

106年度臺中區域網路中心資安防護研討會

物聯網盛行下的資安防護思維

時間	主題	講師
09:00 – 09:30	報到	
09:30 – 09:40	致歡迎詞	中興大學
09:40 – 10:30	無所不在的資安挑戰- 新世代的資安防護思維	華電聯網 副總經理 鄭炤仁 博士 華電聯網 資深協理 楊仁吉
10:30 – 10:50	Break	
10:50 – 11:40	物聯網下的資安挑戰- 協同式巨量資料分析的資安平台	工研院-資通所 卓傳育 博士 華電聯網 經理 杜偉欽
11:40 – 12:00	Q & A	

無所不在的資安挑戰

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Joe.cheng@hwacom.com



Agenda

- Emerging cyber security landscape
- IoT的資安議題
- Wrap up



People-to-People + People-to-Machine + Machine-to-Machine

2017 CEO Concerns

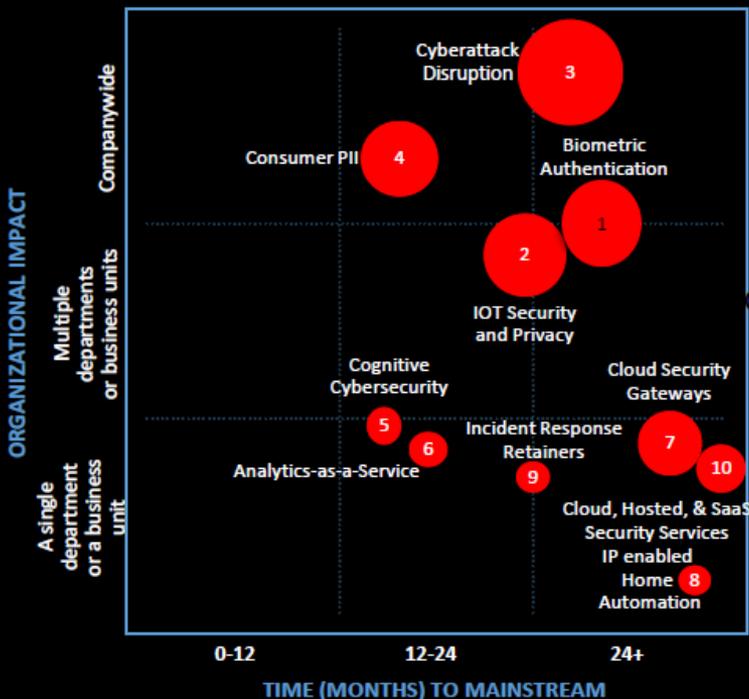


全球性的不景氣

培養擁有改造能力的下一代領導人(數位化轉型)

網路安全

IDC FutureScape: IT Security Products and Services - APeJ Implications

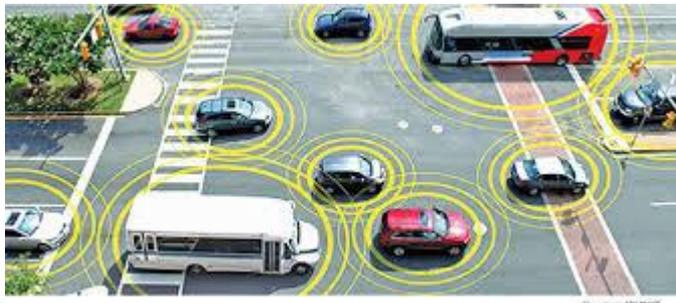


- 1 By 2019, 50% of all online transactions will incorporate biometric authentication driven by a ubiquitous technology infrastructure that enables low implementation costs and broad user acceptance.
- 2 By 2019, more than 75% of IOT device manufacturers will use security and privacy as competitive positioning to capture the attention of security and privacy advocates and earn consumer trust.
- 3 By 2019, nearly every major multinational corporation with ties to the U.S. or Europe will face significant cybersecurity attacks aimed at disruption of commodities.
- 4 Over the next two years, 80% of consumers in developed nations will defect from a business because their personally identifiable information is impacted in a security breach.
- 5 By 2018, 30% of enterprise cybersecurity environments will incorporate cognitive/AI technologies to assist humans in dealing with the vastly increasing scale and complexity of cyber threats.
- 6 By 2018, 30% of enterprise customers will leverage analytics-as-a-service to help solve the challenge of combing through security related data and events
- 7 By 2020, cloud security gateway functionality begins to be integrated as part of web service offerings to entice IT leaders to move offerings to the cloud.
- 8 By 2020 30% of U.S. broadband homes will have at least one IP enabled home automation or security monitoring sensor/device
- 9 Reactive security services such as Incident Response and Forensics services will marginally increase by 2020 but still overshadowing proactive services
- 10 By 2025, on premises security management will be a thing of the past subsumed by SaaS security and Network-based security.

Getting Past The Eye Test (on Previous Slide)

- Mobile biometrics
- IoT
- Cyber-terrorism/warfare
- Consumer reaction
- Machine learning/ AI
- Analytics
- Cloud security
- Incident response and Forensics
- Security as a service

智慧化的趨勢



網路的連結



有線網路

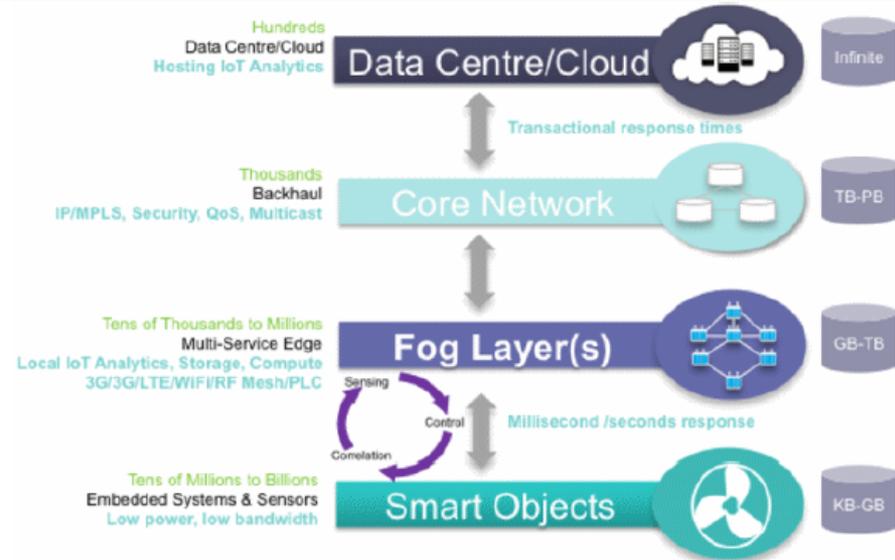
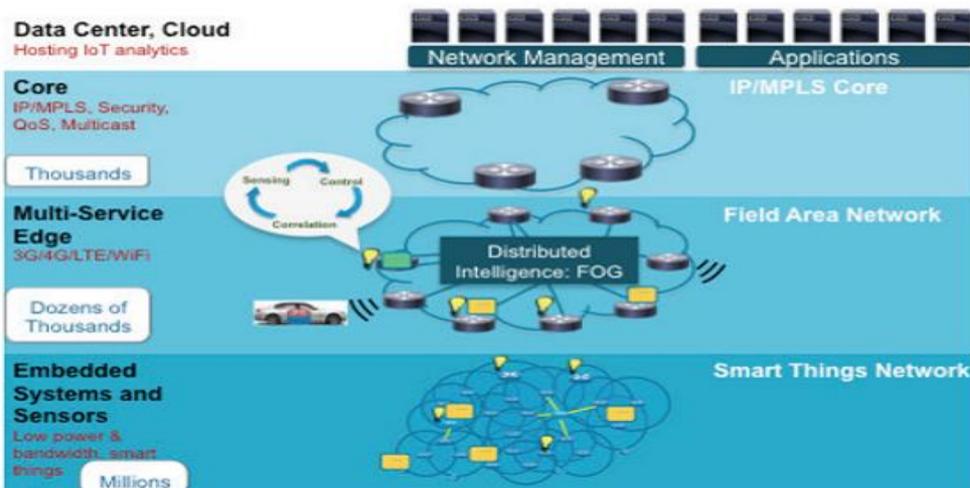
無線網路

LAN

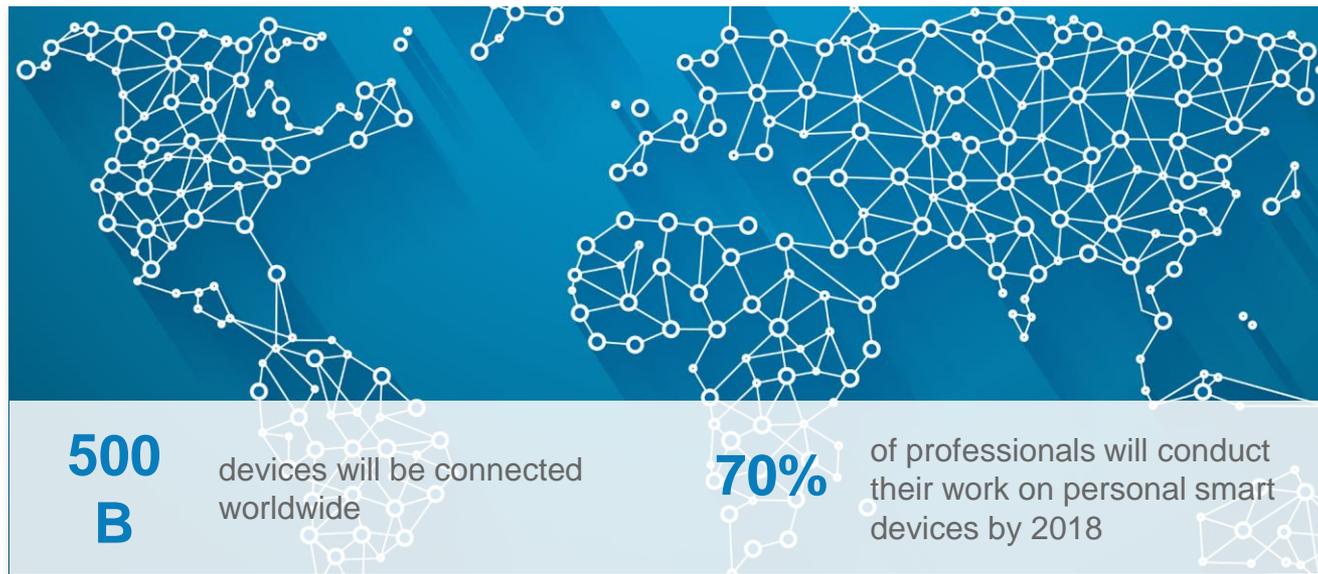
WAN

IoT Multi-Layers Architecture

The Internet of Thing Architecture and Fog Computing



How Many Devices Will Connect to Your Network by 2030?



DDoS 攻擊上升 6%：IoT 物聯網是主要攻擊原因！

無所不在的資安挑戰

Firmware/Software
Upgrade
(韌體/軟體的更新)

Cyber Security
(網路資安的議題)

APT & Internal
Security Threat
(零時差及內部資安
的威脅)

Centralized Security
Management
(協同及中央式的管
理)

資安大數據的分析

Attacks are Everywhere!



資安不再只是IT的議題

資安已是商務風險的議題



Thank You



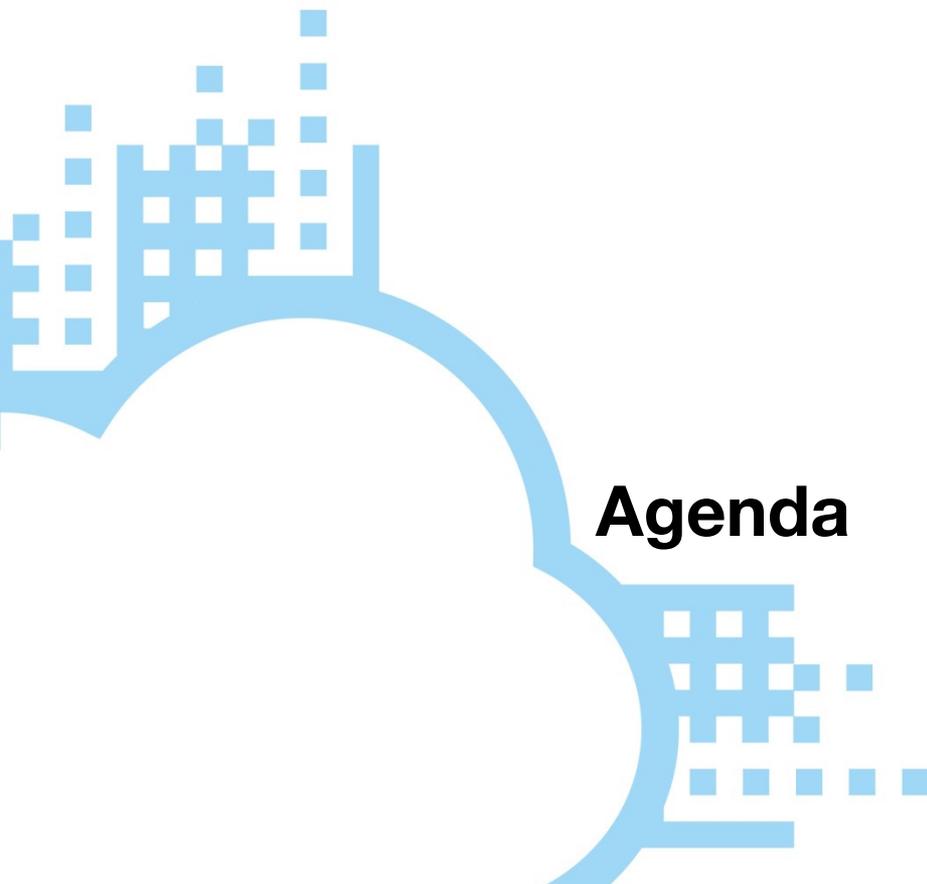
華|人|寬|頻|世|界|的|首|席|建|構|家

新世代的資安防護思維

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Agenda

- 智聯網時代資安面臨的風險與挑戰
- 如何建構安全的資安環境與有效的管理

資安已是「商務風險」的議題
資安不在只是 IT (MIS) 的問題

資安造成的商務風險

營業秘密遭竊取

全球會計師事務所德勤(Deloitte)，09/25日傳出遭到駭客竊取機密文件的消息，公司雲端更有多達5百萬封電子郵件的個資恐遭外洩。(路透)

資安造成的商務風險



勒索軟體

導致 產線停止、金錢、
數位資產的損失

本田(Honda)表示，雖然針對 WannaCry提高防護，但仍發現日本、北美、歐洲、中國等地網路遭到攻擊，因此決定暫時關閉埼玉縣一座工廠。

資安造成的商務風險



殭屍電腦

攻擊其他企業

- 2.5萬監視器成DDoS殭屍網路大軍，多數來自台灣！
- 傀儡網路氾濫，臺灣成為全球DDoS攻擊幫兇！

資安造成的商務風險

營收 × 競爭力 × 商譽
損失

智聯網時代資安面臨的挑戰

A photograph of a long, multi-layered border fence stretching into the distance. The fence consists of several layers of metal mesh supported by concrete pillars. The ground in front of the fence is covered in gravel. In the background, there is a single light pole and a blue sky with some clouds.

入侵點的增加
防禦邊界擴大

智聯網時代資安面臨的挑戰



軟體/韌體
更新與管理

智聯網時代資安面臨的挑戰

資安防護設備
『間』不合作



NGFW



NGIPS



WAF



End-Point

智聯網時代資安面臨的挑戰

看不到防護狀況
無法安排優先順序

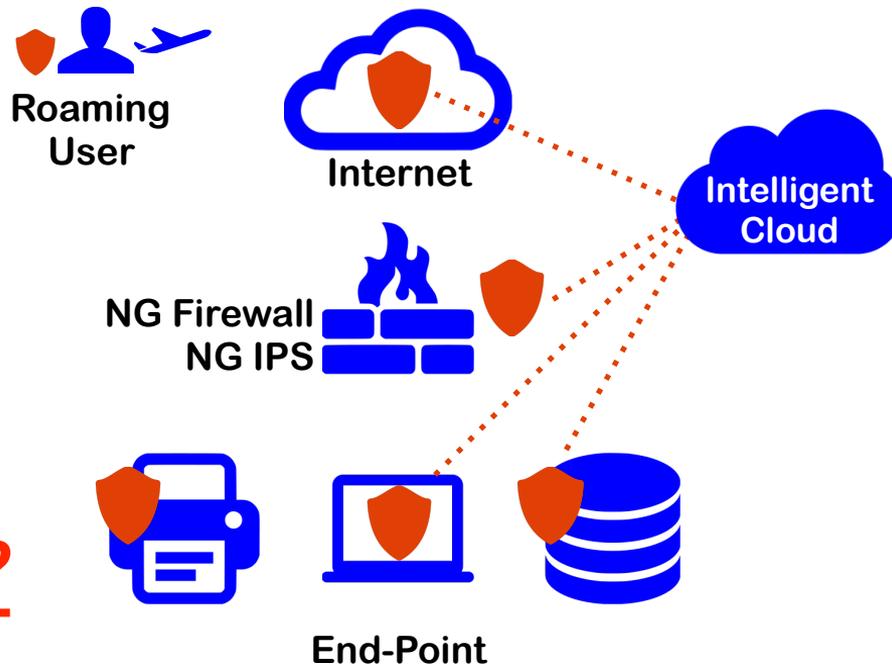
如何建構 安全的資安環境 有效的管理

強化縱深防禦 - 空間換取時間

傳統資安防禦架構



新世代資安防禦架構



But Is This Enough ?

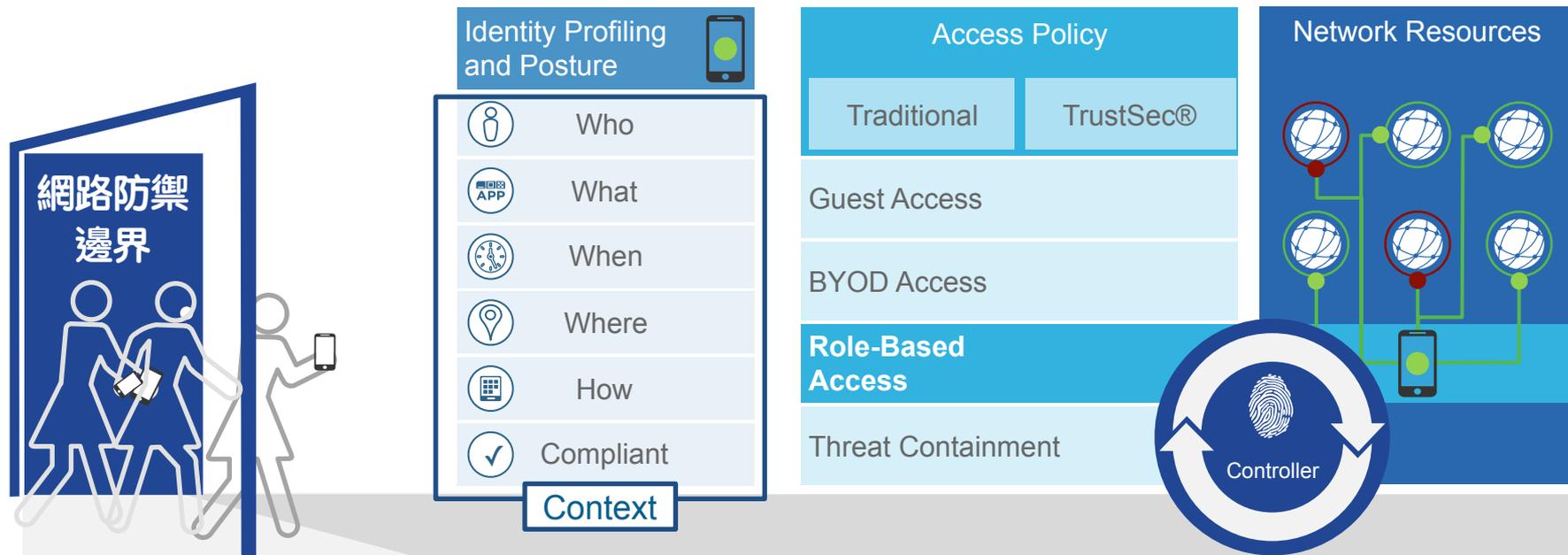
可控的資安管理環境

- 為什麼已經 **重兵部署** 但仍然會遭木馬、勒索軟體感染？
- 已經是 **封閉式環境**，但還是有木馬、勒索軟體感染？
- 內部雖有相關的資安作業規範，但執行上仍有落差！

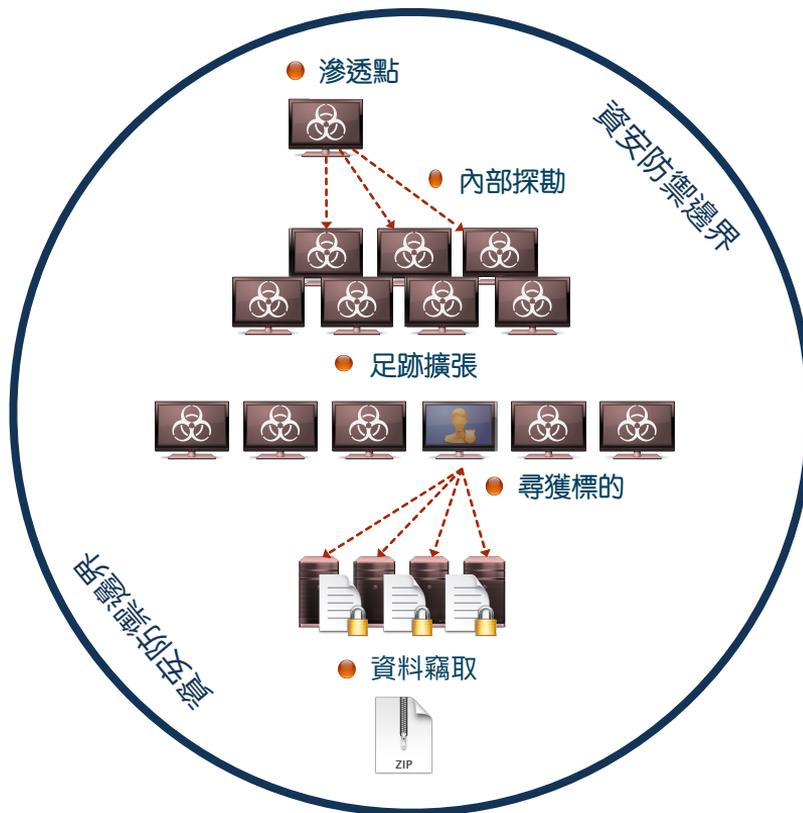
可控的資安管理環境

But Is This Enough?

集中安全管理方式，自動依據 資安合規狀態 執行 網路資源訪問授權 並 共享 數據。



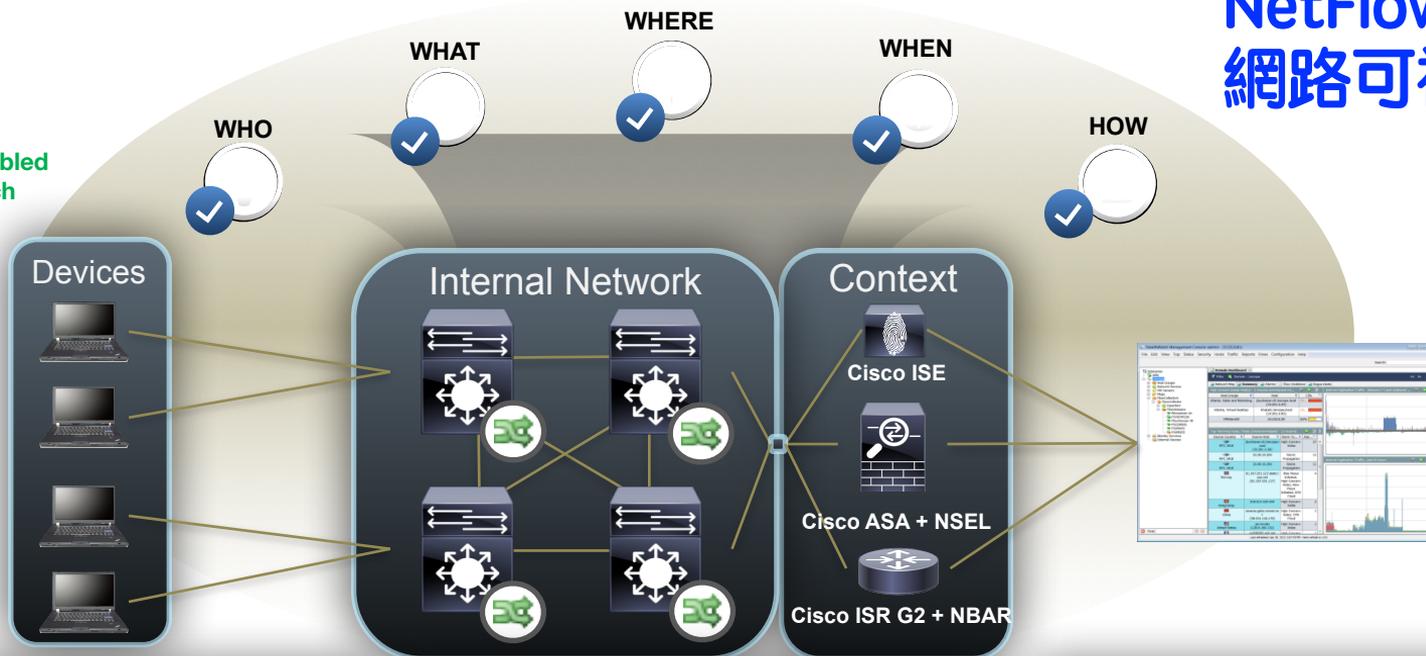
駭客如何進到我們的環境？



資安可視化架構

NetFlow 提供
網路可視性

Hardware-enabled
NetFlow Switch

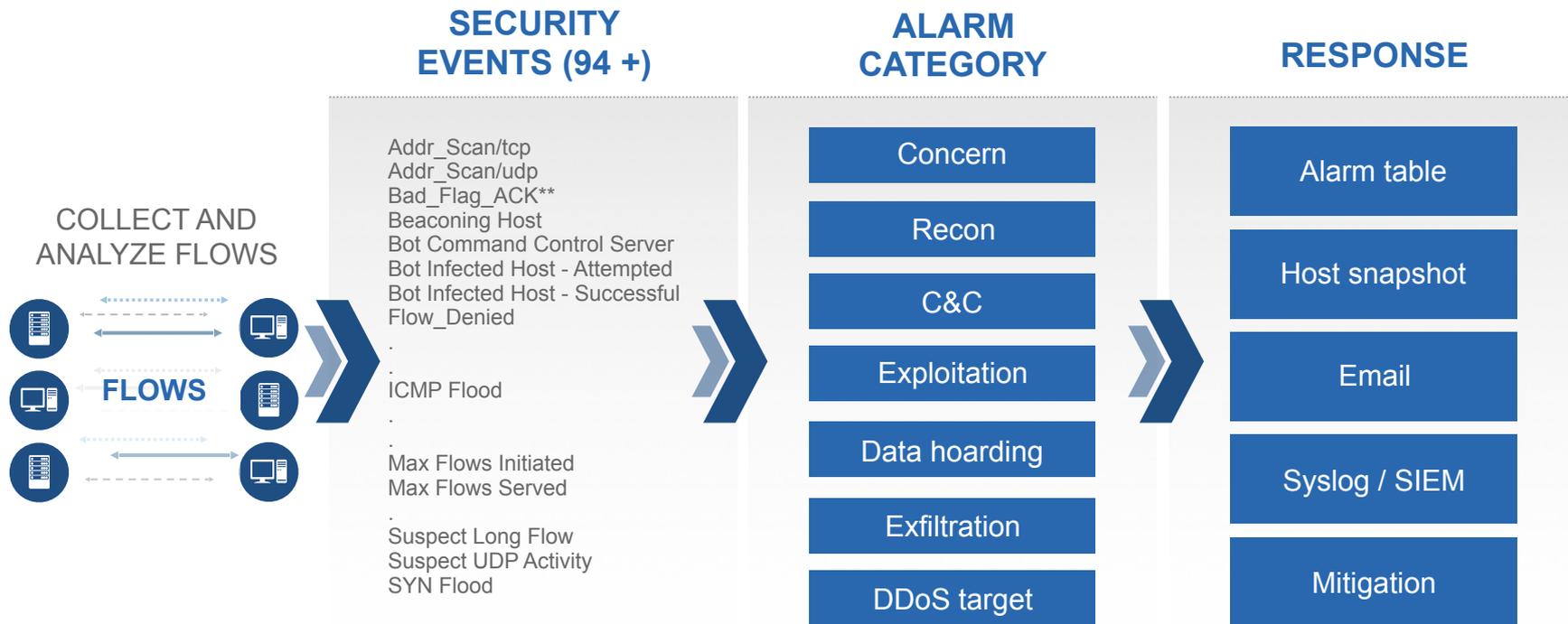


Use NetFlow Data to Extend
Visibility to the Access Layer

Enrich Flow Data With Identity, Events
and Application to Create Context

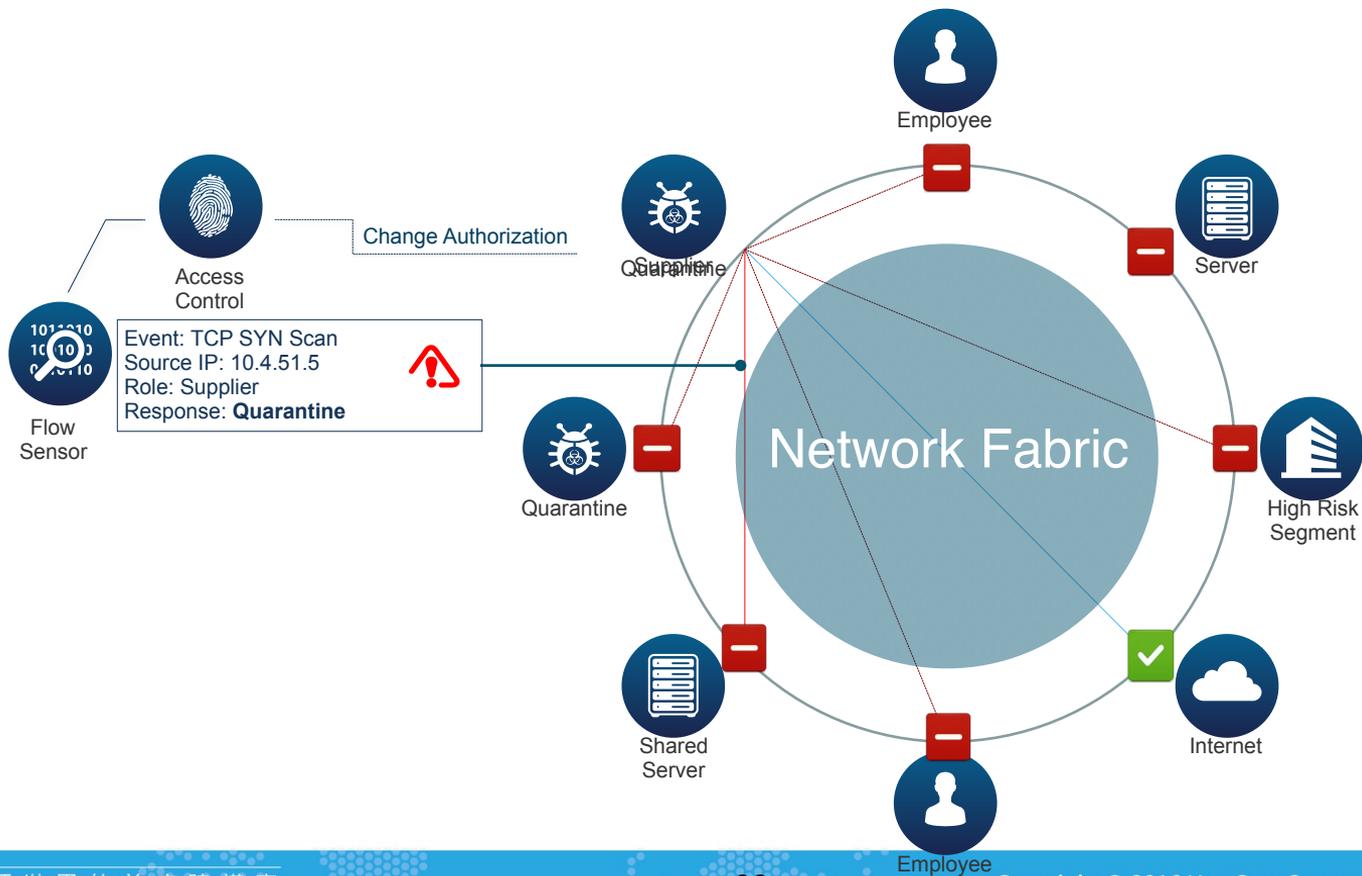
Unify Into a Single Pane of Glass
for Detection, Investigation and
Reporting

行為和異常檢測模型

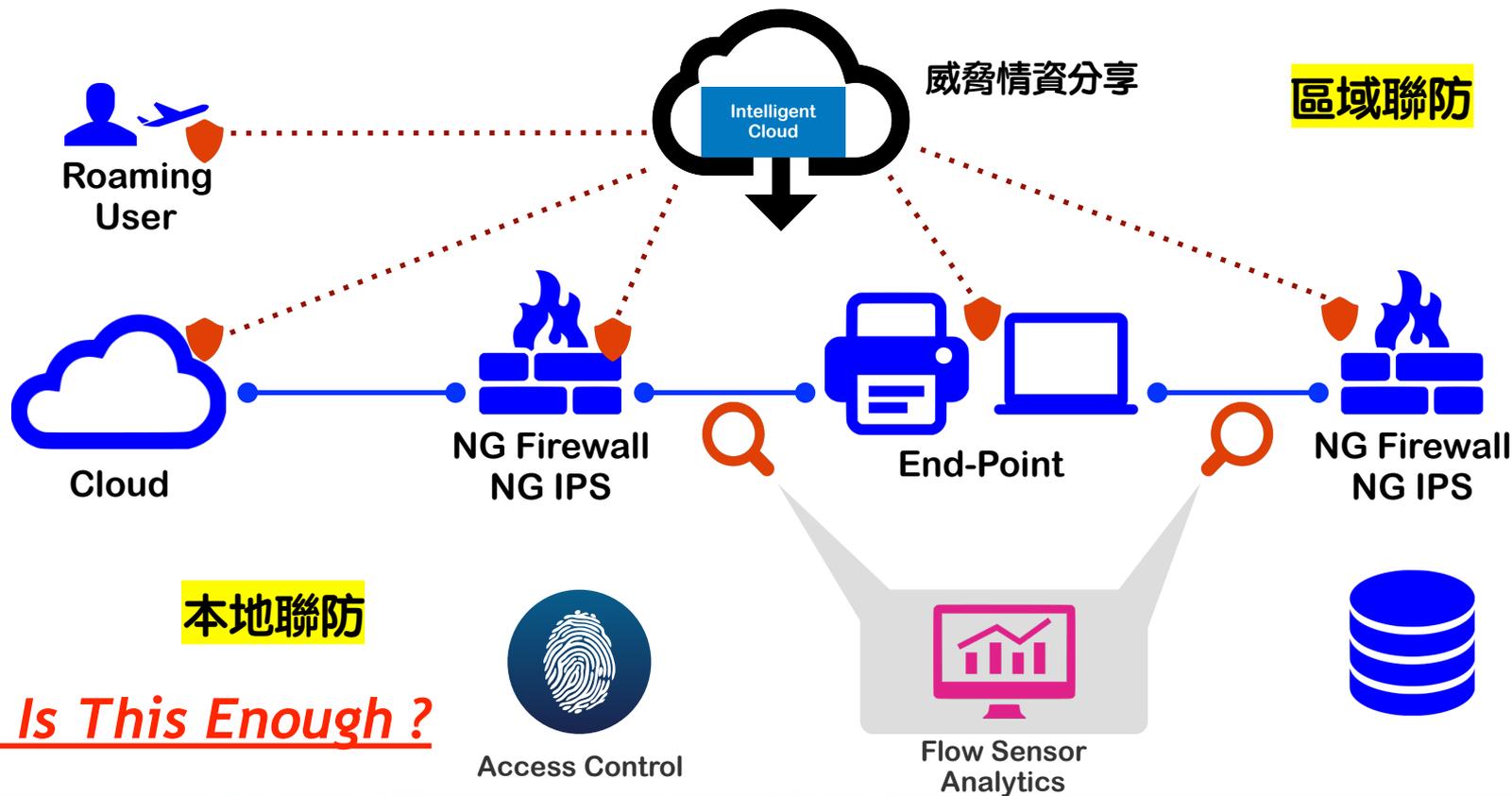


But Is This Enough ?

自動化本地聯防



自動化聯防機制



But Is This Enough?

Something We Can
Do Better 😊

Something We Can Do Better ^^

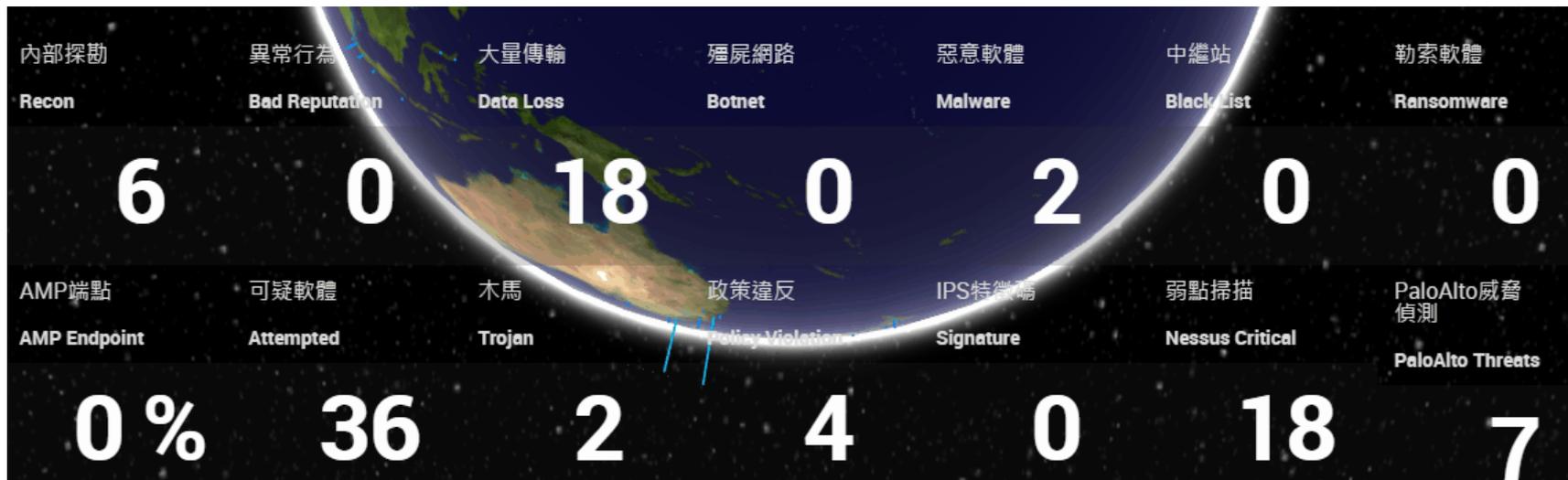
應用程式白名單技術

我們不應該允許**未知的程式**在系統中執行！



資安視覺化儀表板

- 看到資安防護狀況，安排處理優先順序。
- 進行交叉關聯式分析，找出害群之馬。
- 自動化通知相關負責人，立即處理問題。



One more thing ...

定期執行滲透測試了解防護能力

- 利用軟體定期檢測網路、系統是否有弱點(漏洞)存在?
- 僅是利用軟體檢測還是會有失誤的時候！
- 滲透測試可以：
 - 有效地確認現有資訊作業環境的**弱點**與**風險**
 - 直接**改善**測試所得知的弱點。
 - 可規劃**更為安全**的資訊系統架構，以抵禦更多可能的入侵。

Summary

- 強化縱深防禦。
- 可控的資安管理環境。
- 資安可視化架構。
- 行為和異常檢測模型。
- 自動化聯防機制。
- 限定執行的應用程式。
- 資安視覺化儀表板。
- 定期執行滲透測試。



THANK YOU !!



華|人|寬|頻|世|界|的|首|席|建|構|家

物聯網下的資安挑戰 —安全執行平台與行動應用管理

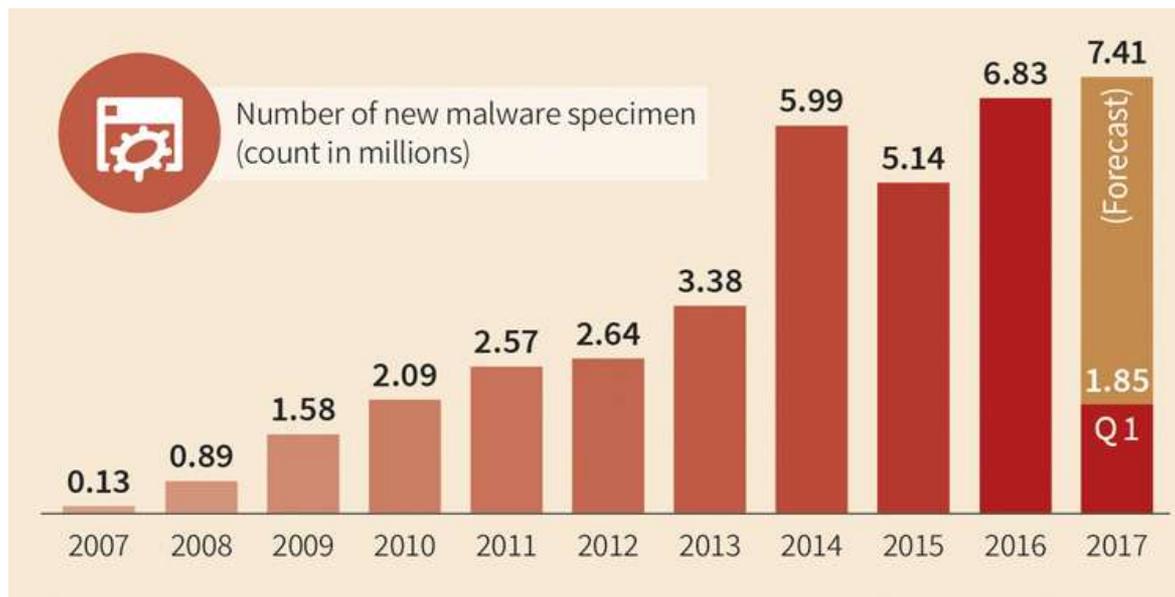
卓傳育 博士

資訊與通訊研究所

Information and Communication Research Lab (ICL)

傳統資安面對的問題

- 越來越多的惡意程式，防毒軟體難以對抗



資料來源: Malware Trend 2017, G-Data Security blog, <https://blog.gdatasoftware.com/2017/04/29666-malware-trends-2017>

- 因此，端點防護需要有些改變
 - 防止惡意程式: Cloud antivirus
 - 防止非信任程式: Application whitelisting

白名單為何難以普及？

- 難以管理的白名單系統
 - 不好處理軟體更新
 - **User** 隨便安裝軟體，而被白名單系統阻擋，因此沒辦法正常使用
 - 需要專家設定應用程式白名單資料庫或規則
 - 造成效能損耗

- 因此，適合高安全需求的系統
 - 系統較少更動
 - 若是遭植入惡意程式便損失慘重

需要更堅強的安全系統

- 自駕車、工業 4.0

- 任何的資安事件發生都可能造成極大損失
- 目標針對 Industrial Control System 與 CAN Bus

年份	工業與汽車資安大事紀
2010	Stuxnet
2011	Duqu
2012	Flamer
2014	North Korea hacks nuclear plants in South Korea
2015	Duqu 2.0
2015	Car hack on Jeep
2015	Ukraine power grid cyberattack
2016	Ukraine again
2016	Take control of PLCs in Kemuri Water Company

高風險高資安需求系統

● 【詳細圖解】駭客入侵一銀ATM流程追追追

- 資安專家建議使用白名單來保護高安全需求之系統
- 物聯網裝置
 - 工業 4.0、Security Gateway
- 關鍵伺服器
 - GSN DNS
- 自動駕駛、車聯網
 - In-vehicle computer



資料來源: iThome <http://www.ithome.com.tw/news/107294>

● 限制可執行的應用程式和 Driver

- 應用程式白名單
 - 僅允許可信的程式執行

應用程式白名單技術



Released by CC0, <http://maxpixel.freegreatpicture.com/It-Security-Cyber-Security-Computer-Security-1784985>

我們不應該允許未知的程式在系統中執行！

安全執行平台

- 針對 Windows / Linux 提供白名單保護
 - 自動建立白名單資料庫

- 檢查類型

- Executable
- DLL / shared object
- Script
- Kernel driver

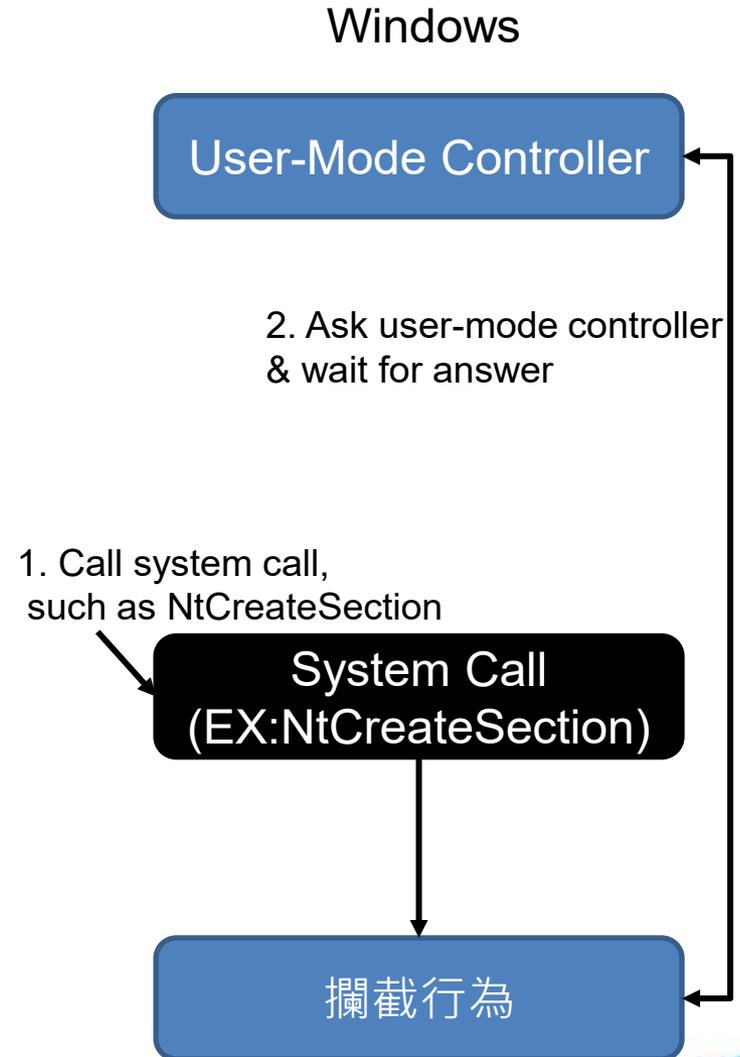
- 二階段驗證更新、安裝

- 應用程式安裝、更新與白名單資料庫更新去耦合化
- 自動更新時，紀錄寫入的 Executables



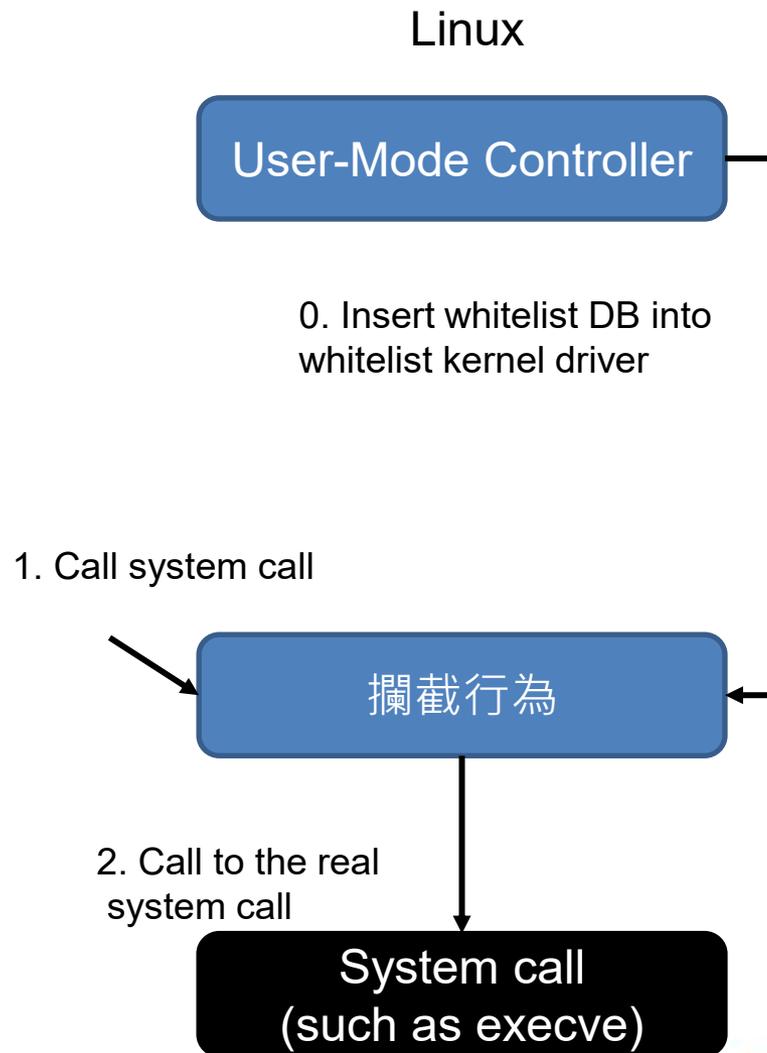
Windows Application Whitelisting

- 攔截以下
 - 載入執行映像檔 (Executable / DLL)
 - 載入驅動程式 (SYS)
 - 嘗試執行 script
- 在 Executable image 被載入的時候檢查 SHA512 checksum 是否符合原先紀錄的可信程式



Linux Application Whitelisting

- 攔截關鍵 system call
 - 載入 shared objects
 - 執行程式
 - 載入 kernel modules
 - 執行 script
- 呼叫 system call 時會先檢查 SHA512 checksum 是否符合原先紀錄的可信程式



阻擋執行!

Execute Driver

```
C:\Windows\system32>net start minispy  
Reject reason: not IsWhiteListedBinary C:\windows\system32\drivers\minispy.sys
```

Execute script

C:\Users\whitelist\Desktop\wl_demo\demo_denied_files\command-test.bat

Windows 無法存取指定的裝置、路徑或檔案。您可能沒有適當的權限，所以無法存取該項目。

C:\Users\whitelist\Desktop\wl_demo\demo_denied_files\script-test.vbs

Windows 無法存取指定的裝置、路徑或檔案。您可能沒有適當的權限，所以無法存取該項目。

C:\Users\whitelist\Desktop\wl_demo\demo_denied_files\powershell-test.ps1

Windows 無法存取指定的裝置、路徑或檔案。您可能沒有適當的權限，所以無法存取該項目。

Execute EXE

minispy.exe - Application Error



The application was unable to start correctly (0xc0000142). Click OK to close the application.

確定

自我保護與管理介面

- 自我保護
 - 防止 DLL injection / ptrace
 - 防止被移除
 - 防止 Registry / Configuration files 被修改

- Web 管理介面
 - 蒐集不在白名單的程式嘗試執行紀錄
 - 可開 / 關遠端主機的白名單機制
 - 管理白名單資料庫
 - 可用於上傳 Zip 或安裝檔
 - 二階段安裝 / 更新確認
 - a. 通知管理者正要進行的安裝，並要求管理者的確認



Application Whitelisting by ITRI

Hosts

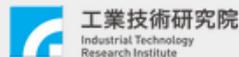
140.115.59.16

192.168.1.12

get_files.ps1 / July 6, 2017, 8:38 a.m.

find.exe / July 14, 2017, 6:44 a.m.

被拒絕執行的紀錄



Application Whitelisting by ITRI

Manage

可遠端管理白名單機制

Host

140.115.59.16

Operation

Enable

Enable

Disable

Install

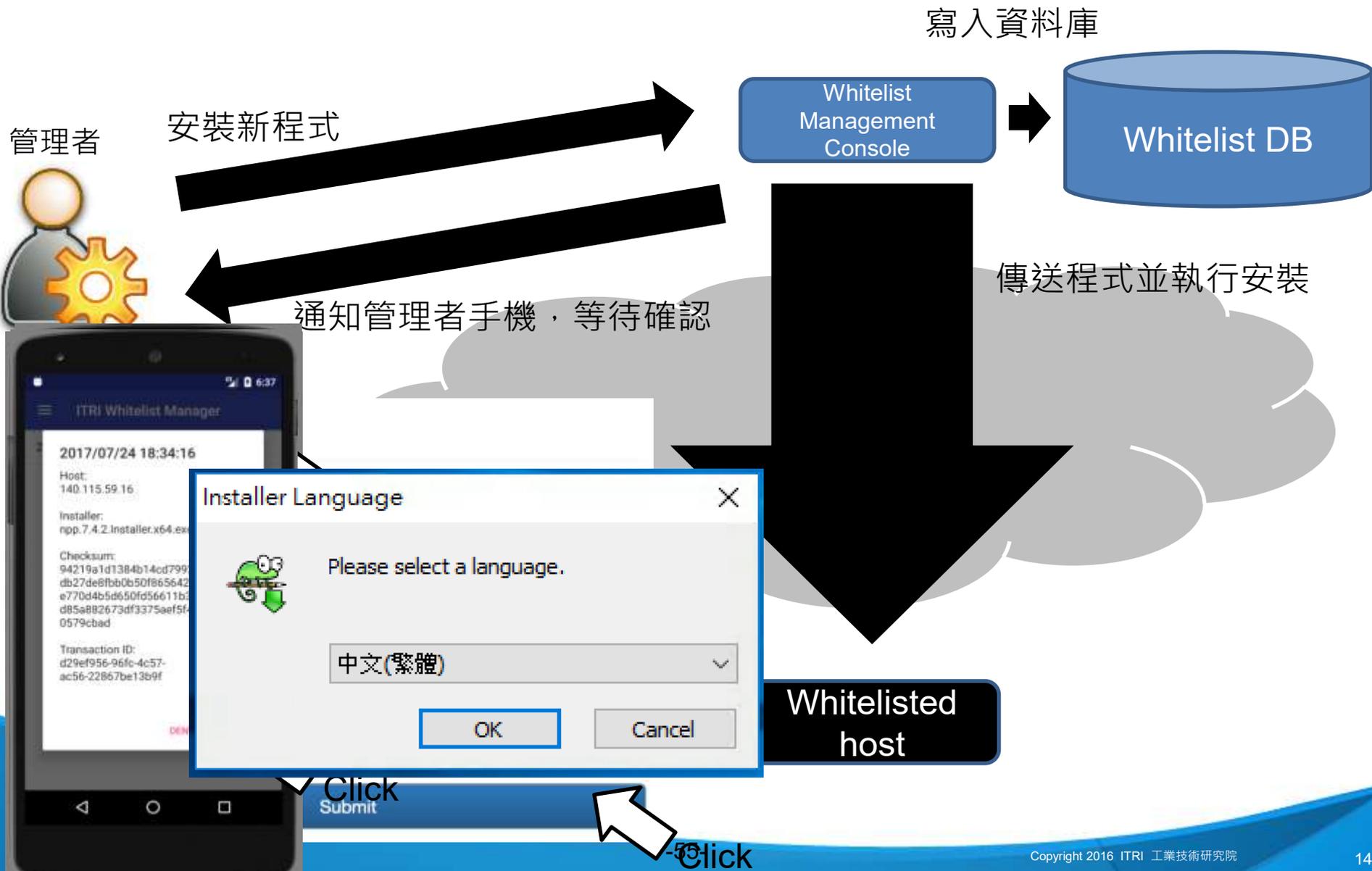
Execute

Select an executable to install

Destination Path

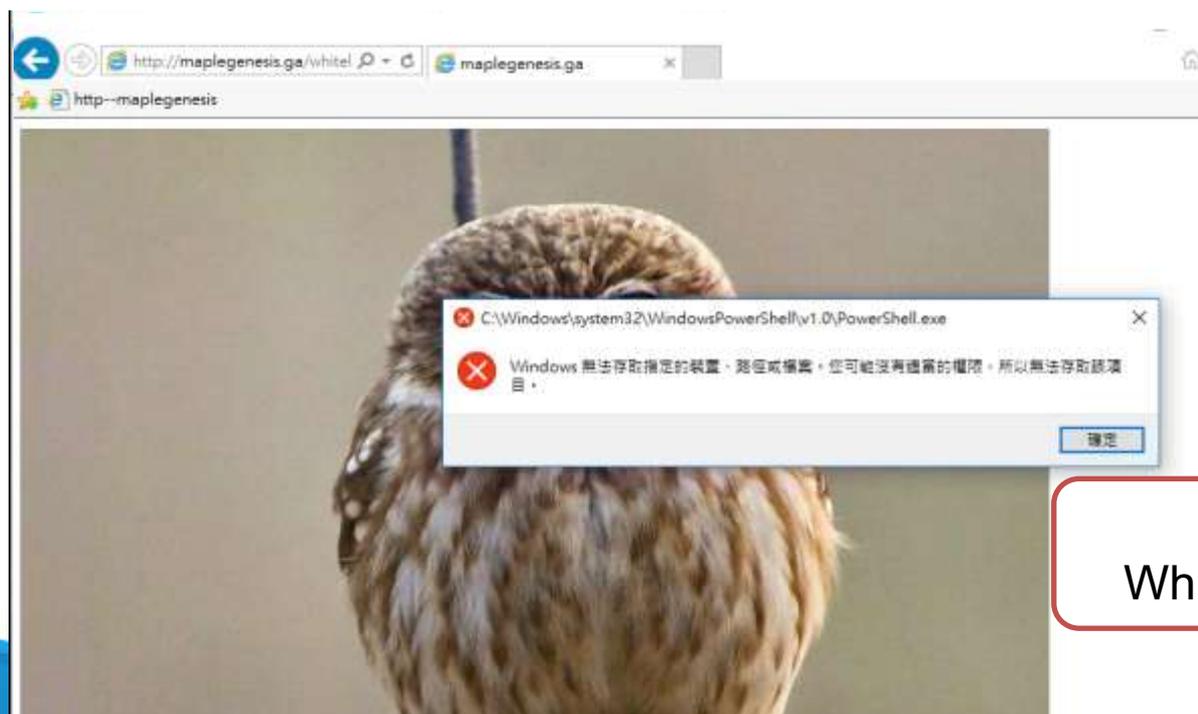
Submit

二階段驗證安裝



網頁攻擊範例

- CVE-2016-0189: Scripting Engine Memory Corruption Vulnerability on IE 11
- 用 Internet Explorer 開啟惡意網頁，並從網路上下載 hack.exe
- 沒有白名單機制的 VM 會執行惡意程式 hack.exe
- 再利用管理介面開啟白名單功能



With
Whitelisting

Trust level

- Kernel-level solution: 相信 OS Kernel 為安全的
 - 當然攻擊者可以透過 Kernel 漏洞可以關閉整個系統，但 ...
- Memory attacks 與 Fileless malware 無法檢查
 - 攻擊者有機會由有漏洞的軟體 → 核心攻擊皆不產生檔案，但可能性微乎其微

應用情境

連網伺服器

- 自建伺服器
 - 政府 GSN DNS / Mail server
 - 關鍵伺服器
- 面對風險
 - Advanced Persistent Threat
 - Data loss

工業 4.0 應用

- 工業系統的 Lifecycle 高達 15~20 年
 - 軟體與系統都難以更新，Patch 需要嚴格測試，成本過高
 - 內部系統充滿漏洞，風險極高
 - 資料交換區很可能是關鍵問題

- 面對風險
 - 資料交換
 - 外包管理

Control center



IoT device



PLC



ICS

車聯網與自駕車

- 透過藍芽、網路
 - 攻擊 ECU (Engine control unit)
 - 攻擊 Infotainment system
 - 攻擊 Gateway
- 面對風險
 - 行車安全



ATM 與銀行

- ATM 盜領事件

- 透過外網的伺服器攻擊內網機器
- 也可能面對著內鬼的問題
- 內網與更新伺服器的管理問題
- ATM 本身應使用白名單機制保護

- 面對風險

- 信譽與金錢損失
- Advanced Persistent Threat





資料不落地的行動安全管理

Risk of BYOD (Bring Your Own Device)

MOTOROLA

RISKY BUSINESS

Motorola Mobility Surveys 1000 Prosumers to Shed Light on their Attitudes and Behaviors

EXPLORING PROSUMER SMARTPHONE HABITS

PHONE PARANOIA

Prosumers are worried about mobile security

Nearly 75% are worried about the security of their smartphones

AN OPEN BOOK

Yet they have highly sensitive data on their smartphones

1 in 4 store their bank account info on their phones

34% store work email passwords on their phones

Nearly 1 in 5 store their social security info on their phones

Half fear the coming year will bring a virus

Close to 3 in 10 admit their smartphones, not PCs, hold info no one else should access

DANGEROUS BEHAVIORS

Prosumers' actions mean their data is more vulnerable than ever

Only 12% of smartphone buyers put built-in security features at the top of their list

If lost, less than 6 in 10 would reset their work-related passwords

3 in 10 choose not to use secure PIN locks on their smartphones

Nearly half of people log into unsecure wireless networks

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THE BYOD TROJAN HORSE

Dangerous Mobile App Behaviors and Back-Door Security Risks

71%

Percentage of enterprises that will have BYOD Policies within next two years.

69%

Percentage of enterprises that will have policies to block risky app behaviors within next two years.

71%

Percentage of enterprises that say security tops their list of BYOD policy challenges.

61%

Percentage of enterprises that have not identified which app behaviors they deem risky.

16%

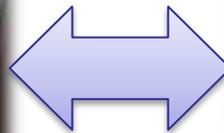
Percentage of enterprises reporting that their BYOD policies result in lower enterprise application risk.

55%

Percentage of enterprises that have not identified which mobile apps are risky.

Source: Flexera Software's 2011 Application Usage and Value Survey, prepared jointly with IDC.

Productivity versus Security



Management control versus Privacy



Business (with MDM)



Privacy (Gaming, Shopping, Social)

Virtual Mobility Infrastructure (VMI)



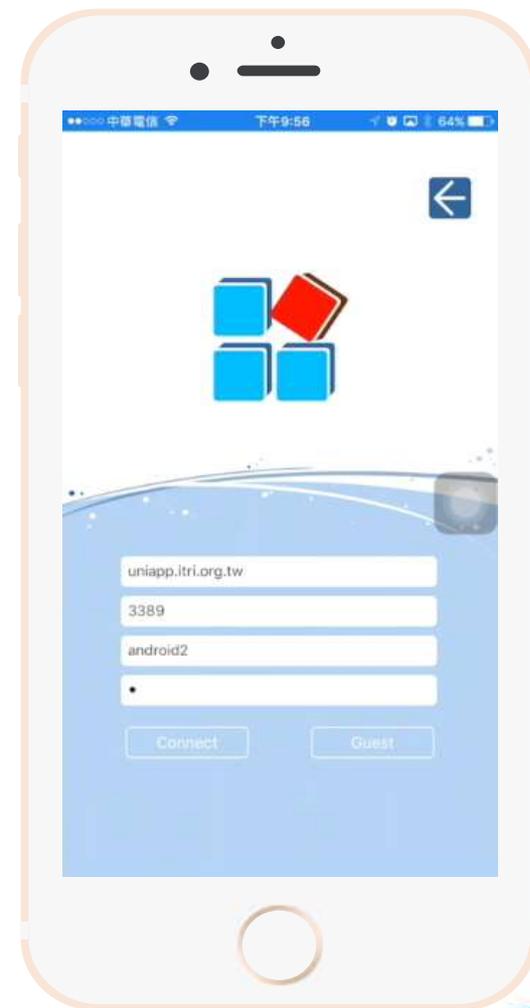
Secure APP Execution Platform



To Enterprise

Data & binary secured mobility

資料不落地行動辦公室



To Service/Solution providers

Secure APP Deployment & Access 安全APP佈署與執行

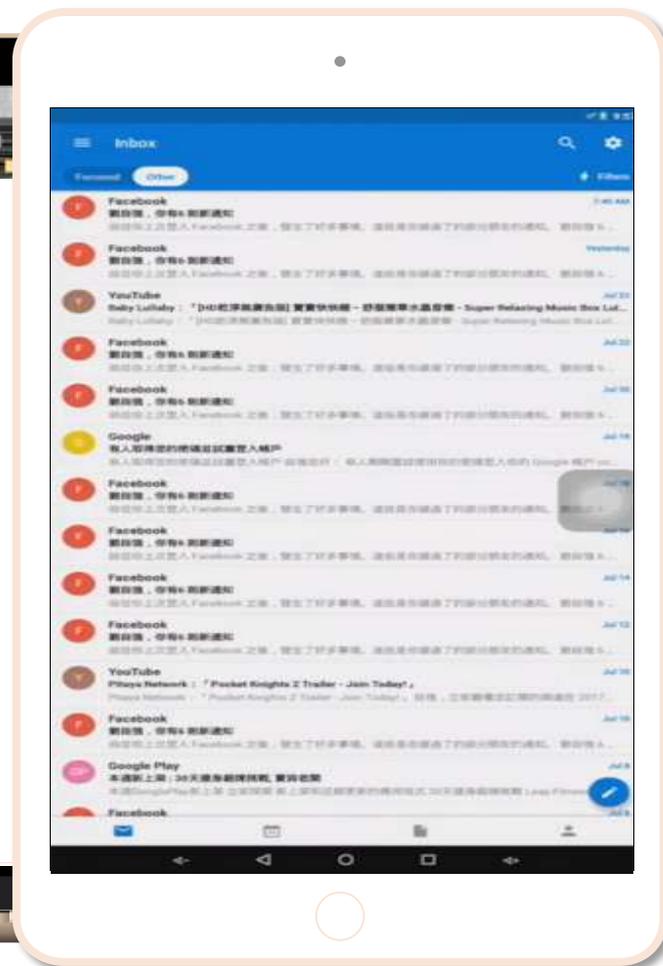
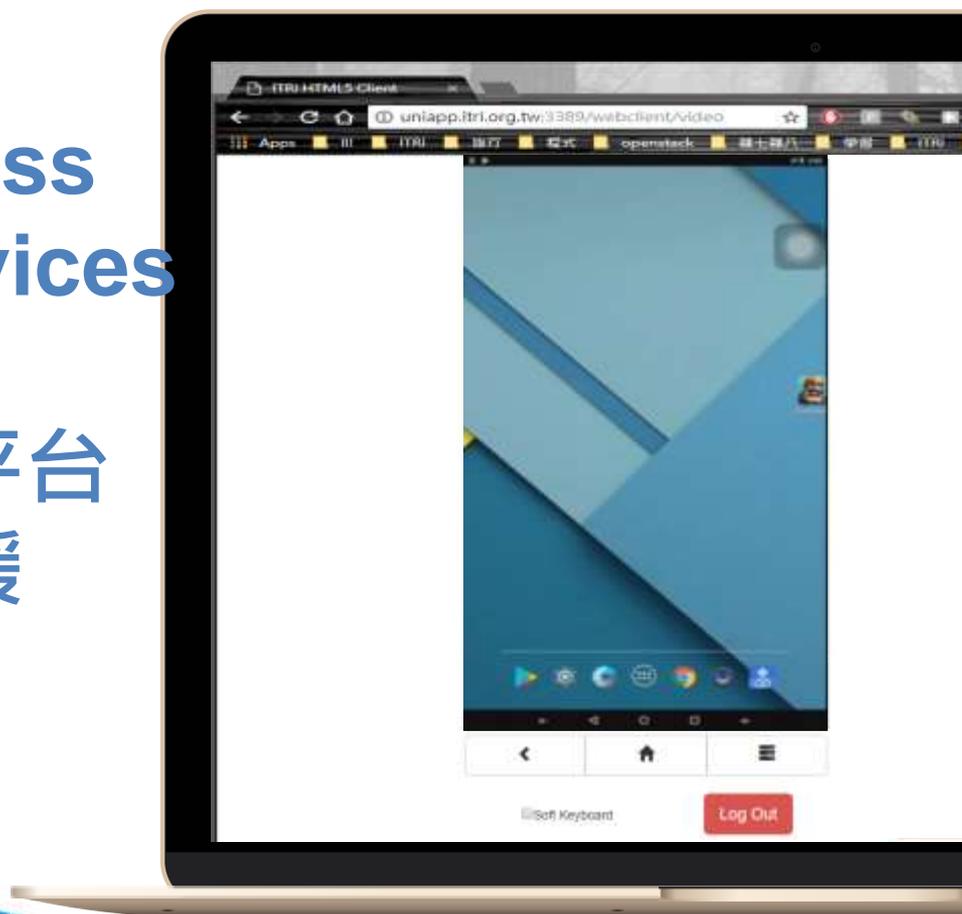
One platform for Development & Maintenance



To Users

Cross Devices

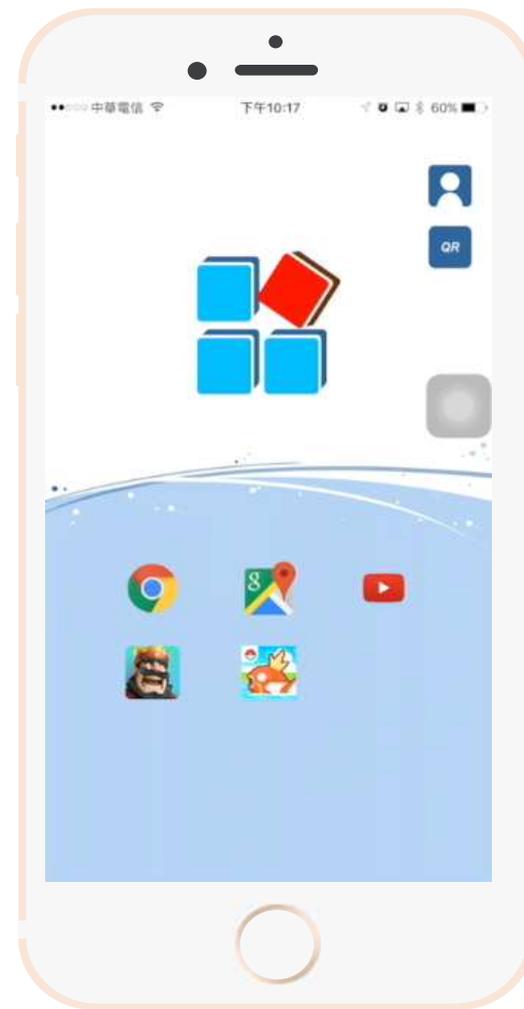
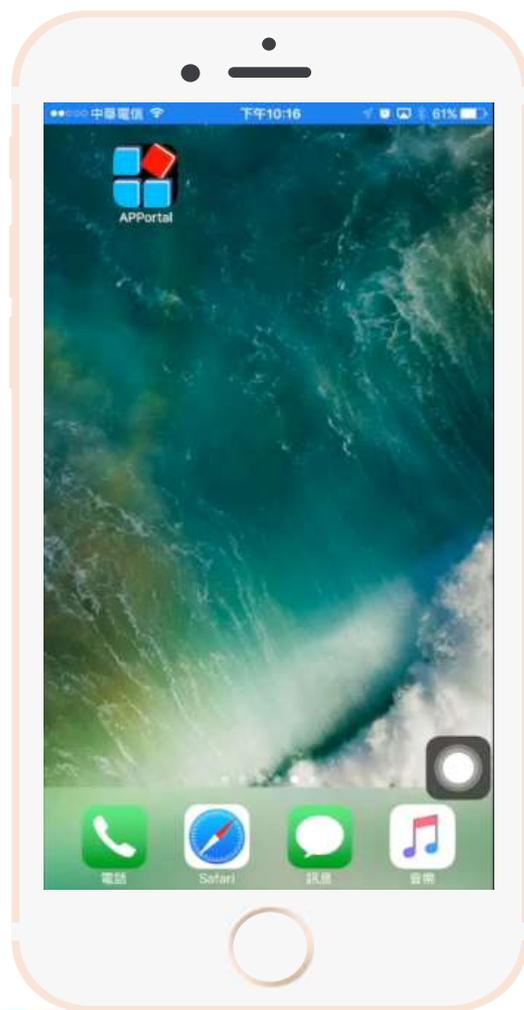
跨平台 支援



To Users

Secure Browsing Instant Play

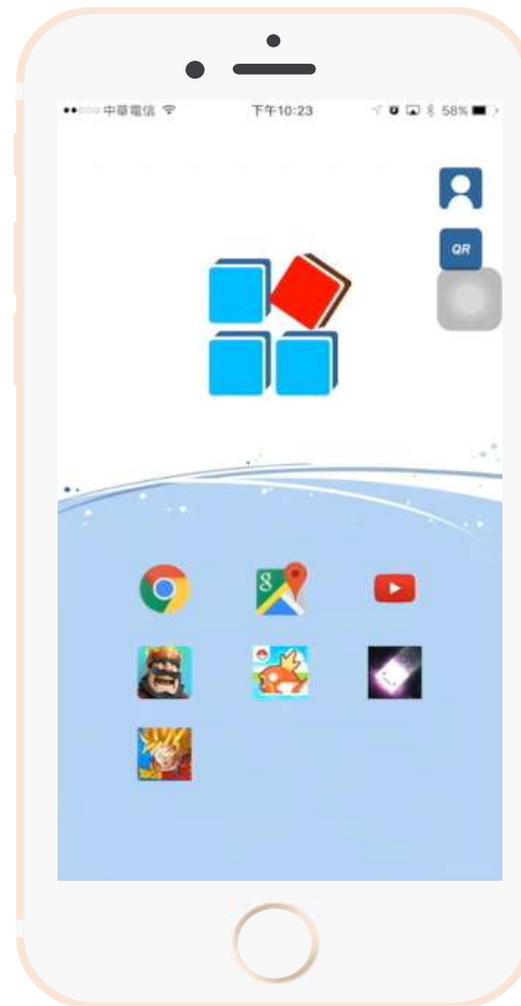
安全瀏覽
免下載立即玩



To Users

QR Code Scan and Play

隨掃即用



Secure APP Execution Platform for BYOD

Enterprise & National Security

Data & binary secured mobility



Service/Solution providers

Secure APP Deployment & Access
One platform for Development & Maintenance



Users/Consumers

Cross Devices
Secure Browsing
Instant Play



QR Code
Scan and Play

結語

面對更多資安威脅，我們需要更安全的系統

- 應用程式白名單嚴守安全執行的最後一哩
- 資料不落地的行動企業管理



INNOVATING
A BETTER FUTURE

Thank you!

Questions and Comments?

ares@itri.org.tw

What are we facing today?

- Everything is connected



- Attacks everywhere

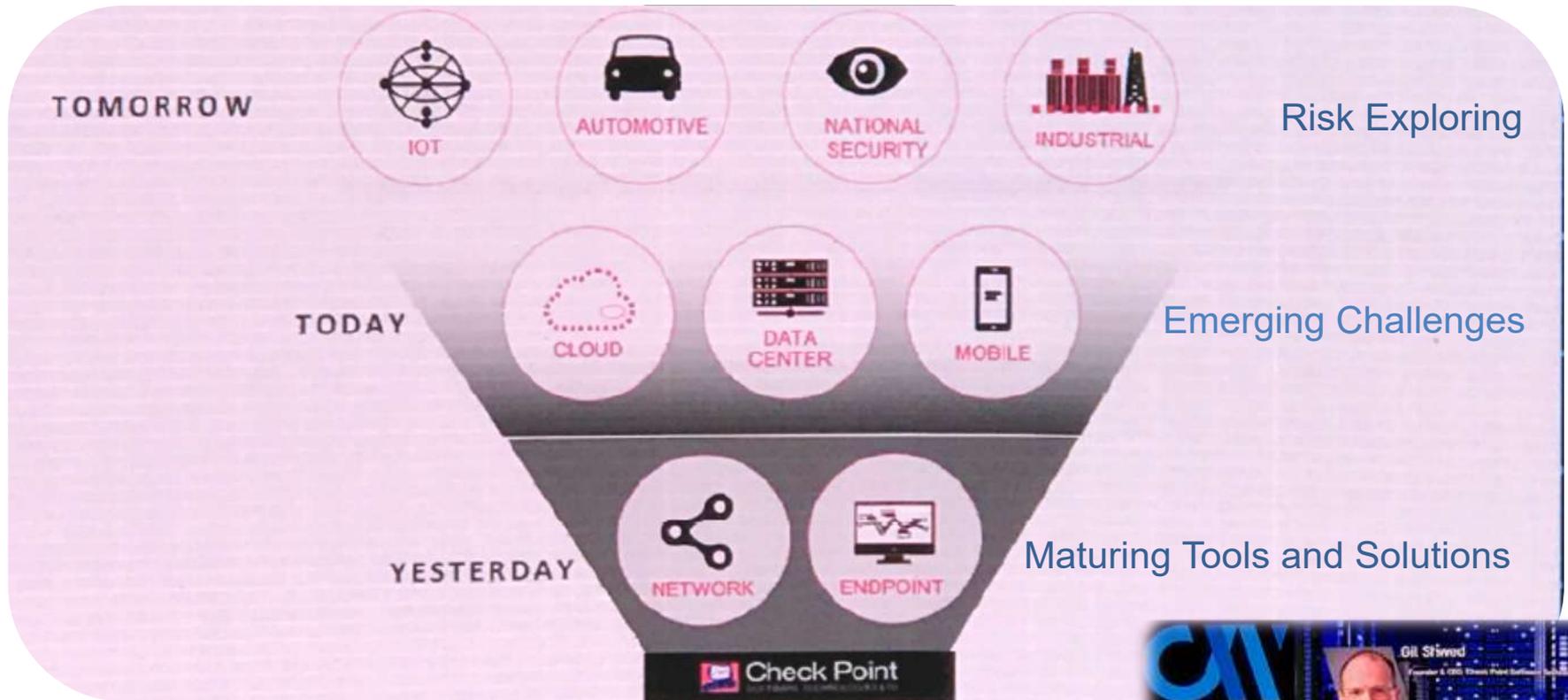
- Mobile Attacks



- The most dangerous tools



Secure Every Environment

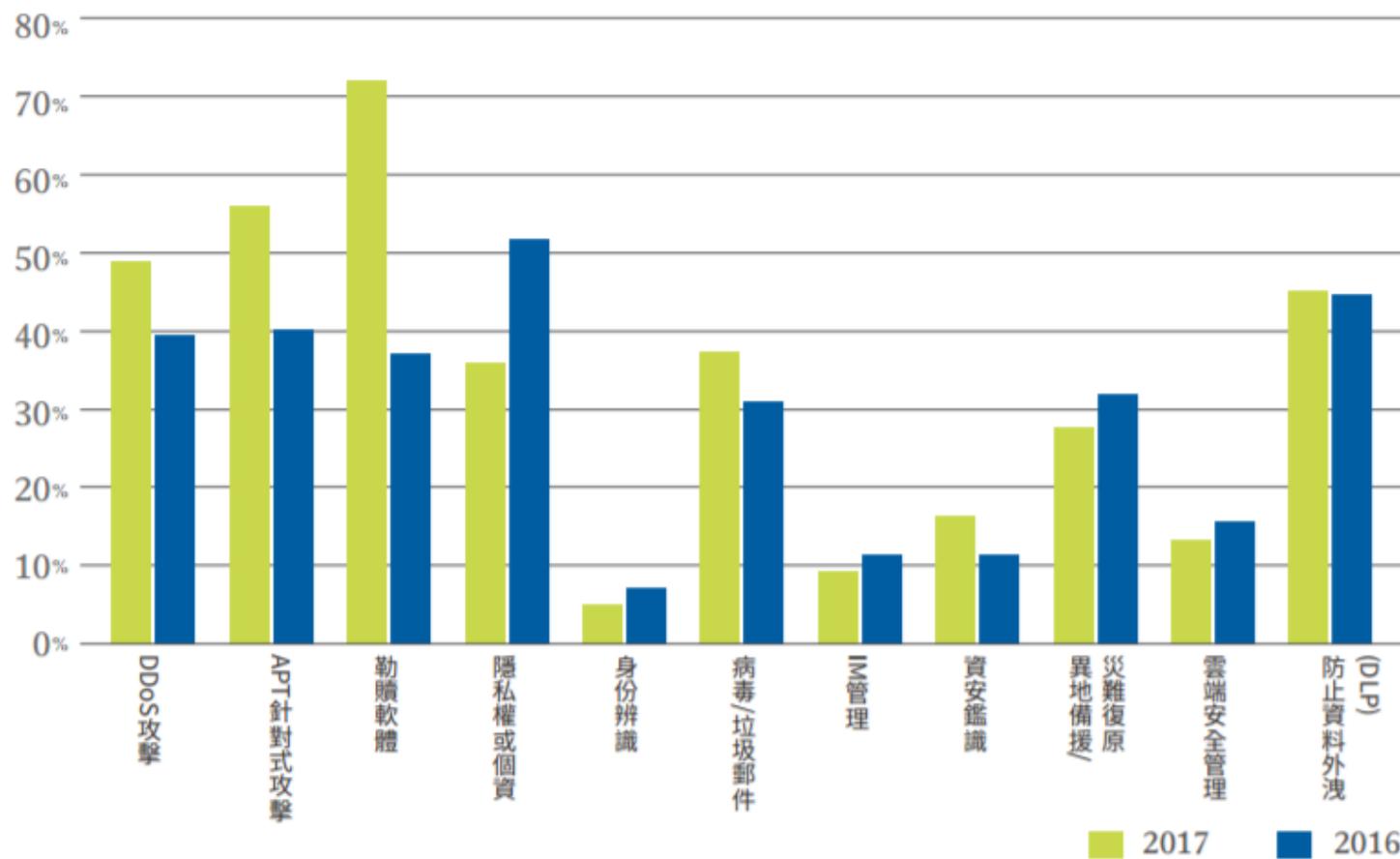


協同式巨量資料分析的資安平台

資安產品應用部
杜偉欽 Kelvin Tu
0952-492-435
Kelvin.tu@hwacom.com

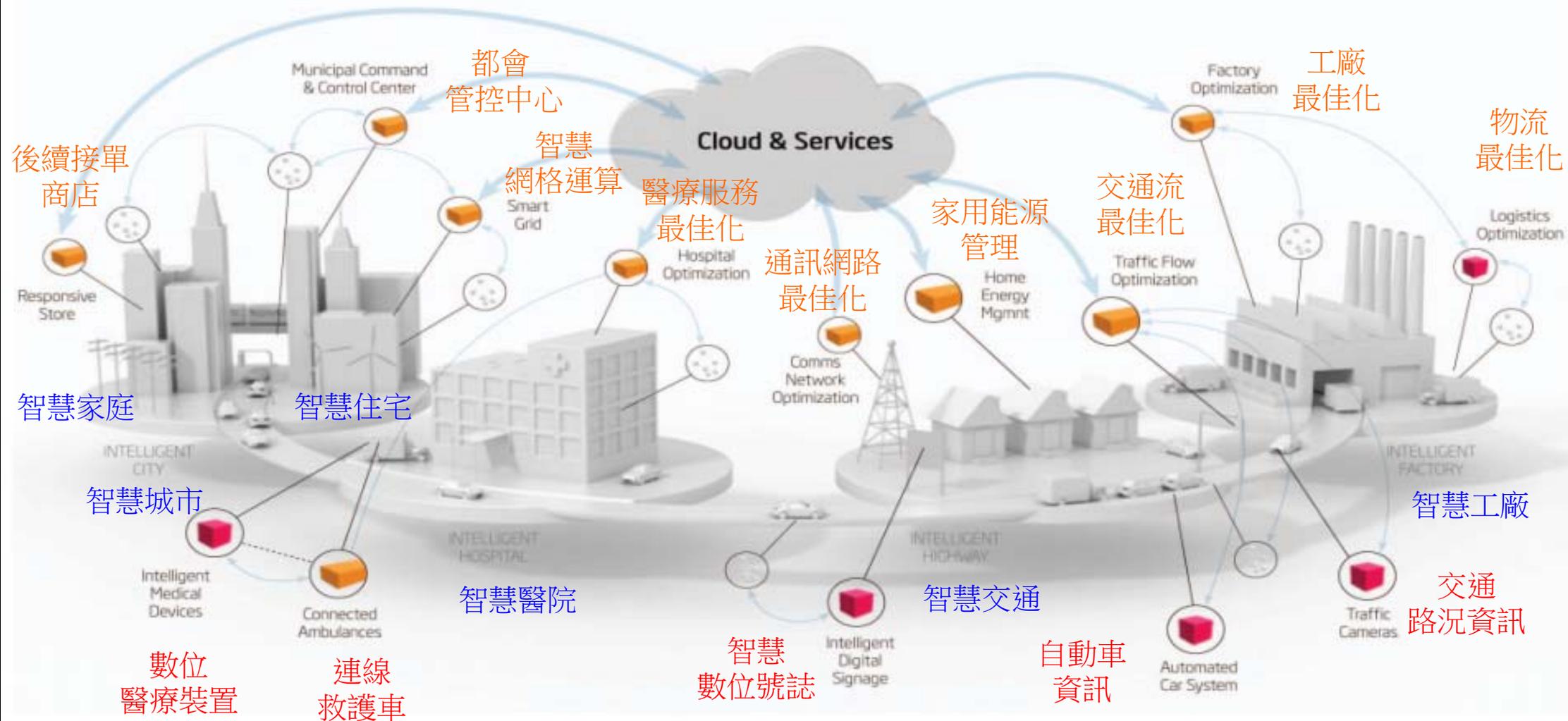
華人寬頻世界的首席建構家

2017 資安事件議題



圖表參考資料: IThome

物聯網生態環境 (Internet of Things Eco-System)



圖片來源：<http://www.satiztpm.it/internet-things/>

比以前更難看得出，誰在網路上做什麼？



90%

在調查中有百分之90的組織無法完全察覺有其他裝置連入企業組織的內部網路裡。

75%

75%的公司都會受到廣告軟體感染的影響。惡意人士會使用這些感染發動其他惡意軟體攻擊。

新的應用帶來新的威脅

Changing
Business Models



Dynamic
Threat Landscape



Complexity
and Fragmentation



行動裝置



Organizations *lack visibility* into the behavior of devices on their network

企業購併



Acquisitions, joint ventures, and partnerships are *increasing in frequency*

雲端應用



Cloud usage is becoming more prevalent, but so is the *lack of visibility into the cloud*

物聯網



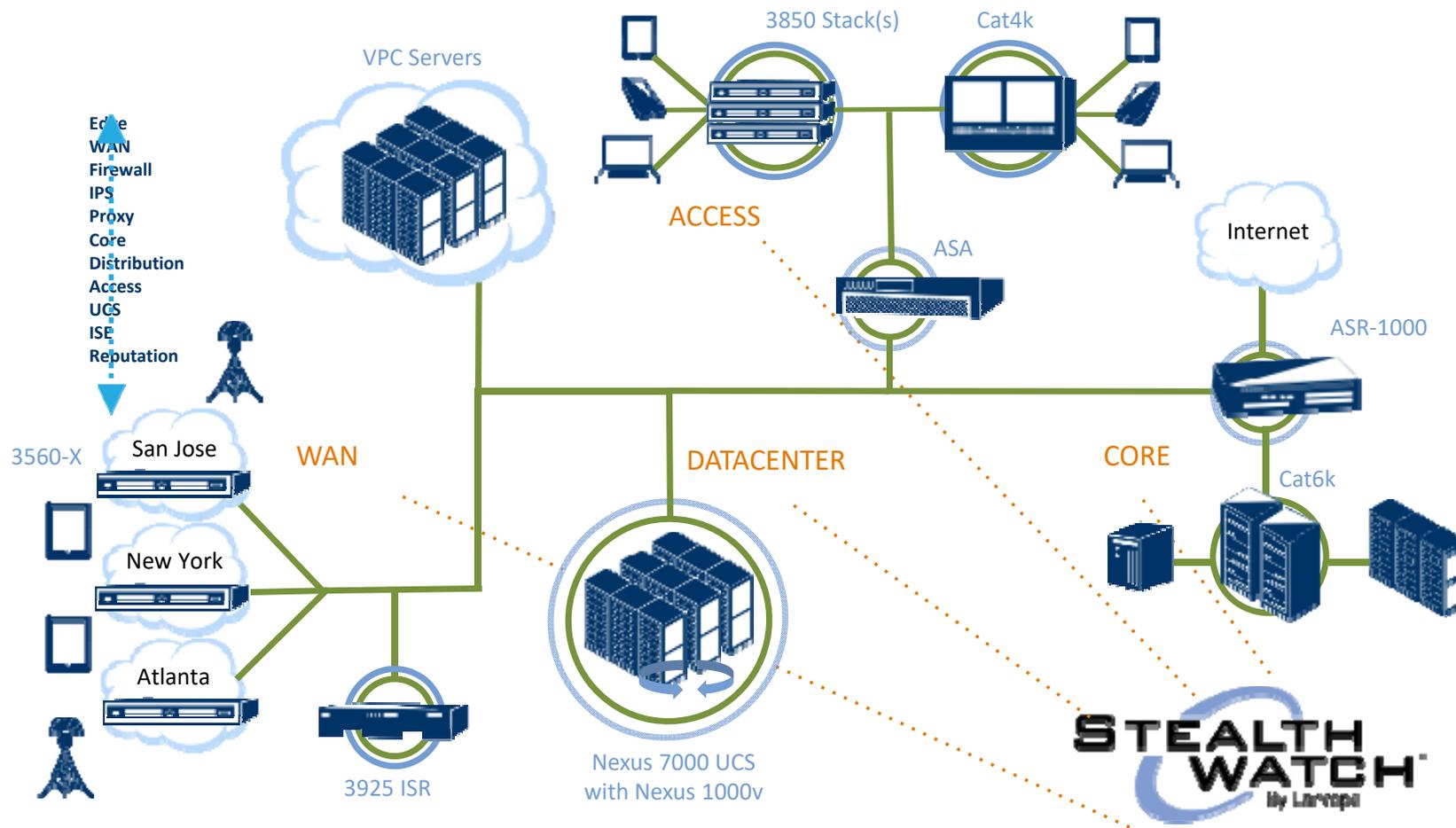
Over *50 billion* connected “smart objects” are projected by 2020

打擊面不斷變大…



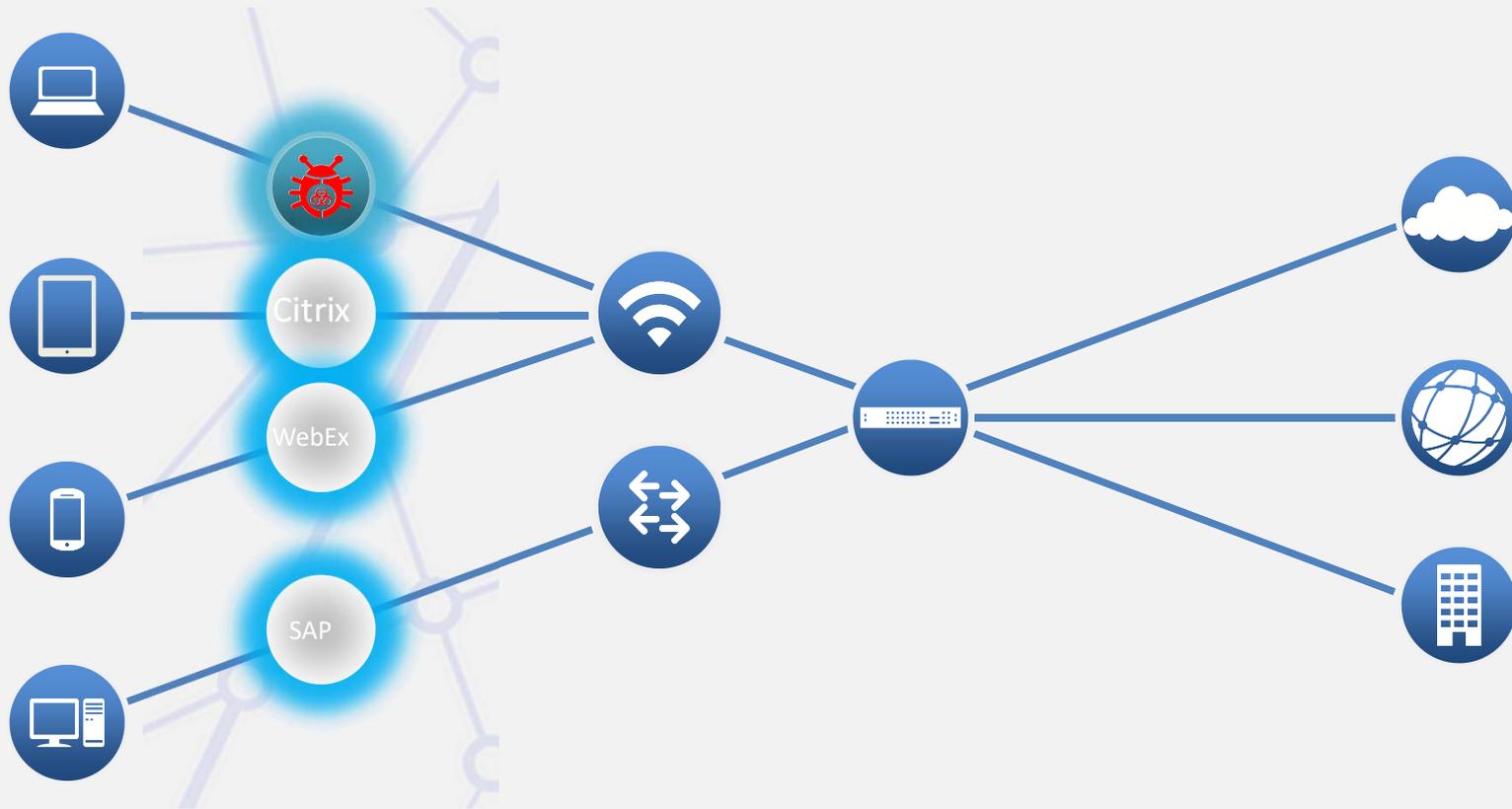
問題不在是否被入侵，而是何時

面對新型態的資安威脅，更需要重新界定新的網路資安防護邊界



網路行為可視化分析

立即找出潛藏在網路內的駭客行為





眾多不同種類的設備

電腦、移動行動裝置、物聯網裝置的**可視性**及**區域控管**



控管每台裝置必須遵循的資安政策



可搭配威脅偵測軟體找出裝置的**漏洞**及**威脅**



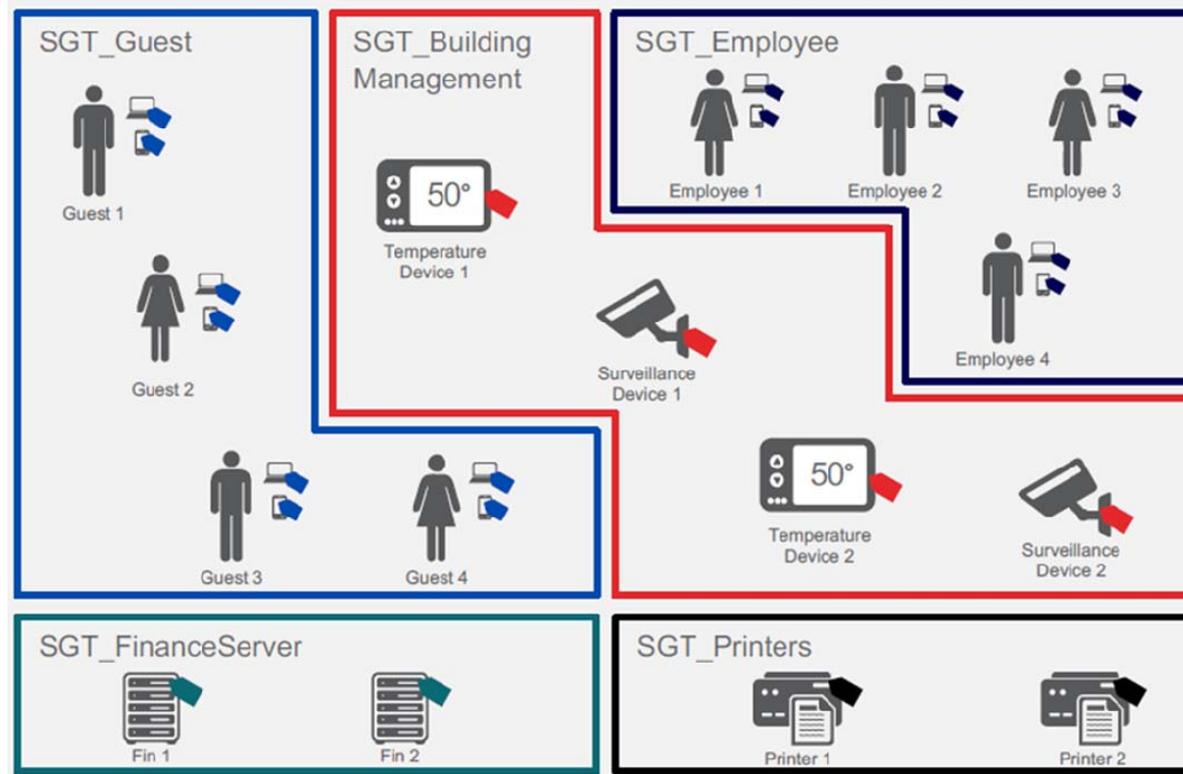
Who	Kevin
Device	Tablet, iOS, v9.1x
Location	Building 200, first floor
When	11:00 am EST on April 10
How	Wireless
Contact	555.111.3333

裝置身份的**可視性**、**可控性**和**防護**功能

以身份認證為基礎進行防禦

進一步擴展了以軟體為定義的業務政策，支援精細地劃分終端、使用者和地域的存取

藉由內部網路區域的隔離，防止惡意軟體的橫向攻擊及感染



Cisco ISE and AnyConnect

與第三方軟體分享資訊阻絕威脅

Cisco ISE

Context aware policy service, to control access and threat across wired, wireless and VPN networks.

Cisco Anyconnect

Supplicant for wired, wireless and VPN access. Services include: Posture assessment, Malware protection, Web security, MAC Security, Network visibility and more.

- Who
- When
- What
- Where
- How
- Health
- Threats
- CVSS



Cisco ISE



Access Policy

SIEM, MDM, NBA, IPS, IPAM, etc.



pxGrid and APIs

Partner Eco System

For Endpoints

For Network



Role-Based Access Control | Guest Access | BYOD | Secure Access

有線網路

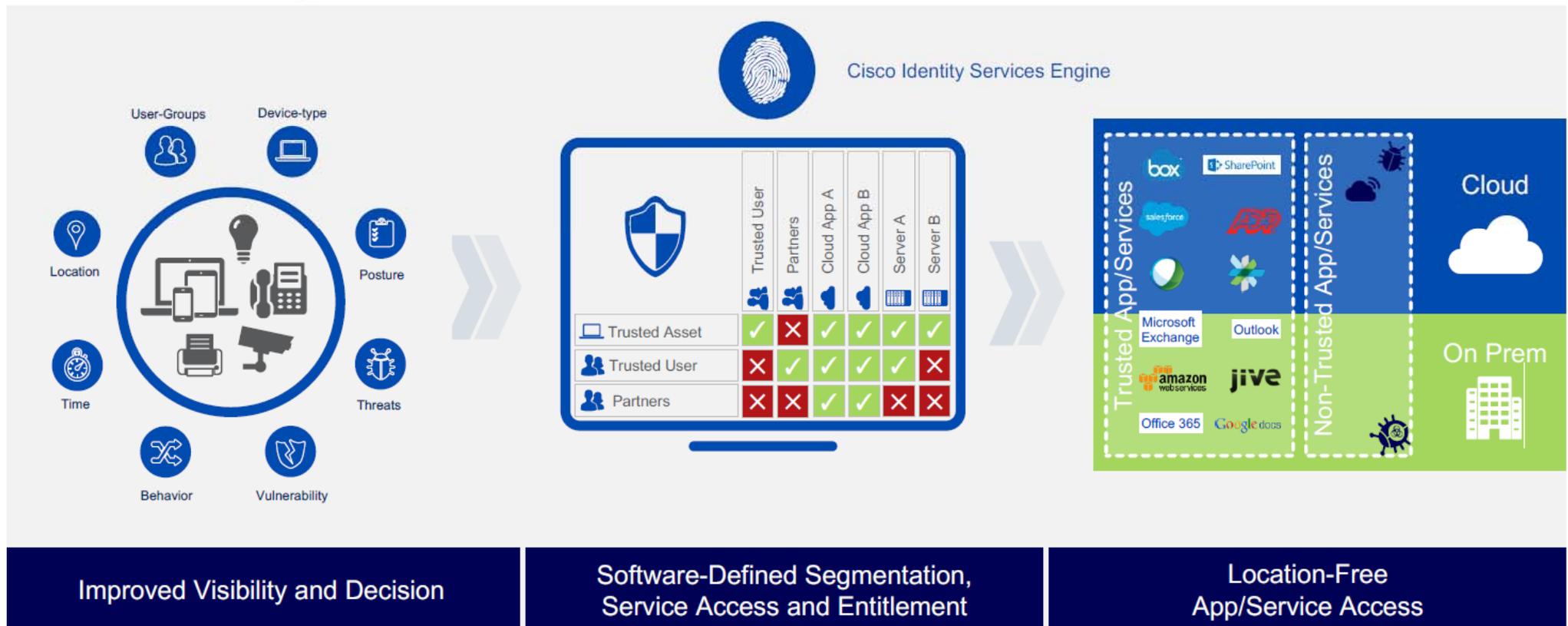
無線網路

VPN加密網路



Managing Policy Based on 'Trust'

Connecting Trusted Users and Devices to Trusted Services

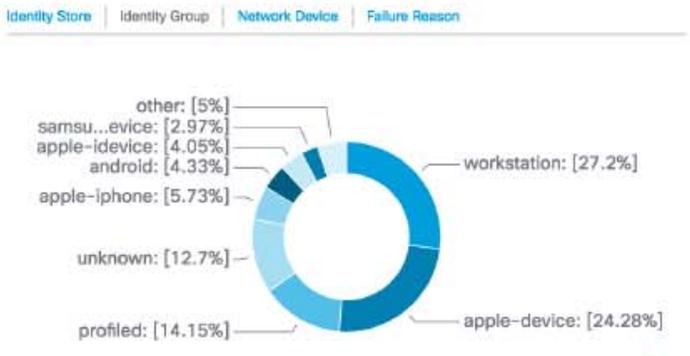


何種身分角色的裝置 >> 根據制定政策 >> 決定可去的區域

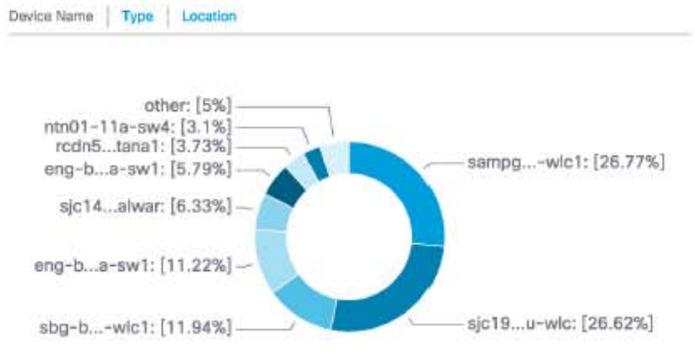
METRICS



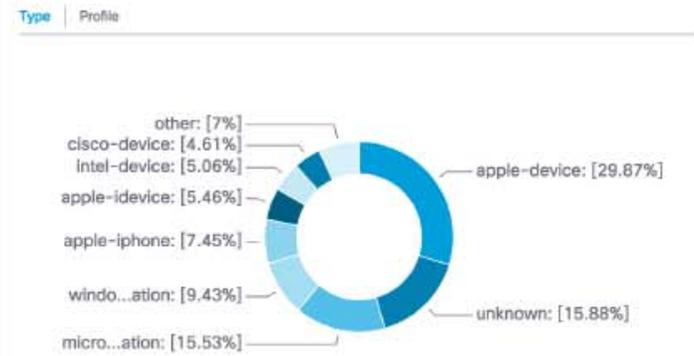
AUTHENTIFICATIONS



NETWORK DEVICES

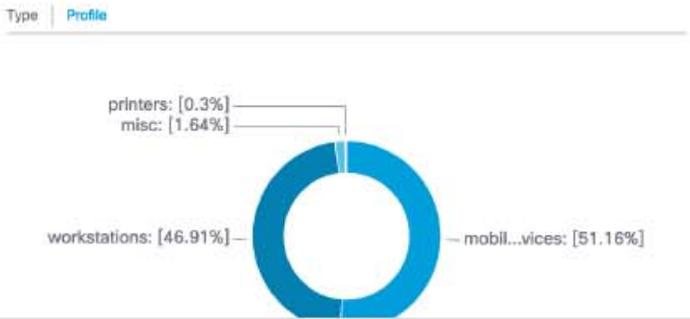


ENDPOINTS



中央控管介面方便查找各種接入裝置資訊

BYOD ENDPOINTS



ALARMS

Sever...	Name	Occurre...	Last Occurred
✖	Misconfigured Supplicant Detected	2205	10 mins ago
⚠	RADIUS Request Dropped	6363	12 mins ago
⚠	Supplicant stopped responding	3796	17 mins ago
✖	Misconfigured Network Device Dete...	715	44 mins ago
ℹ	Unknown SGT was provisioned	54	3 hrs 56 mins ago
ℹ	Configuration Changed	703	6 hrs 3 mins ago

SYSTEM SUMMARY

9 node(s) All 24HR

npf-sjca-mnt01	CPU	Memory	Authentication Latency
npf-sjca-mnt02	CPU	Memory	Authentication Latency
npf-sjca-pap01			

所有使用者行為

異常情況

可疑活動佔
所有活動的 0.02%

真實威脅

每個月 10 億個使用者活動

比平均 ▲
檔案下載次數
多出 227 倍

比平均 ▲
登入失敗次數
多出 113 倍

比平均 ▲
資料資產刪除次數
多出 141 倍

58% 異常行為

31% 登入活動

11% 管理動作



威脅情報

雲端弱點深入分析

網路研究

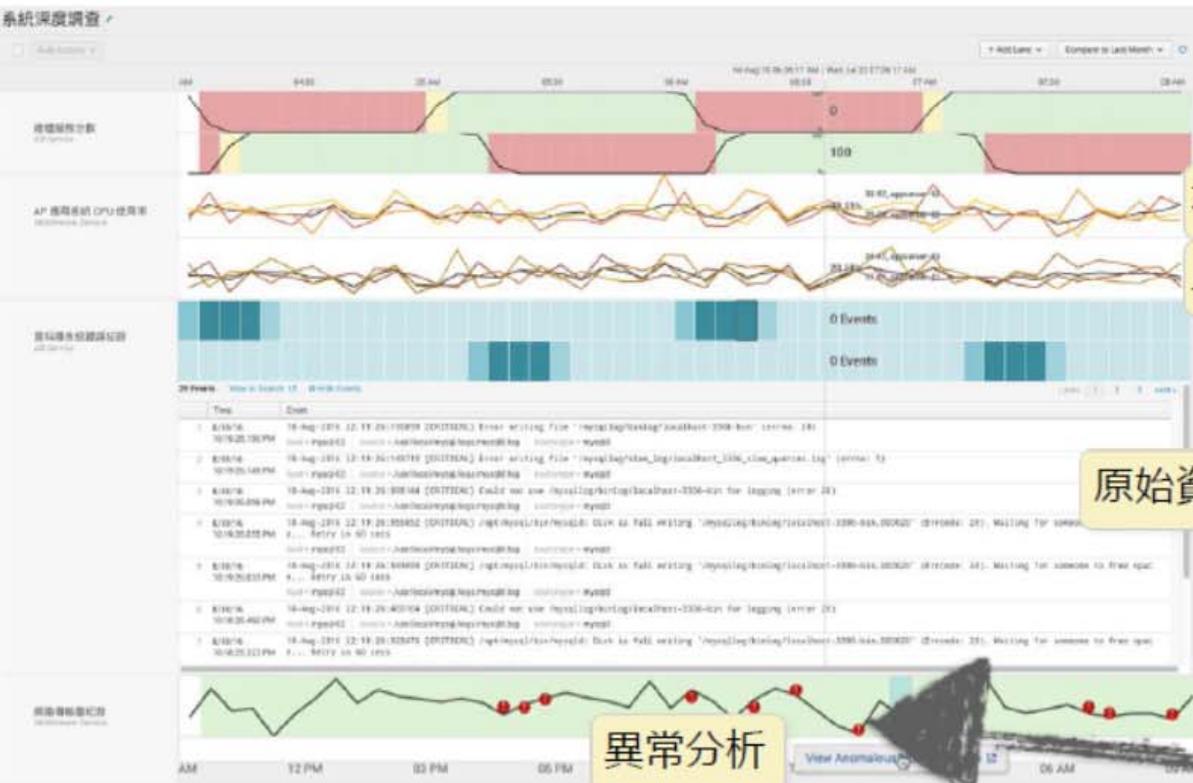
社群情報

集中式原則

內容分析

資料來源：思科 CloudLock

機器學習自動化比對分析



本月 KPI
上個月同一 KPI

原始資料

異常分析



機器學習自動化比對分析



來源

實例關聯性 – 資料外洩



Windows 認證

20130806041221.000000Caption=ACME-2975EB\Administrator>Description=Built-in account for administering the computer/domainDomain=ACME-2975EB.InstallDate=NullLocalAccount = IP: 10.11.36.20
TrueName=Administrator SID =S-1-5-21-15543 500
Status=Degradedwmi_type=UserAccounts

預設管理員帳號

來源IP



端點安全

Aug 08 06:09:13 acmesep01.acmetech.com Aug 09 06:17:24 SymantecServer acmesep01: Virus found,Computer name: ACME-002,Source: Real Time Scan,Risk name: Hackertool.rootkit,Occurrences: 1,C:/Documents and Settings/smithe/Local Settings/Temp/evil.tmp, Requested Action: Deleted, Requested Action Completed, time: 2009-01-23 03:19:12,Inserted: 2009-01-23 03:20:12,End: 2009-01-23 03:19:12,Domain: My Company,Group: My Company\ACME Remote,Server: acmesep01,User: smithe,Source computer: ,Source IP: 10.11.36.20

發現惡意程式

來源IP



偵測入侵

Aug 08 08:26:54 snort.acmetech.com {TCP} 10.11.36.20:5072 -> 10.11.36.26:443 itsec snort[18774]: [1:100000:3] [Classification: Potential Corporate Data Exposure] Credit Card Number Detected in Clear Text [Priority: 2]:

來源IP

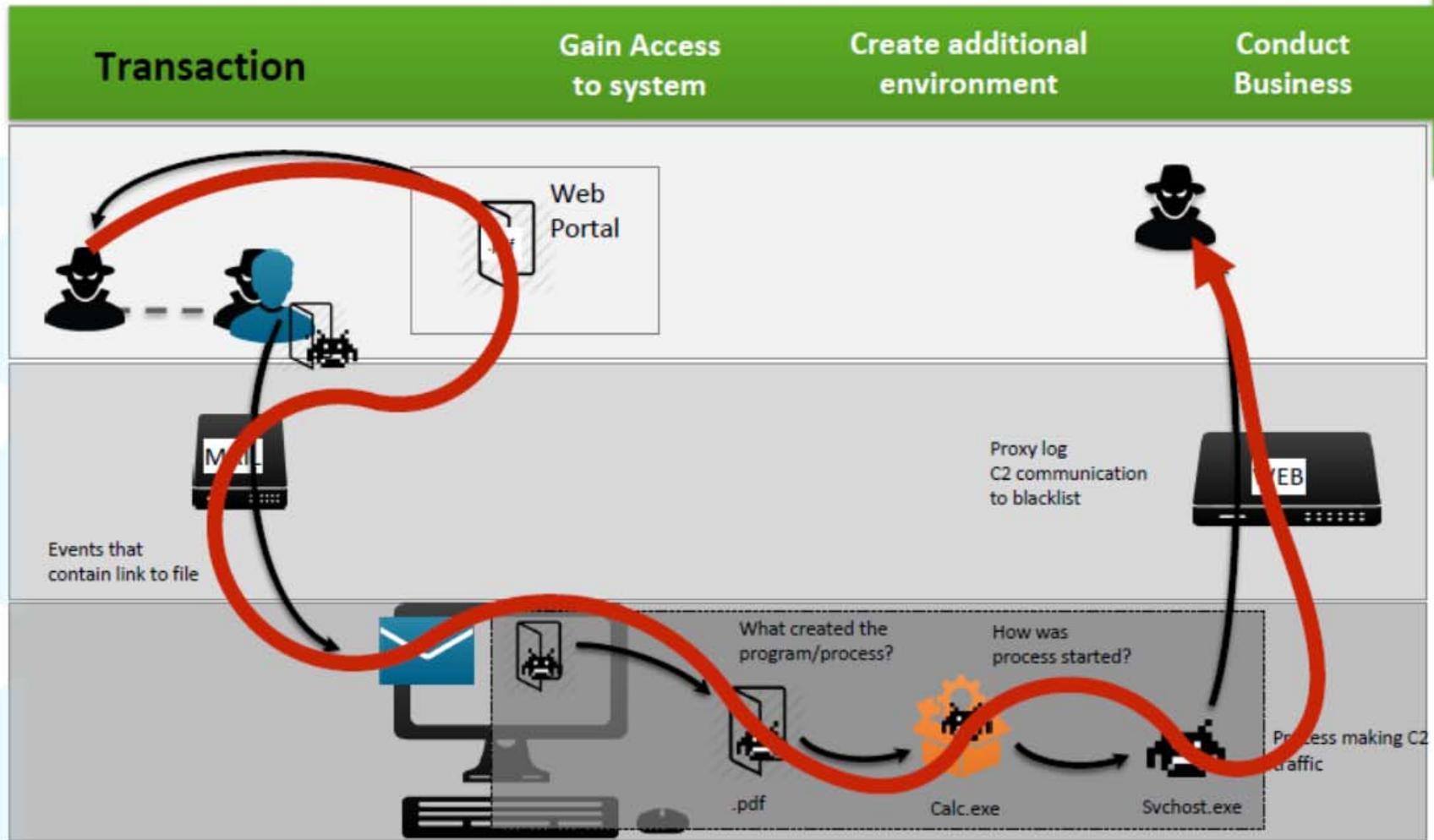
資料外洩



時間範圍

三個狀況都發生在24小時內

自動化找尋駭客攻擊鍊



傳統的資安防禦思維

1 社交工程



偵察

2 偷渡並植入
惡意檔案



加工與傳遞



入侵

3 內部感染
惡意活動



安裝

4 機密竊取
系統、資料破壞
等目的



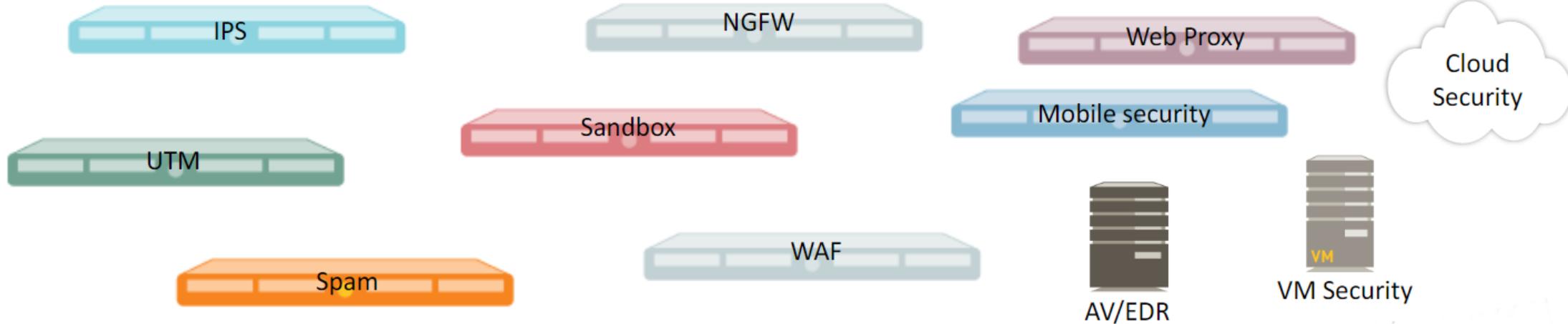
命令與控制



對目標採取行動

嘗試未授權的存取

執行未授權的行為



新世代資安防護平台



獨立安全技術

偵測

有限防護

新世代
資安防護平台

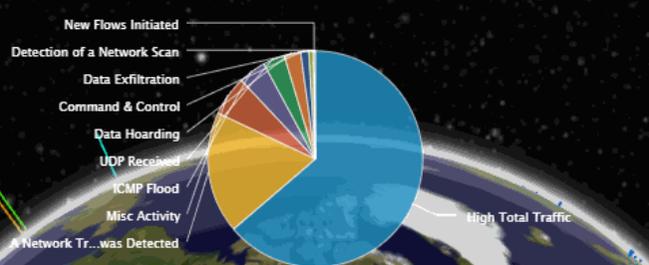
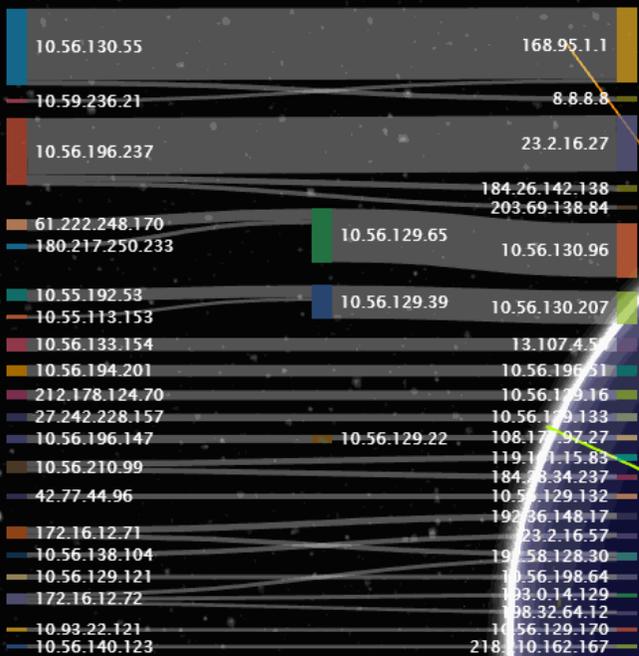
Prevention!

前期預警
自動防護

人工操作與處置

新世代資安防護平台

	傳統 SIEM 平台	新世代資安防護平台
資料來源	有限	適用任何技術、裝置
量身訂做的裝置支援	困難	簡單
增加情報	困難	簡單 - 不分時間、即時或歷史資料均可
量身訂做的回報機制	需要第三方應用程式	內建 (來自搜尋結果)
搜尋/回報的速度	緩慢且不堪使用	快速反應
找出關聯性	困難 (以角色為基礎)	簡單 (以搜尋為基礎)
擴充能力	有限	可延伸



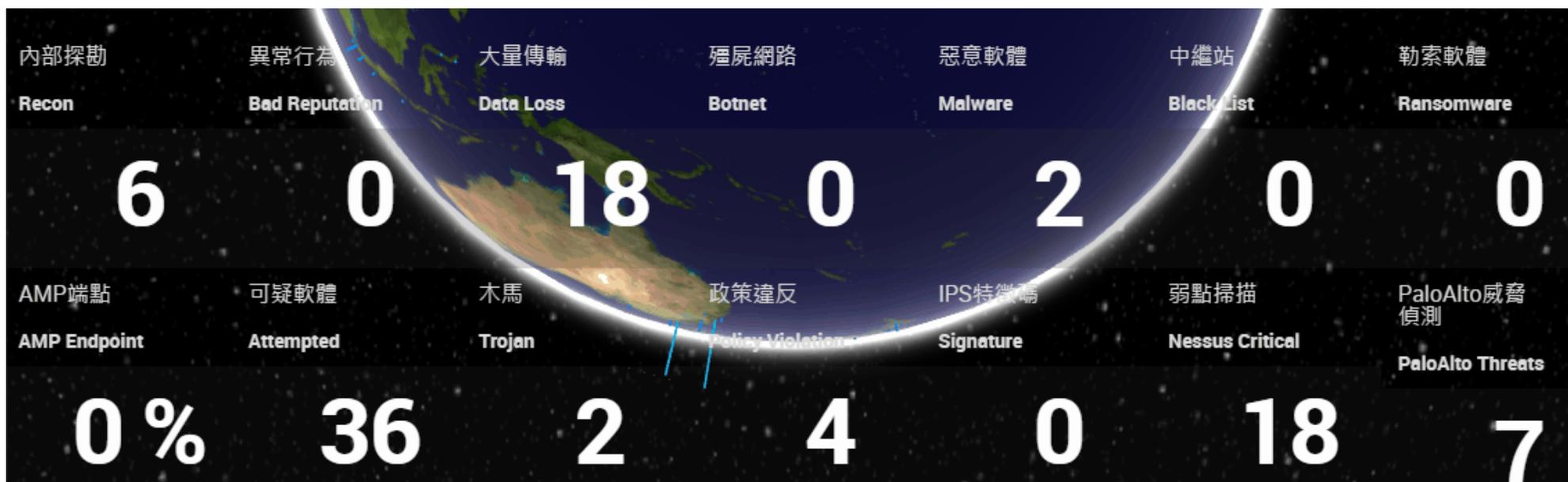
Source IP	Devices	Event Count	Events
10.56.143.82	Firepower	1806	木馬 殭屍網路
168.95.1.1	Firepower Stealthwatch	522	ICMP攻擊 內部探勘 木馬
10.56.196.10	Stealthwatch	196	ICMP攻擊 內部探勘 殭屍網路 異常行為
10.56.196.2	Stealthwatch	108	ICMP攻擊 內部探勘
172.217.24.4	Stealthwatch	76	ICMP攻擊 內部探勘
10.56.192.29	Stealthwatch	50	大量傳輸 數據囤積
10.56.196.97	Stealthwatch	50	大量傳輸 數據囤積
172.20.17.79	Stealthwatch	48	ICMP攻擊 內部探勘
10.56.231.51	Stealthwatch	46	大量傳輸 數據囤積 異常行為
10.56.130.14	Stealthwatch	45	ICMP攻擊 內部探勘 異常行為

資安防護戰情中心

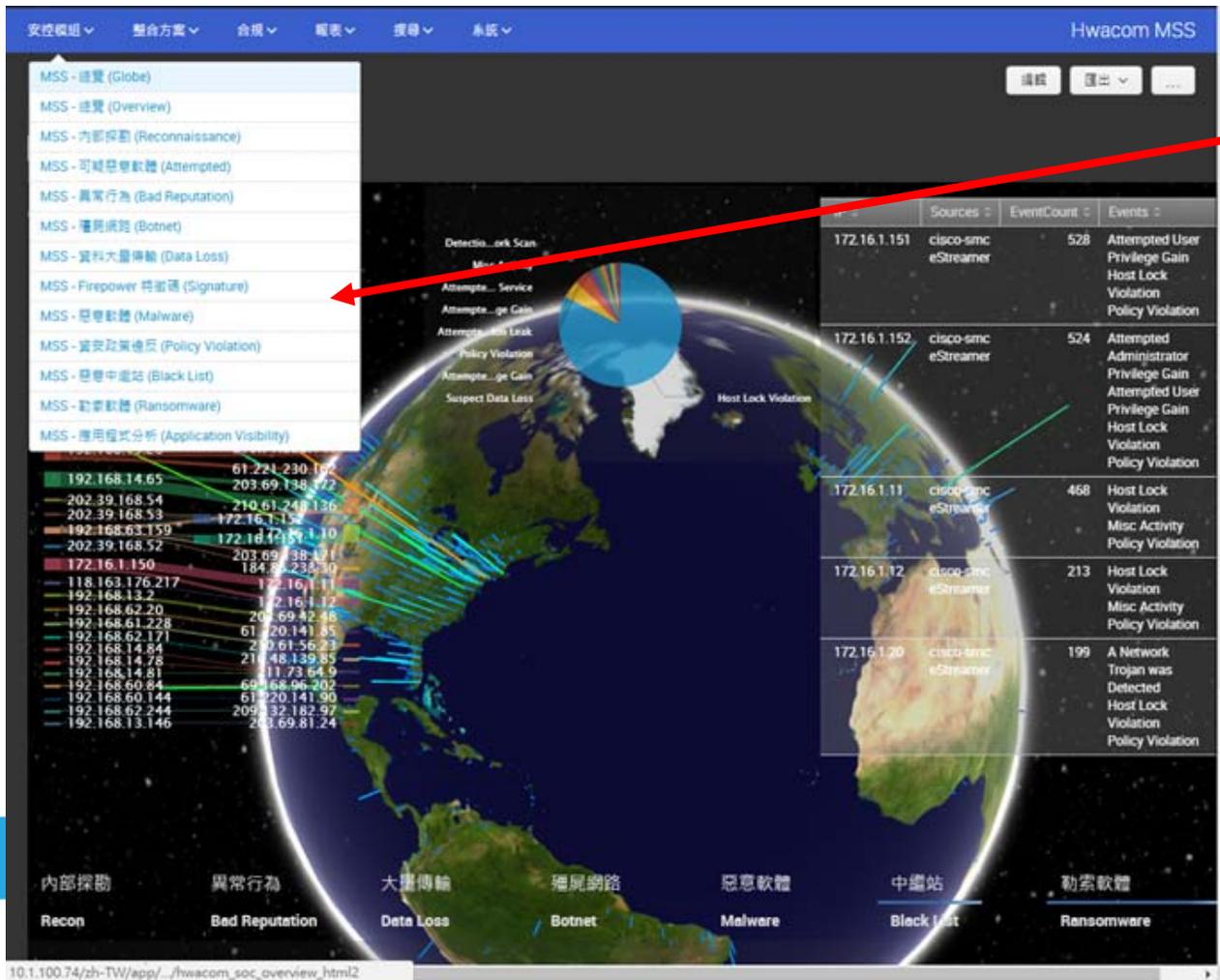
內部探勘 Recon	異常行為 Bad Reputation	大量傳輸 Data Loss	殭屍網路 Botnet	釣魚網站 Phishing	中繼站 Black List	勒索軟體 Ransomware
854	854	7,105	837	0	862	0
保護傘 Umbrella	AMP端點 AMP Endpoint	IPS特徵碼 IPS Signature	惡意軟體 Malware	木馬 Trojan	可疑軟體 Attempt	政策違反 Policy Violation
477	790	61,927	33	3,493	0	46,214

使用者行為分析模組

- 可視性行為分析模組，快速查詢安全威脅。
- 進行交叉關聯式分析，找出害群之馬。
- 自動化通知相關負責人，立即處理問題。



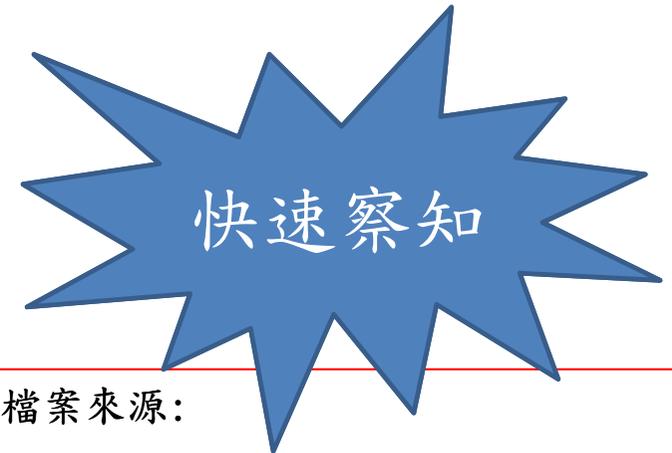
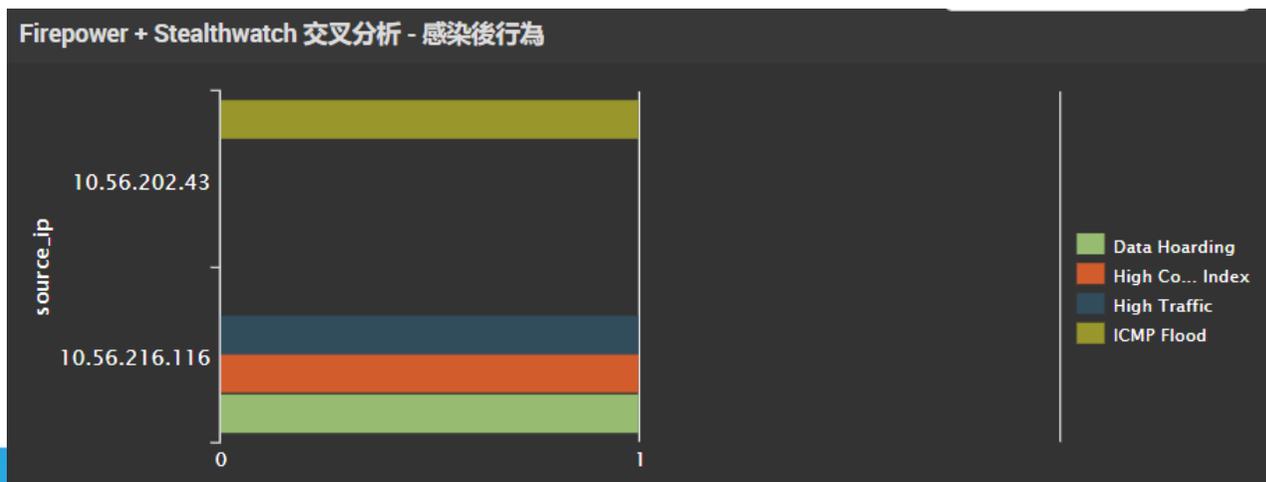
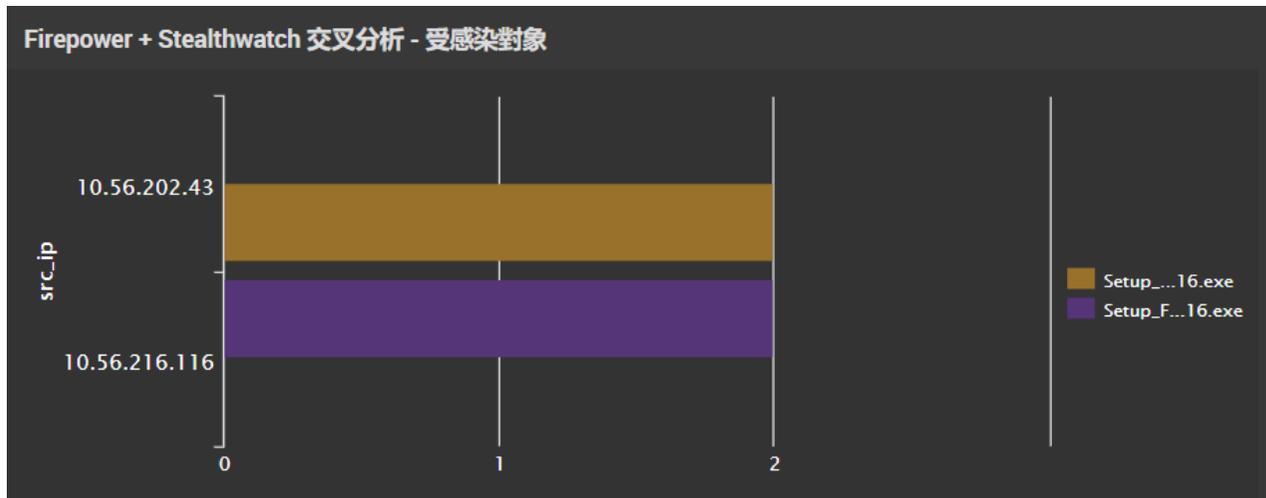
多樣性安控模組



- 安控模組 ▾
- 整合方案 ▾
- 合規 ▾
- 報表 ▾
- MSS - 總覽 (Globe)
- MSS - 總覽 (Overview)
- MSS - 內部探勘 (Reconnaissance)
- MSS - 可疑惡意軟體 (Attempted)
- MSS - 異常行為 (Bad Reputation)
- MSS - 殭屍網路 (Botnet)
- MSS - 資料大量傳輸 (Data Loss)
- MSS - Firepower 特徵碼 (Signature)
- MSS - 惡意軟體 (Malware)
- MSS - 資安政策違反 (Policy Violation)
- MSS - 惡意中繼站 (Black List)
- MSS - 勒索軟體 (Ransomware)
- MSS - 應用程式分析 (Application Visibility)

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Firepower+StealthWatch 交叉分析感染來源



惡意檔案來源:

/file-

downloads/builds/static_delivery/installers/
fileviewpro/spf/101816_build/Setup_FileVie
wPro_2016.exe

惡意檔案來源:

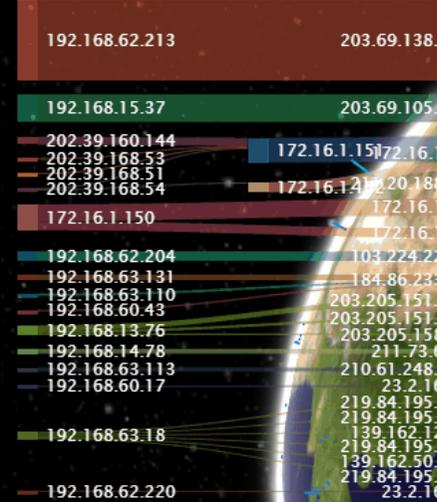
<http://www.solvusoft.com/file->

downloads/builds/static_delivery/installers/
driverdoc/spf/build_100716/Setup_DriverD
oc_2016.exe

程式服務派送異常監控



IP	Sources	EventCount	Events
192.168.63.23	eStreamer	18	Web Application Attack
192.168.13.50		12	Data Exfiltration Suspect Data Lo



內部探勘 Recon 6	異常行為 Bad Reputation 0
---------------------------	------------------------------------

MSS - 內部探勘 (Reconnaissance)

最近 2 週

本週趨勢

各 IP 事件數

事件趨勢分析及預測

MSS - 異常行為 (Bad Reputation)

最近 2 週

本週趨勢

各 IP 事件數

Top Number of Stages by IP

MSS - Nessus

掃描紀錄
basic network (2016/12/27 14:57:14)

總覽

統計

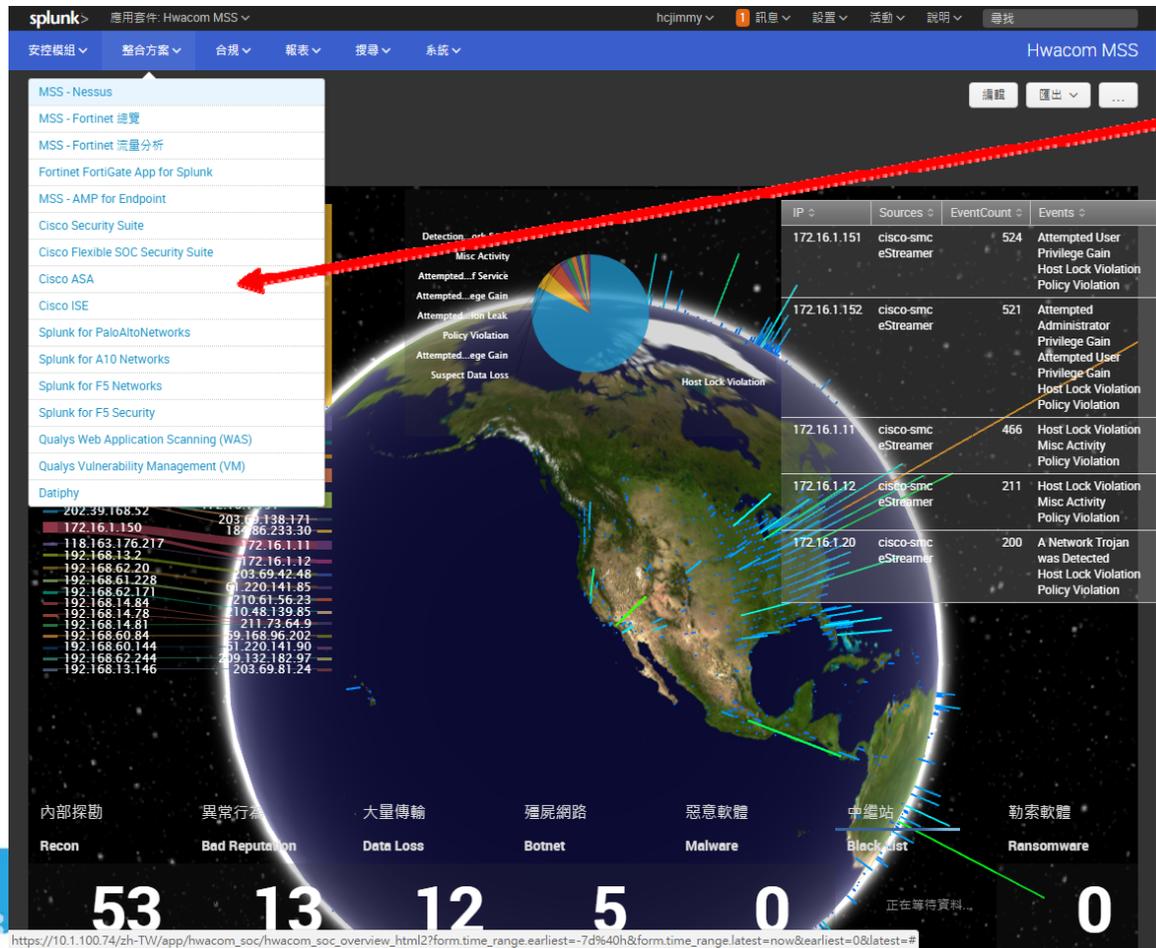
IP	Critical	High	Medium	Low
10.1.100.80	3	1	8	3
10.1.100.1	3	0	6	1
10.1.100.51	2	4	7	2
10.1.100.52	2	4	7	2
10.1.100.11	2	1	8	4
10.1.100.10	1	1	8	3
10.1.100.83	1	1	7	3
10.1.100.220	1	1	5	3
10.1.100.64	1	1	0	2
10.1.100.73	1	0	7	4

掃描結果 By Host

等級	標組	數量
Critical	MS14-066: Vulnerability in Schannel Could Allow Remote Code Execution (2992611) (uncredentialed check)	5
Critical	ESXi 5.5 - Build 3568722 / 6.0 - Build 3568940 glibc DNS Resolver RCE (VMSA-2016-0002) (remote check)	2
Critical	Splunk Enterprise < 5.0.17 / 6.0.13 / 6.1.12 / 6.2.12 / 6.3.8 / 6.4.4 or Splunk Light < 6.5.0 Multiple Vulnerabilities	2
Critical	VMware ESXi 5.5 - Build 3029944 OpenSLP RCE (VMSA-2015-0007)	2
Critical	MS11-058: Vulnerabilities in DNS Server Could Allow Remote Code Execution (2562485) (remote check)	1
Critical	MS11-058: Vulnerabilities in DNS Server Could Allow Remote Code Execution (2562485) (uncredentialed check)	1
Critical	MS15-034: Vulnerability in HTTP.sys Could Allow Remote Code Execution (3042553) (uncredentialed check)	1
Critical	SNMP Agent Default Community Names	1
Critical	VMware vCenter: Multiple Vulnerabilities (VMSA-2015-0007)	1
Critical	VMware vCenter Server 5.0.x < 5.0u36 / 5.1.x < 5.1u3b / 5.5.x < 5.5u3 (Linux) / 5.5.x < 5.5u3b (Windows) / 6.0.x < 6.0.0b JMX Deserialization RCE (VMSA-2015-0005)	1

AMP端點 AMP Endpoint 0 %	可疑軟體 Attempted 36	木馬 Trojan 2	政策違反 Policy Violation 4	IPS特徵碼 Signature 0	弱點掃描 Nessus Critical 18	PaloAlto威脅偵測 PaloAlto Threats 7
-------------------------------------	--------------------------------	--------------------------	--------------------------------------	---------------------------------	--------------------------------------	--

全方位異質平台設備整合方案



- MSS - Nessus
- MSS - Fortinet 總覽
- MSS - Fortinet 流量分析
- Fortinet FortiGate App for Splunk
- MSS - AMP for Endpoint
- Cisco Security Suite
- Cisco Flexible SOC Security Suite
- Cisco ASA
- Cisco ISE
- Splunk for PaloAltoNetworks
- Splunk for A10 Networks
- Splunk for F5 Networks
- Splunk for F5 Security
- Qualys Web Application Scanning (WAS)
- Qualys Vulnerability Management (VM)
- Dataphy

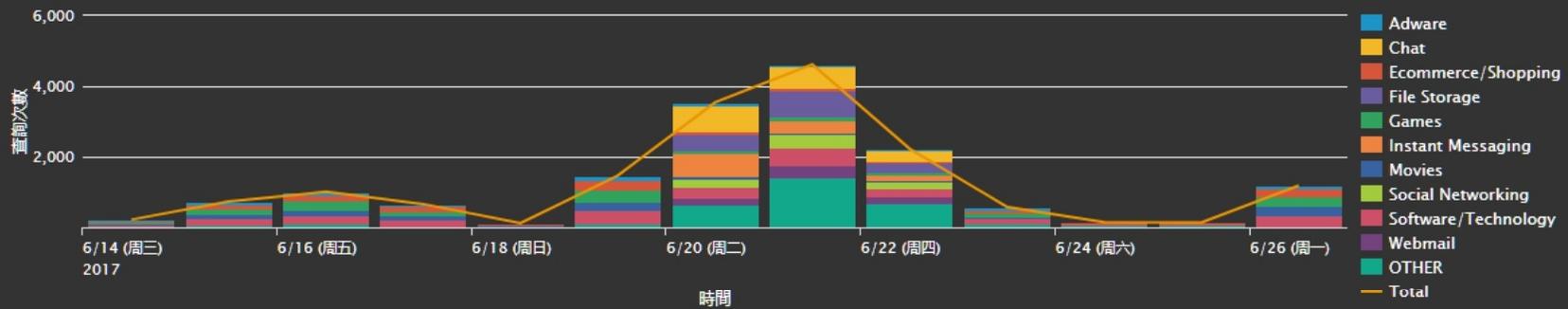
一小時內已阻擋 7 筆 -1

惡意網站 3 筆 3

可疑網站 1 筆 1

色情網站 2 筆 2

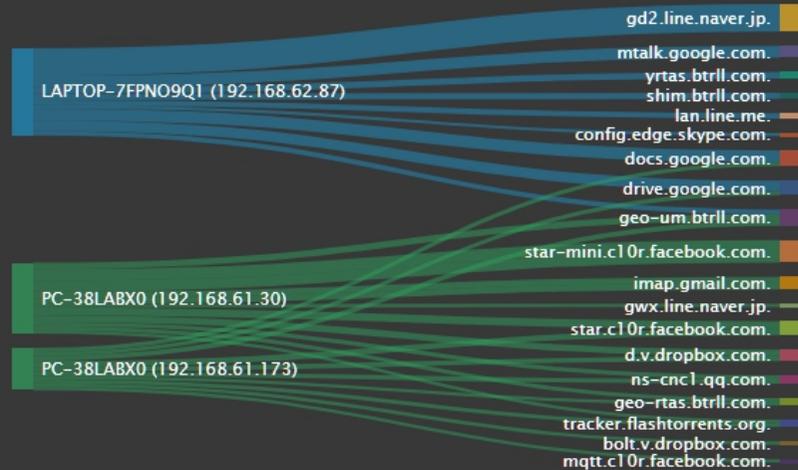
已阻擋網址類型



已阻擋的分類



已阻擋網址清單

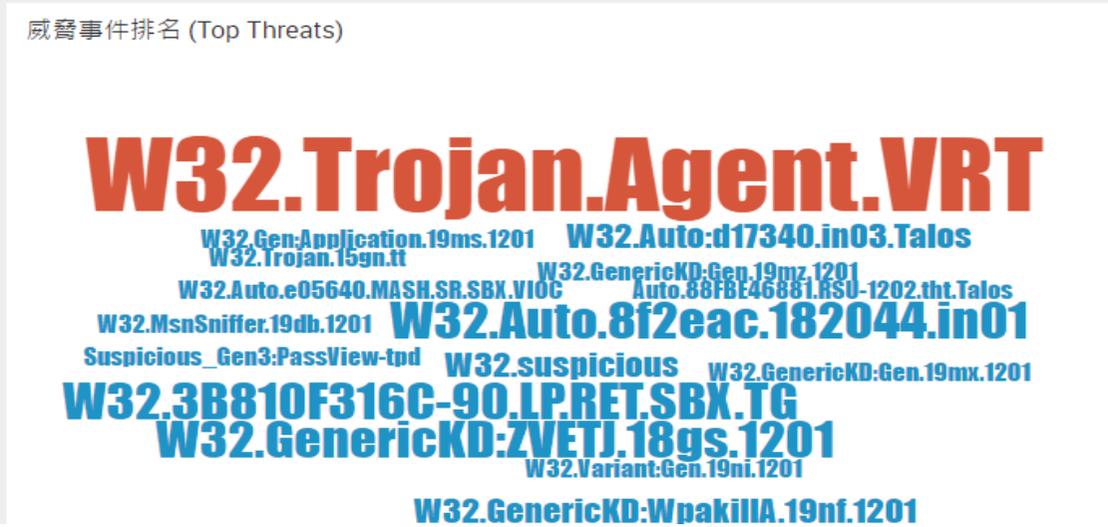
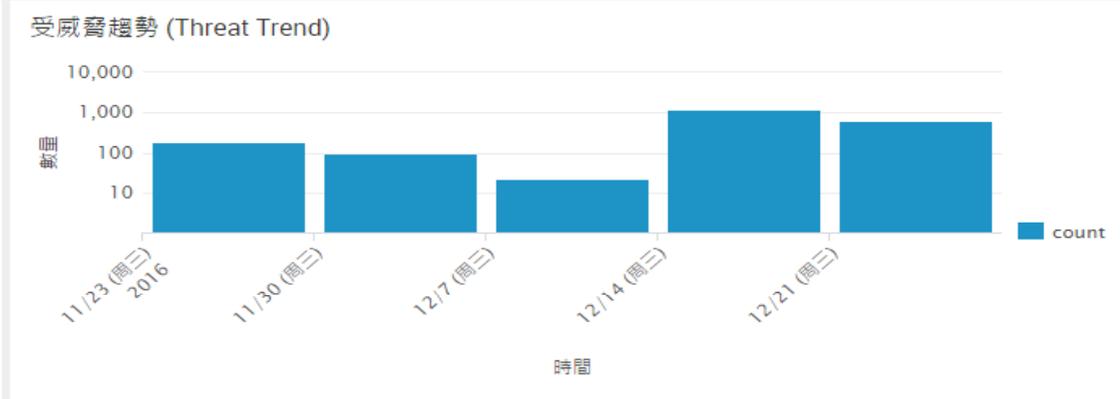
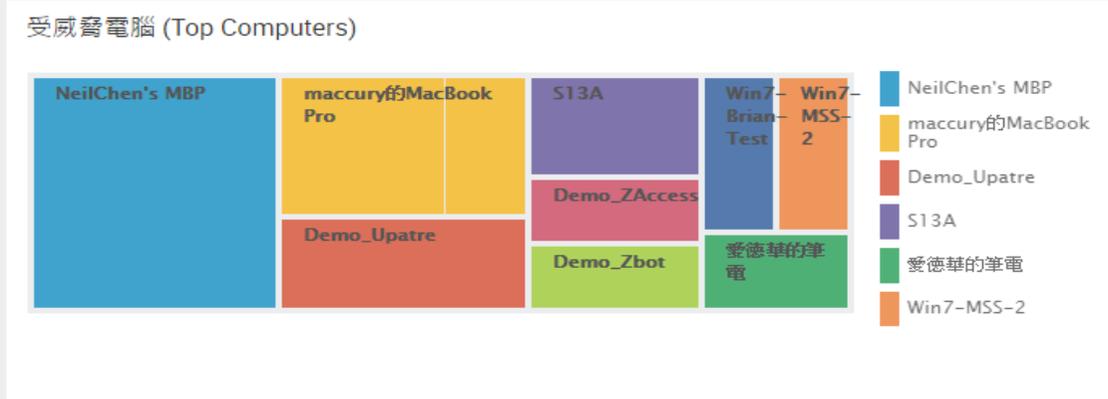


前 30 天

受威脅比例 (Threat Ratio)
58 %

已安裝數量
9 Client(s)

線上數量
2 Client(s)



當前威脅 (Recent Threats)

時間	電腦名稱	Detection	檔案名稱
12/09 21:00	Win7-MSS-2	W32.GenericKD:WpakiIA.19nf.1201	442.7z
12/09 21:00	Win7-MSS-2	W32.Variant:Gen.19ni.1201	Windows Loader 3.1.exe
12/09 21:00	Win7-MSS-2	W32.GenericKD:WpakiIA.19nf.1201	Re-LoaderByR@1n.exe
12/09 21:00	Win7-MSS-2	W32.Auto:d17340.in03.Talos	Windows Loader 3.1 Final.zip
12/09 20:00	maccury's MacBook Pro	W32.Auto:d17340.in03.Talos	Windows Loader 3.1 Final.zip
12/09 20:00	maccury's MacBook Pro	W32.Auto:d17340.in03.Talos	1sjAm2Pl.zip.part
12/01 21:02	maccury's MacBook Pro	W32.Auto.8f2eac.182044.in01	o+xyBle0.zip.part
12/01 21:02	maccury's MacBook Pro	W32.Auto.8f2eac.182044.in01	dQQVjTkt.zip.part
11/30 15:03	NeilChen's MBP	W32.3B810F316C-90.LP.RET.SBX.TG	launcher.exe
11/30 15:03	NeilChen's MBP	W32.3B810F316C-90.LP.RET.SBX.TG	f_00bf56

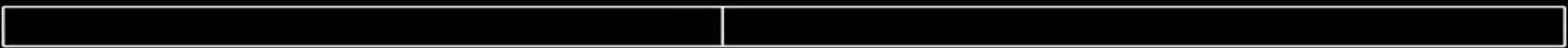
77
2
06
221
8
0
51
1e11
222
11
106
11
31
9
74
84
1
09
36
1
82
188
91
71
1
0
60



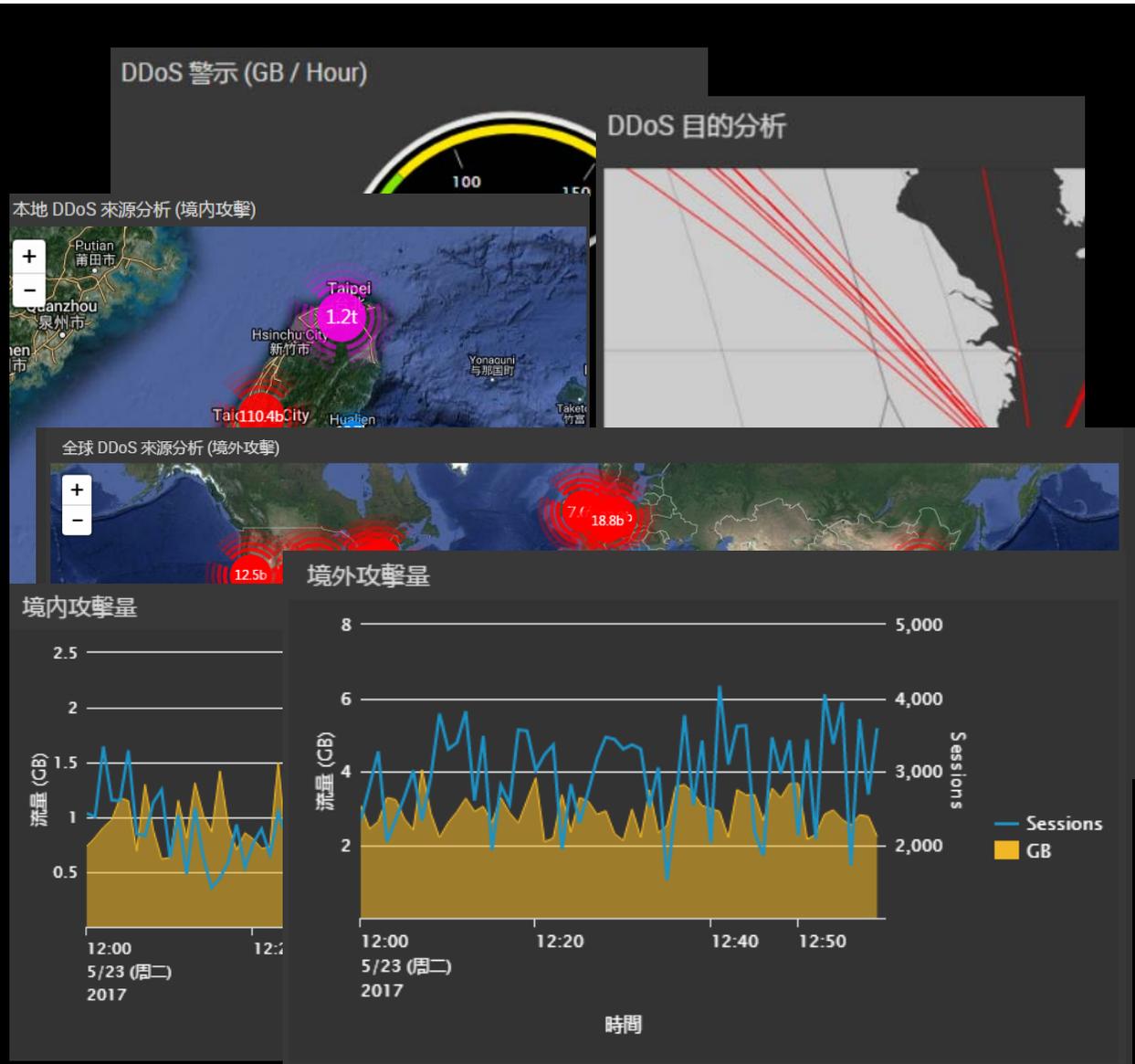
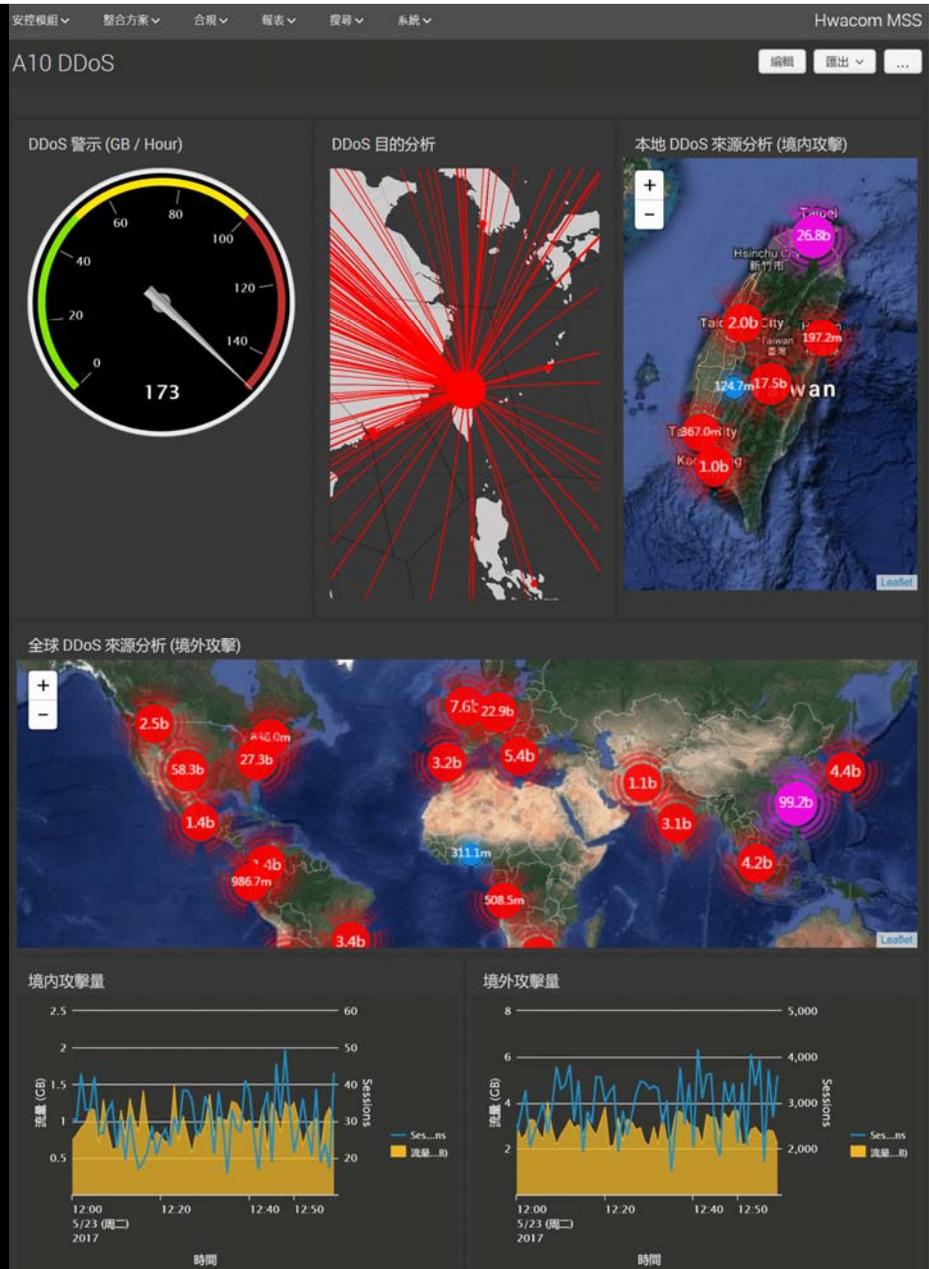
Script

Images

Misc



00000015

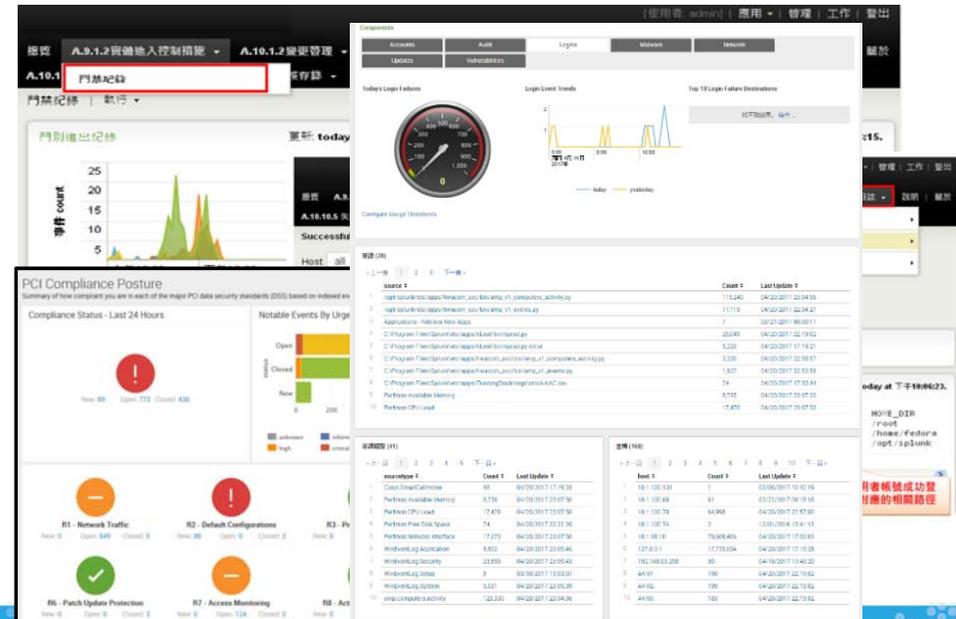
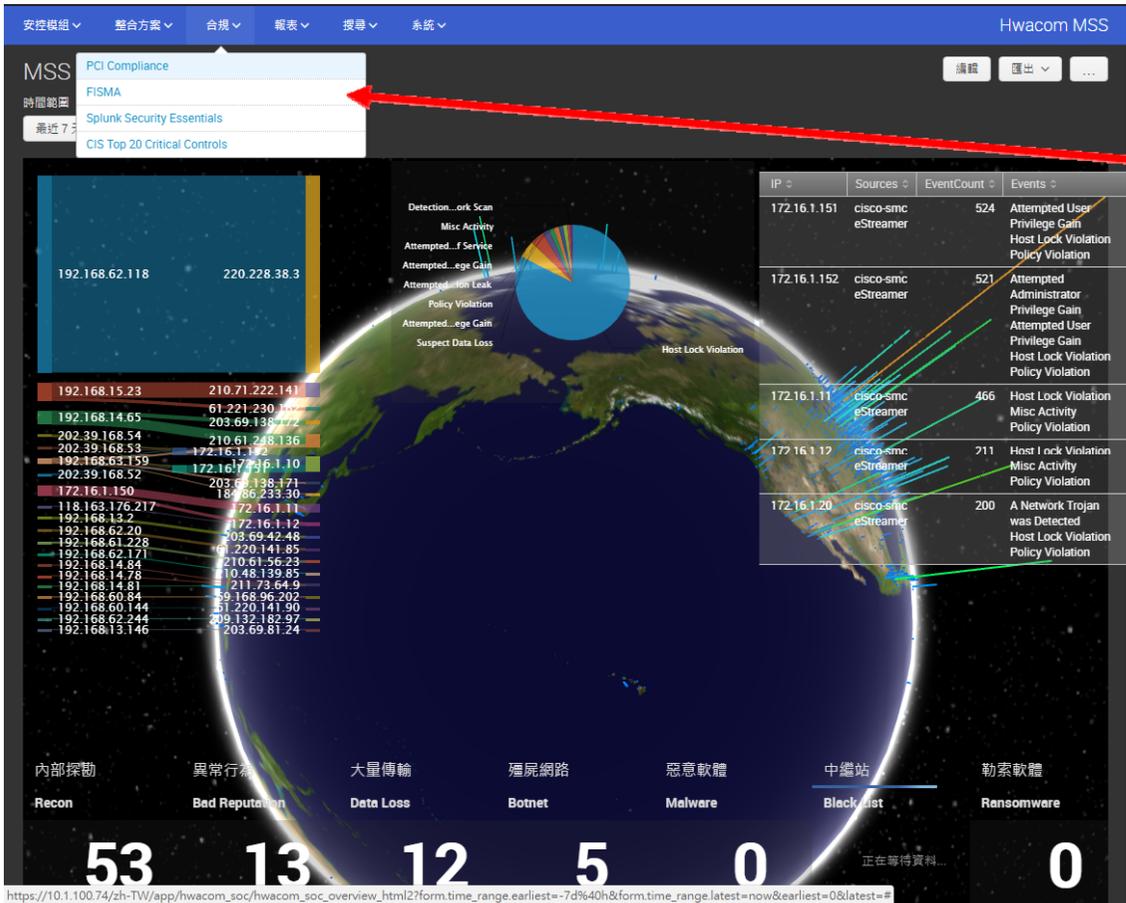


感染惡意軟體(Malware)內部IP



快速察知內部IP 主機已感染惡意軟體。

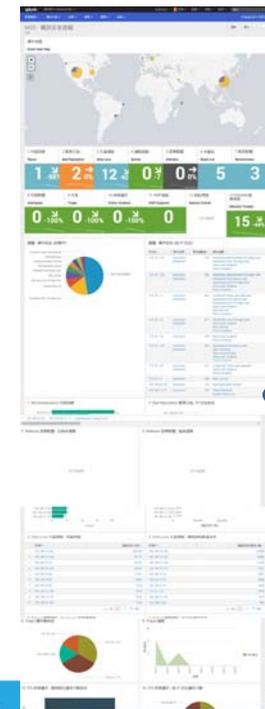
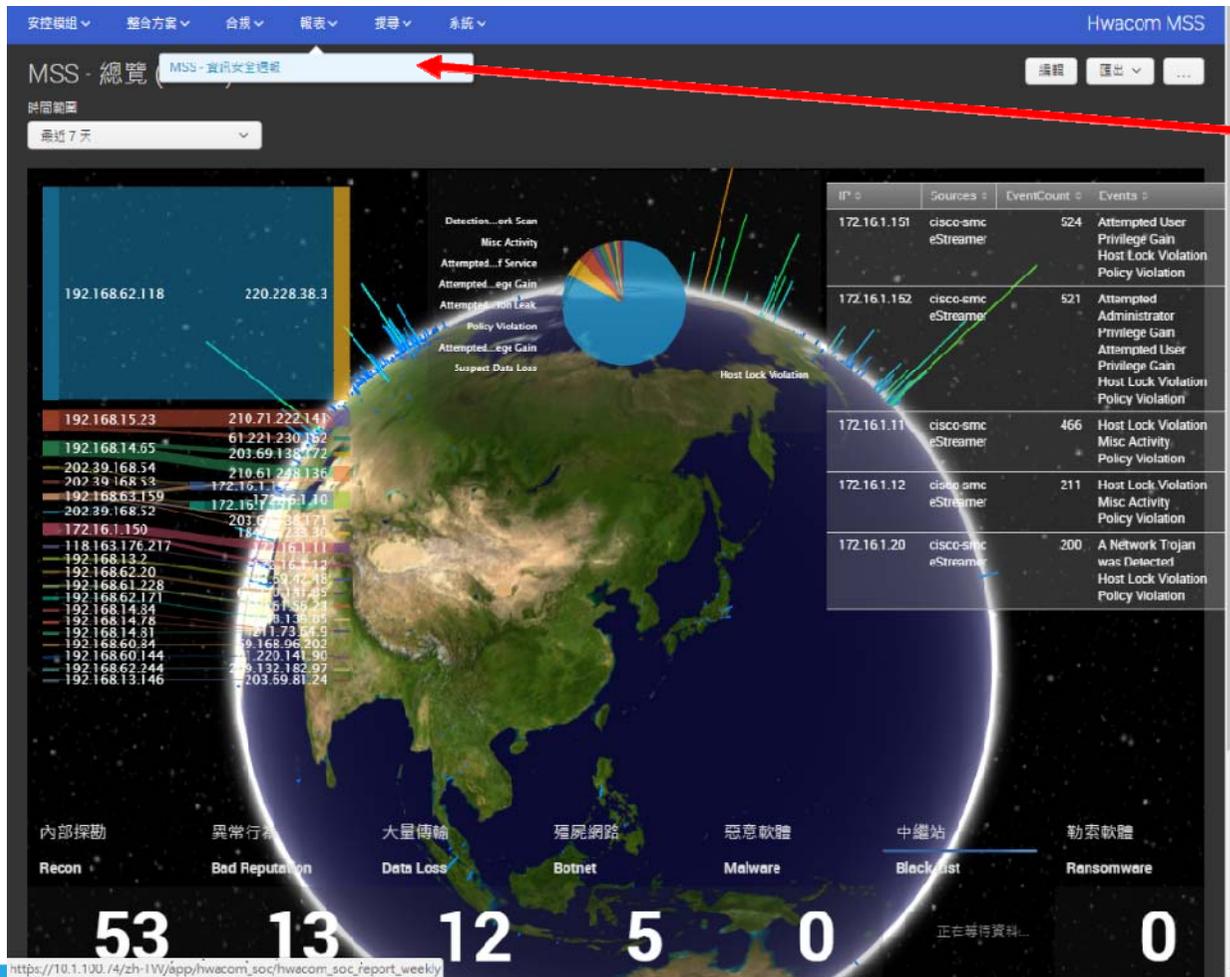
各式合規規範整合



華人寬頻世界的首席建構家

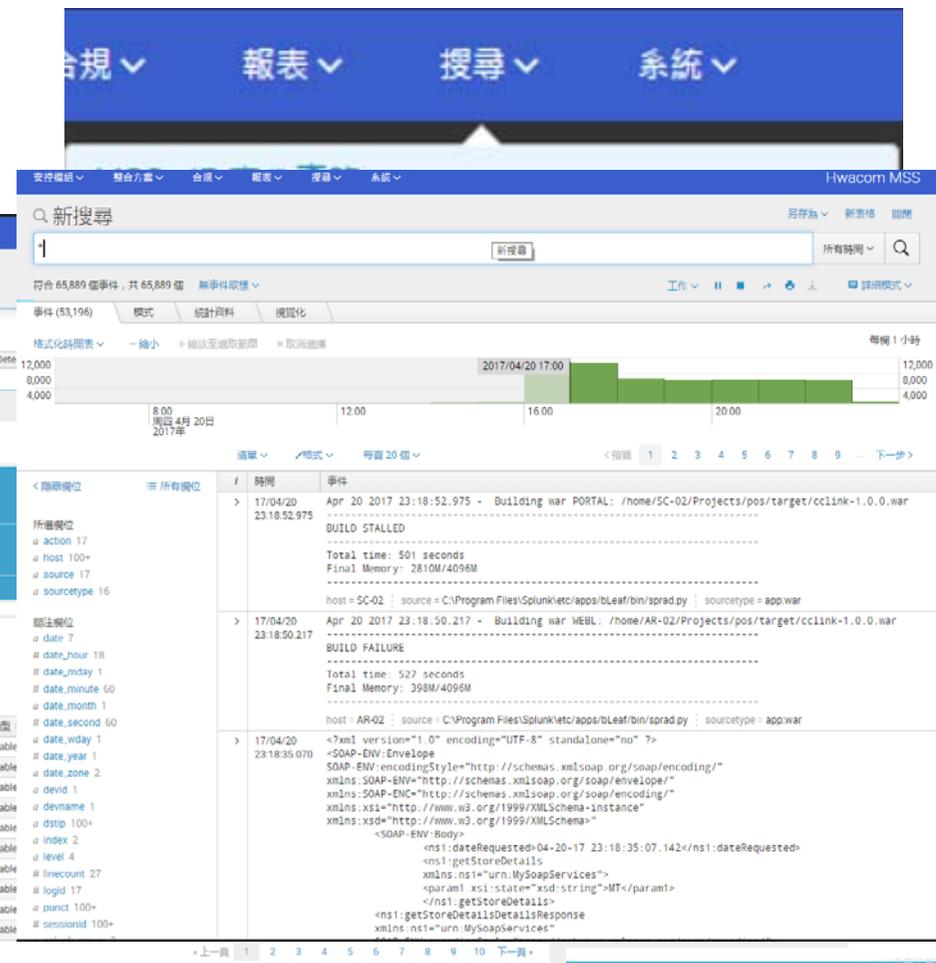
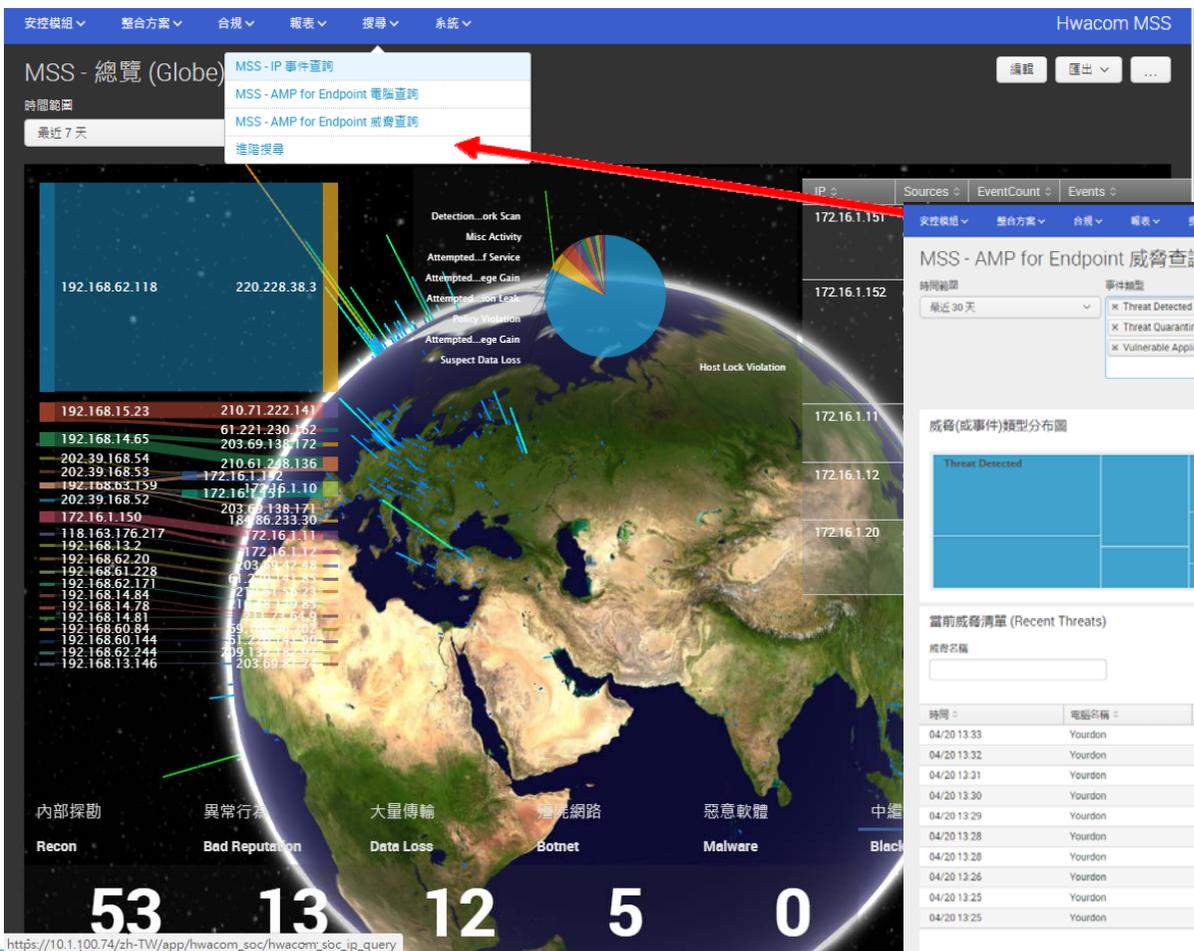
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每週自動化資訊安全報表



可自訂或定時自動化資訊安全報表寄送。

智慧化搜尋



華人寬頻世界的首席建構家

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警訊即時通報

The screenshot shows the Splunk alert actions configuration interface. A mobile notification overlay is displayed in the center, showing the time 23:38 on Thursday, June 29th (丁酉年六月初六). The notification text reads: "SPLUNK 現在 New alert AMP 資料撈取警示 - amp:computers:activity - HIGH 按下以顯示更多內容". Below the notification, the text "主畫面按鈕來" is visible. The background interface includes a table of alerts and various configuration options.

ID	Alert Name
1234	BLEEDING-EDGE WORM Allaple ICMP Sweep Ping
1235	BLEEDING-EDGE Potential SSH Scan
1236	MS-SQL version overflow attempt
1237	PADS
0038	BLEEDING-EDGE WORM Allaple ICMP Sweep Ping



手機即時監控畫面

可疑軟體

Attempted

39

木馬

Trojan

2

政策違反

Policy Violation

1

Top Events

Top Events By IP

IP	Sources	Event Count	Events
172.16.1.8	eStreamer	8	Misc Ac
172.16.1.94	eStreamer	8	Attempt
172.16.1.96	eStreamer	8	Attempt
192.168.15.60	cisco-smc	6	Data Exi Suspect
172.16.1.88	eStreamer	4	Attempt
192.168.15.42	cisco-smc	4	Data Exi Suspect

事件來源地圖

來源 > 目的 IP 位址分析

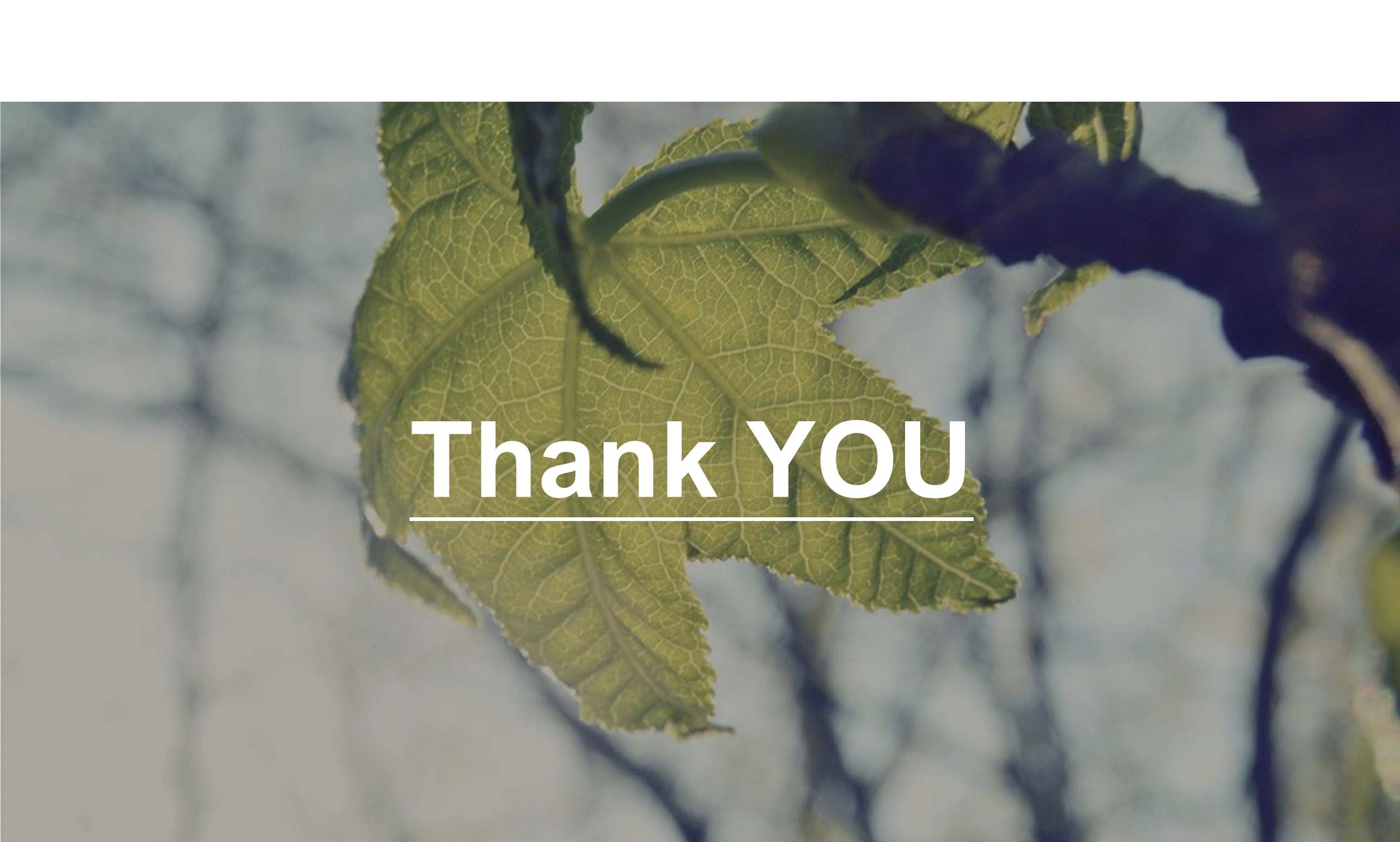
來源 > 目的 IP 位址分析

Top Events

Potential...oliation

A hand holding a lit sparkler against a dark, splattered background. The sparkler is bright and glowing, with many small sparks flying out. The background is dark with white splatters and a circular pattern of dots.

不是唯恐天下不亂，
而是唯恐你以為天下太平。



Thank YOU