Threats have Changed, Security Has Not

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Today’s threat landscape

Organized attackers

Increasing volume

Sophisticated

Remediation is broken

Must prevent attacks across perimeter, cloud and endpoint

Limited correlation across disjointed security technologies

Limited security expertise

Security challenges

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Detection-focused technology investments

Network Security

- IPS deployed as IDS
- App blades that only detect and report
- SSL traffic allowed without decryption
- When decrypted, SSL just port-mirrored
- Sandboxes deployed to detect malware
- Snort engines to detect traffic to high risk IPs

Endpoint Protection

- Forensics agents to capture what happened
- IOC scanners
- Massive PCAP storage
- Remediation tools to try and fix what was detected
- $1,000/hour incident response consultants to tell you who stole your data

DETECTION FOCUSED

Answer: Detection and Prevention of Advanced Threats

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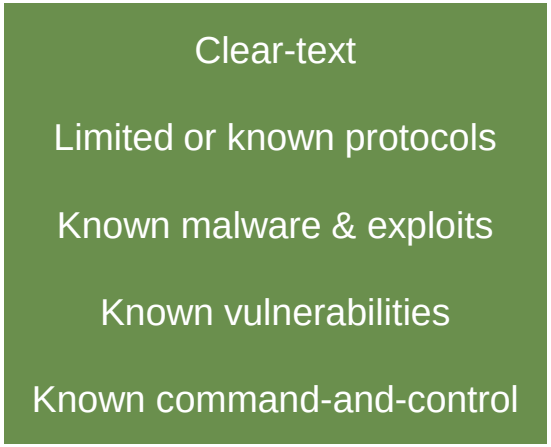
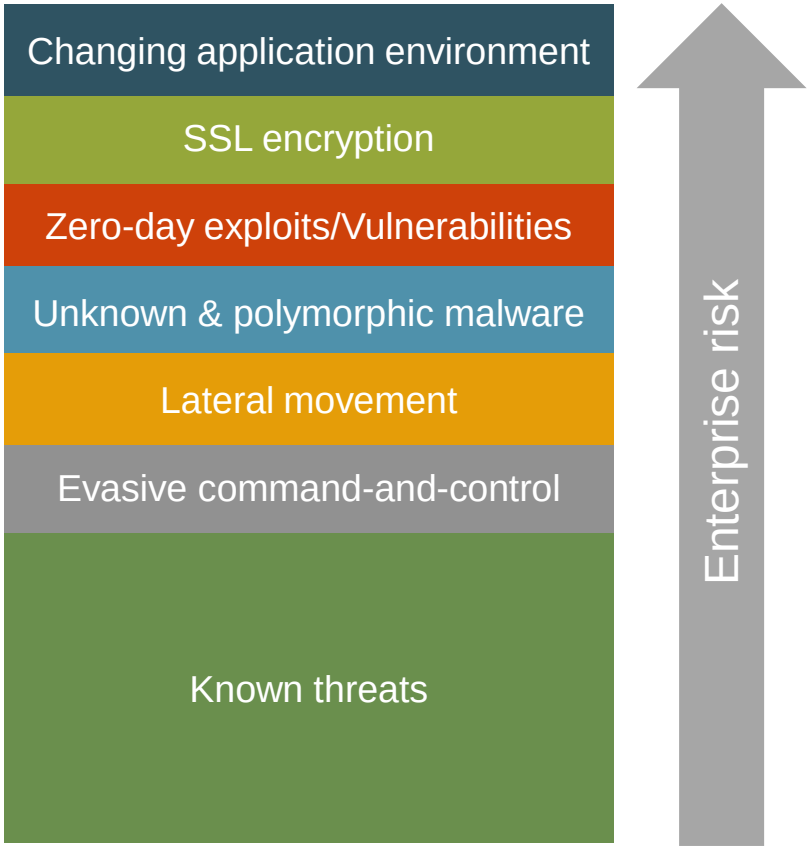
Commoditization of threats

Advanced tools available to all



BEFORE

Sophisticated & multi-threaded



TODAY

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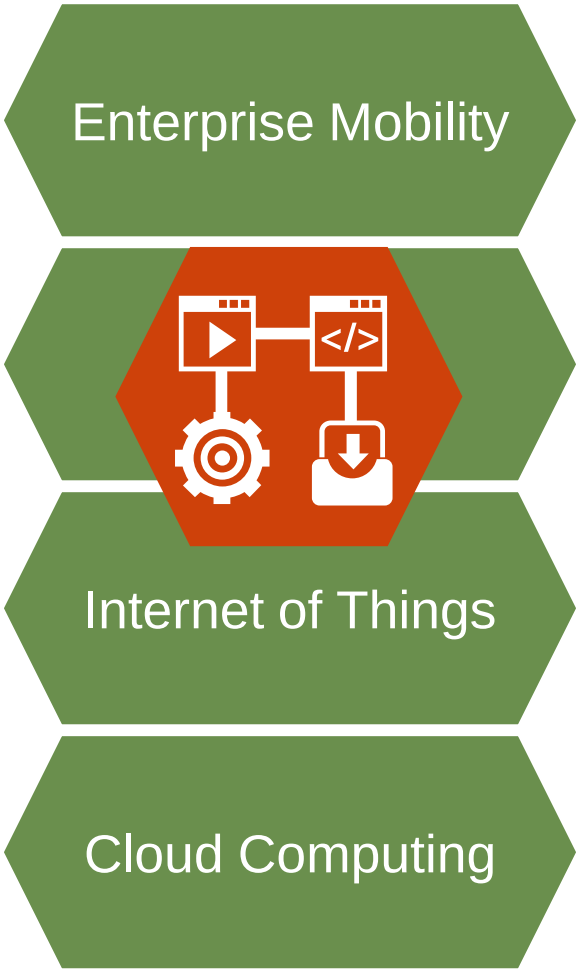
Tectonic shifts in business

Give rise to a new era of advanced cyber threats



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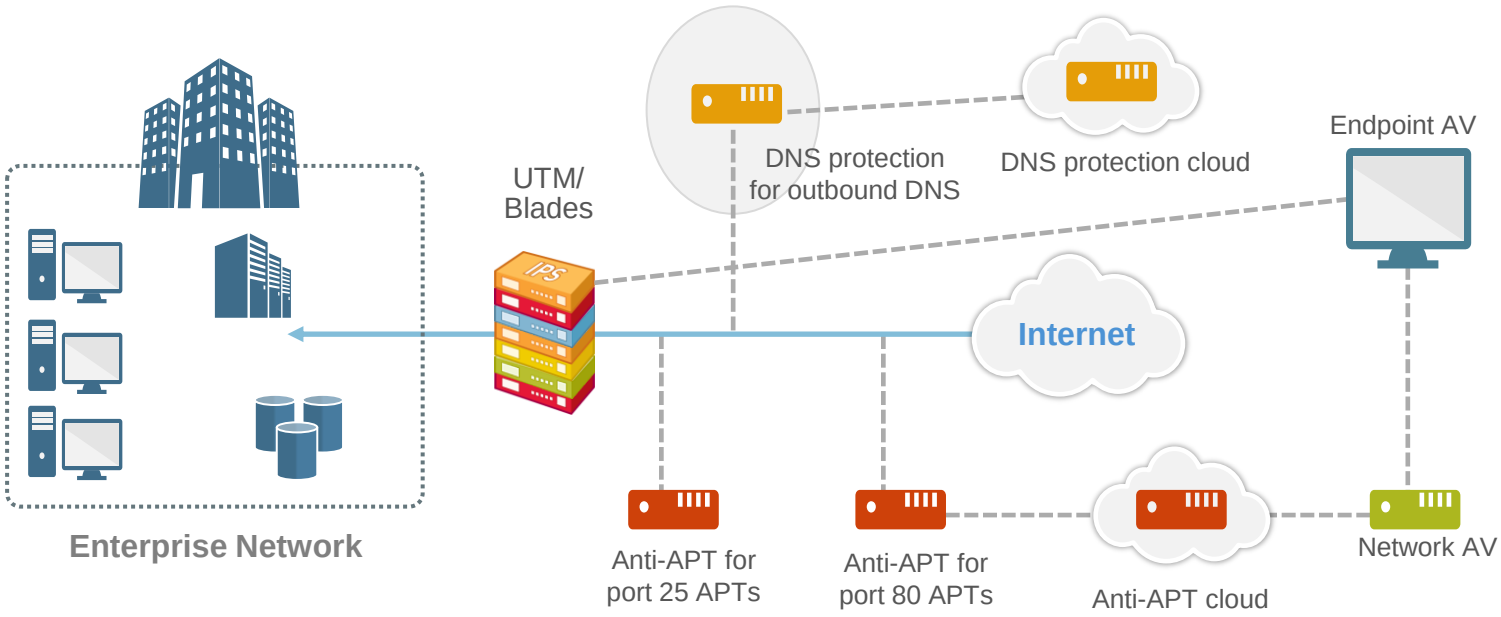
Current approaches are failing

Detection-focused **Alert Overload** **Manual Response Required**



DNS Alert
Endpoint Alert
Web Alert
SMTP Alert
SMTP Alert
SMTP Alert
SMTP Alert
Web Alert
DNS Alert
DNS Alert
SMTP Alert
APT
Web Alert
Web Alert
AV Alert
AV Alert
Web Alert
DNS Alert
SMTP Alert
Endpoint Alert

Vendor 1
Vendor 2
Internet Connection
Vendor 3
Vendor 4
Malware Intelligence

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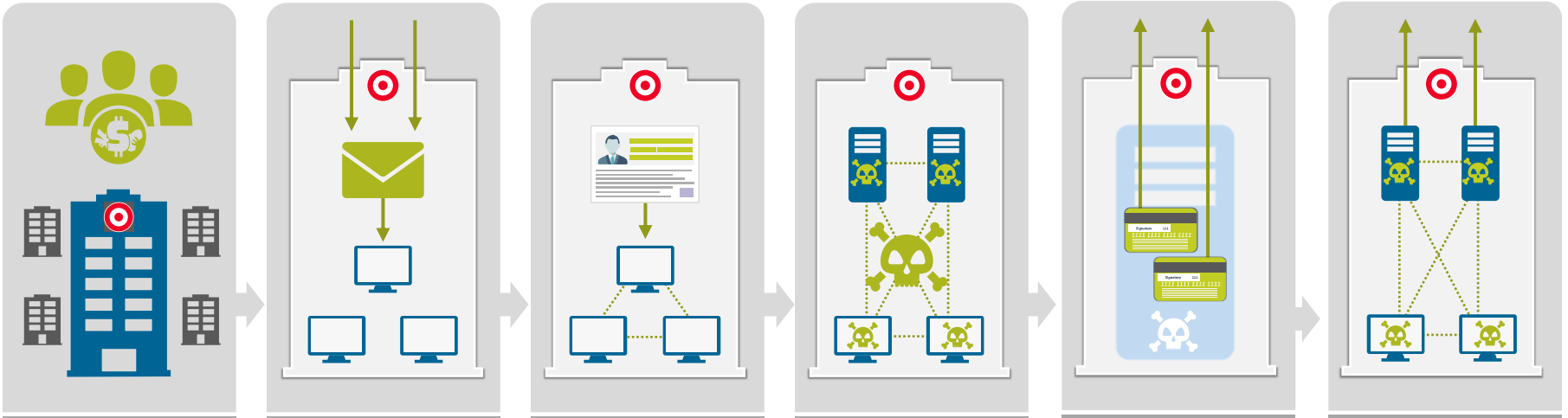
Target data breach – APTs in action

TARGET



Recon on companies Target works with	Spearphishing third-party HVAC contractor	Breached Target network with stolen payment system credentials	Moved laterally within Target network and installed POS Malware	Compromised internal server to collect customer data	Exfiltrated data command-and-control servers over FTP

Maintain access

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Changing face of security

- Has Been
  - Block known bad traffic
  - Pass rest of traffic as good
- New Challenge
  - The Unknown
- Need to investigate unknown traffic and define it as either known good or known bad
  - Then block the newly defined bad
- New World – Top Down Security Architecture
  - Known good
  - Known bad
  - Unknown

Continuous Loop

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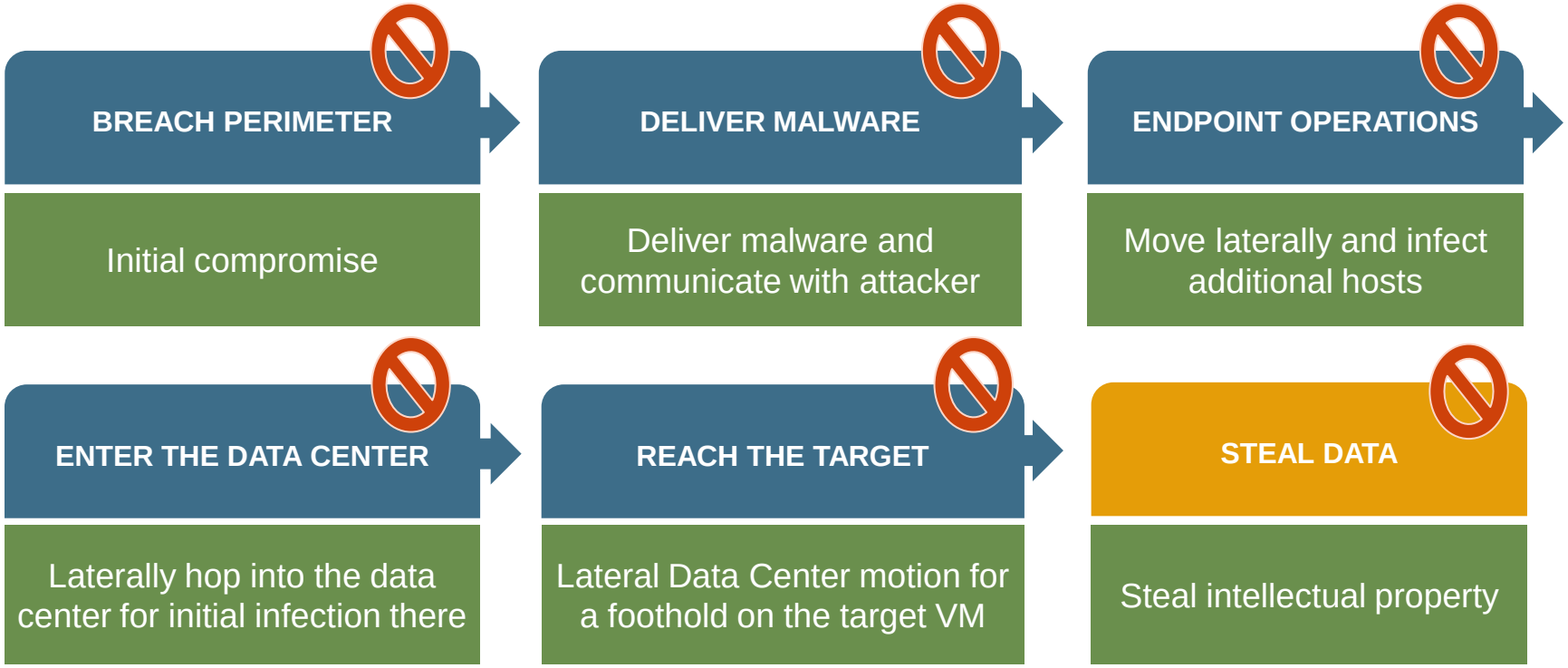
Understanding the attack kill-chain

Attack kill-chain



Prevent attacks by stopping one step in the kill-chain

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Requirements for a new approach

1. Prevent attacks - even attacks seen for the first time
2. Protect all users and applications - including mobile and virtualized
3. Seamlessly combine network and endpoint security, as each has unique strengths
4. Provide rapid analysis of new threats

Requires next-generation **network**, **endpoint**, and **threat intelligence cloud** capabilities

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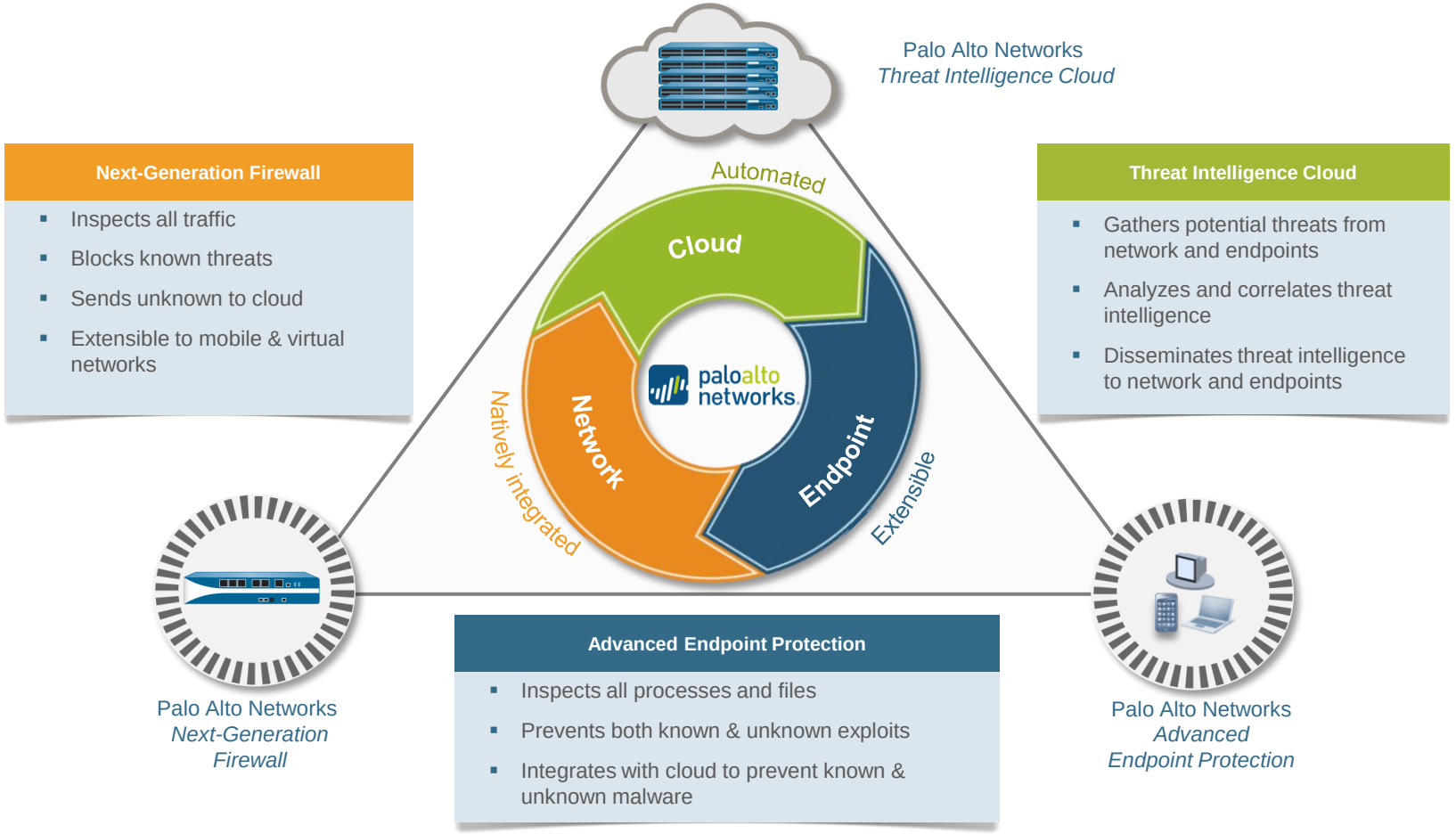
Next-generation enterprise security platform



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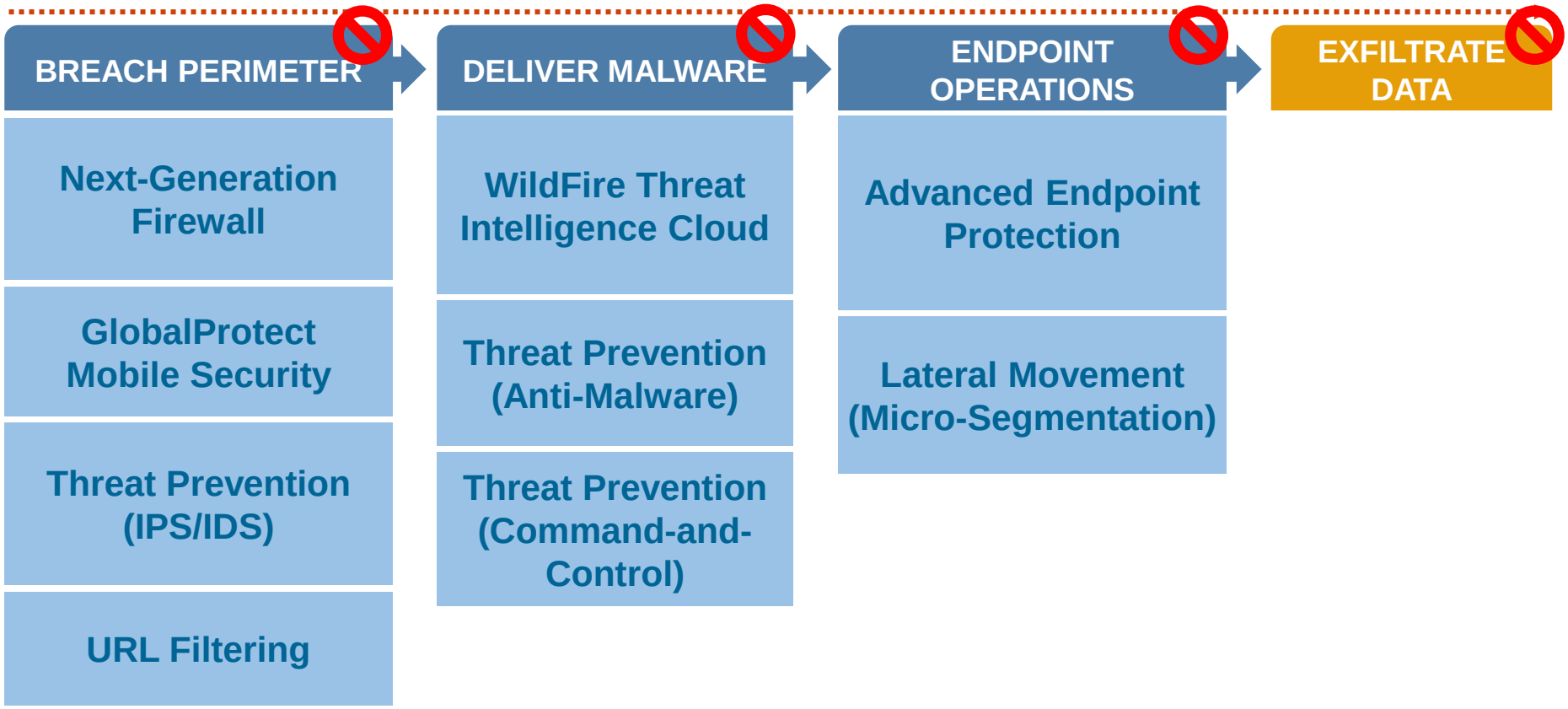
Palo Alto Networks and the kill-chain



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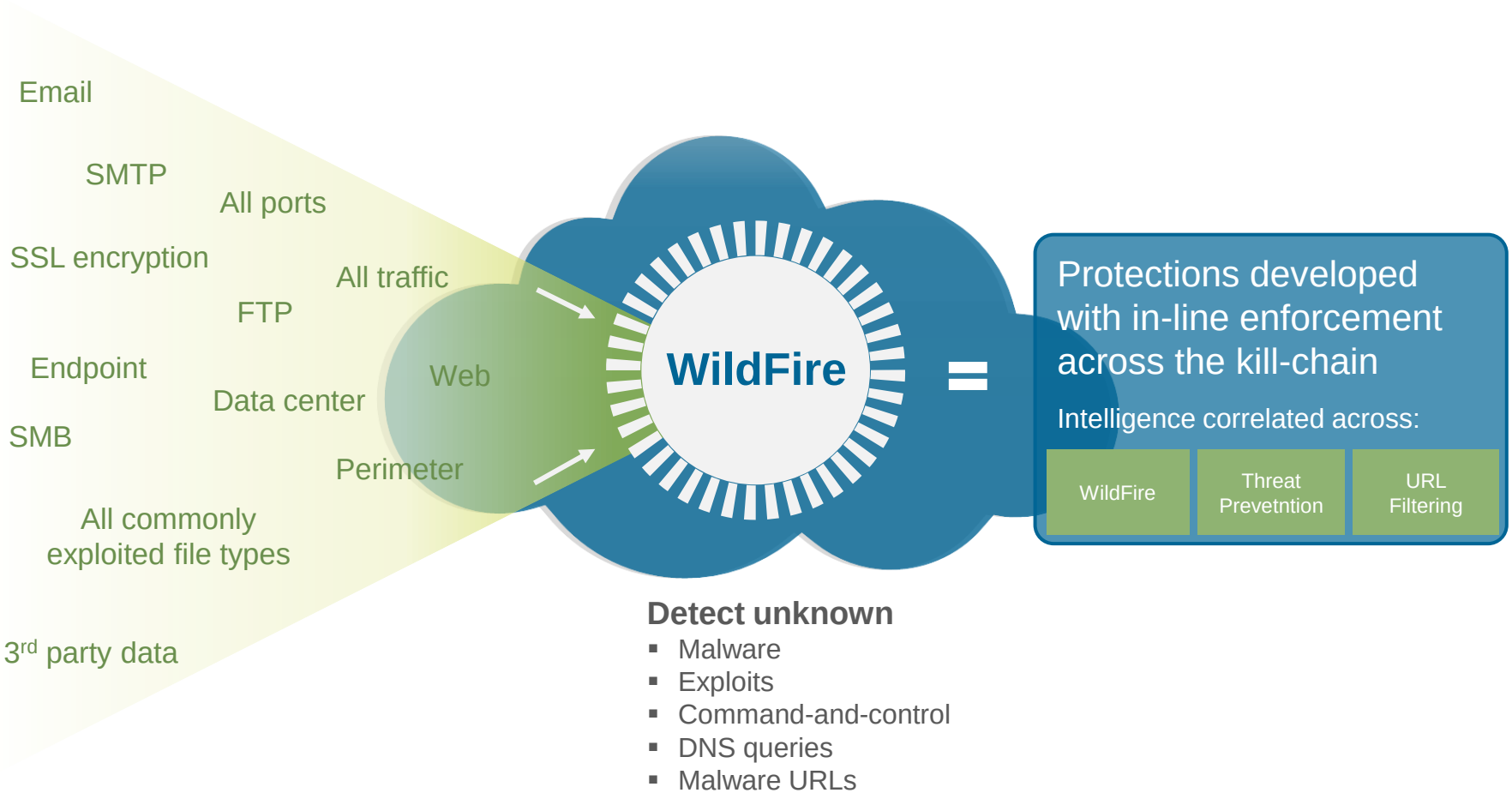
WildFire



Detect unknown

- Malware
- Exploits
- Command-and-control
- DNS queries
- Malware URLs

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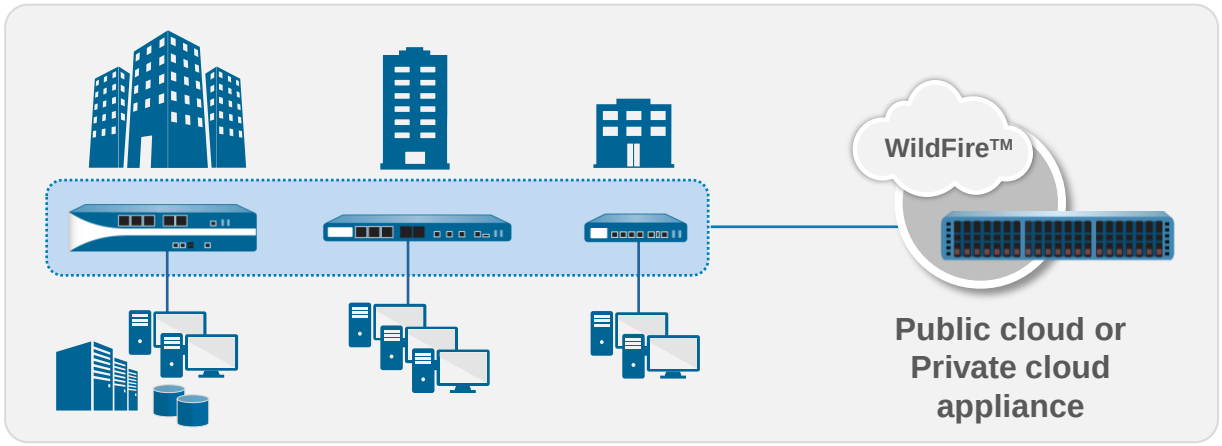
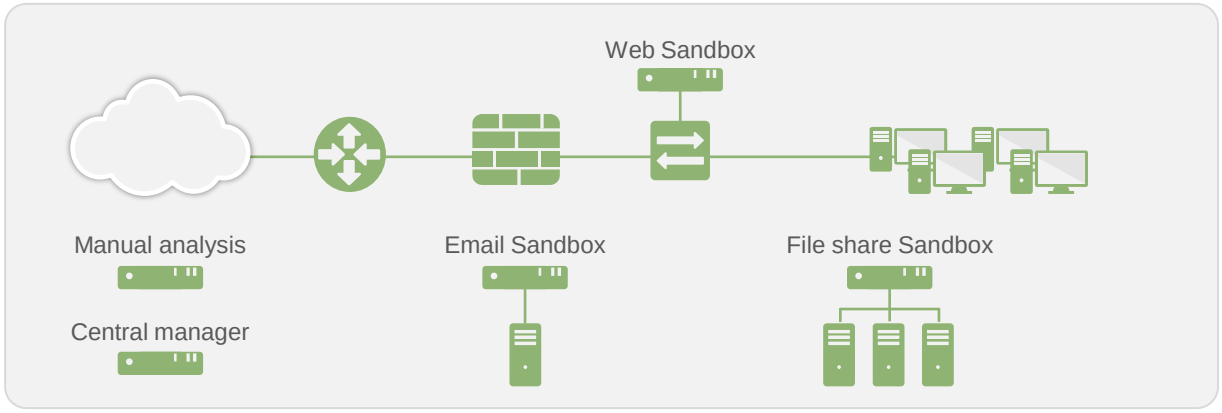
WildFire cloud-based architecture scales

WildFire Approach



- Easy to manage and operationalize
- Scalable
- Cost effective

APT Add-on Approach



- Hard to manage
- Doesn't scale
- Expensive
- Requires multiple devices at each ingress, egress, and point of segmentation

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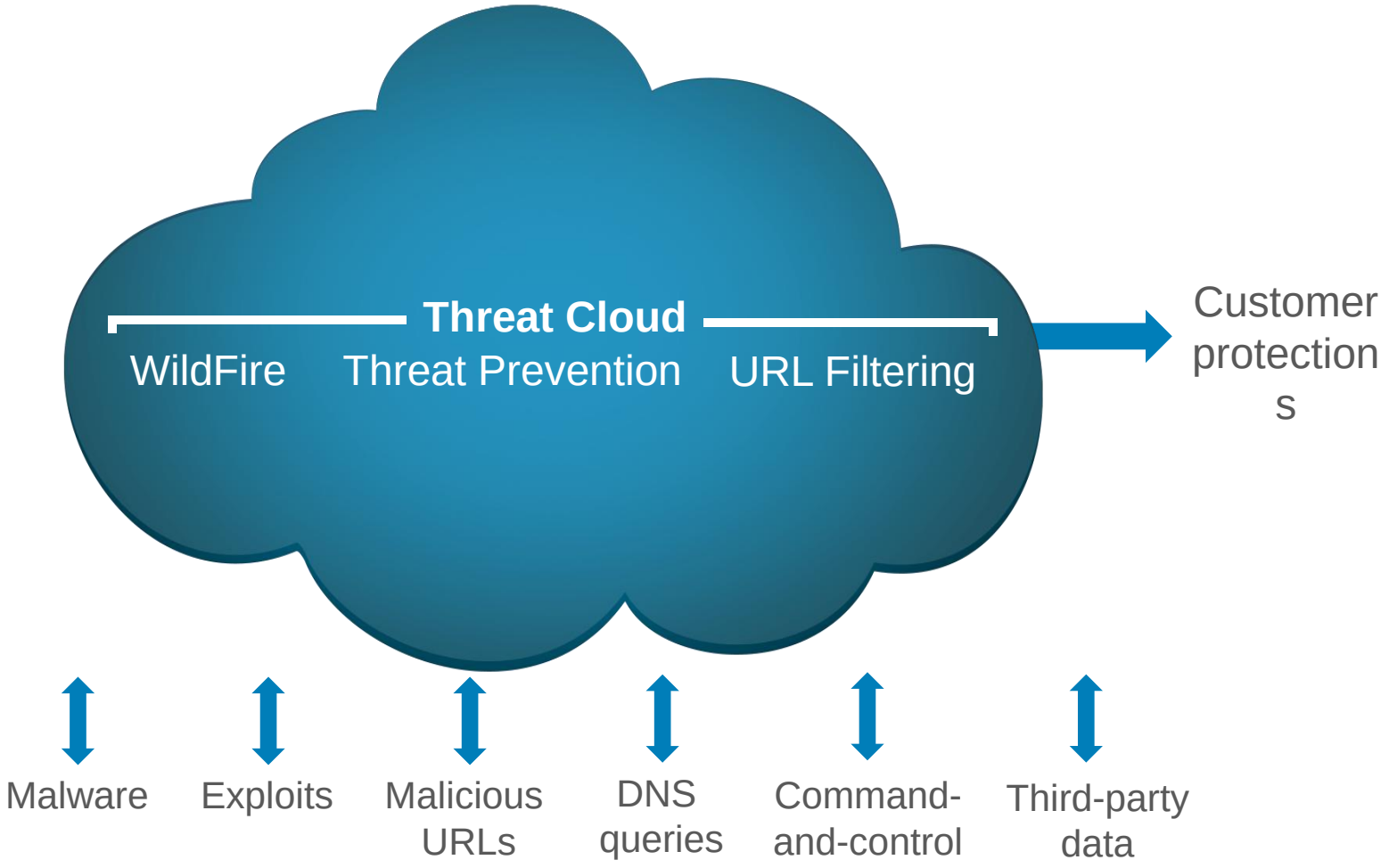
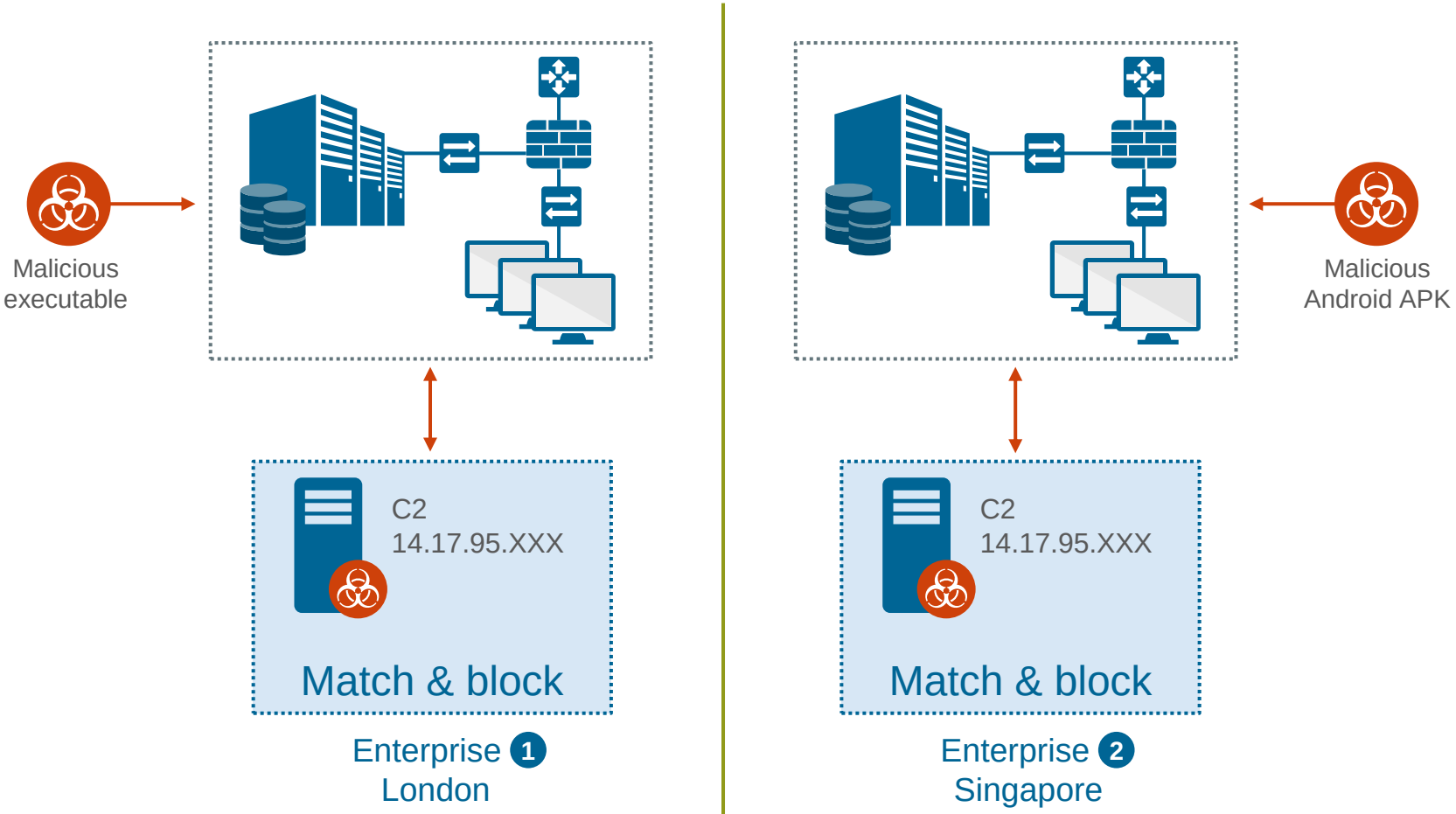
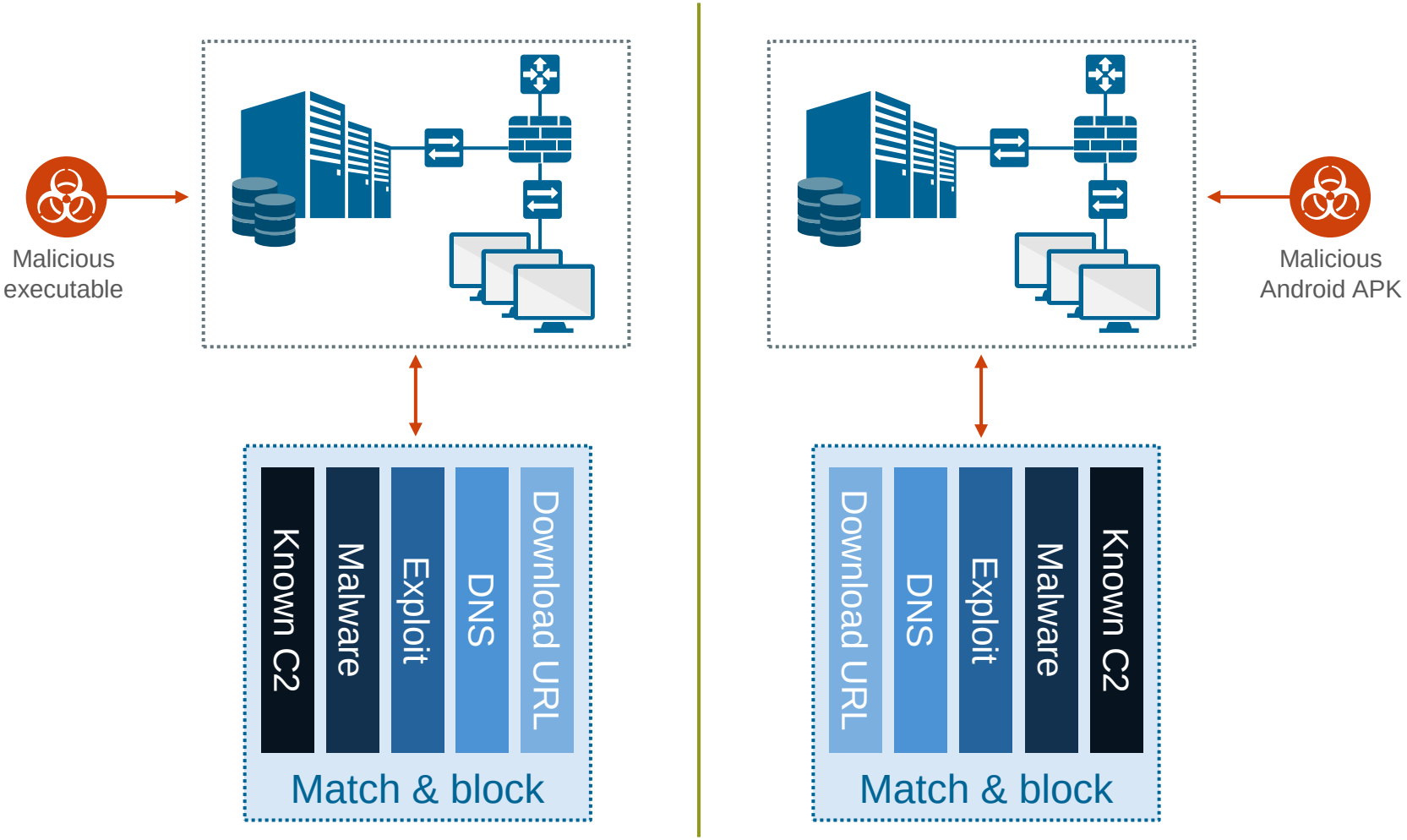
Threat Intelligence Cloud



Threat intelligence cloud correlation



Threat intelligence cloud correlation



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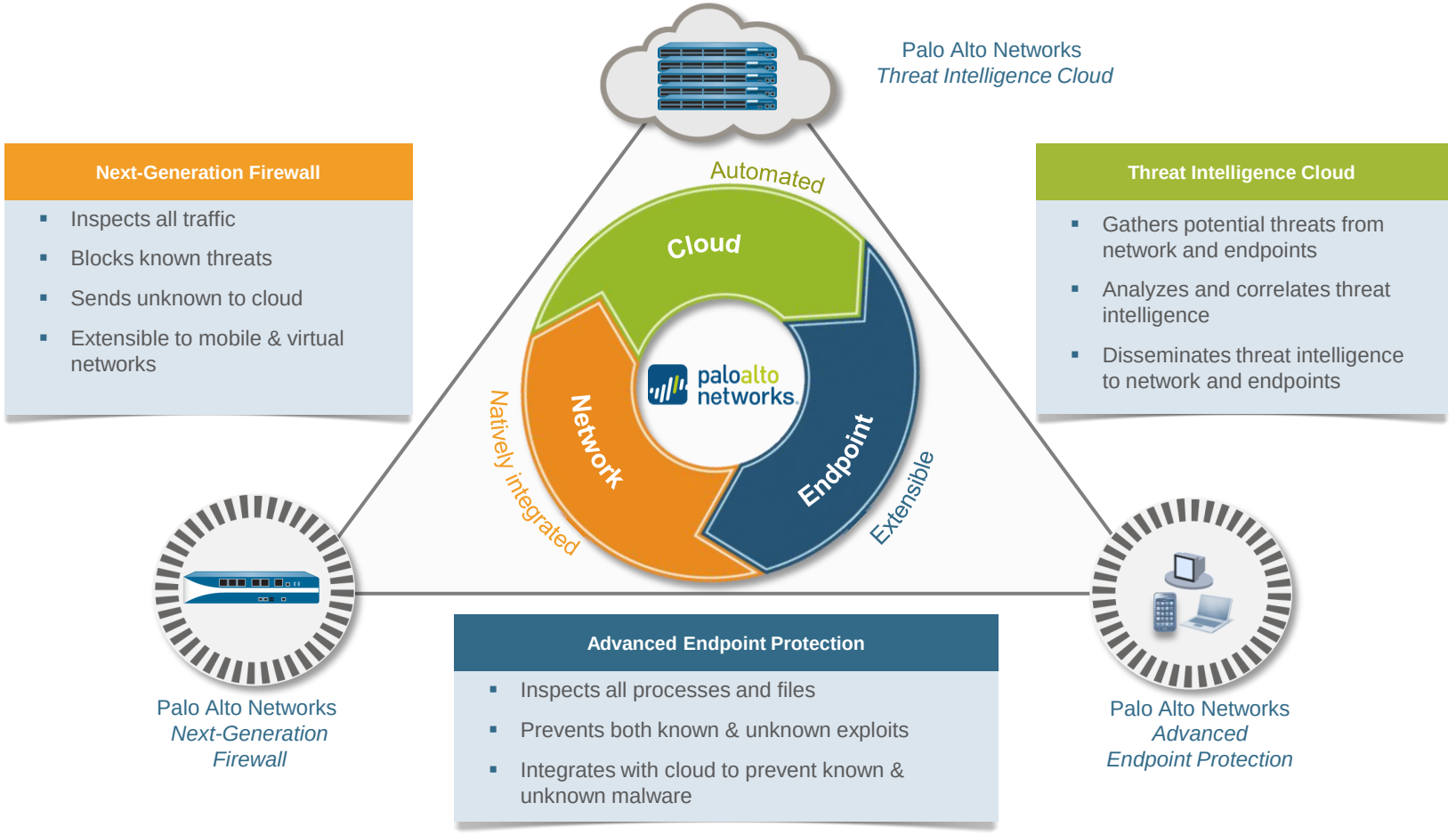
Next-generation platform



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