

# Security by design

Mauro Costantini  
EMEA Cloud Technologist  
ISACA CSX, CCSK, LA27001  
Oracle Italy

## Safe harbor statement

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The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

## IoT Risk and trends

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- The adoption of IoT and proliferations of devices are raising double digit every year.
- A stat from Eurasia Group states that by 2022, there will be 29 billion connected devices online worldwide. All the more security risk!
- Threats continue to evolve to target IoT devices using new sophisticated and evasive techniques, such as peer-to-peer command and control communications and worm-like features for self-propagation

# Major technical IoT issues

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- 98% of all IoT traffic is unencrypted, exposing personal and confidential data on the network.
- Network segmentation
  - Lateral movement
- Third party software systems
  - Several attacks registered targeting Supply Chain Software infecting malwares into applications handlers
- Website Builders
  - Large infections points distributing malware to build a more resilient C2C infra
- Third Party Data Store
  - Data exfiltration from buckets

# In the news..

EDITION: UK



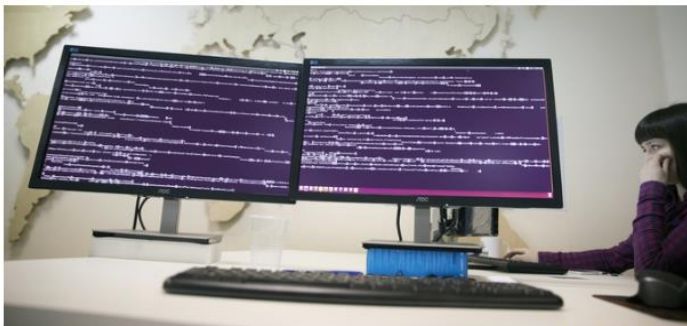
CXO HARDWARE MICROSOFT STORAGE INNOVATION APPLE SECURITY MORE NEWSLETTERS

MUST READ: Remote working: How the biggest change to office life will happen in our homes

## FBI warns about ongoing attacks against software supply chain companies

Exclusive: FBI alerts US private sectors about attacks aimed at their supply chain software providers.

### Key Defense Supplier Hit by Ransomware



A4 FONT SIZE + PRINT

AP PHOTO/PAVEL GOLOV

BY PATRICK TUCKER  
TECHNOLOGY EDITOR  
READ BIO +



MARCUS WEISGERBER  
GLOBAL BUSINESS EDITOR  
READ BIO +

The hackers also allegedly stole sensitive documents from Visser Precision, which makes parts for Lockheed, Boeing, and SpaceX.



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Updated: 5:33 PM EST Feb 28, 2020

We confirmed a data breach of our IT systems which compromised the security of our online portals for carriers.

Call our Carrier Hotline at [800-822-5980](tel:800-822-5980) or email [CarrierHotline@tql.com](mailto:CarrierHotline@tql.com).

## TOP 10 SUPPLY CHAIN RISK TRENDS

PROTECT YOUR SUPPLY CHAIN AND STAY RESILIENT

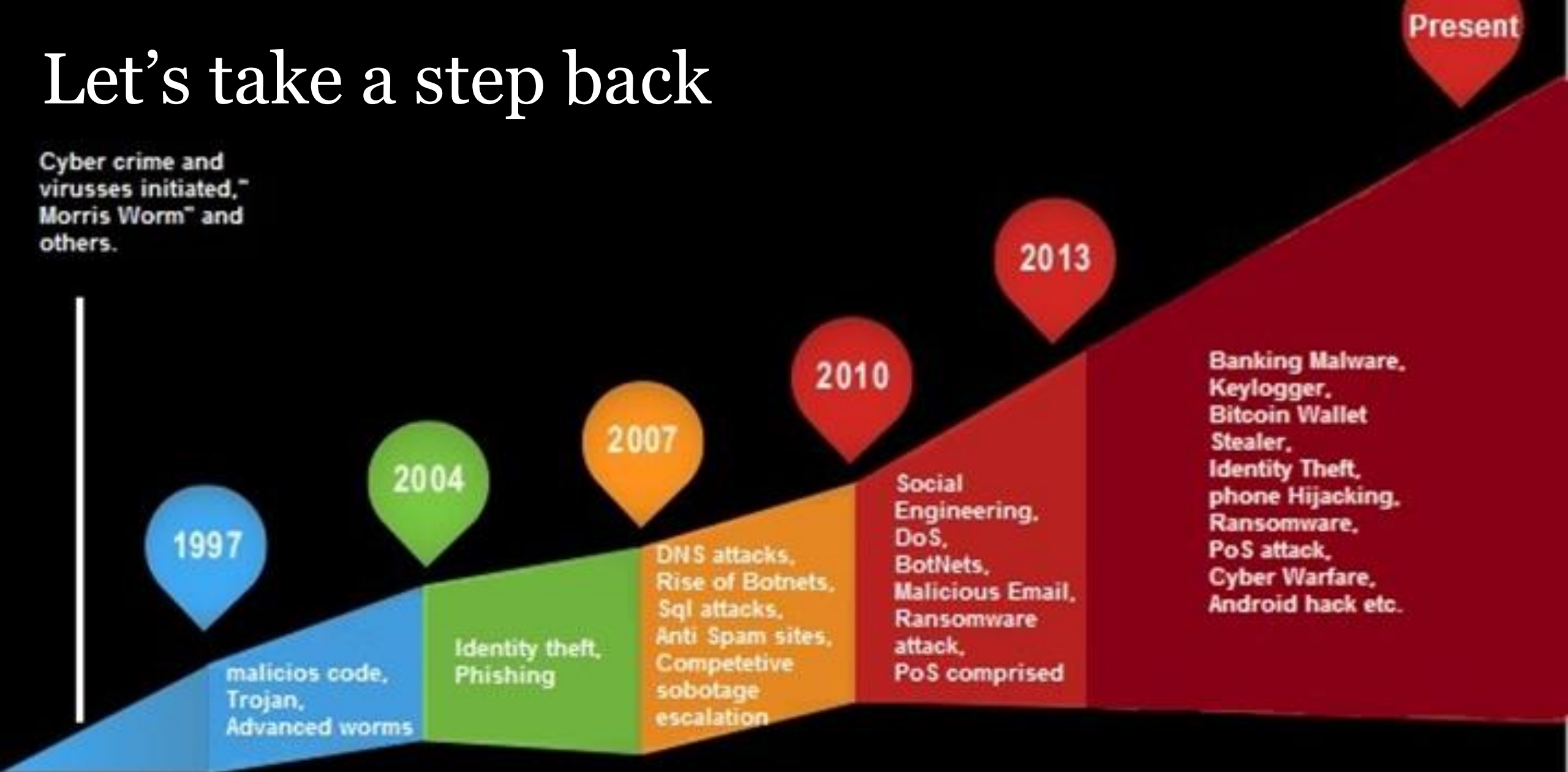
-  **1** MANUFACTURING SITES ON THE CYBER SECURITY FRONT LINE
-  **2** TRADE POLICY SHIFTS RESHAPE GLOBAL CARGO FLOWS
-  **3** ECONOMIC SANCTIONS ON THE RISE
-  **4** SOCIAL EQUALITY PROTESTORS TARGET CRITICAL TRANSPORT INFRASTRUCTURE
-  **5** BREAKS AT THE BORDERS
-  **6** CLIMATE ACTIVISM HEATS UP
-  **7** ENVIRONMENTAL REGULATIONS GET NEW TEETH
-  **8** ALTERNATIVE TRADE ROUTES CREATE OPPORTUNITIES AND THREATS
-  **9** NARCOTICS CARTELS TARGET CONTAINER SHIPPING LINES
-  **10** BLACK SWAN EVENTS LOOM IN THE SHADOWS

To learn more visit [resilience360.com](https://resilience360.com)

## NOTICE OF CARRIER DATA BREACH

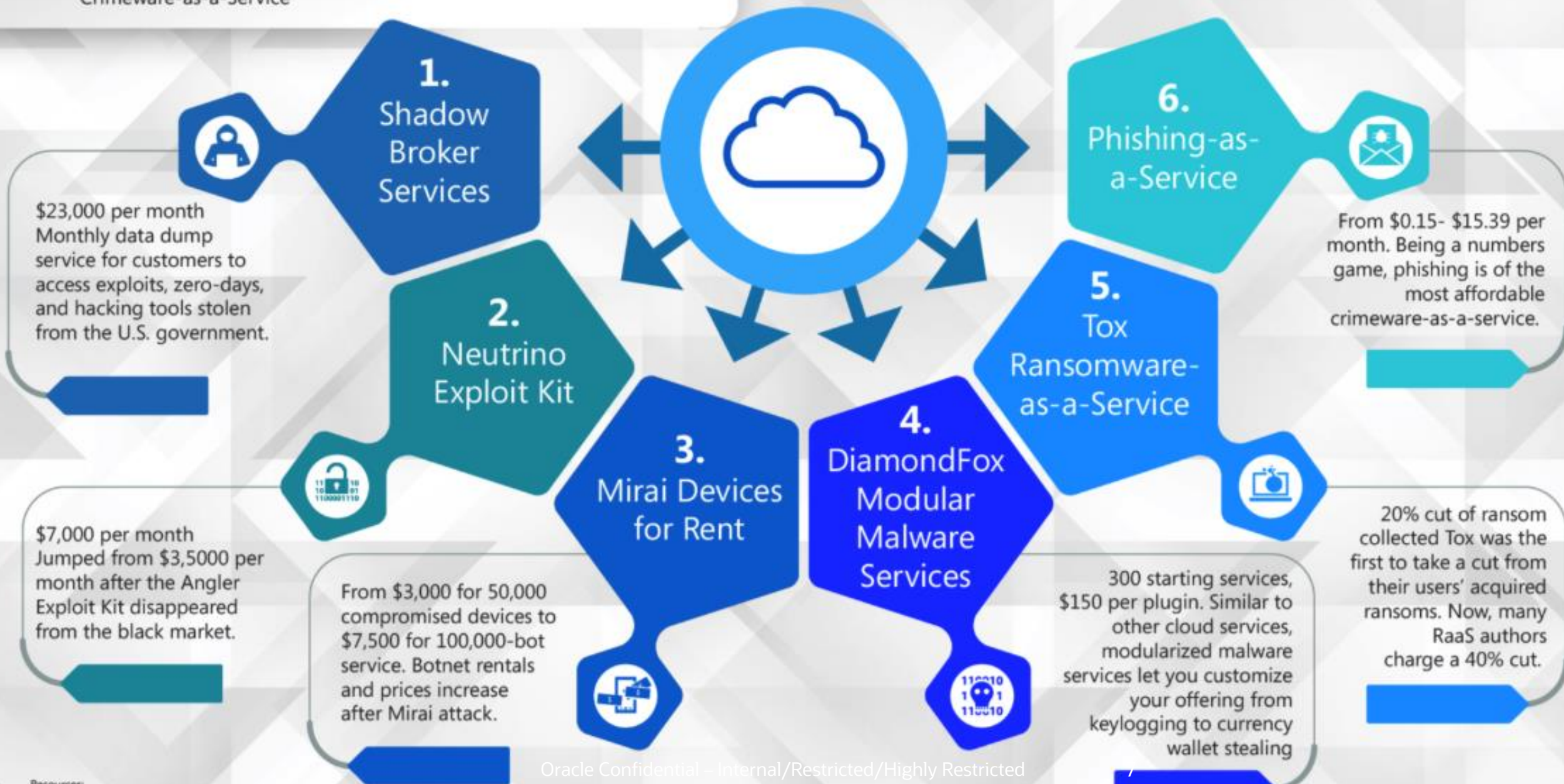
# Let's take a step back

Cyber crime and viruses initiated, "Morris Worm" and others.




# Crime in the Cloud

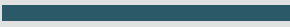
Crimeware-as-a-Service



Oracle Confidential – Internal/Restricted/Highly Restricted

# Companies risk falling behind

 Pace of Change

 Ability to Respond





# Cloud threat statistics

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Businesses are becoming even more vulnerable as the “attack-surface” grows from innovations such as the “Internet-of-Things”; **29 billion** connected devices are expected by 2022

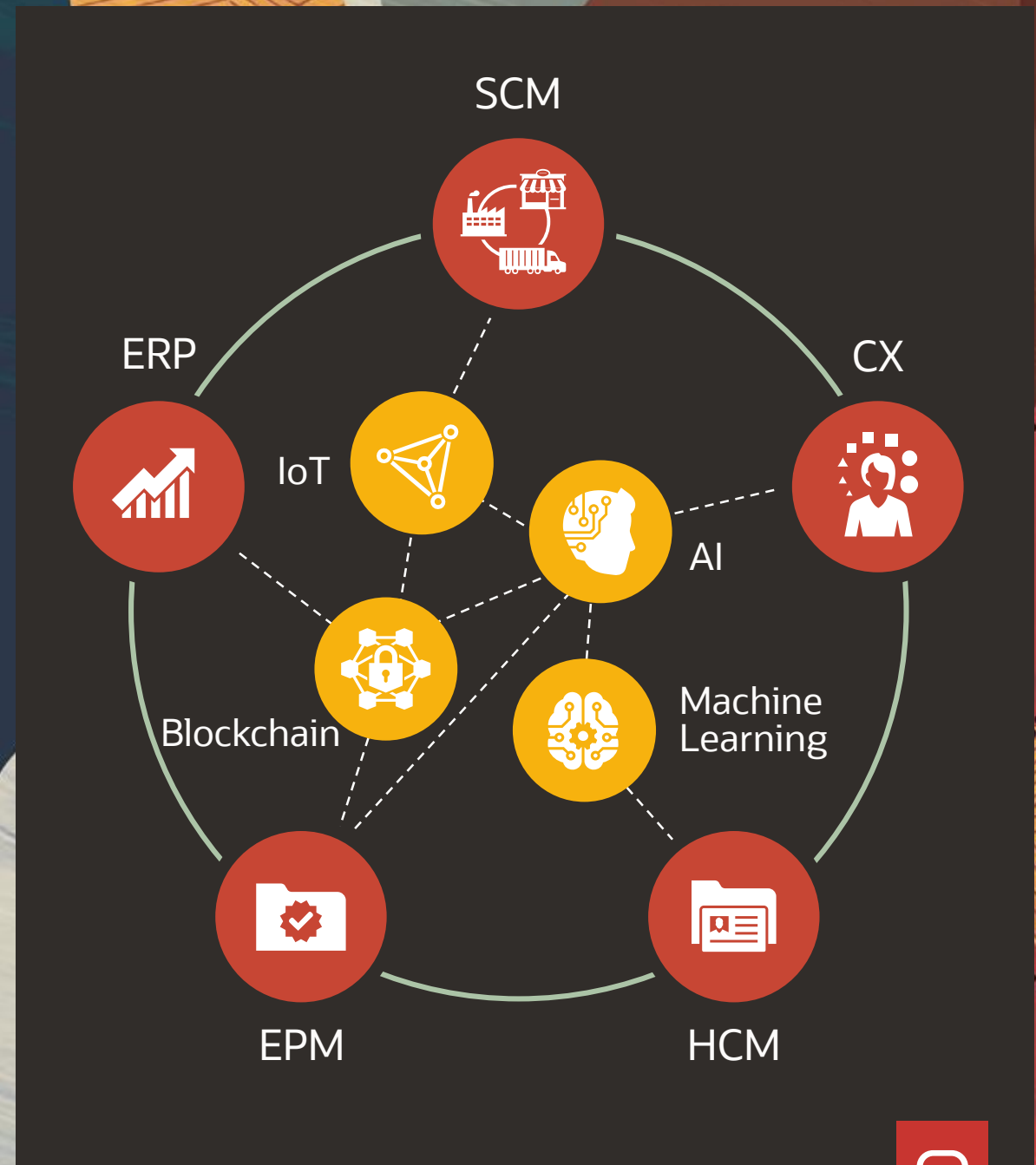


Less than **50% companies** globally are sufficiently prepared for a cybersecurity attack, according to a report that surveyed 3,000 business leaders from 80 countries

Source: Eurasia Group 2019

## The world's most innovative Cloud Applications suite

- continuously innovate
- continuously adapt
- continuously secure



# Cloud Operating Governance

- Cloud Monitoring
- Customer Incident Support
- Application & Platform Maintenance
- O/S and System Maintenance
- Infrastructure Mgmt
- Security Patching
- SLA Governance

100% Oracle  
Employees

Restrictions by  
Qualification &  
Role

- Technical Qualifications
- Background Investigations
- Technical Training
- SOP and Policy Training
- Security Operations Training
- Privacy and Legal Training
- Access Limitations

Oracle  
Cloud

- Corporate Policy & Governance
- Hosting & Delivery Policies
- Cloud Practice Documentation
- Standard Operating Procedures
- Customer Commitments
- Laws & Regulations
- Code of Conduct and Ethics

Corporate &  
Business  
Governance

Auditing &  
Assessments

- Global Information Security
- Privacy & Security Legal
- Corporate Arch CSARB/STR
- Internal Audit & Risk Management
- Cloud Operations Security Team
- Third Party Vulnerability Assessments
- Third Party Regulatory Audits

# Oracle SaaS Security Introduction

## Comprehensive End-to-End Security Model

Business and Corporate Governance: policy, oversight, SOPs, risk management



Security & Privacy Policies: regulations, reviews, audits, certifications



Product Security Standards: patching, pen testing, scanning, maintenance, SLAs



**Strict Security Controls**

Governance Oversight



Identity & Access



Privacy/Compliance



Architectural Standards



Security Operations



Security Assurance



# Oracle SaaS Security Innovation

## Automated SaaS Cloud Security Services



Automated Detection



Comprehensive IAM Suite



ML Based Activity Analysis



Asset Management



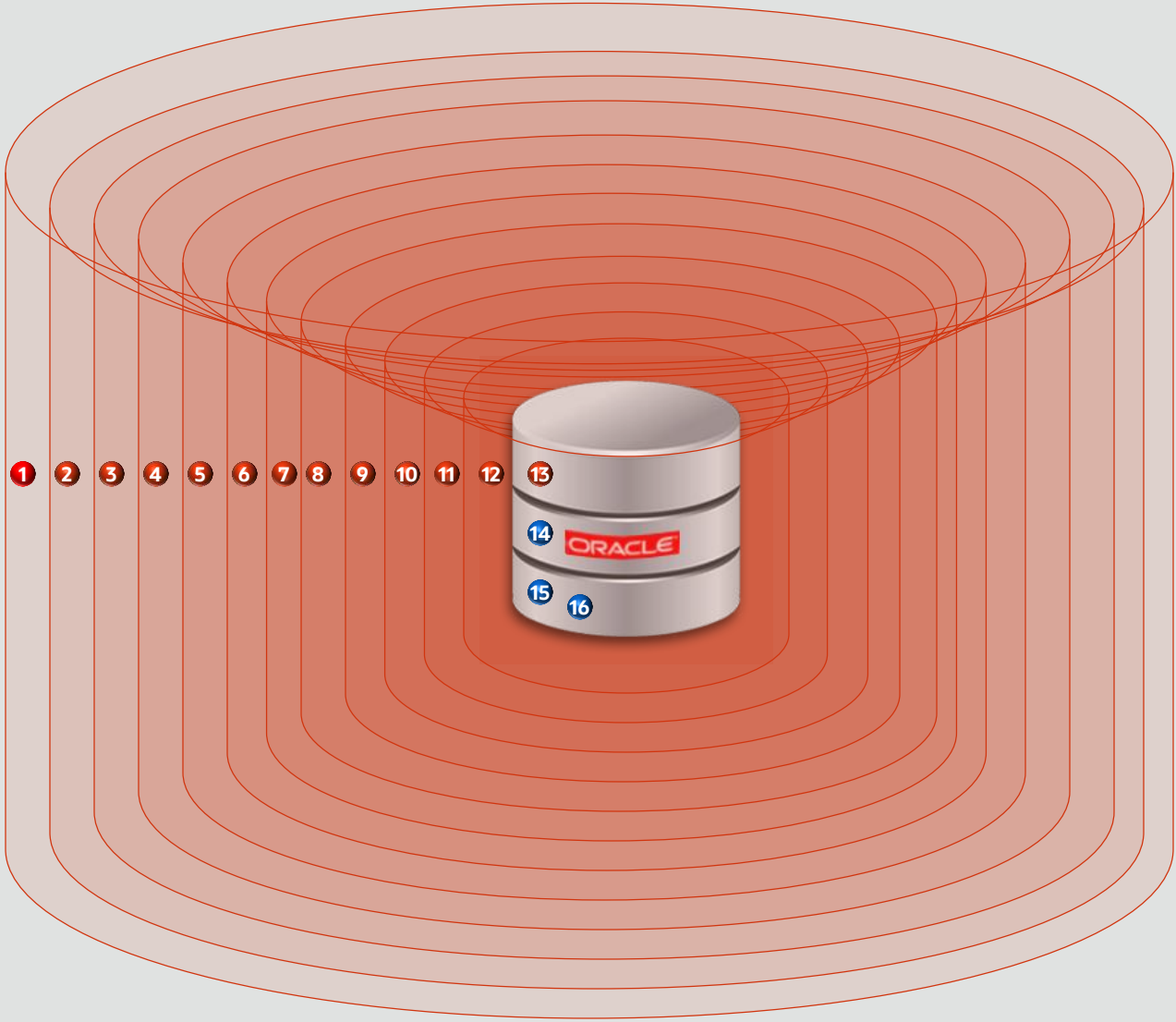
Next Generation SIEM



Endpoint Protection



# Security - Defense in Depth



## People

- Policies (Hosting & Delivery, Data Protection, Cloud Services)
- Practices (Security, Backup, Disaster Recovery, Service Exception)
- Procedures (P2T Copy, Upgrade, Federated SSO, Media Sanitization)

## Technology

- |                      |   |
|----------------------|---|
| Network Controls     | <ol style="list-style-type: none"><li>1. <u>Firewall Clusters with DMZs</u></li><li>2. <u>Intrusion Detection System (IDS)</u></li><li>3. <u>Network Vulnerability Testing</u></li><li>4. <u>Security Information and Event Management (SIEM)</u></li></ol>                 |
| System Controls      | <ol style="list-style-type: none"><li>5. <u>Bastion Host</u></li><li>6. <u>Oracle Maximum Availability Architecture (MAA)</u></li><li>7. <u>Service Level Objective</u></li></ol>   |
| User Access Controls | <ol style="list-style-type: none"><li>8. <u>Federated Single Sign on</u></li><li>9. <u>Password Policy Management</u></li><li>10. <u>Auto Provisioned Role Based Access Control (RBAC)</u></li><li>11. <u>User Auditing</u></li></ol>                                       |
| Data Controls        | <ol style="list-style-type: none"><li>12. <u>Encryption in Transit (SSL, SFTP)</u></li><li>8. <u>Secure Isolated Single Tenancy</u></li><li>9. <u>Data Masking for Stage Environment</u></li><li>10. <u>Database Vault</u></li><li>11. <u>Database Encryption</u></li></ol> |

## Process

- 6 monthly External Audits SSAE 16 SOC1, SOC2
- 6 Monthly External ASV Pen Tests
- Annual Internal Disaster Recovery Plan Testing
- Annual Formal Risk Assessment
- Data Privacy



# SaaS Applications Suite Strategy

Be future-ready. Outpace change.

Most complete	Best technology	Speed of innovation	Modern UX	Customer first
Suite of applications Common data model Best practice processes	Cloud infrastructure Integration Security Scalability Performance	Quarterly updates AI/ML built-in IoT Blockchain Digital Assistants	Search Conversational interactions Aesthetics Micro-interactions	Zero downtime SOAR to the cloud



# The Promise of Enterprise Cloud – its not all about the money!

**88%**  
Better Use of Resources

**87%**  
Lower Capital Expense

**89%**

**Greater Business Agility**

**87%**  
Rapid implementation of  
Business Models

**81%**  
Fewer Operational Issues

Source: Computerworld Strategic Marketing Services, Cloud Survey



