Akamai che non ti aspetti: Sicurezza delle API, Ransomware e Cloud Computing

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What is an API?

You

What is an API?

Copilot

An **API**, or **Application Programming Interface**, serves as a bridge between software applications, allowing them to communicate and exchange data, features, and functionality [1]. Developers use APIs to integrate data, services, and capabilities from other applications, rather than building everything from scratch. For example, when you make an online payment using PayPal, APIs facilitate the connection between the e-commerce site and the payment system, enabling seamless data exchange [1]. In essence, APIs simplify development, enhance security, and promote efficient data sharing [1]. 🌐🤷



2 of 5

How do APIs work?

What are some common use cases for APIs?

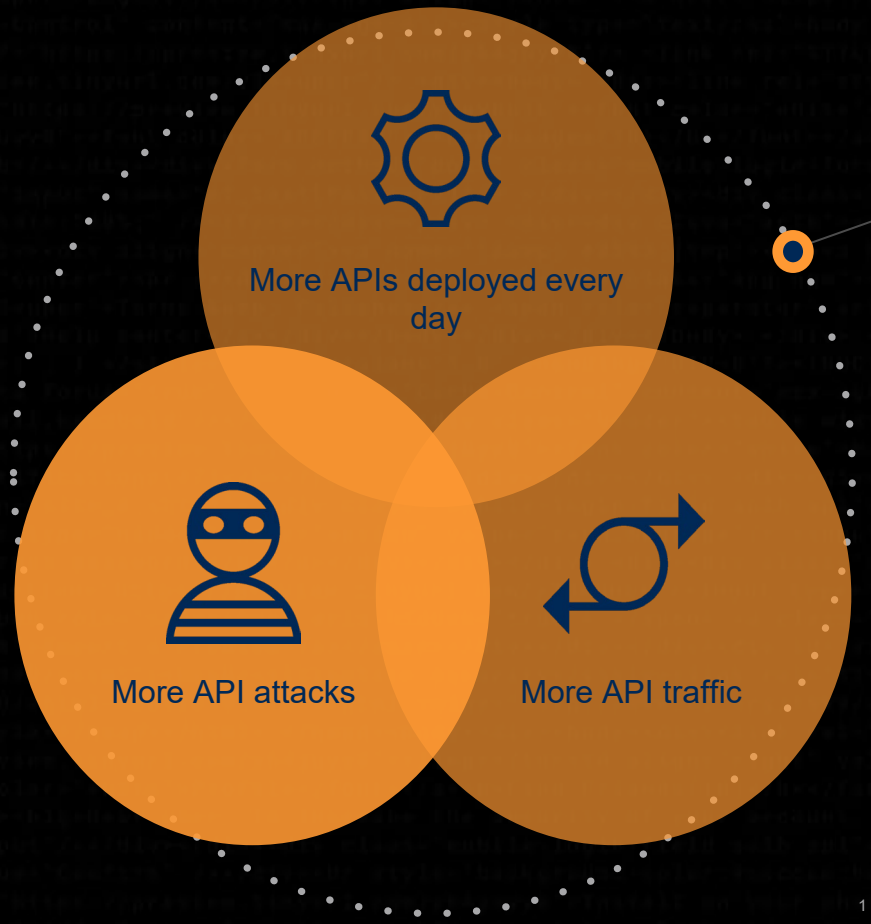
Can you give me an example of a popular API?

Ask me anything...

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The API Security Environment



Existing application security solutions not built for APIs

By 2024, API abuses and related data breaches will nearly **double.**[1]

31%

of web traffic is APIs [2]

[1] Gartner: Top 10 Things Software Engineering Leaders Need to Know About APIs

[2] Akamai threat researchers have identified that 31% of all traffic protected by Akamai is API traffic

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API Security Problems

Shadow APIs



Discover your complete API footprint - including rogue, legacy, admin, zombie, etc.

Vulnerable APIs



Prevent OWASP Top 10 vulnerabilities and misconfigurations from hitting production.

API Abuse



Stop business logic abuse such as data scraping or data exfiltration using behavioral analytics.

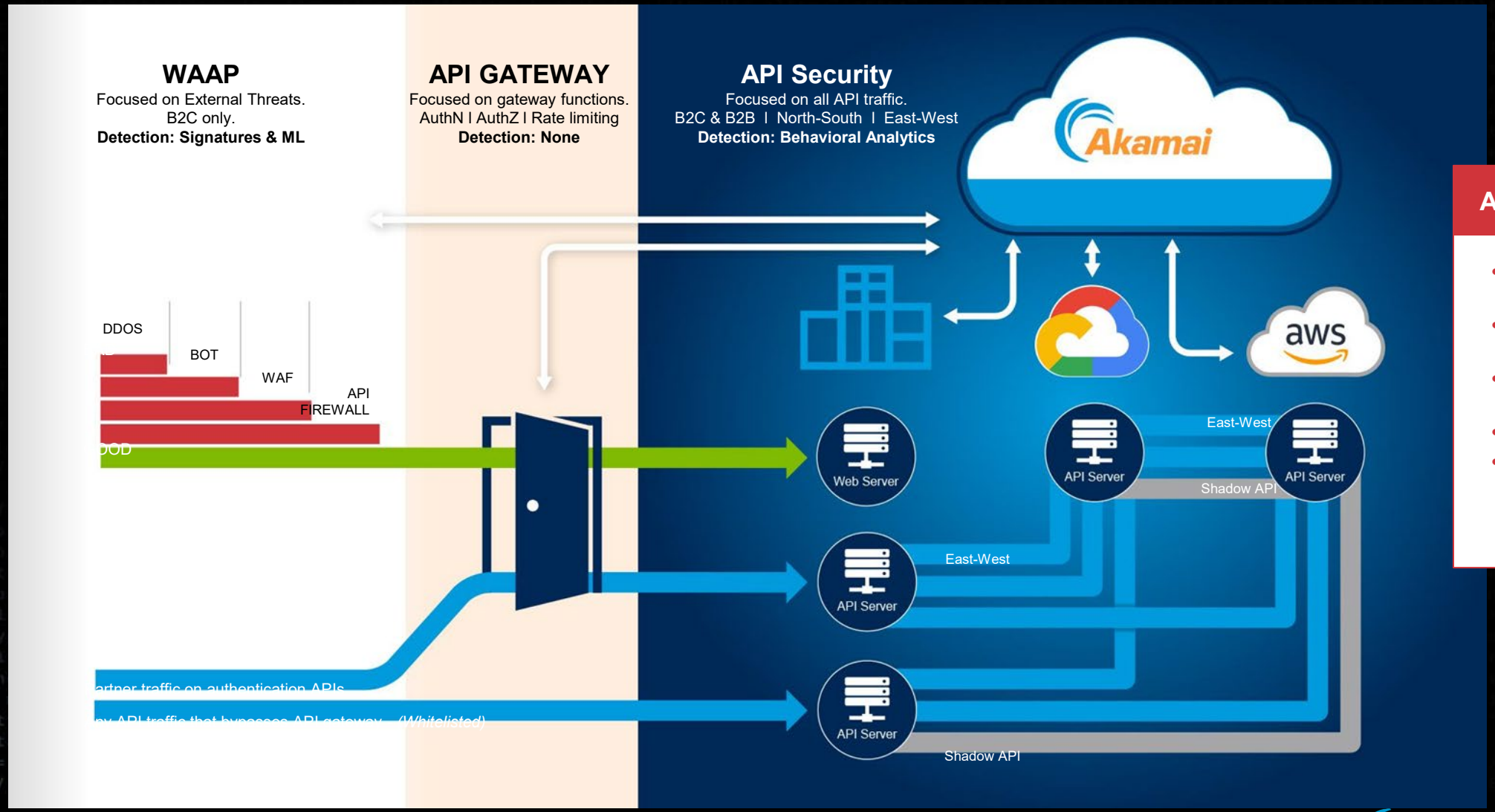
Today's Focus

Tomorrow's Focus

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Aren’t my WAF and API Gateway enough?



API Security Problems

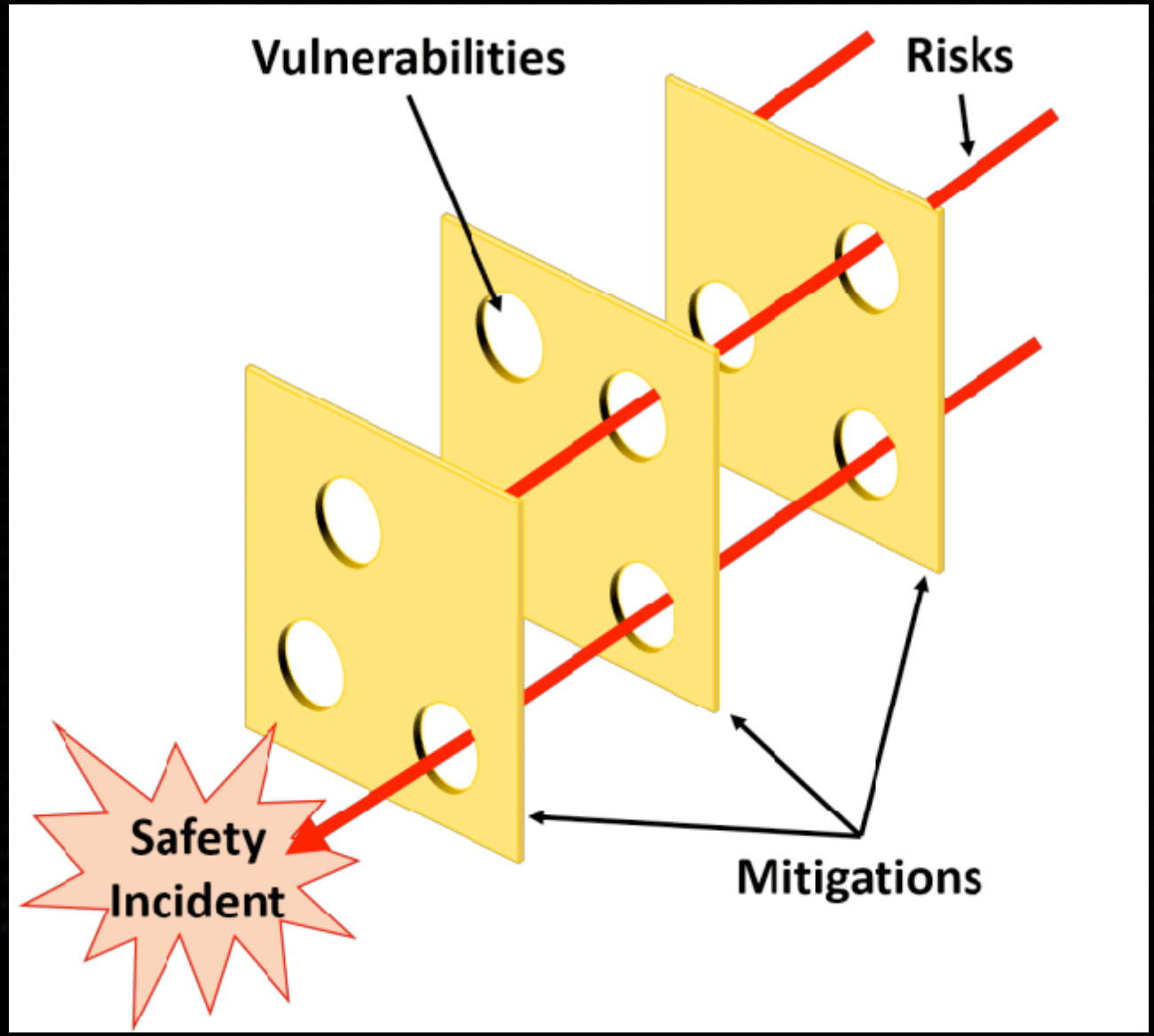
- Discovery of APIs in any environment
- Determine risk posture (OWASP API Top 10)
- Understanding API user behavior
- Detect API abuse
- Perform Investigations and threat hunting

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The Swiss Cheese model

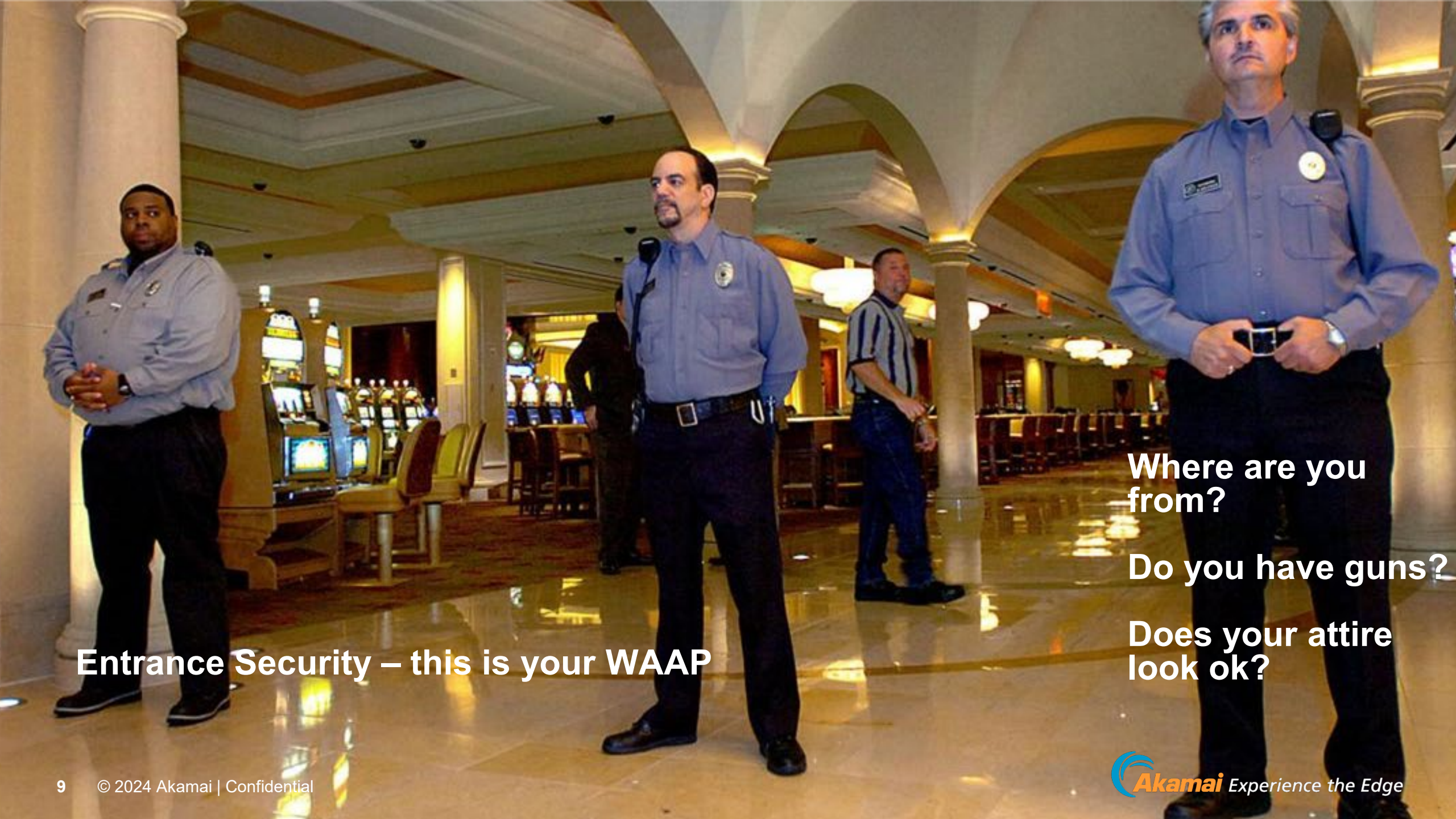


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The Tangiers (Casino, 1995)

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Entrance Security – this is your WAAP

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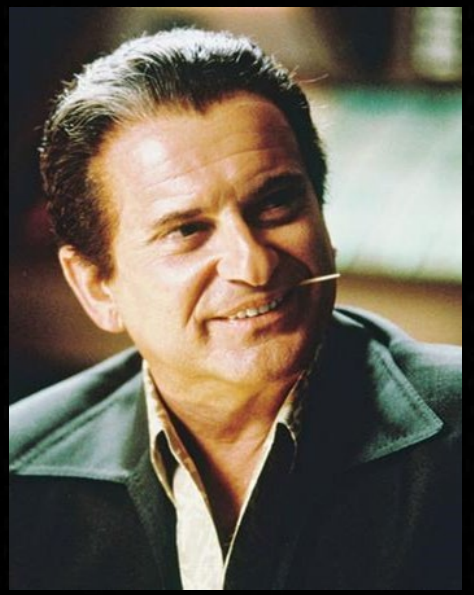
Entrance Security – this is your WAAP



Elliot
Alderson
(Mr Robot, 2015)



Raymond & Charlie
Babbitt
(Rain man, 1988)



Nicky
Santoro
(Casino, 1995)

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Passport please?

List of scammers

Membership

Identification checks – this is your API Gateway

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Cheating detection and AI - this is API Security

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Cheating detection and AI - this is API Security







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The Akamai API Security Solution



Discovery

API asset inventory, change detection, network mapping, reconnaissance.



Posture Management

Configuration control, vulnerability management, remediation prioritization.



Runtime Protection

Detection and prevention of attackers and suspicious behavior in real time.

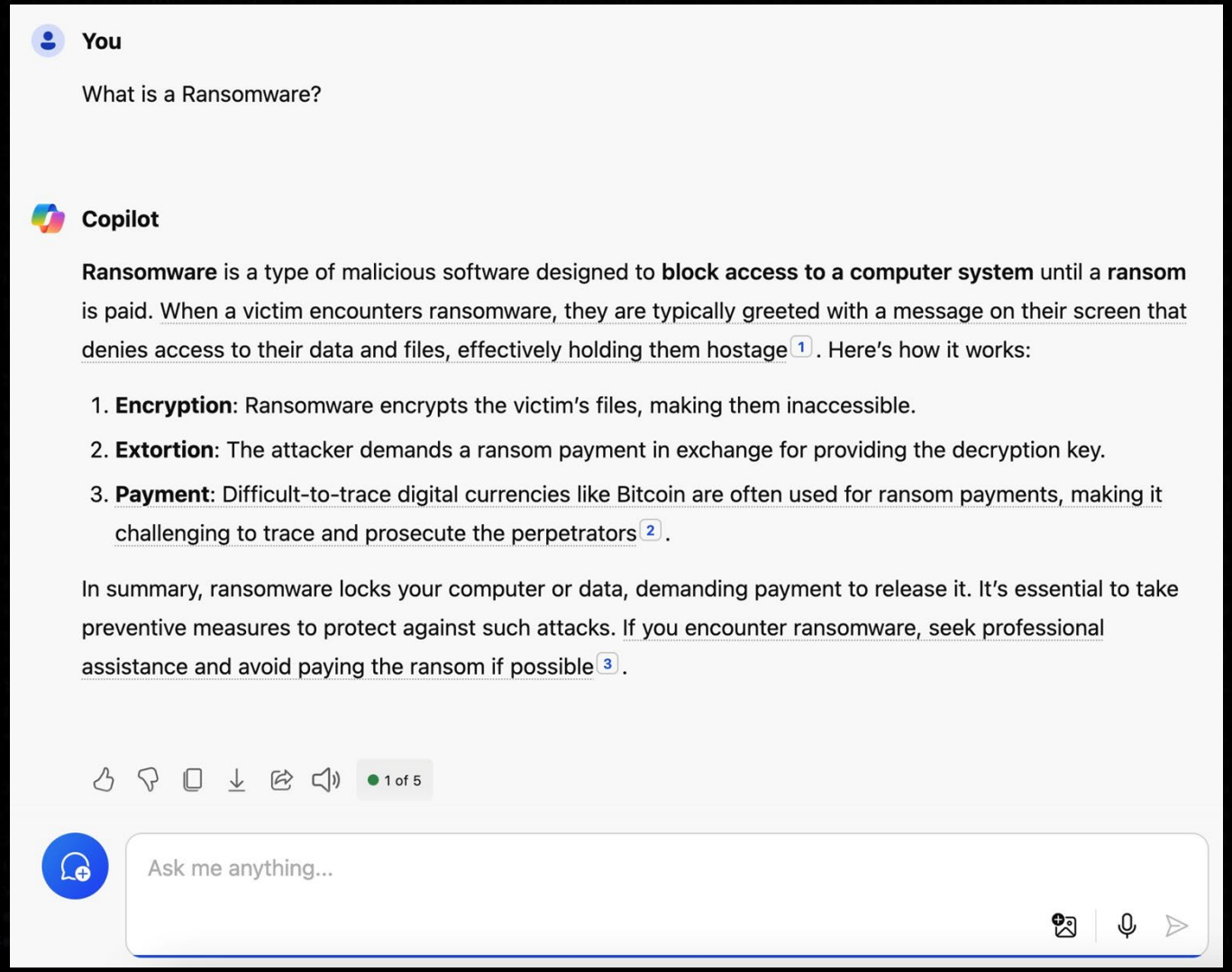


Testing

Secure APIs in dev to stop vulnerabilities before production.

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What is a Ransomware?



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Ransomware Evolution

Single Host encryption → *Full Network Compromise* → *Data Exfiltration*

> *Ransomware groups now **increasingly target the exfiltration** of files, which has **become the primary source of extortion.***

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Ransomware Trends

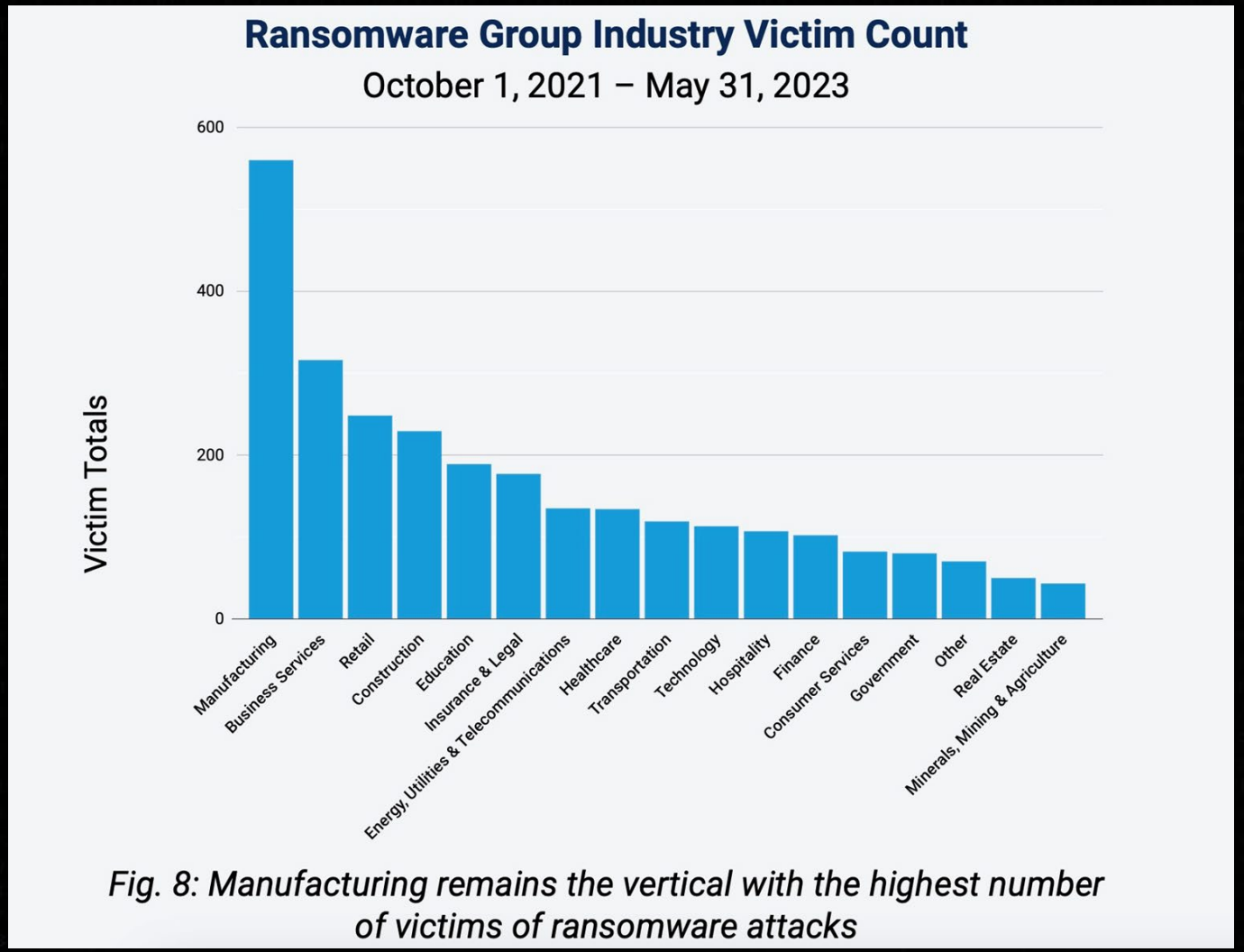
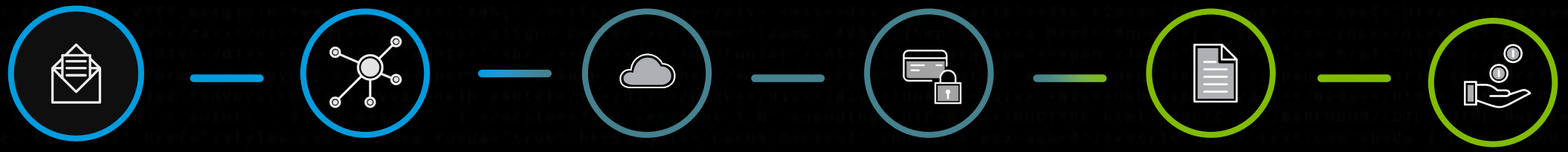


Fig. 8: Manufacturing remains the vertical with the highest number of victims of ransomware attacks

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General Ransomware Killchain



Initial Foothold

(Spear)Phishing or vulnerable exposed applications

Lateral Movement

Spread across the network for maximum coverage

Exfiltration

Find and steal valuable data

Encryption

PKI with encryption to prevent cracking

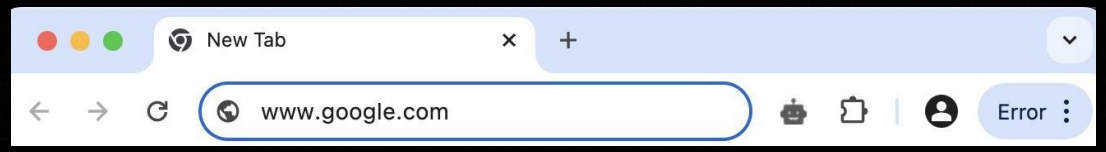
Ransom Note

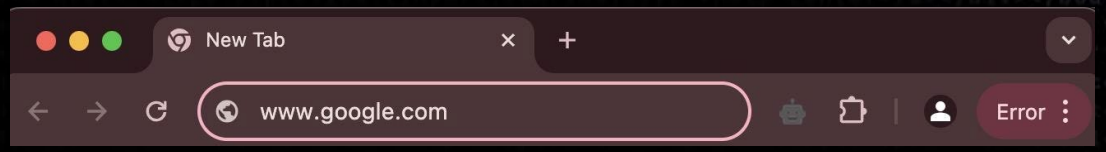
Wallpaper and ransom txt file

Profit

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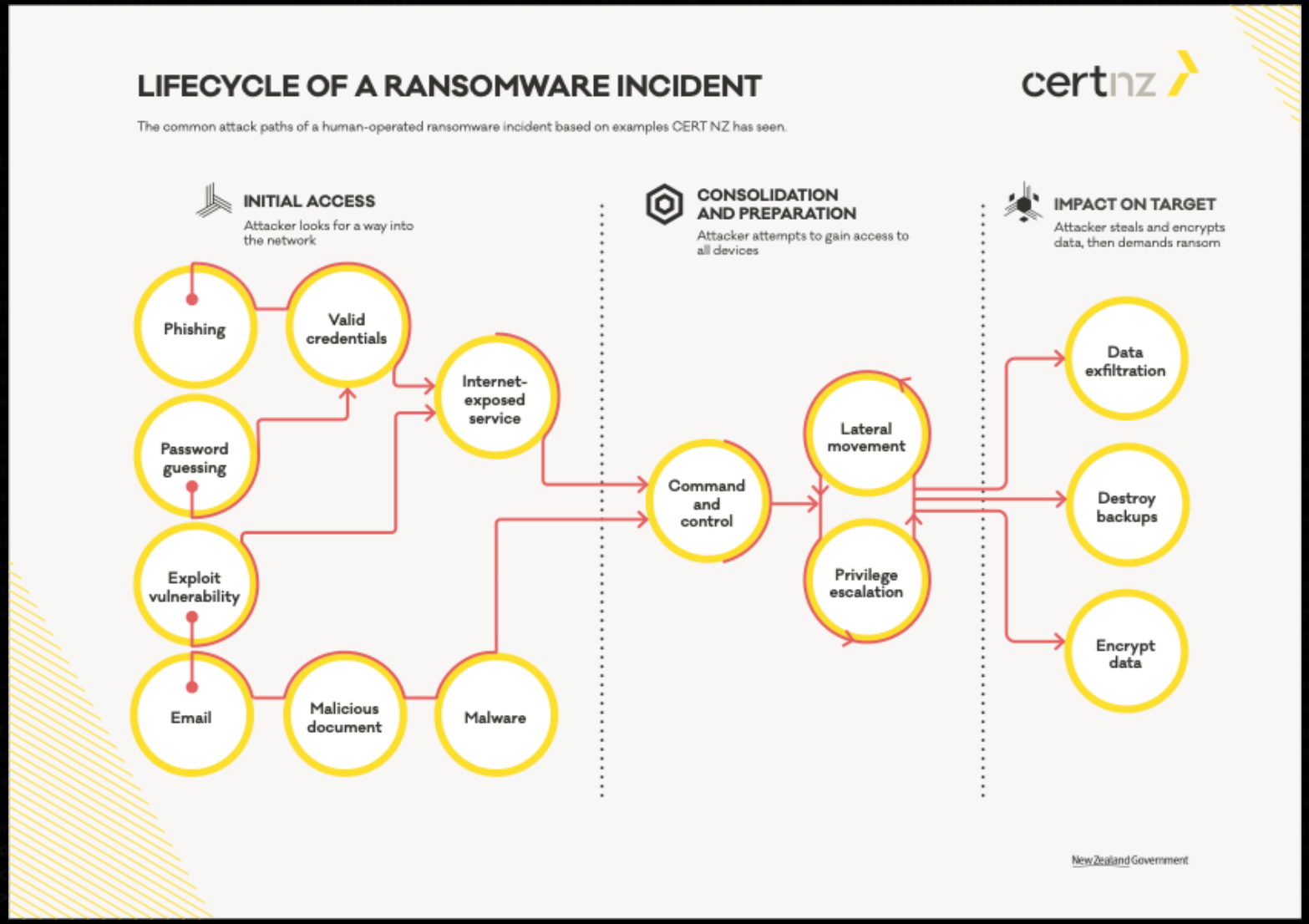
About phishing - just for fun





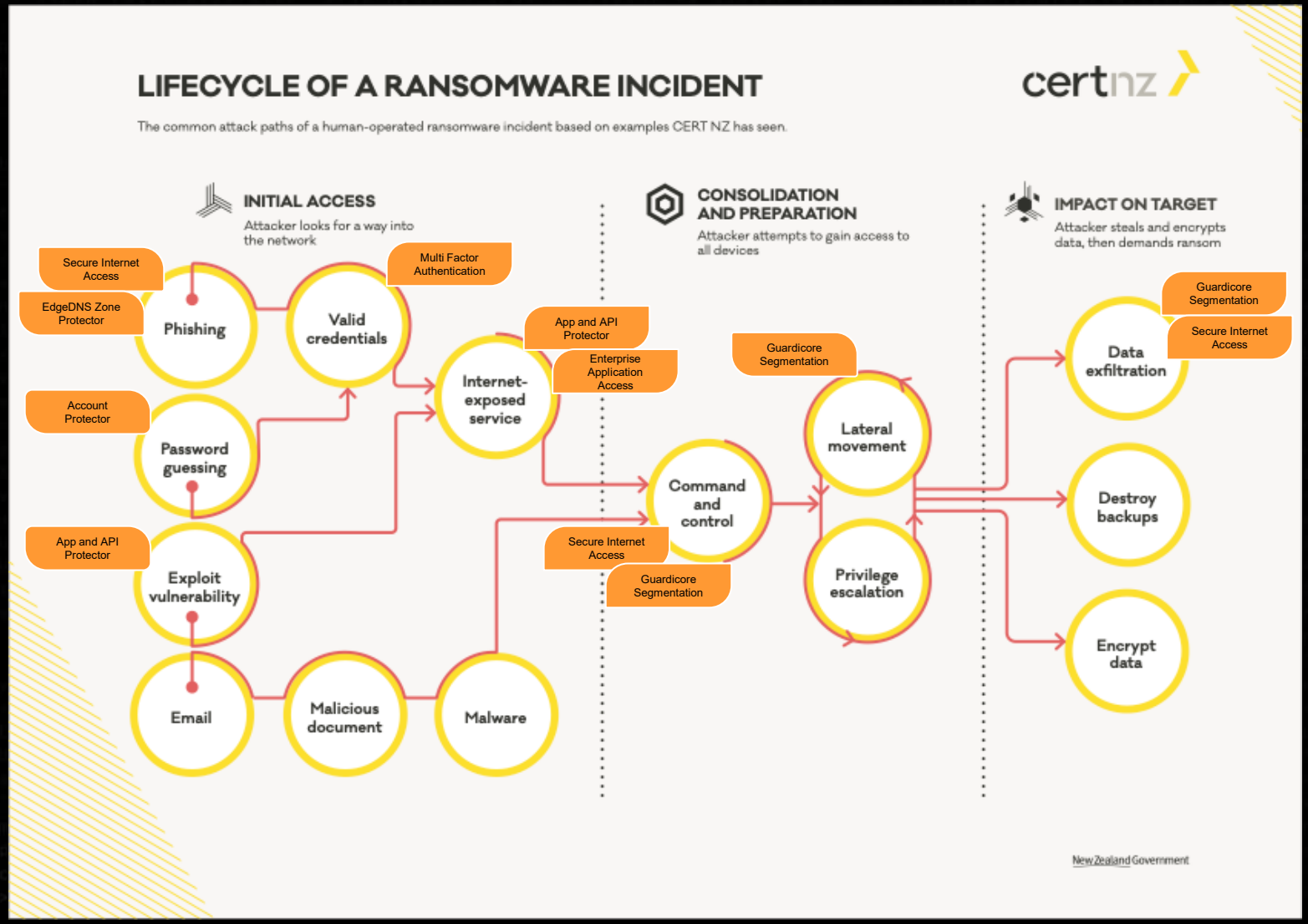
smell the flowers while you can

Lifecycle of a Ransomware Incident



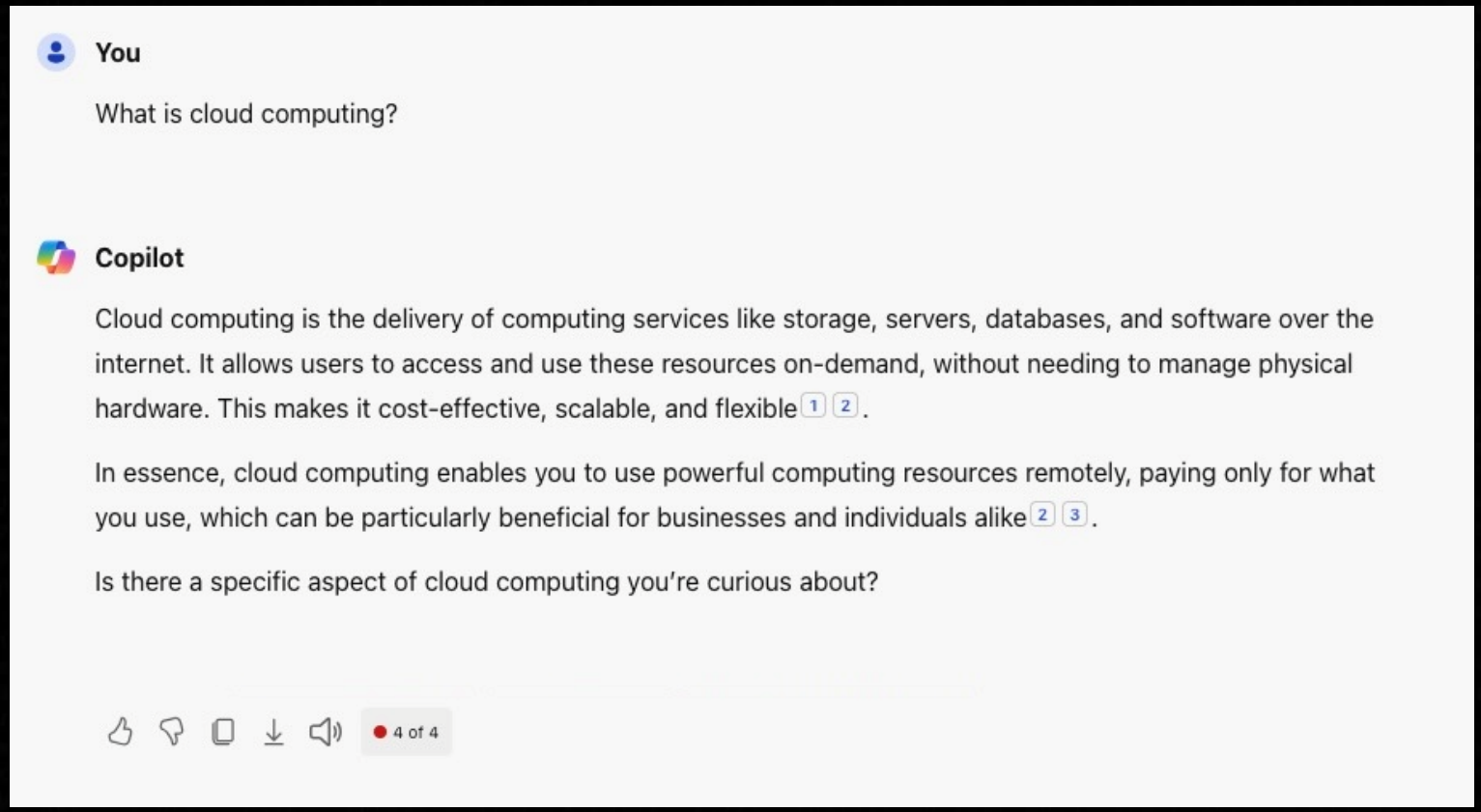
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Where can we help?



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What is cloud computing?



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The past decade's **centralized computing model** must **evolve** to meet the **next decade's challenges**



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Challenges building with Centralized Cloud



Performance Demands

User Experience

Connected Devices

Operational Data

Time to Insight



Cost Issues

Lack of Transparency

Portability Challenges

Workforce Expertise

Environmental Impact

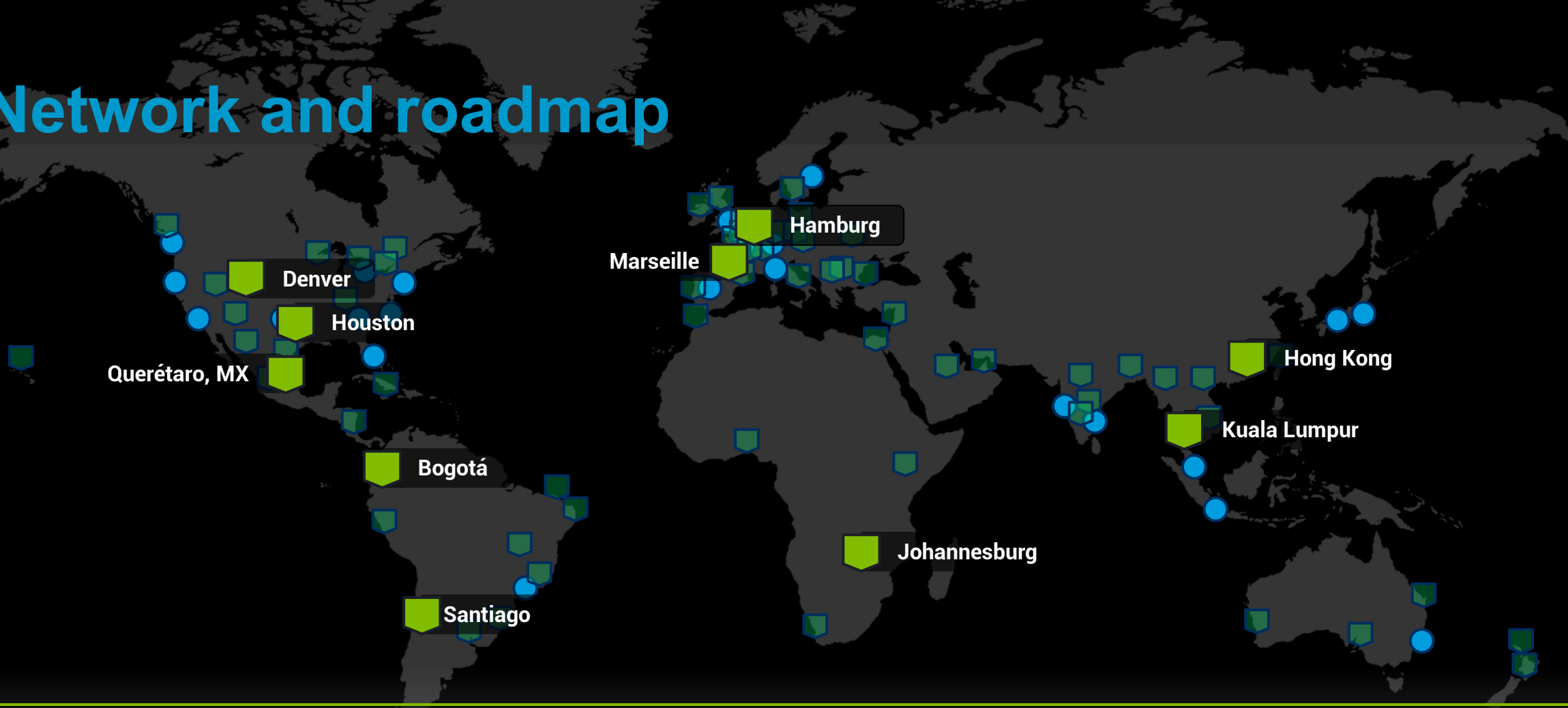
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Akamai is building the leading cloud for businesses to build and deliver powerful, edge native applications.

Securely.

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Network and roadmap



Core Computing Regions

Amsterdam	Chicago	Fremont	London	Milan	Osaka	Seattle	Sydney	Wash., DC
Atlanta	Dallas	Jakarta	Madrid	Mumbai	Paris	Singapore	Tokyo	
Chennai	Frankfurt	Los Angeles	Miami	Newark	São Paulo	Stockholm	Toronto	

New Gecko Regions

10 in Q1

75 planned in 2024

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Akamai Compute Services

GPU:
For AI/ML, 3D Rendering, or Transcoding Workloads

Premium CPU:
For Latency and Performance Sensitive Workloads

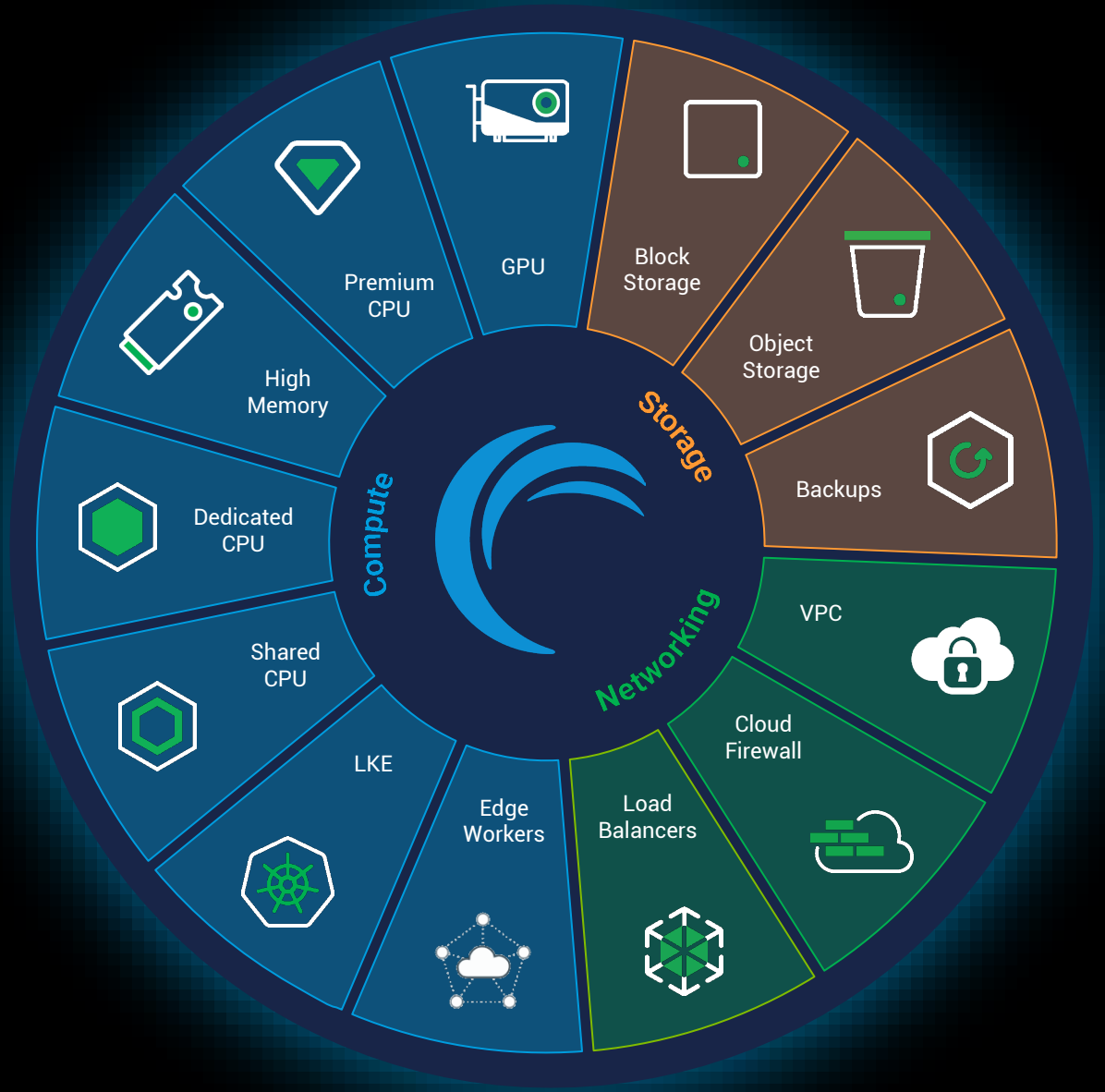
High Memory:
For RAM-Intensive Workloads

Dedicated CPU:
For Production Workloads

Shared CPU:
Cost Effective CPU Options

LKE:
Managed Container Orchestration Engine

Edge Workers:
Deploy JavaScript Functions at the Edge



Block Storage:
High Speed Local Storage Volumes

Object Storage:
Store and Access Media Files and Large Datasets

Backups:
Safe & Simple Cloud Backups

VPC:
Selectively Gate Access with Layer 3 Network Isolation

Cloud Firewall:
Filter Network Traffic by IP Address or Range

Load Balancers:
Distribute Traffic by Performance, Weight, and Content

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