoring Systems - Observability

Centrally monitor across all platforms using a single-pane view

End-to-end monitoring using

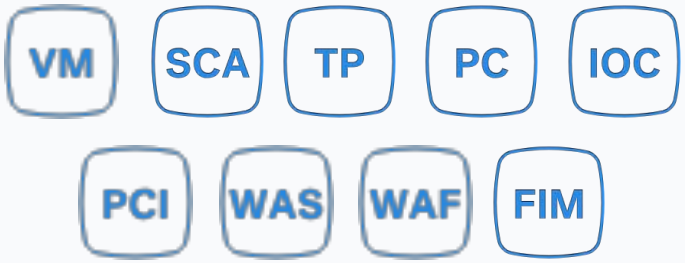
- Time series metrics
- Distributed tracing
- Log aggregation & analytics
- Alerting

Integrated Security - DevSecOps

Built-in security practices across the DevOps lifecycle

Qualys-on-Qualys

- Manage vulnerabilities
- Comply with policies
- Secure and shield web apps
- Validate file integrity
- Monitor systems



Qualys Cloud Platform

Integrated Suite of Applications

CA | AI | VM | CM | TP | FIM | PC | PCI | SAQ | IOC | WAS | WAF

Shared Services

Authentication Service | Authorization Service | Subscription Service | Indexing Service | Data Sync Service | Tagging Service

Messaging, Data, Analytics Platform

kafka | ceph | elastic | cassandra | redis | Flink

Infrastructure and DevOps Toolchain

Logging | Monitoring | Config Mgmt. | Service Registry | CI/CD | Docker/ Kubernetes

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PM — Patch Management (Beta)
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Advanced Correlation & Analytics

ML/AI Service
Patterns | Outlier | Predictive SoC

Orchestration & Automation
Integration | Playbooks | Response

UEBA
User & Entity Behavior Analytics

Threat Hunting
Search | Exploration | Behavior Graph

Security Analytics
Anomaly | Visualization | Dashboard

Advanced Correlation
Actionable Insights | Out-of-box Rules

Qualys Security Data Lake Platform
Data Ingestion | Normalization | Enrichment | Governance

Network | Security | Server | End Point | CA | VM | AI | PC | IOC | WAS | WAF | Qualys Apps | Apps | Cloud | Users | IoT

Qualys Quick Connectors

Thank You

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