cisco

Information Security Systems®
Powered by NRQ S.A.S.

Seguridad Integrada

Cisco Ransomware Defense

The Ransomware Threat Is Real

Abril 2018

Ransomware

Malicious Software

Encrypts Critical Data

Demands Payment

Business Impacts

- Permanent Data Loss
- Operational Downtime
- Reputation Damage

Did You Know?

Over 99%

of malware is sent by either

web server or email

Did You Know?

Over 90%

of known-bad malware use DNS to

- gain command and control
- exfiltrate data
- redirect traffic

Ransomware and DNS

	Encryption Key				Payment MSG
NAME*	**DNS**	**IP**	**NO C2**	**TOR**	**PAYMENT**
Locky	●	●			DNS
SamSam			●		DNS (TOR)
TeslaCrypt	●				DNS
CryptoWall	●				DNS
TorrentLocker	●				DNS
PadCrypt	●				DNS (TOR)
CTB-Locker	●			●	DNS
FAKBEN	●				DNS (TOR)
PayCrypt	●				DNS
KeyRanger	●			●	DNS

Best Defenses

Wouldn’t it be great if you could...

Stop Ransomware

from using DNS or arriving by the web

Stop Ransomware

from arriving by email

Stop Ransomware

from running on endpoints

You Can

Cisco Ransomware Defense

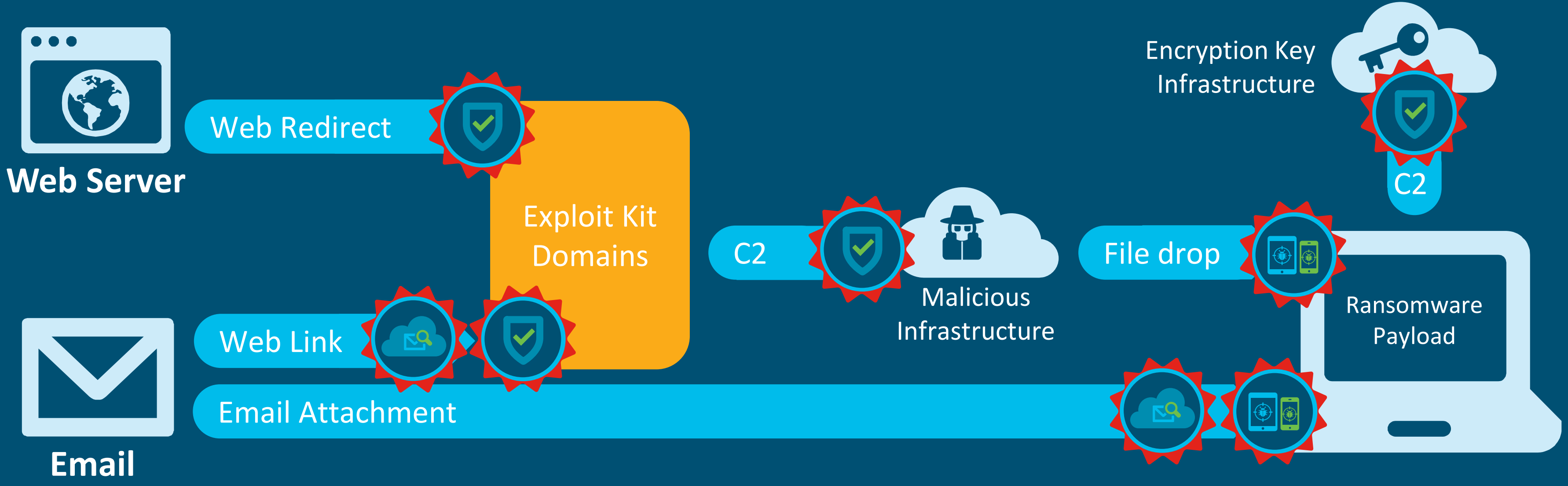
Quick Prevention

Cisco Umbrella

Cisco Cloud Email Security with Advanced Malware Protection

Cisco Advanced Malware Protection for Endpoints

Break the Ransomware Chain



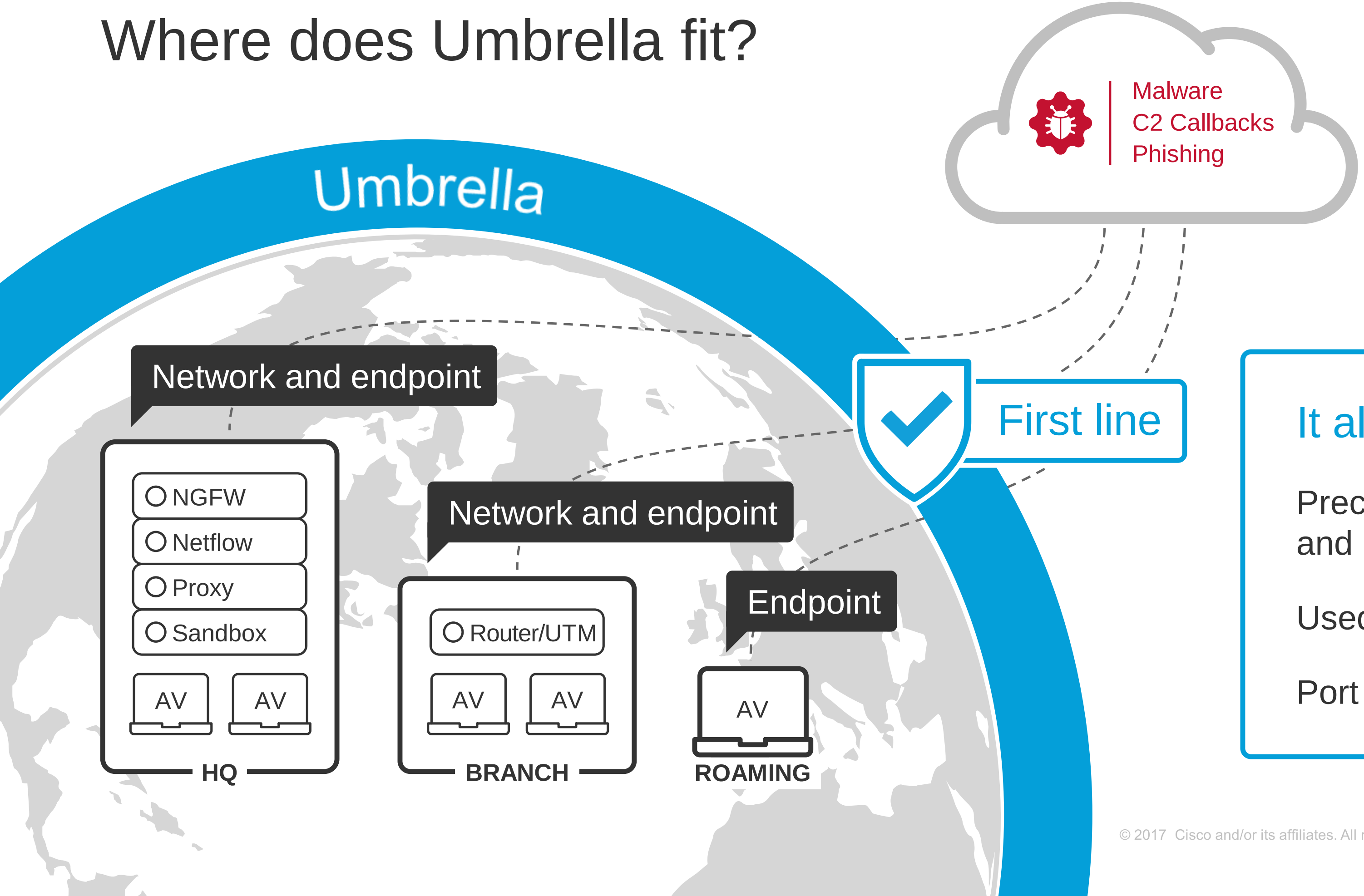
Cisco Ransomware Defense

Stopped by Cisco Umbrella

Stopped by Cisco Cloud Email Security with AMP

Stopped by Cisco AMP for Endpoints

Where does Umbrella fit?



It all starts with DNS

Precedes file execution and IP connection

Used by all devices

Port agnostic

ENFORCEMENT

Built into foundation of internet

Destinations

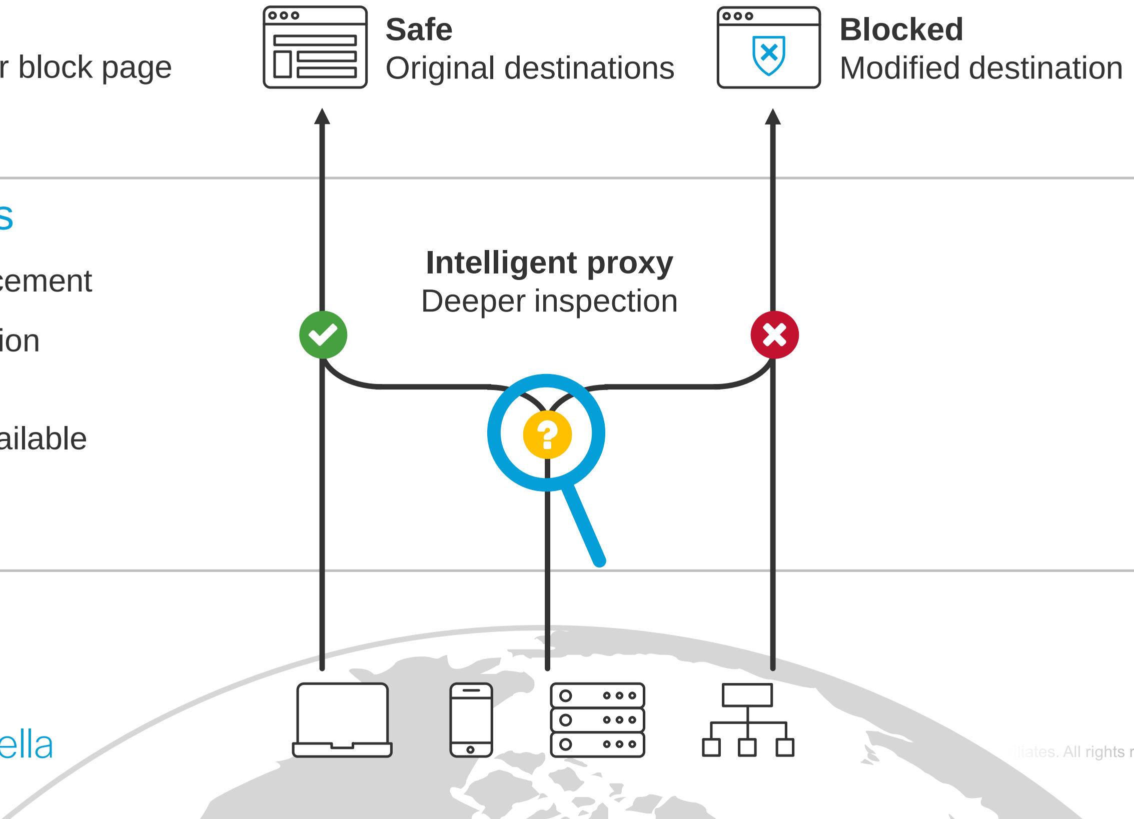
Original destination or block page

Security controls

- DNS and IP enforcement
- Risky URL inspection through proxy
- SSL decryption available

Internet traffic

On- and off-network



Safe
Original destinations

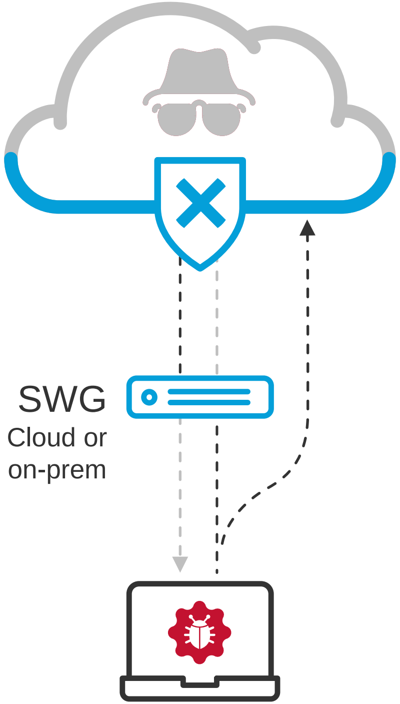
Blocked
Modified destination

Intelligent proxy
Deeper inspection

ENFORCEMENT

Protection for command and control (C2) callbacks

91%
of C2 can be blocked at the DNS layer



15%
of C2 bypasses web ports 80 & 443

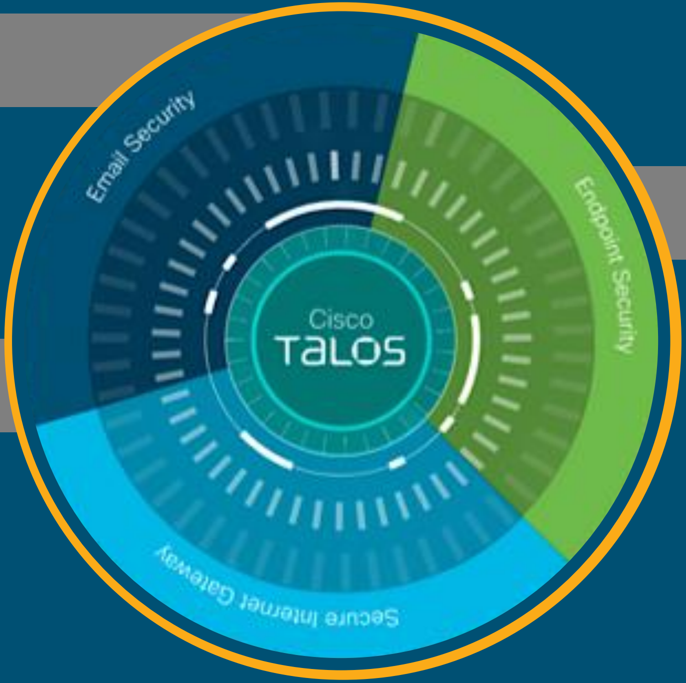
Threat Intelligence Sharing for Unified Defense

Email Security

- Blocks spam, phishing, and malicious executables
- Shares intelligence with web and endpoint defenses

Web Security

- Blocks access to malicious sites
- Inspects file downloads
- Stops ransomware command and control communications
- Shares intelligence with email and endpoint defenses



Endpoint Security

- Inspects all executables and quarantines the malicious ones
- Shares intelligence with email and web security defenses

Beyond Quick Prevention

Visibility

See and control what's on your network

Segmentation

Limit the lateral spread of ransomware

Response Planning

Prepare now

Cisco Ransomware Defense

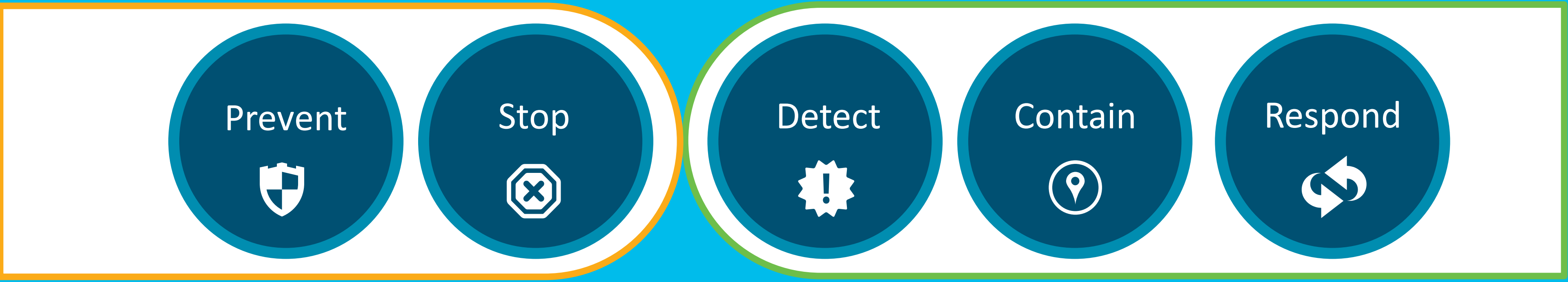
Advanced Prevention

- Next Generation Firewall
- Next Generation IPS
- Web Security with AMP
- Stealthwatch
- Identity Services Engine
- TrustSec
- AMP Threat Grid

Information Security Systems®
Powered by NRQ S.A.S.

Cisco Ransomware Defense

Solution Summary



Prevent

Stop

Detect

Contain

Respond

Quick Prevention

Advanced Prevention

Network Visibility & Segmentation

Deeper Dive

April 21, 2018

Networks must handle unprecedented traffic

You have to handle large volumes of data

Annual global IP traffic will reach 2.3 ZB per year by 2020*

The number of users is growing

4.1B Global Internet users are expected by 2020*

Users require flexible support

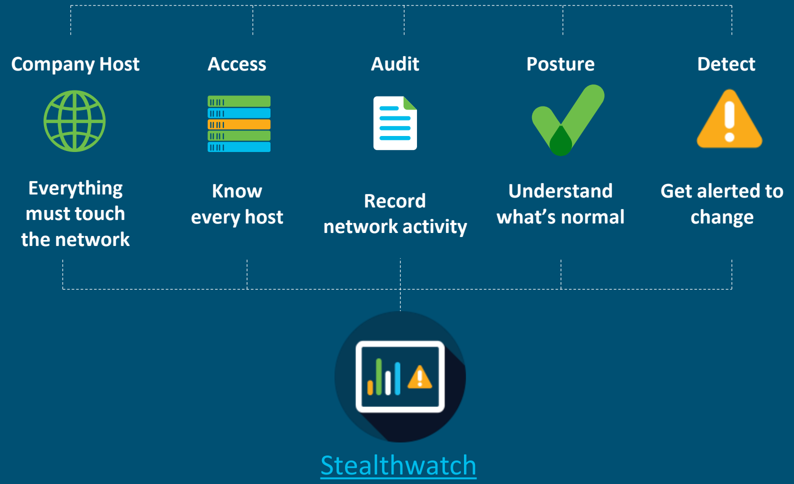
Connected workforce, cloud, IoT, M2M, and other types of users must be accommodated**

Gain endpoint visibility, and detect policy violations and compromised devices

Network Visibility with Stealthwatch and ISE

Detect and correlate network telemetry

Establish a baseline for network behavior so you can uncover network use, misuse, and abuse



Company Host

Everything must touch the network

Access

Know every host

Audit

Record network activity

Posture

Understand what's normal

Detect

Get alerted to change

Stealthwatch

See and share rich user details

Gain better visibility through richer contextual information, including increased visibility into threats and vulnerabilities

ISE

Who	Bob, contractor
What	BYOD Tablet; iOS 9.3.2
When	11:00 AM EST on April 10th
Where	Building 200, 2nd floor
How	Wireless
Compliance	Yes. PIN-lock enabled
Threat	Distracting
Vulnerability	CVSS score of 6

Cisco Network Visibility & Segmentation

Visibility

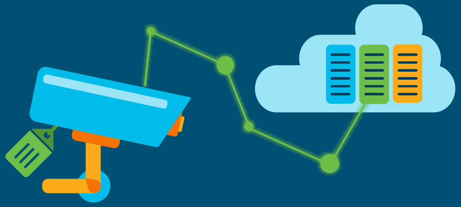
“See Everything”

Stealthwatch & ISE

Segmentation

“Reduce the Attack Surface”

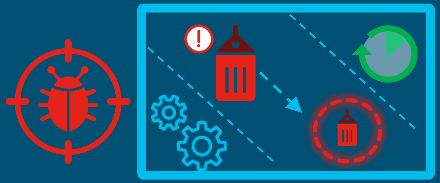
SD-Access



Threat protection

“Stop the Breach”

Rapid Threat Containment



cisco