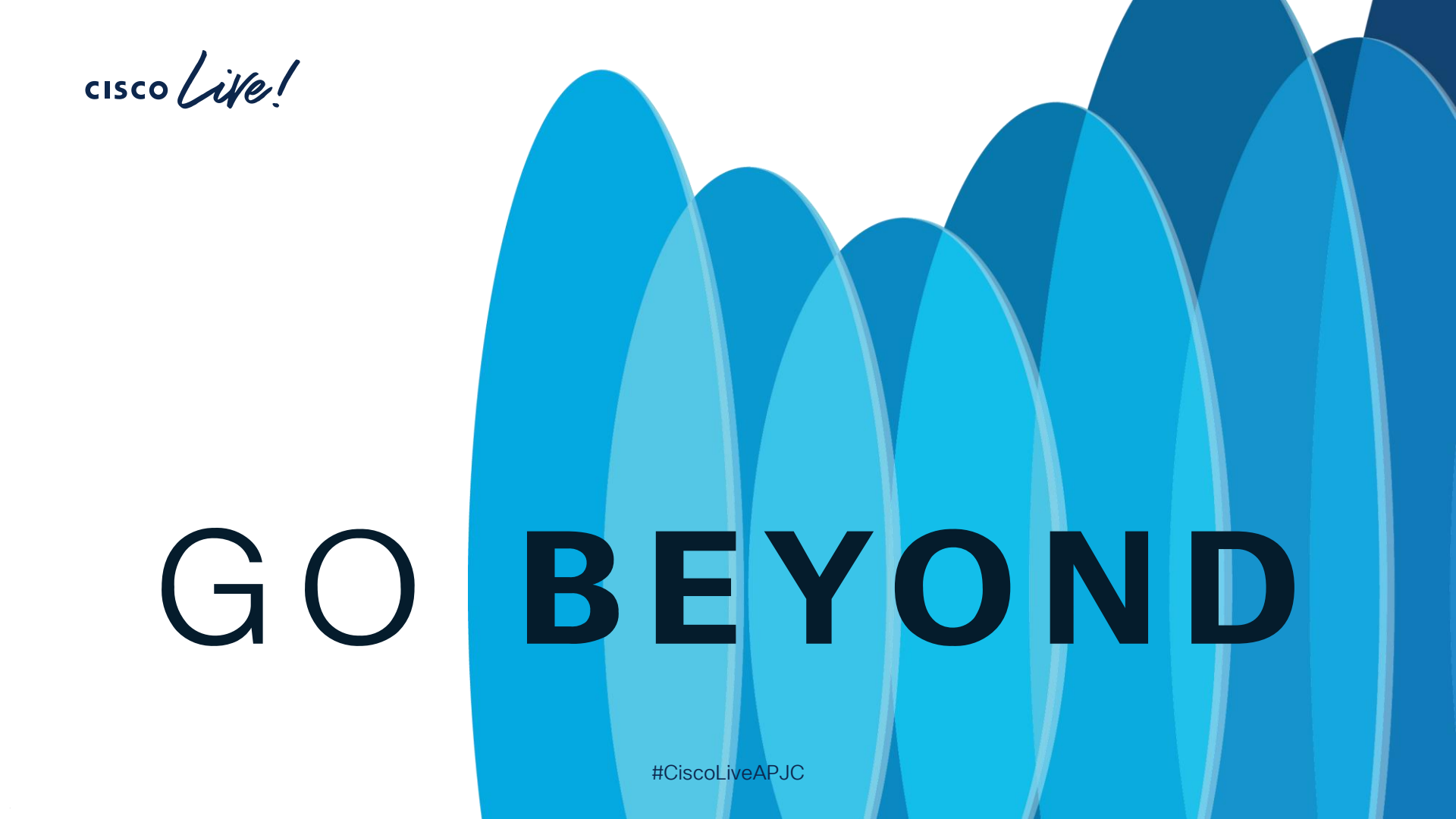
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Cisco SSE for Secure Internet Access

The Goldilocks Solution

Jaki Hasan - Solutions Engineer

BRKSEC-2580

Cisco Webex App

https://ciscolive.ciscoevents.com/ciscolivebot/#BRKSEC-2580

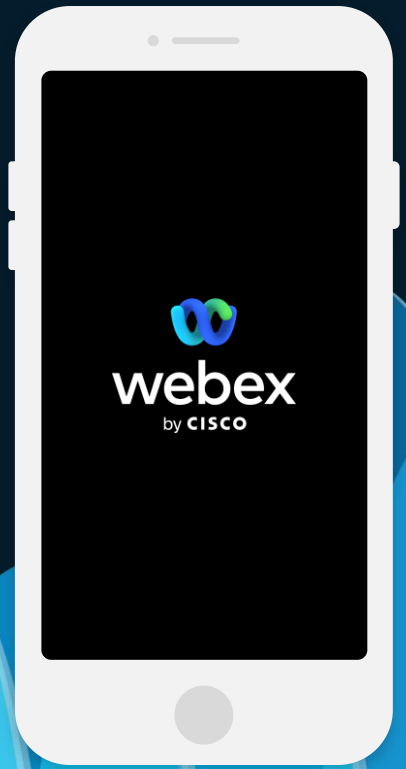
Questions?

Use Cisco Webex App to chat with the speaker after the session

How

1. Find this session in the Cisco Live Mobile App
2. Click “Join the Discussion”
3. Install the Webex App or go directly to the Webex space
4. Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until November 15, 2024.



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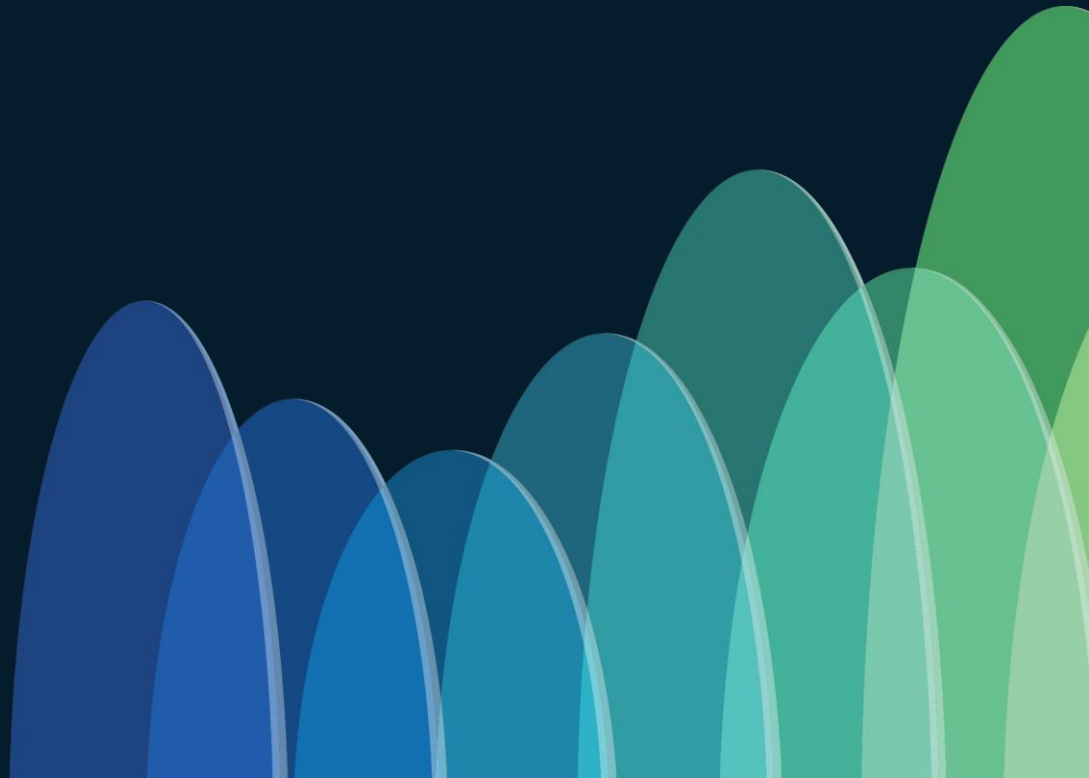
Agenda

- Introduction
- Why Cisco SSE?
- DNS! DNS! DNS!
- May the proxy be with you!
- What can the proxy do for me?
- Firewall in the cloud.

Introduction (Why?)



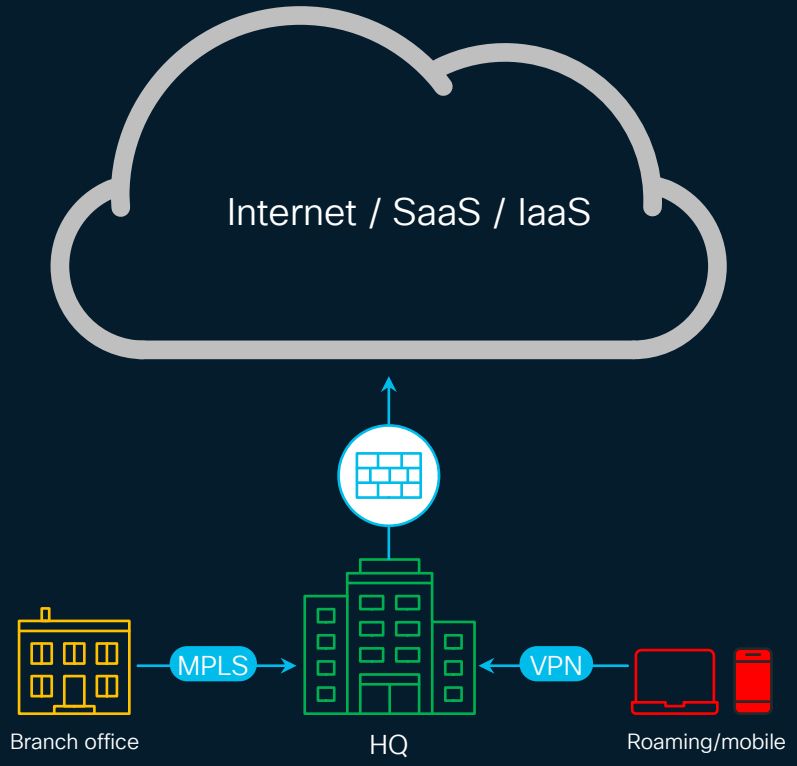
Traffic flow in the historical times

Network

Centralised

Security

Single place to enforce policies and protection



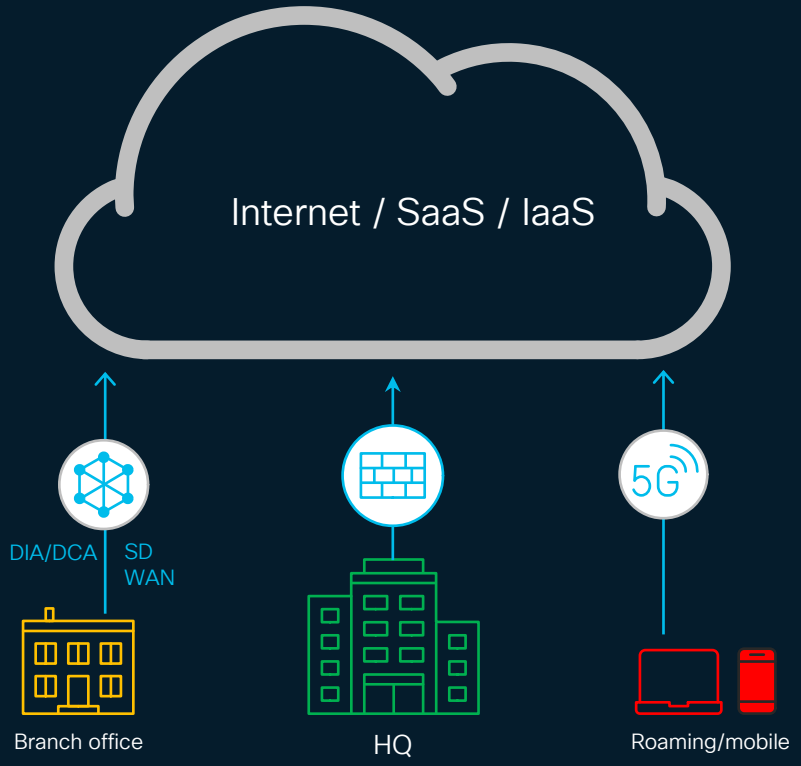
Traffic flow in the modern times

Network

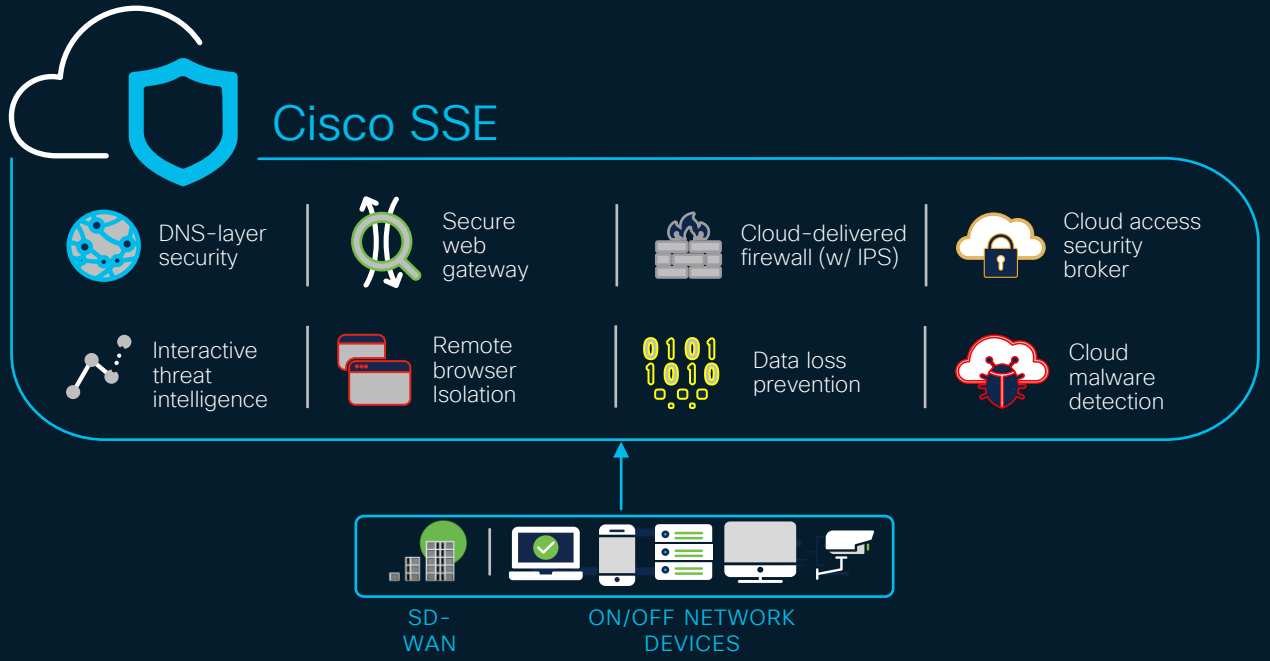
Decentralised

Security

Protect at data centre, cloud, and branch edge



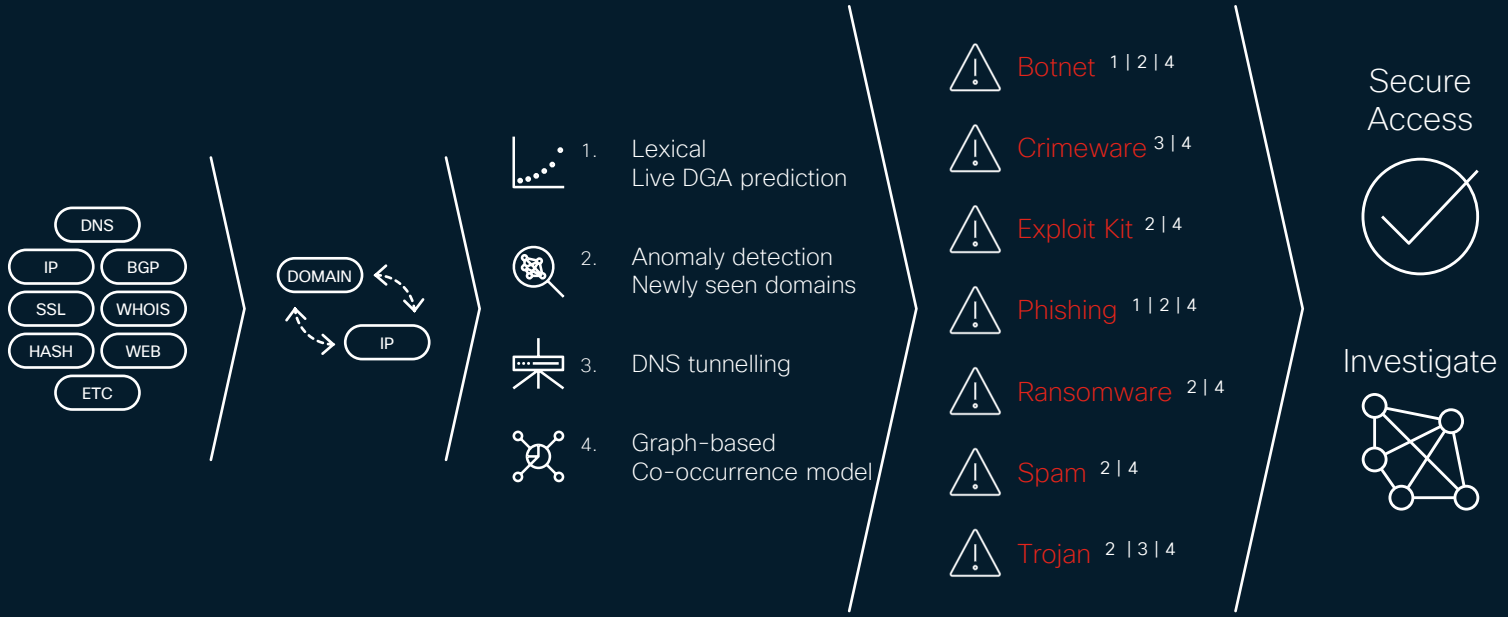
Why Cisco SSE for Secure Internet Access?



Why Cisco SSE for Secure Internet Access?

- Single dashboard to rule them.
- Easy to deploy, adopt and protect.
- Threat detection efficacy.
- End to end visibility and protection.

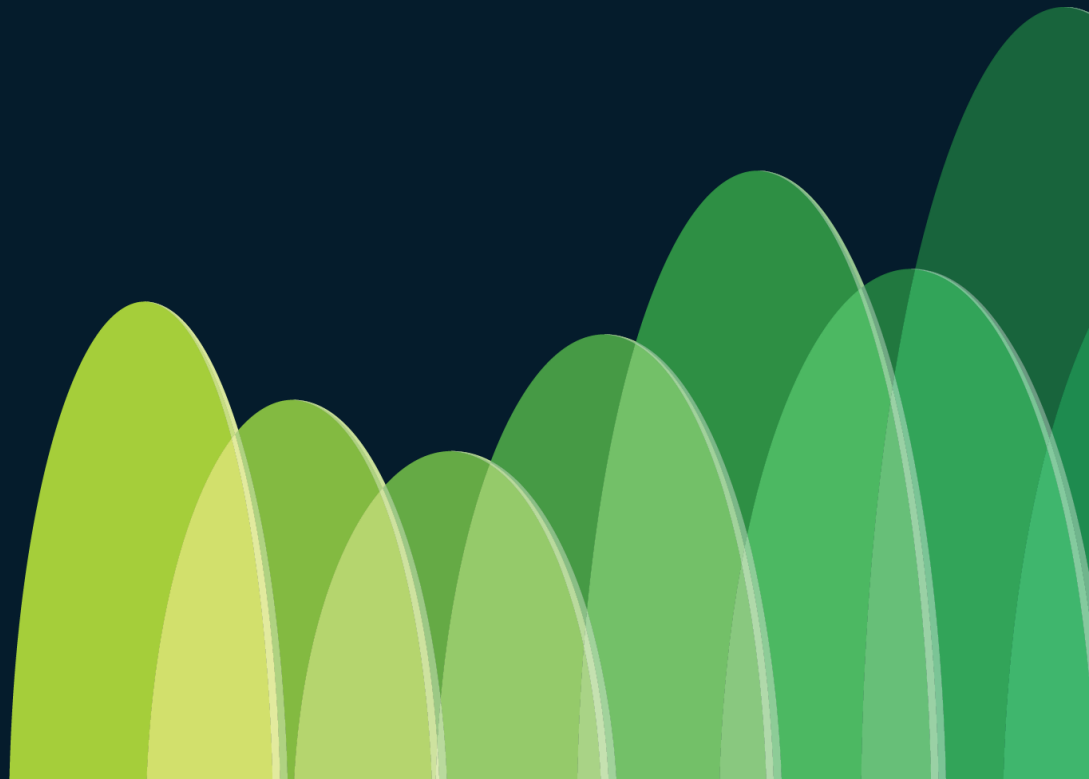
Multi-faceted Threat Intelligence



Theme of this session

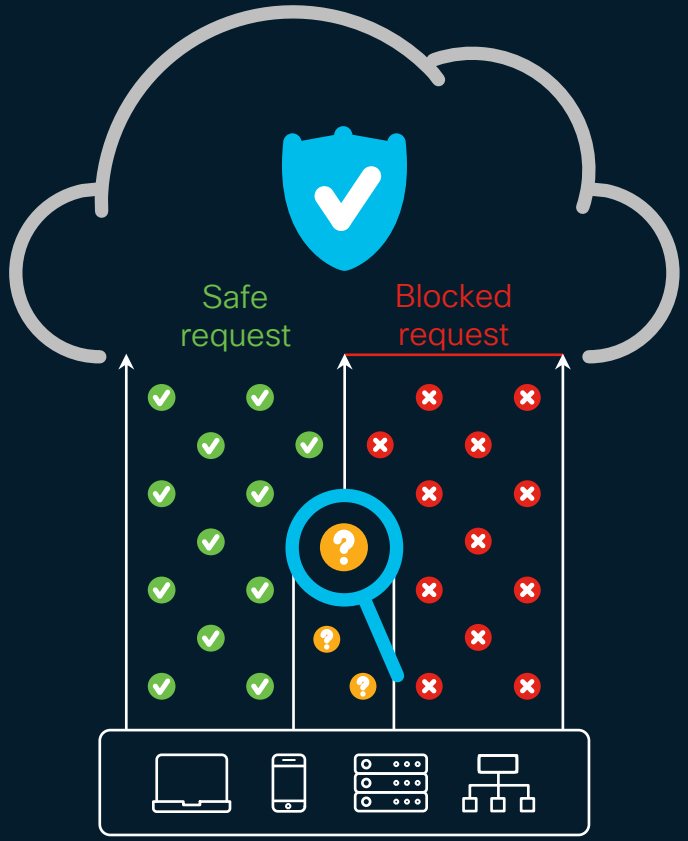
- Ease of deployment, adoption and protection.

DNS! DNS! DNS!



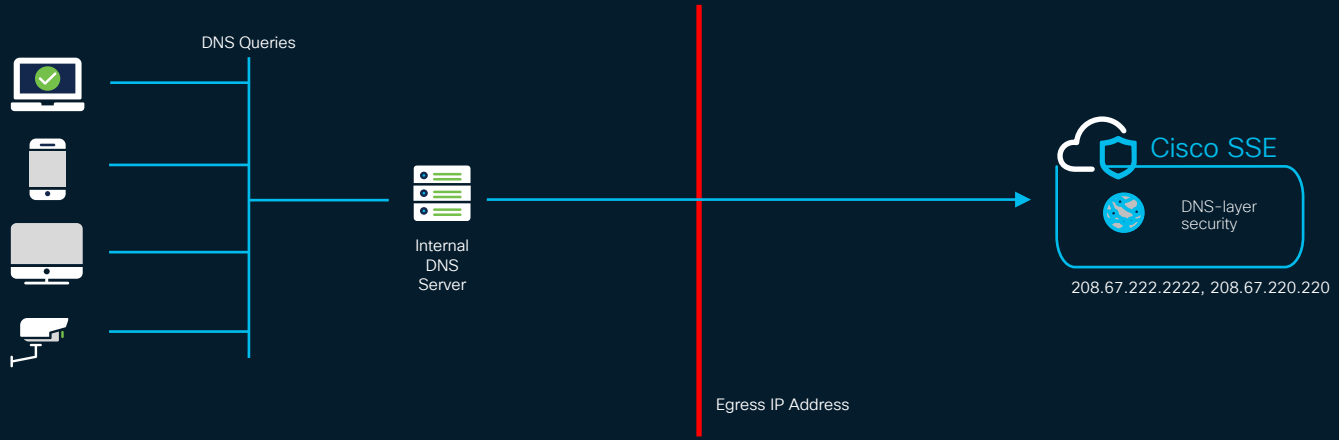
DNS is simple, but effective!

- Everything uses DNS, web and non-web.
- Extends protection to areas where it may not be easy to inject:
  - a proxy
  - a firewall
- Network segment reachability.
  - Security Cameras, Sensors, Badge Scanners.
- Cleans the pipe.
  - Block unwanted traffic like advertisement.



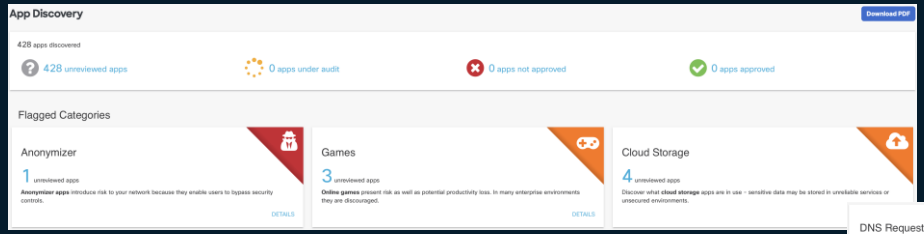
Deploy, adopt and protect

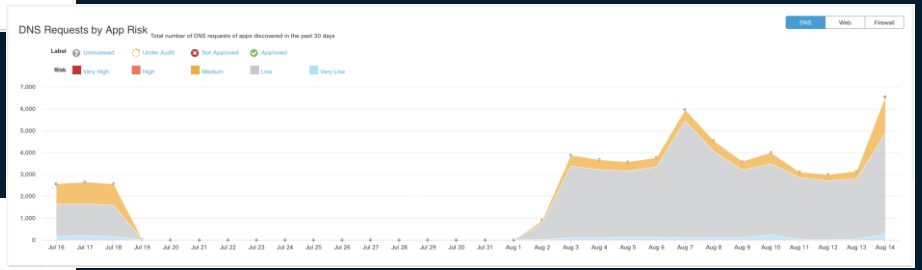
- 2 steps to deploy, adopt and protect your network.
  - Register egress public IP address in SSE.
  - Point internal devices to SSE DNS servers, 208.67.222.222 and 208.67.220.220.

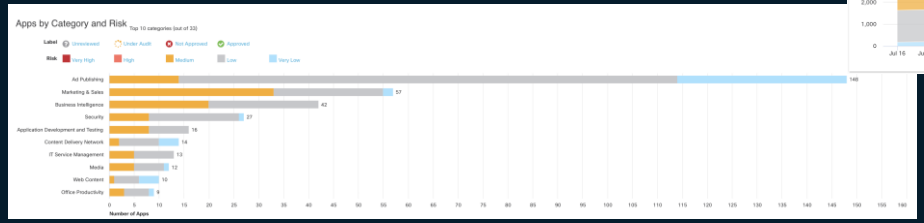


Shadow IT detection, is it really CASB thing?

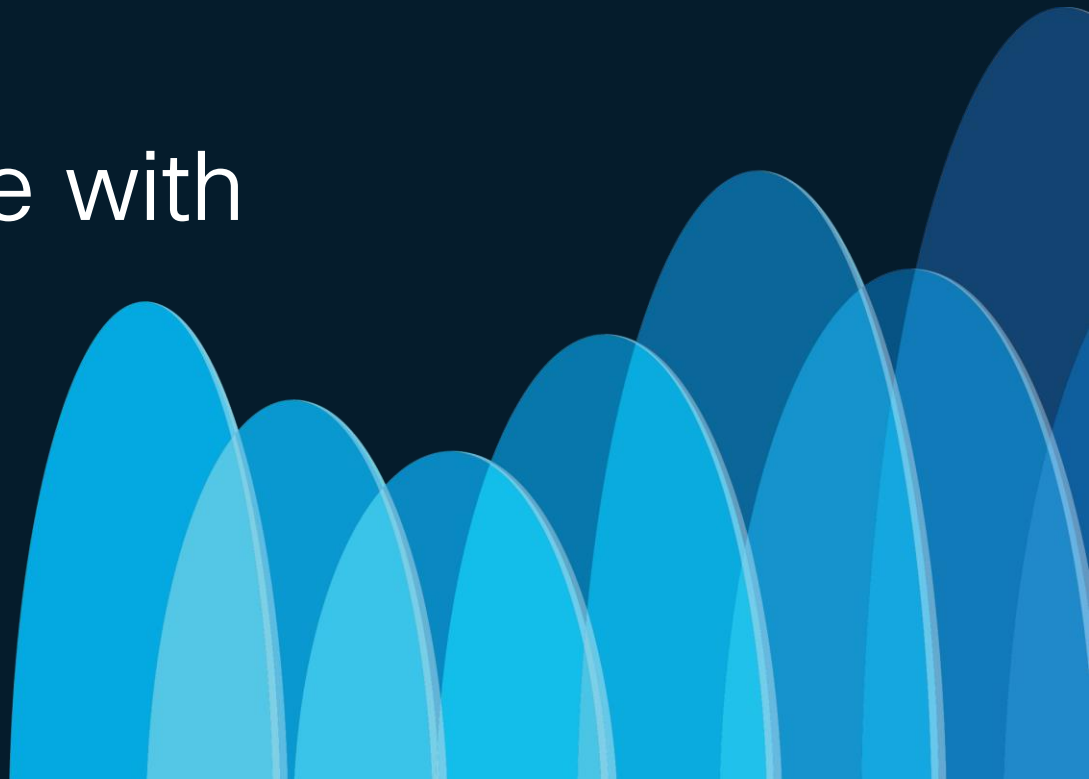
- Do you really need a CASB to detect risky applications?







May the proxy be with you!

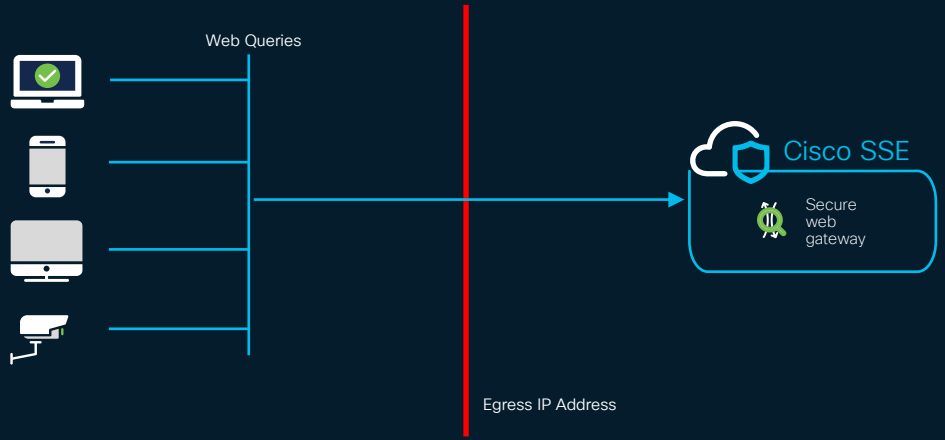


A true proxy in the cloud

- Proxy designed for the cloud.
- With extensive granular features.
  - Anti-Virus and Anti-Malware scans.
  - Sandboxing to detect zero-day vulnerabilities.
  - Data Loss Prevention built in.
  - Remote Browser Isolation.
  - Application Visibility with granular Control.

Deploy, Adopt and protect

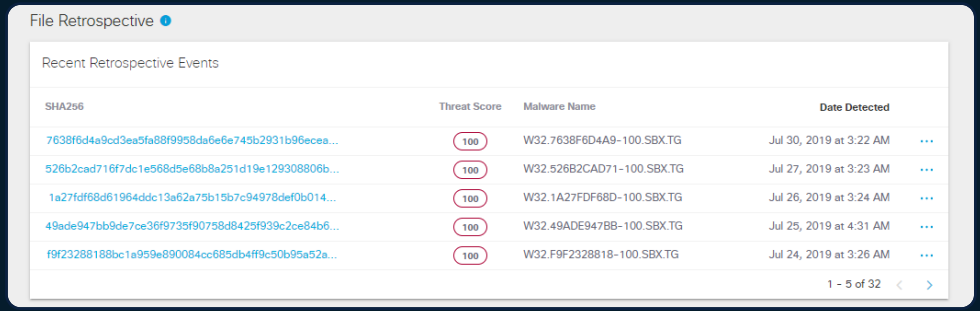
- 2 steps to deploy, adopt and protect your network.
  - Register egress public IP address in SSE.
  - Point internal devices to SSE proxy.



What can the proxy do for me?

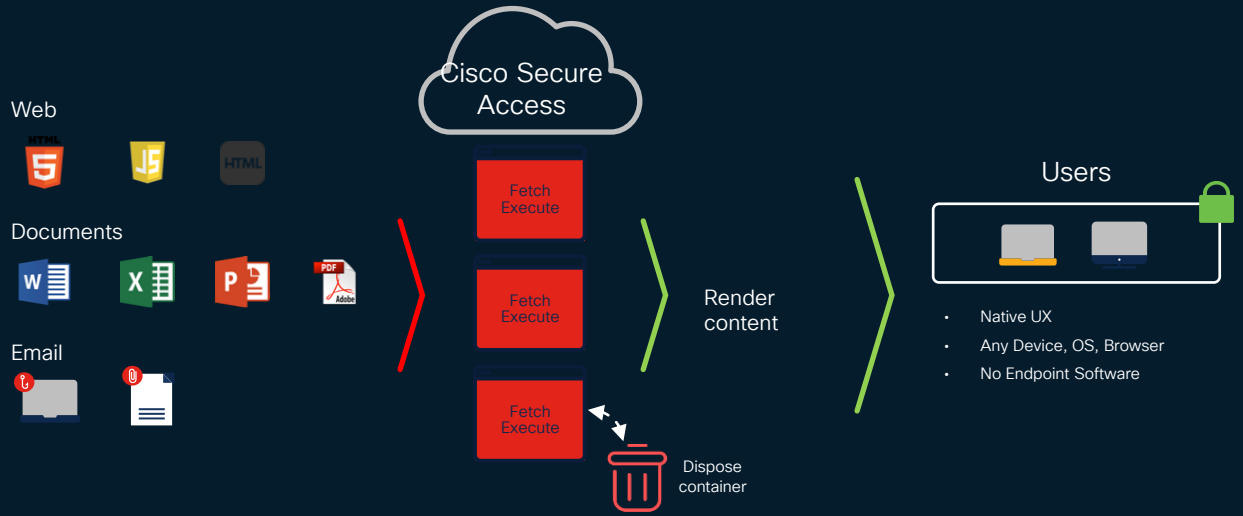
Malware Sandboxing

- Ability to detect hidden threats in files that are being downloaded
- A set of new or higher risk files are placed in a sandbox environment and checked for malicious activity/content
  - Alerts posted on files that show bad activity
  - Secure Access threat intelligence is updated for that file



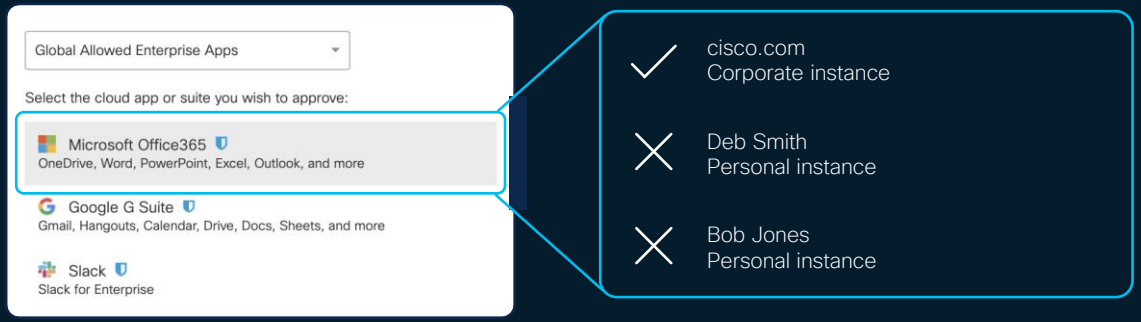
Remote Browser Isolation (RBI)

- Spins up browsers in containers, in the cloud.
  - Web contents are inspected in the cloud.
- Web contents do not get to the endpoint



Tenant Control

Select the instance(s) of core SaaS applications that can be accessed by all users or by specific groups/individuals



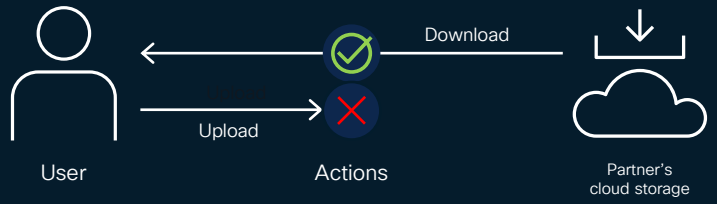
Key use cases

Security
Ensure, sensitive data is created and stored in approved instances of cloud apps

Productivity
Only provide access to corporate instances of core SaaS apps

Granular SaaS Application Control

- Block posts/shares to social media apps
- Block attachments to webmail apps
- Block uploads to cloud storage, collaboration, office productivity, content management, and media apps



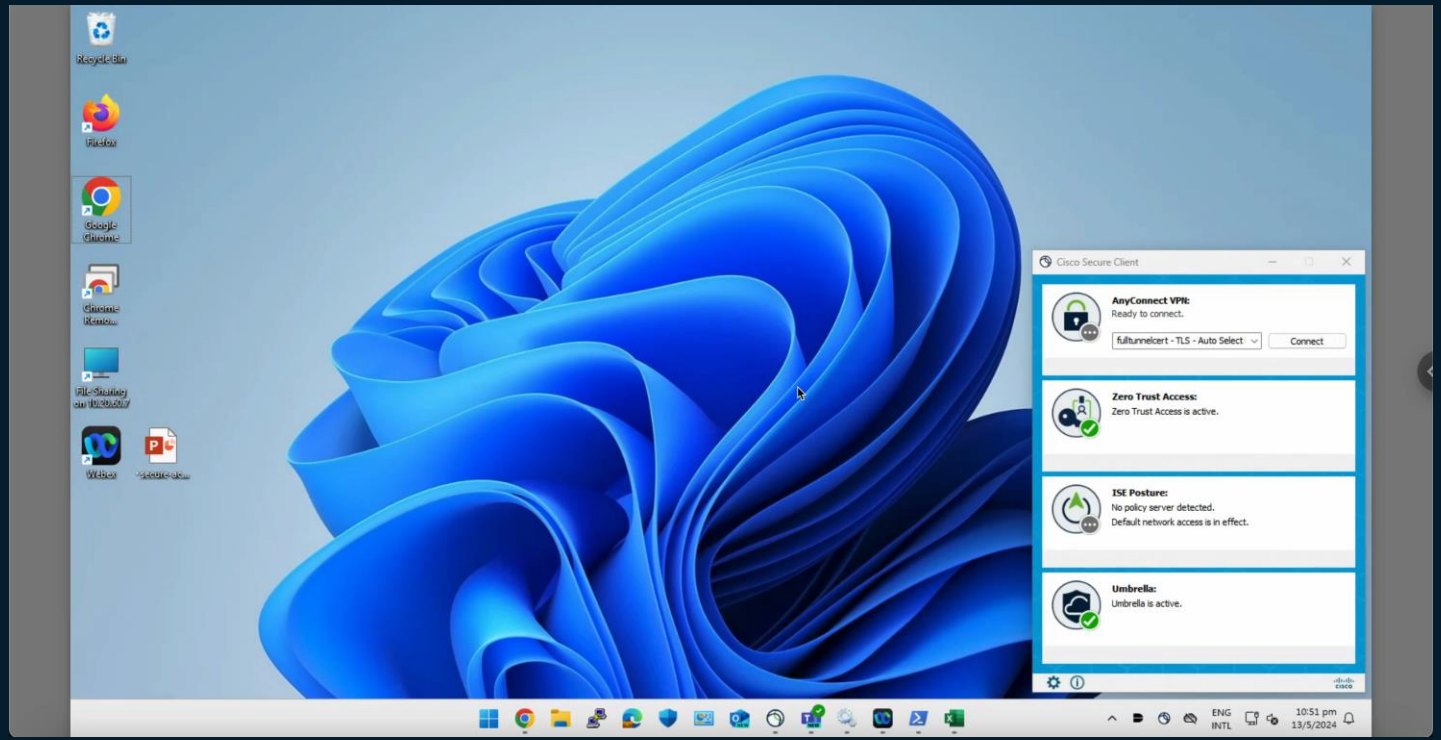
box twitter Dropbox Pinterest Messenger Gmail facebook LinkedIn slack
Instagram Google Drive SlideShare YouTube vimeo WhatsApp smartsheet PASTEBIN

Optical Character Recognition

OCR scans text contained in image files, or within embedded images in documents, to prevent exfiltration of sensitive data.

- Enabled for all Umbrella DLP customers and applies to all DLP rules by default, at no extra cost
- Automatically extracts text from images and searches for DLP violations per DLP rules.
- Supports JPEG, JPG, PNG, GIF, TIFF and EMF file types
- Applies to data-in-motion using Real Time DLP and data-at-rest using SaaS API DLP

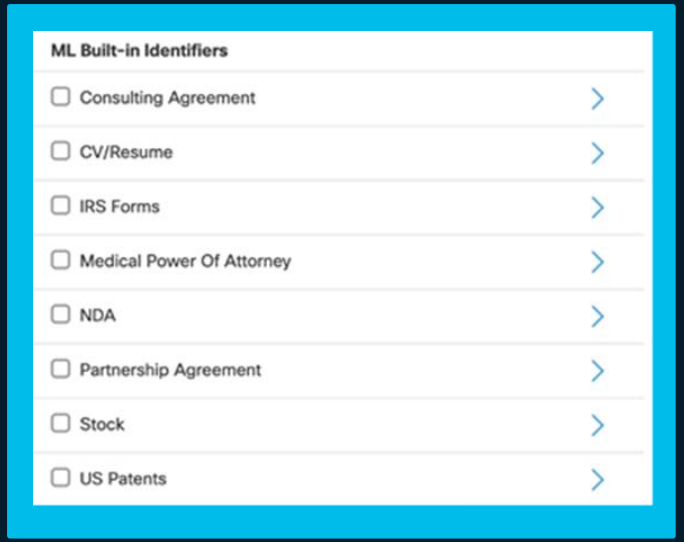
Optical Character Recognition - Demo



Machine Learning based Document Classification

ML-based Document Classification allows users to select from predefined, pre-trained document types instead of building complex data classifications from scratch.

- Enabled for all Umbrella DLP customers at no extra cost
- Available in new "**ML Built-in Identifiers**" section (see image →)
- Supports numerous types of documents, such as consulting agreements, resumes, IRS forms, medical powers of attorney, non-disclosure agreements, partnership agreements, stocks, and US patents
- Applies to data-in-motion using Real Time DLP and data-at-rest using SaaS API DLP



Data Loss Protection (DLP) modes

Real Time DLP

- Works via Umbrella Secure Web Gateway (SWG) proxy.
- Scans web traffic **inline** for real-time enforcement.
- All application coverage: sanctioned and unsanctioned.

SaaS API DLP

- via cloud APIs for data at rest, without SWG proxy
- Scans web traffic **out-of-band** with near real-time enforcement
- Sanctioned app coverage

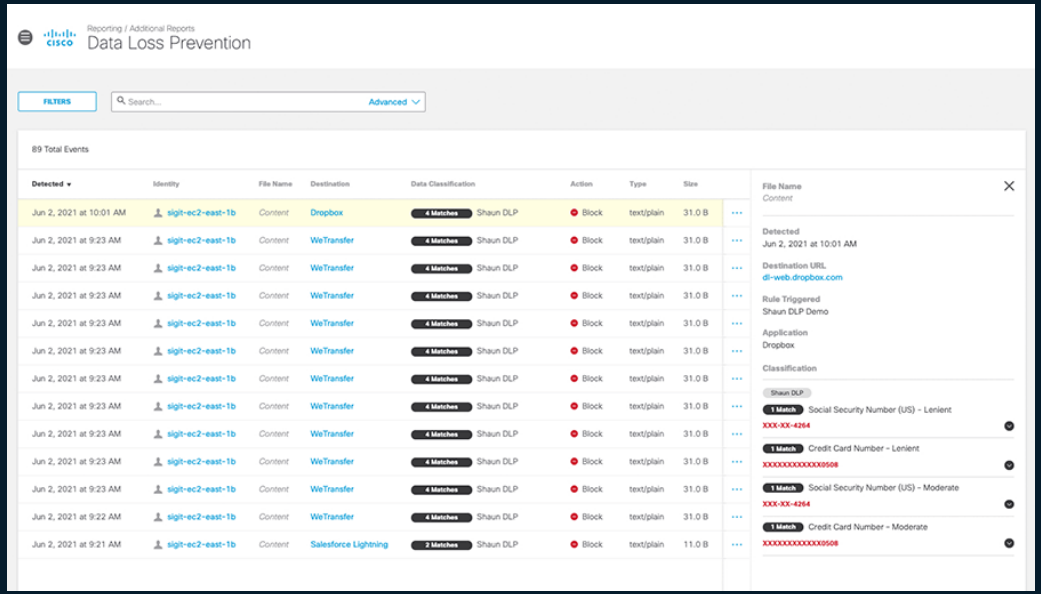
One management interface

Many crossover capabilities:

Exact Data Matching (EDM) · Indexed Document Matching (IDM) · Dictionary and Pattern Matching
Optical Character Recognition (OCR) · Machine Learning-based Document Classification
Policy Inclusion and Exclusion · Scheduled Reporting and Ad-hoc Reporting · Built-in Identifiers and Classifications

In-Line DLP

- Data Loss Protection for a distributed workforce.
- 1,200 built-in data classifiers.
- 13 AI powered classifiers.
- Custom data classifier, with regex support.
- OCR support.
- Exact Data Matching (EDM)
- Indexed Document Matching (IDM)



SaaS API DLP

- Same as In-Line DLP but using API.
  - Data Loss Protection for a distributed workforce.
  - 1,200 built-in data classifiers.
  - 13 AI powered classifiers.
  - Custom data classifier, with regex support.
  - OCR support.
  - Exact Data Matching (EDM).
  - Indexed Document Matching (IDM).
- Detect AND Remediate.

Exact Data Matching (EDM)

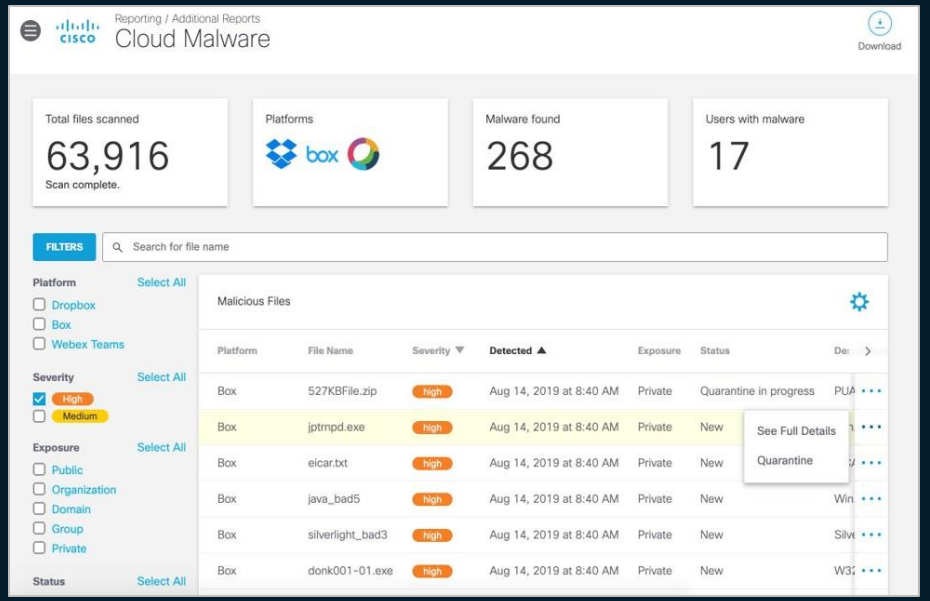
- This is for structured data.
- Generates a fingerprint of the structured data.

Index Document Matching (IDM)

- This is for unstructured data.
- Generates a fingerprint of the document.

Cloud Malware

- Takes the concept of SaaS API DLP, but:
  - Instead of checking for data violation, it checks for malicious files.
- Detect AND Remediate.



Firewall in the cloud

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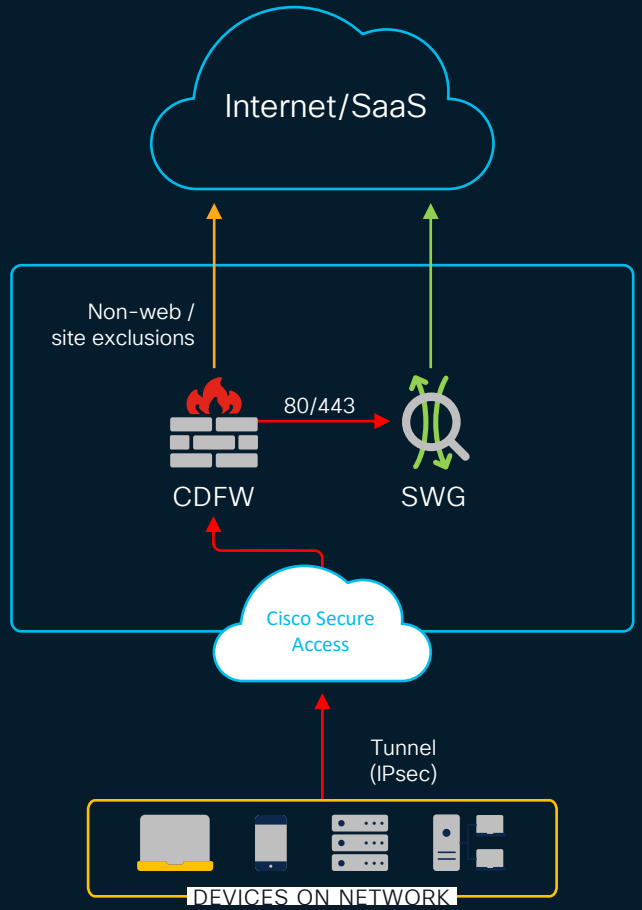
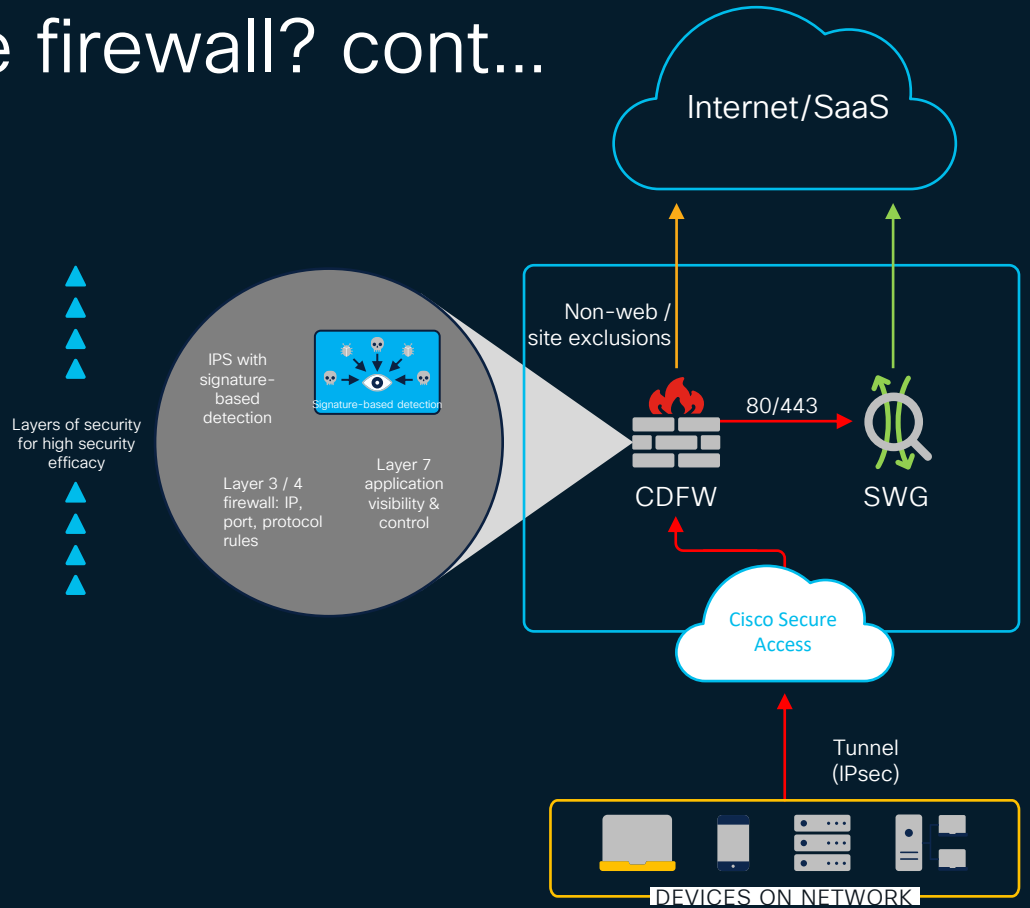
Why do I need the firewall?

- L3-4 protection.
- Block non-web access to the internet.
- IPS/IDS.



Why do I need the firewall? cont...

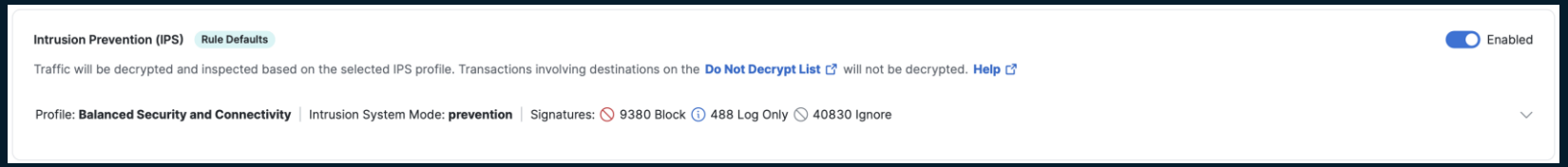
- L7 and IPS protection.
- Application control.
- Applications are sneaky.
- Connection flow:
  - Application tries to resolve application server FQDN
    - DNS blocks it.
  - Application then falls back to IP address on port 80/443
    - SWG blocks it.
  - Application then attempts to connect using IP address and random port
    - CDFW is to the rescue.



IPS/IDS

- Powered by the Snort engine.
- 50K+ signatures included.
- Option to run in detection mode or prevention mode.
- Decrypt traffic for inspection.
- Dynamic inspection of web traffic

Connectivity Over Security	Prevention	477 Block	112 Log Only	50109 Ignore
Balanced Security and Connectivity Default IPS Profile	Prevention	9380 Block	488 Log Only	40830 Ignore
Security Over Connectivity	Prevention	22008 Block	760 Log Only	27930 Ignore
Maximum Detection	Prevention	39661 Block	1366 Log Only	9671 Ignore



Summary

- Multiple products with a single dashboard.
- DNS can reach network segments where it is difficult to inject a proxy or a firewall.
- Granular internet access control using the proxy.
- Control non web internet traffic using the Cloud Delivered Firewall (CDFW).

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Keynote Deep Dives

Wednesday
10:30am –11:30am

Experiences Amplified: How AI Can Fuel Better Employee and Customer Experiences

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Smart, Secure, Seamless: Transforming Experiences with Next-Generation Networking

Level 2
Room 204

Harness a Bold New Era: Transform Data Centre and Service Provider Connectivity

Level 2
Room 203

Securing User to Application and Everything in Between

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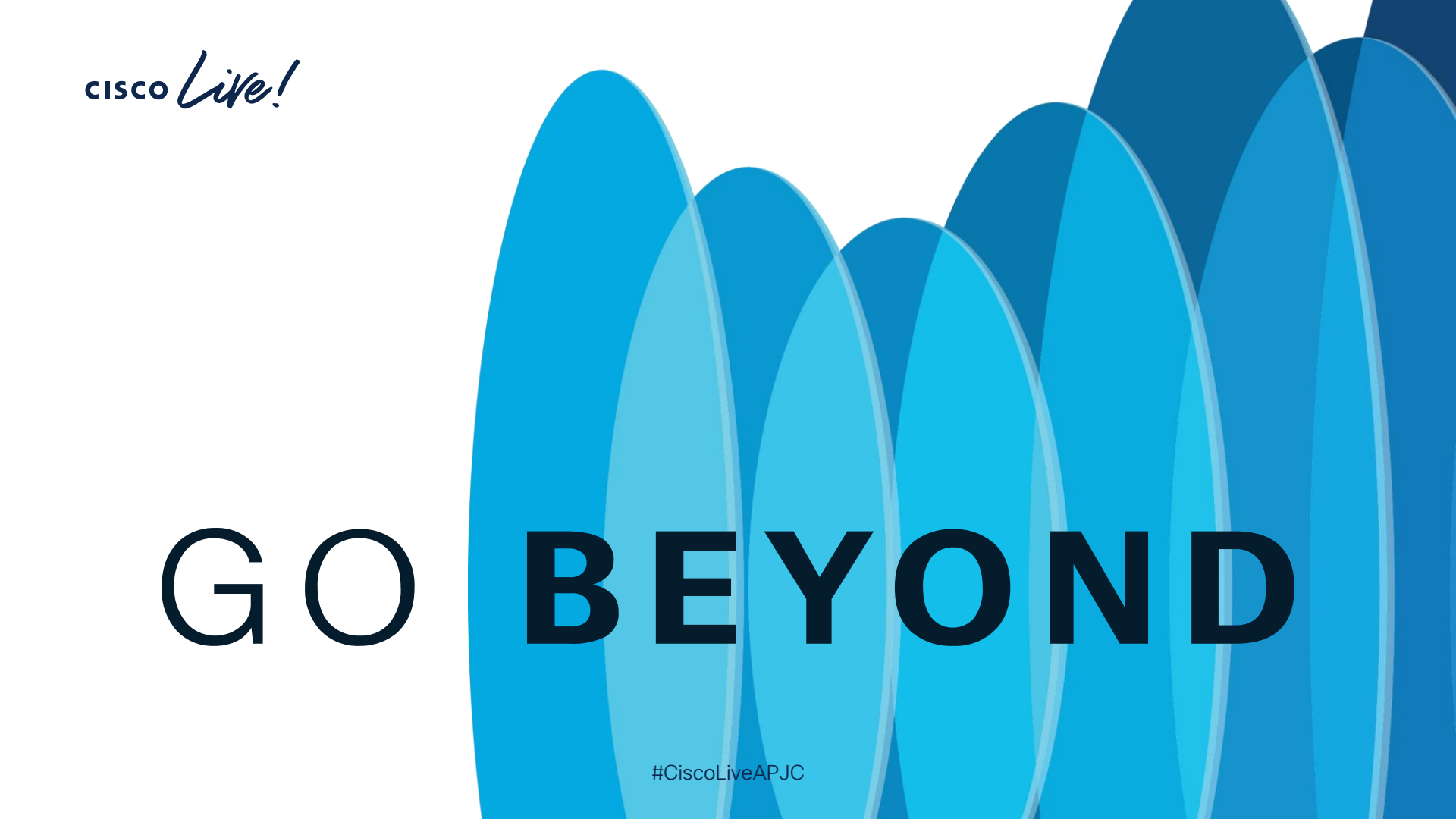
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