



The bridge to possible

Cisco IT Infrastructure's Secret Sauce

Top 5 Innovations

Jackie Li, APJC Network Infrastructure Leader

ITLGEN-1013

cisco *Live!*

IT Leadership Program

#CiscoLiveAPJC



The bridge to possible

Cisco IT Infrastructure's Secret Sauce

Top 5 Innovations

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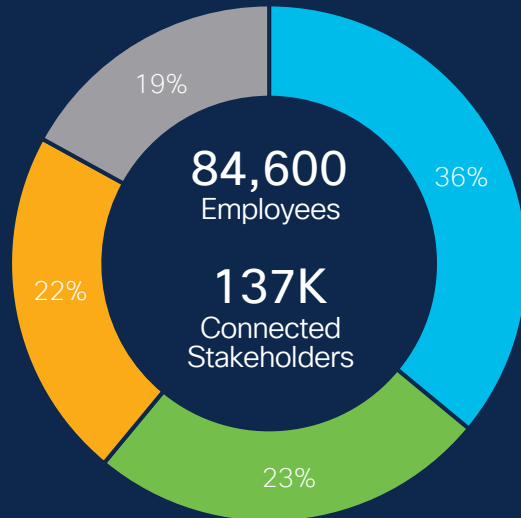
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IT Leadership Program

#CiscoLiveAPJC

Cisco at a Glance

Employee Distribution



● Engineering ● Sales & Marketing ● Customer Experience ● Corporate Functions



2,492
Routers



7K
LAN Switches

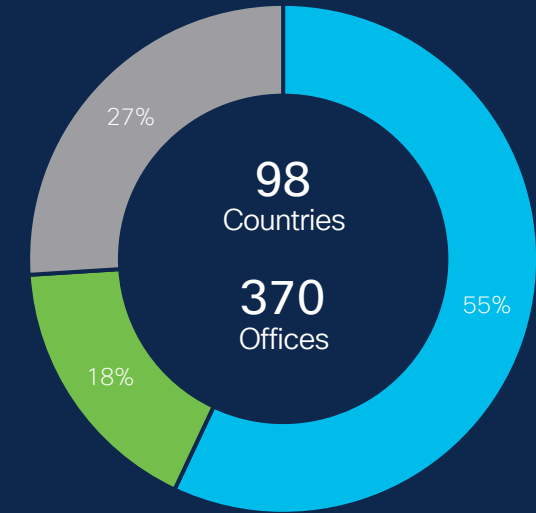


13,076
Unified Computing
System Servers



19.5B
DNS Requests
per Day

Global Cisco Distribution



● Americas ● EMEAR ● APJC



22,438
Telepresence Units



60,689
Virtual Machines



196K
Managed Devices



166PB
Overall Usable Storage



1M
Webex Meetings per
Month



6.25M
DNS Threat Requests
Blocked per Day

Inside the Cisco IT Kitchen

What's in our kitchen?

Products & Services

Technologies

Tools

Talent

Business Outcomes

Inspiration



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IT Leadership Program

#CiscoLive

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Full E2E provisioning
of hybrid worker
network gear

HYBRID
WORKER
NETWORK

SECURE
CLOUD
INTERCONNECT

AIOps:
INCIDENT
MANAGEMENT

Secure Cloud
Onboarding

Out of band
connectivity
into network

AIOps to streamline
monitoring, alerting, and
incident management

BREAK
THE
GLASS

GDPR
& DATA
SOVEREIGNTY

Using Public Cloud to
support compliance and
regional deployment

BORDERLESS
ACCESS

Access Applications
from anywhere,
anytime

PASSWORDLESS
NETWORK
ACCESS

Frictionless Network
Access

CLOUDPORT

Cloudramp to
support Hybrid
Cloud and
Hybrid Work

OBSERVABILITY
WITH
APPDYNAMICS

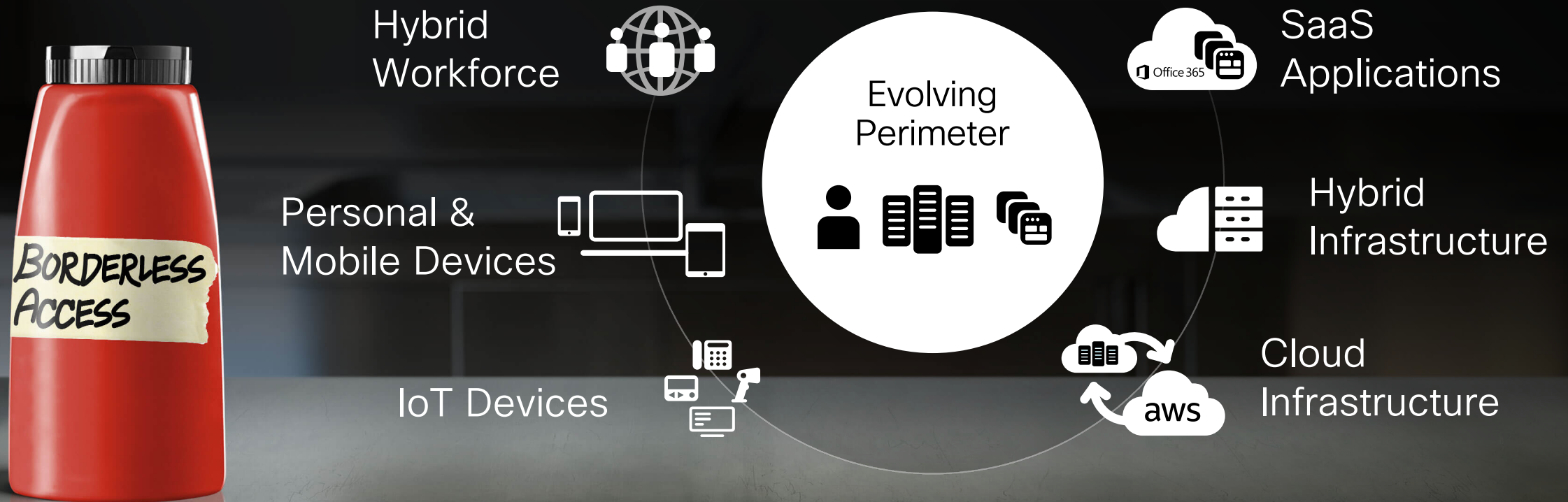
Enhanced Monitoring
and Visibility into
Applications

HYBRID
CLOUD
MANAGEMENT

Ease of Service
provisioning and
onboarding

#1. Borderless Access with Improved Authentication

Users, devices, and apps are everywhere



#1. Borderless Access with Improved Authentication

Business Case



Traditional network-based
perimeter and VPN model

Challenges

- Provide worldwide secure access
- Secure all users and devices
- Consistent Experience for users

Zero Trust framework

Give users a secure, uniform,
frictionless, experience to access
applications

Key Benefits

- Borderless application access
- Improved authentication experience
- Increased security – defense in depth

#1. Borderless Access with Improved Authentication Solution



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IT Leadership Program

Multi-layered Solution

User Identification and Login

Duo SSO simplifies access with one username and password

MFA prevents fraudulent login attempts

Trust Monitor detects abnormal login attempts

Adaptive access policies block risky login attempts

Trusted device

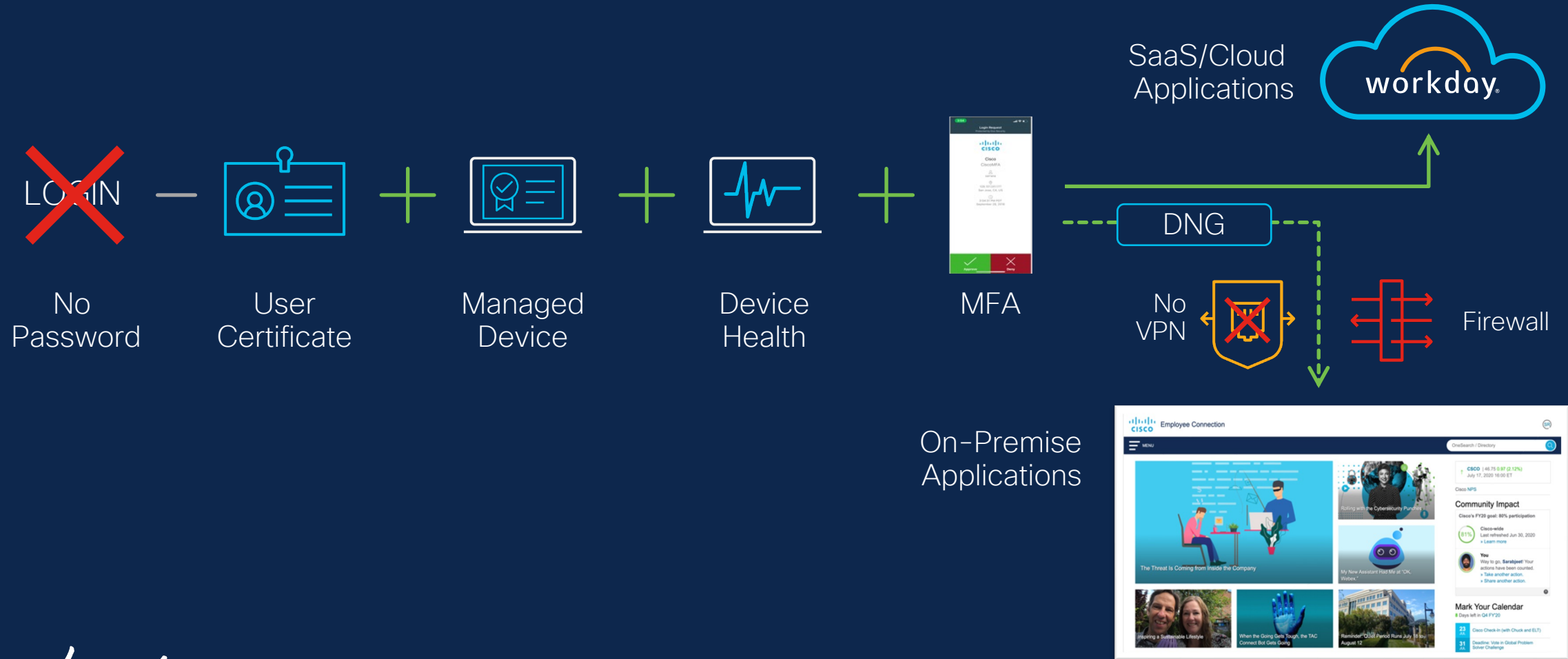
Duo Device Health app ensures devices are safe

Trusted Endpoints limits access to managed devices

Duo Network Gateway provides access without a VPN

#1. Borderless Access with Improved Authentication

- Access Flow



#1. Borderless Access with Improved Authentication

Outcomes



170,000+ devices
secured



130,000+
users onboarded
<1% of users contacted help desk



86,000 devices
remediated/month



410,000+ Fewer
VPN auths/month



5.76 million health
checks per month



Onboarded
100+ applications
in 5 months

#2. Passwordless Network Access

Business Case



Username, password, and multifactor authentication methods create frustration

Poor user experience

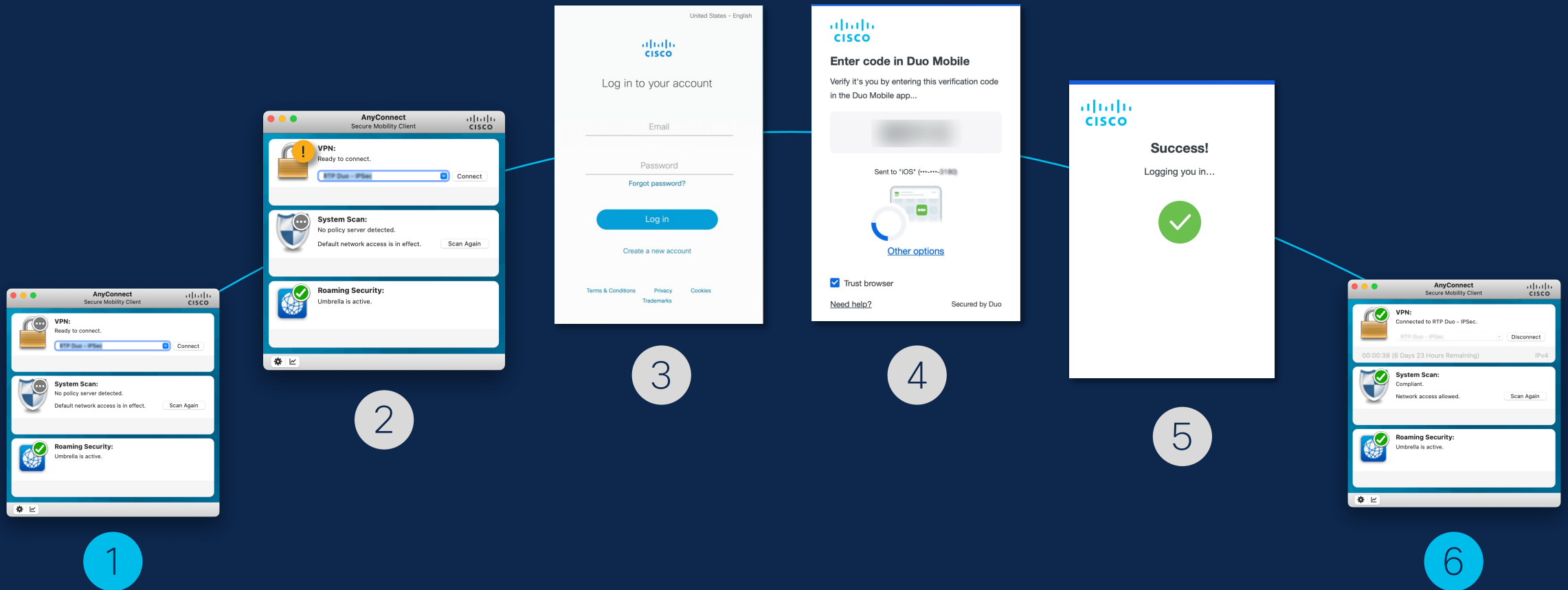
Complicated process

Password fatigue

Security risks

#2. Passwordless Network Access

User Experience: Old

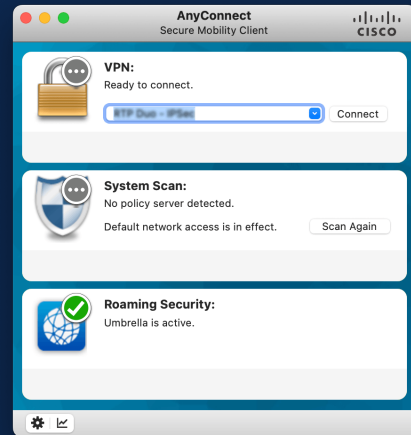


#2. Passwordless Network Access

User Experience: New

Automatic Connection

No password
or Duo prompt required



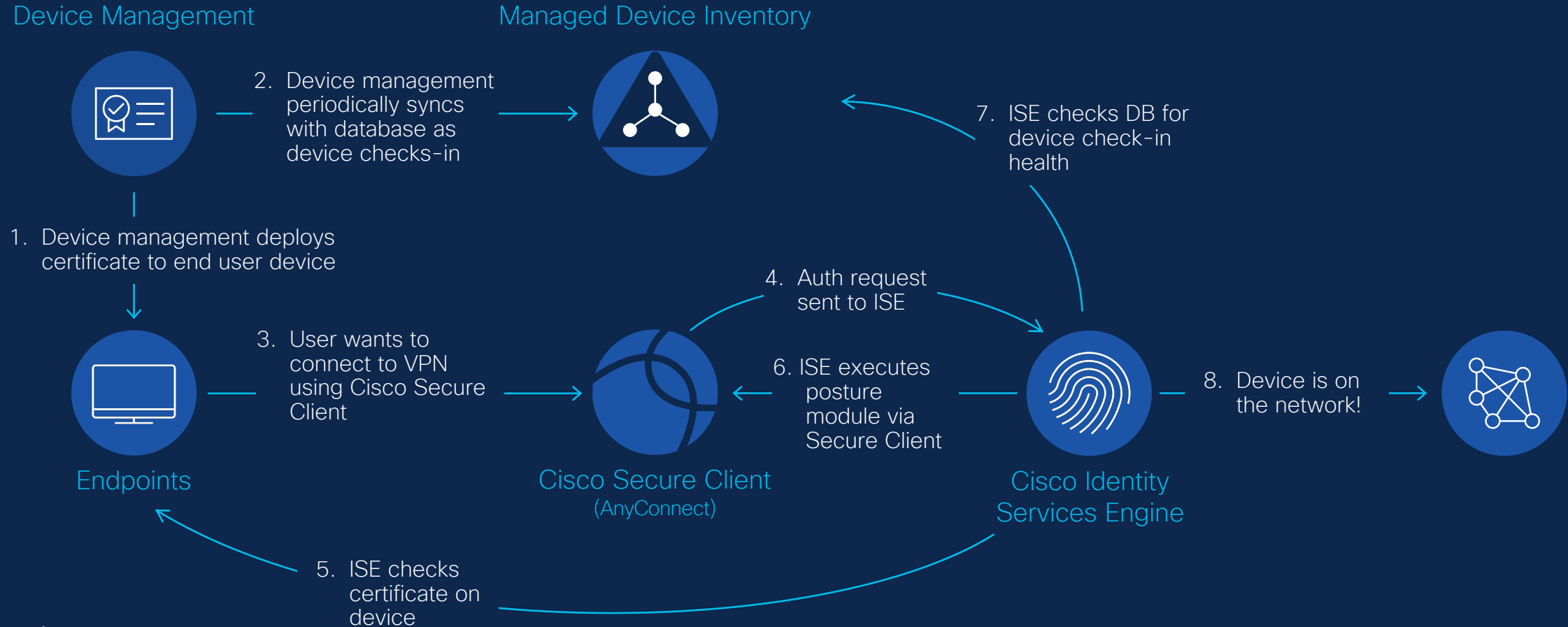
1



2

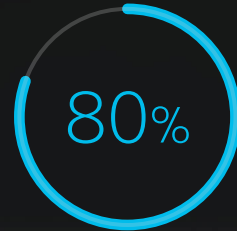
#2. Passwordless Network Access

- Architecture



#2. Passwordless Network Access

Outcomes



Reduction in VPN & password related cases

One-click connection

Reduced frustration and lost-time

Reduced time to connect

3,500,000 minutes saved per year

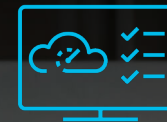
More Secure



On-device certificate



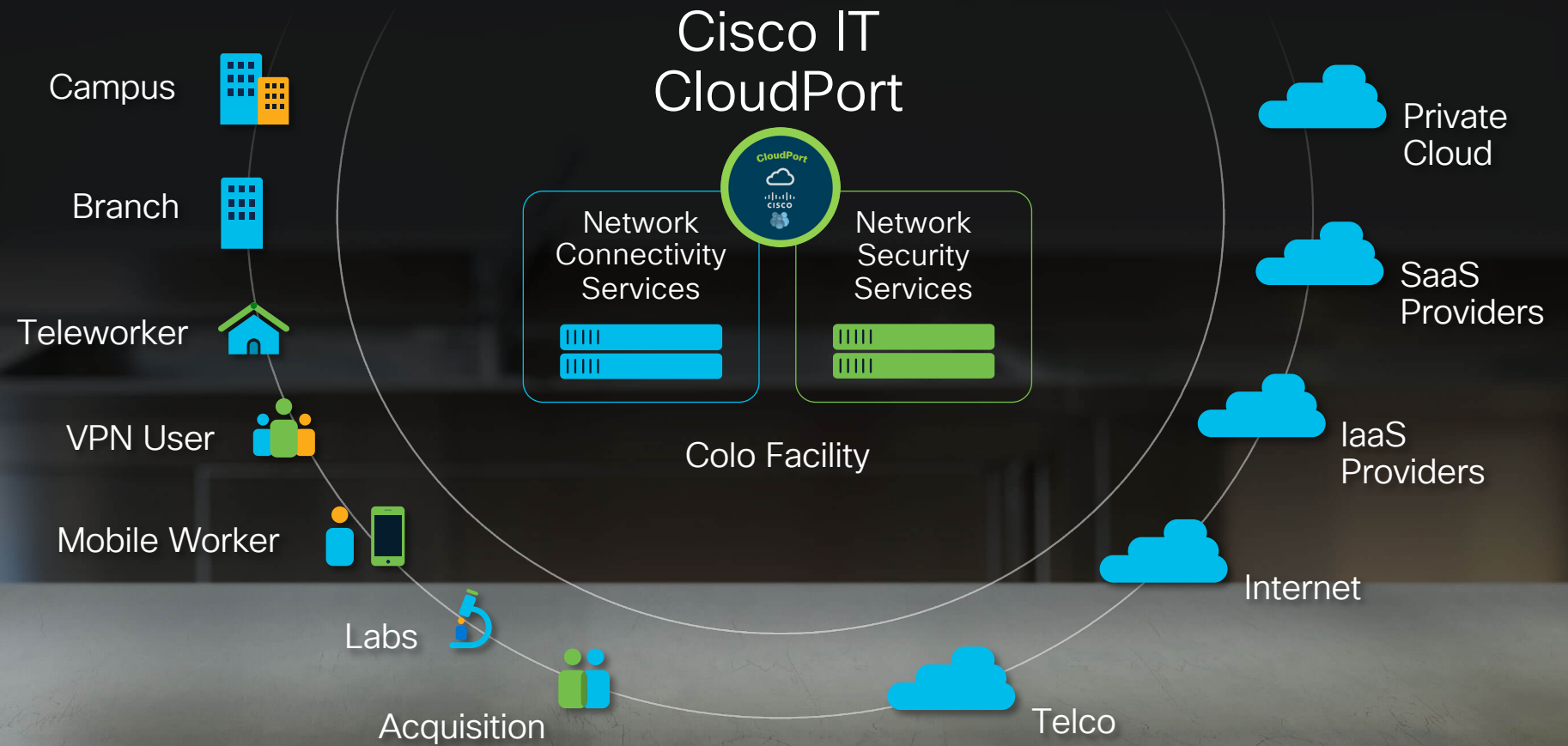
Posture check at time of connection



Device management system check

#3. Cisco IT's CloudPort

Business Case



#3. Cisco IT's CloudPort Solution



Fast and
Cost-effective
Connectivity

Select strategic
colo facilities
worldwide

Connect it.
Secure it.

Network
connectivity &
security
appliances
deployed

Highly Scalable
Backbone

100G backbone
& Internet
connectivity

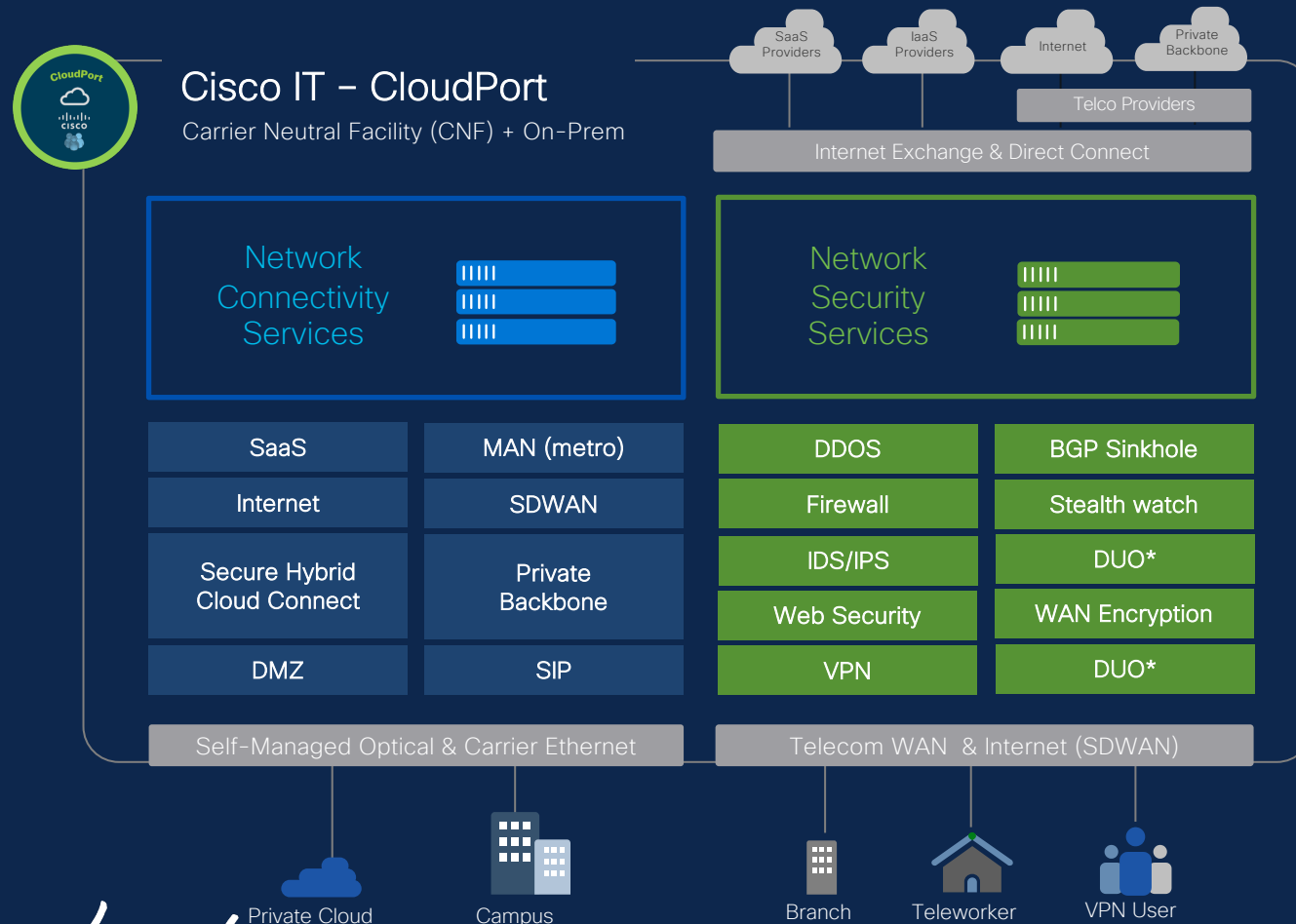
Internet
Exchange
Peering

Business
Enabling

Standardised
and automated
service
offerings

#3. Cisco IT's CloudPort

Built with Cisco Technology



Cisco on Cisco

INFRASTRUCTURE



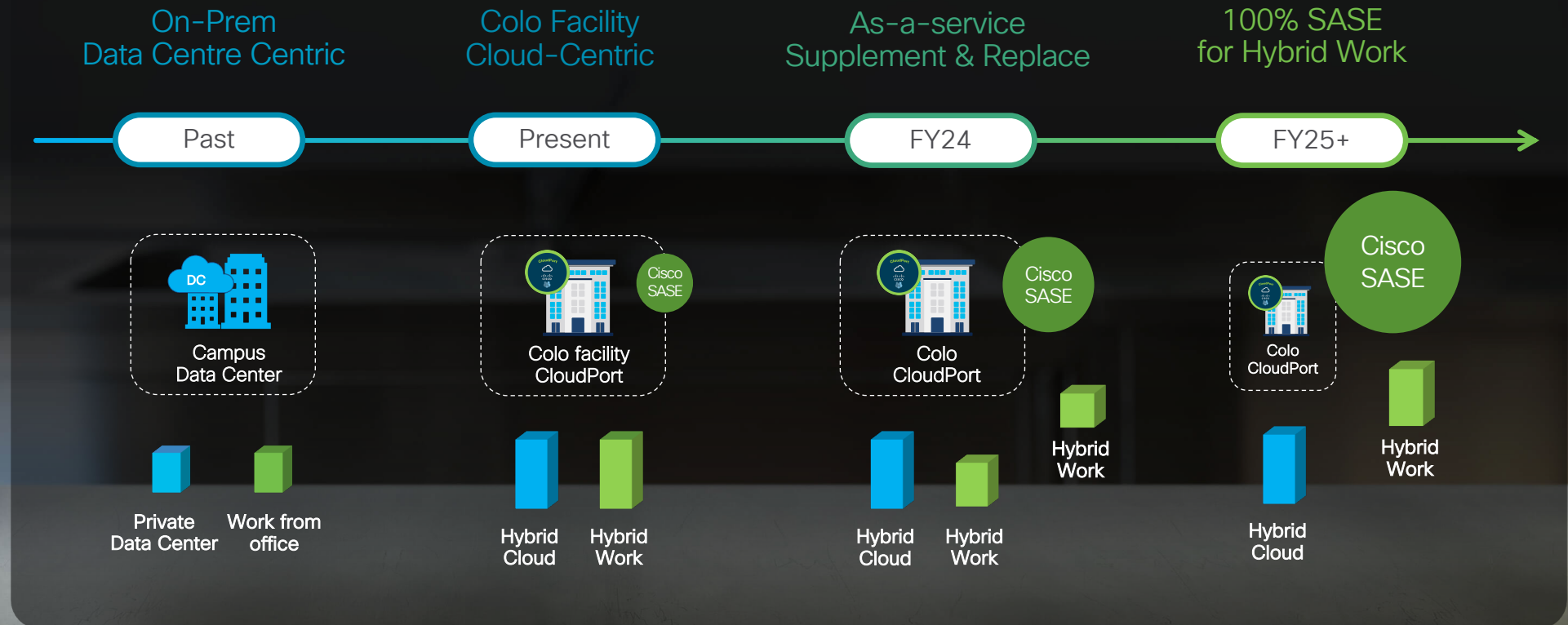
SOFTWARE



Leverage products across Cisco product portfolio to offer Network & Security services in a common platform !

#3. Cisco IT's CloudPort

Cisco IT's Cloud Edge Journey



#3. Cisco IT's CloudPort

Value / Outcomes



Optimise
IT Spend

Telco savings,
hardware
deduplication, and
simplification

Business
Agility

Easier and faster to react
to new business needs!

No significant issue
when the pandemic
started (build for scale)

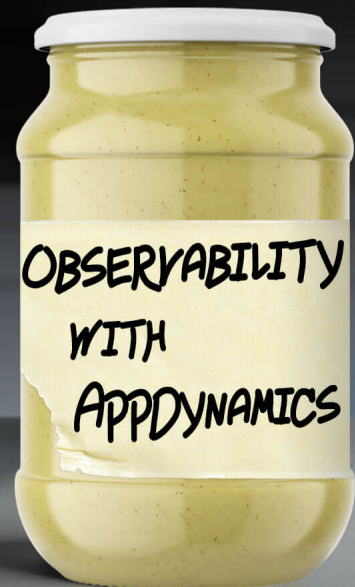
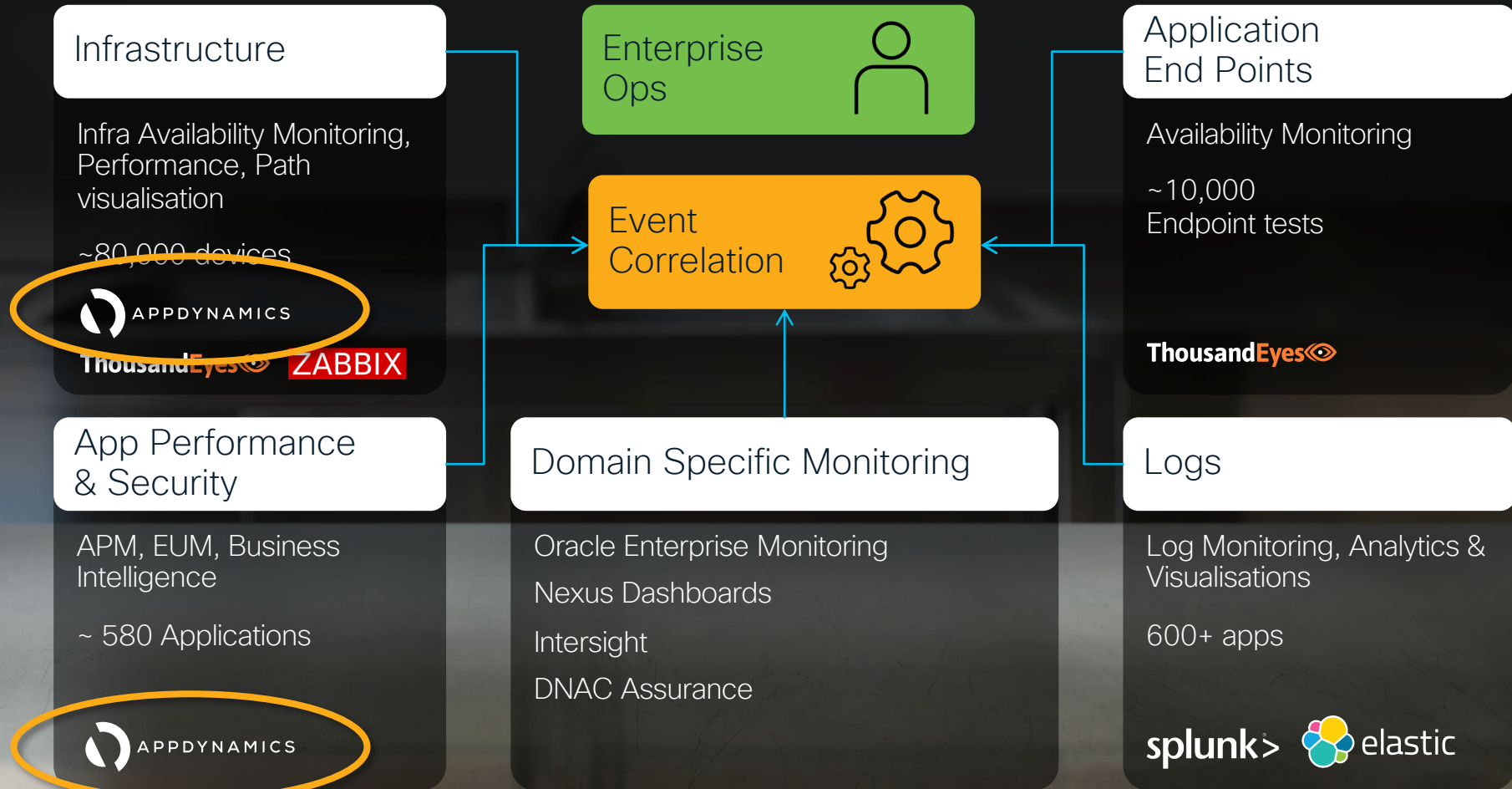
Better
Security

Security embedded into
the network design

A central point to see all
traffic and being able to
act if/when needed

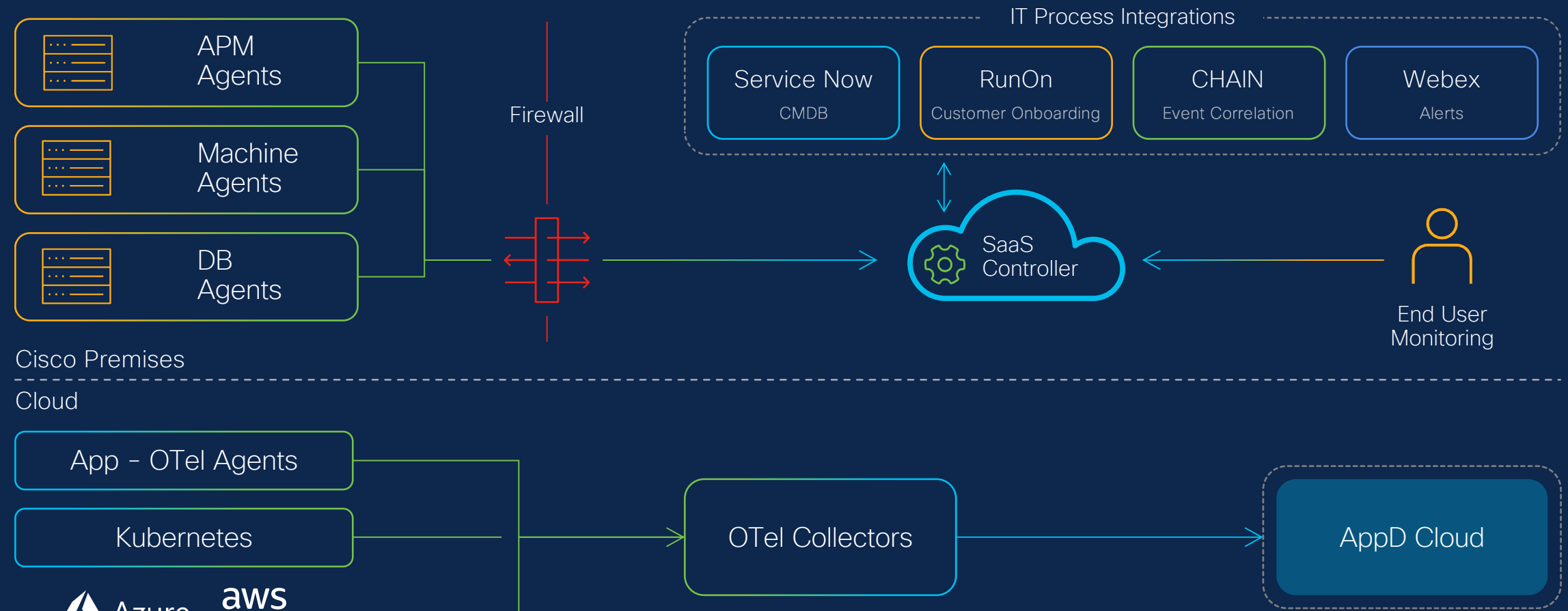
#4. Observability with AppDynamics

Complexity of the Observability Landscape



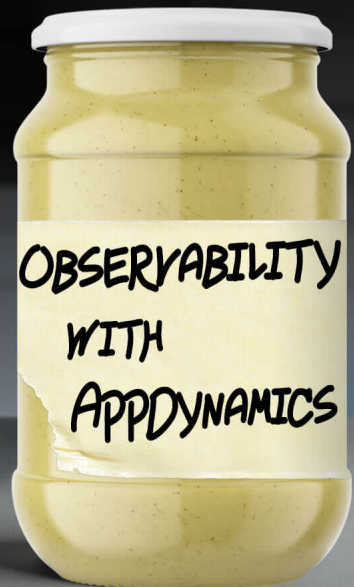
#4. Observability with AppDynamics

Integration Architecture



#4. Observability with AppDynamics

Scale & Adoption



720 M Data points
ingested per day



~6K
APM Agents



455
Server Viz Agents



1.9 M
EUM Page
views per day



208
DB Collectors

Cisco IT
Adoption



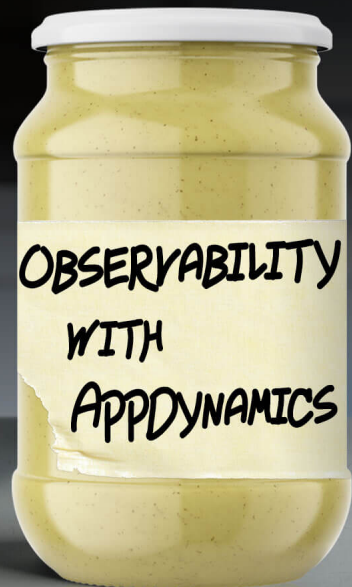
Business Critical
IT Apps
leveraging APM
and EUM

#4. Observability with AppDynamics

Application Monitoring Use Case

Support Case
Manager (SCM)

Critical application used
by Cisco Customers



Longer time to detect,
diagnose, resolve
issues

Monitoring based on alerts
from logs or customer
complaints

Lack of E2E monitoring: SCM
and dependent systems
monitored independently

Reacting to issues rather than
preventing them

Disconnected
Observe-Alert-Act
Lifecycle

Lack of proactive
monitoring and alerting
mechanism

Manual correlation and
analysis

No insight into E2E user
experience

Operational challenge
faced in Early years

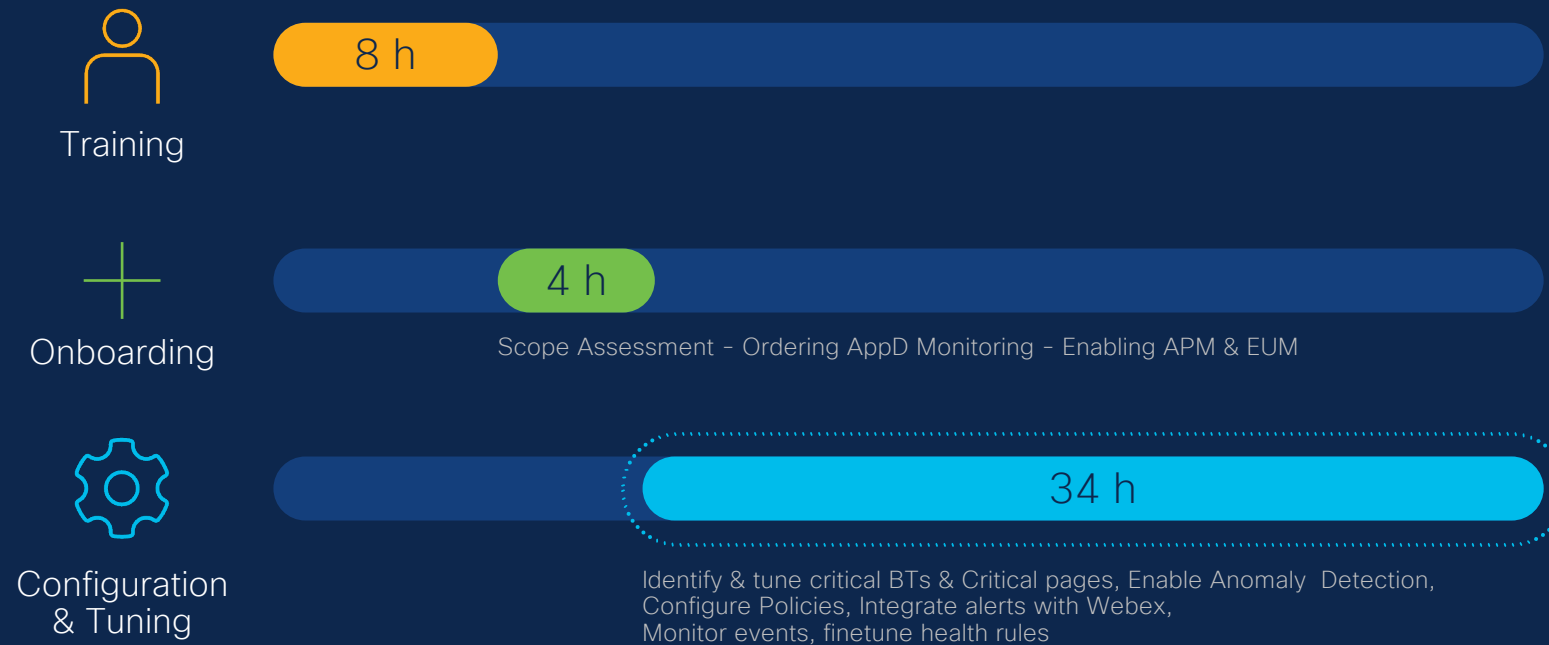
28 Incidents

Biz Outage
58 Hours

#4. Observability with AppDynamics

Time to Value: Support Case Manager

Time to value Reduction: 160 to 46 hours



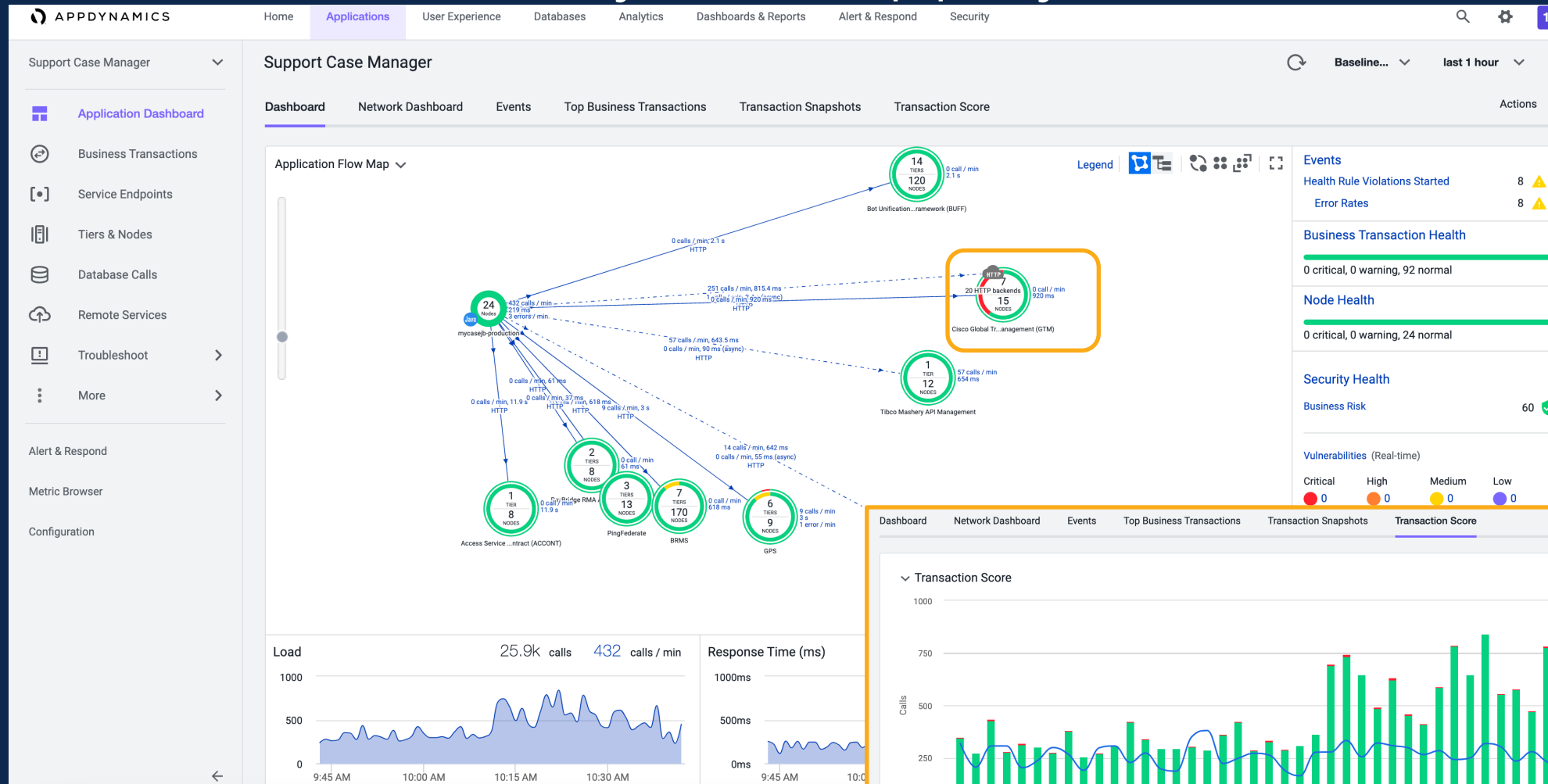
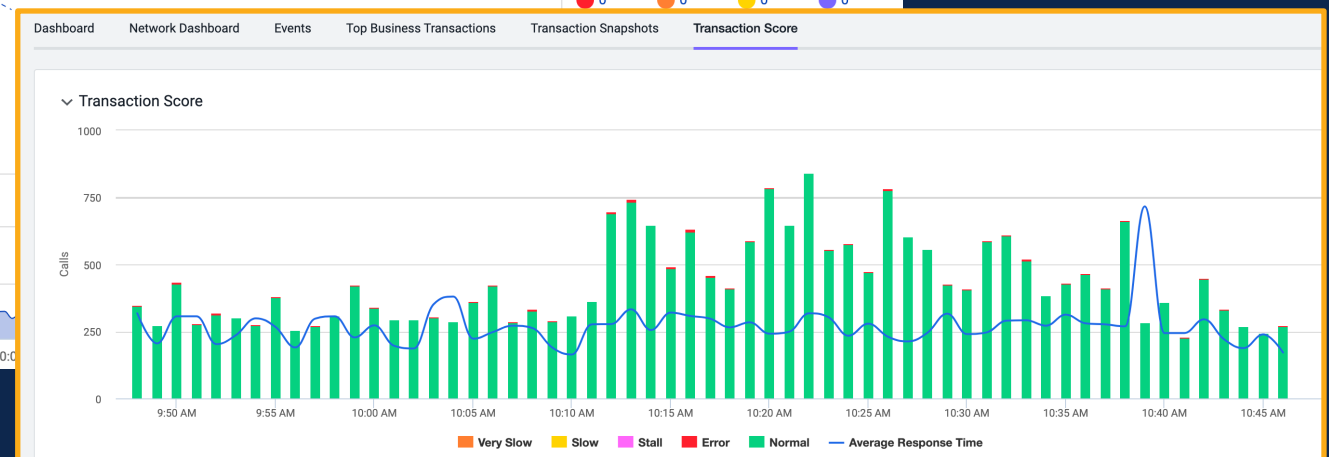
Value Realised

17% of incidents avoided

50% reduction in MTDD/MTTR

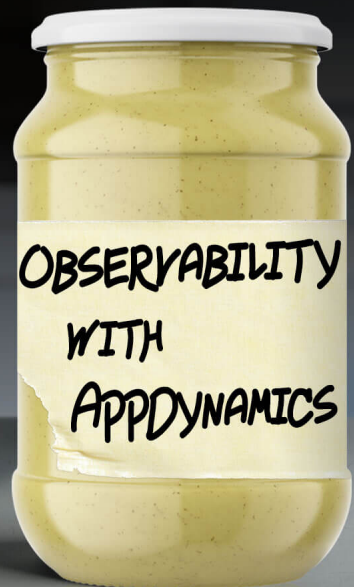
Uptime 99.9%
up from 99.54%

#4. Observability with AppDynamics



#4. Observability with AppDynamics

Outcomes/Benefits/Lessons Learned



Improved Service Health

Improved service availability from 99.54% in Q4 to 99.9%

Observed 50% reduction in MTTD thanks to correlation, analytics and E2E view

Multiple incidents being avoided through proactive AppD monitoring

Key Learning

End to automation and integration with the eco system

Simplified and guided onboarding of business transactions is the key to broader enterprise adoption

#5. Hybrid Cloud Management

Business Challenge



Multiple Cloud Providers & Services

Varied user experiences and operating models

Multiple technologies and services

No economies of scale

Decentralised Governance

Inconsistent security policy and vulnerability remediation

Lack of tech architecture and gates

Lack of cost visibility

Support & Operations Challenges

Non standardised onboarding

Lack of NOC visibility

Fragmented solutions leading to cost escalation

#5. Hybrid Cloud Management

Solution



Common Interface

- Private and Public Clouds
- Common tools
- Platform-agnostics
- Infrastructure-as-Code
- Self service

Security & Governance

- Standards for scale built in
- Centralised logs and reporting
- Maintains compliance

Production Operations

- Centralised SRE / CloudOps
- Vetted, interoperable cloud service recommendations

MultiCloud
Manager

My Dashboard



My Tenants



Transactions Log



Inventory Search



Tenant Access

⚠️ **Multiple CRs** - The OpenStack cluster in RTP will be updated from the OSP 13 (Queens) to OSP 16.2 (Train) version from May 6th to June 11th, 2023. Clients using ephemeral flavors will be impacted for up to 4 hours as the underlying hypervisor is upgraded.

Due to CR [CNS-1506036](#) and [CNS-1506037](#) on indexers OS upgrade, some Splunk services via MCMP are not available. Please reach out to enterprise-splunk-support@cisco.com instead.

[Home](#) [Multicloud Manager](#) / Tenants

Tenants (Total 4851)

Search by name



Add Tenant

Request Tenant Access

Summary View

Detailed View

Select an existing tenant to continue provisioning or create a new tenant by clicking "Add Tenant" button.

Name	Classification	Description	Created On	Funded	My Tenant Access Level	Health	Cert Status	
STP34911264...	Sandbox (POC)	AMS STP34911...	05/04/2023	YES	View Only	UNHEALTHY	CERTIFIED	
1 Password	Enterprise Appl...	1 Password SCS...	09/22/2022	YES	View Only	HEALTHY	CERTIFIED	
10x10p	Sandbox (POC)	10x with 10% P...	11/08/2022	NO	View Only	HEALTHY	EXPIRED	
3D-IT-PCW-B...	Enterprise Appl...		03/26/2020	YES	View Only	ORPHANED	EXPIRED	
3DIT QA Auto...	Enterprise Appl...	3DIT QA Autom...	11/30/2018	YES	View Only	HEALTHY	CERTIFIED	
3DIT QA Dash...	Enterprise Appl...	This is for creat...	02/19/2020	YES	View Only	HEALTHY	CERTIFIED	
3G Core NF	Sandbox (POC)	POC to create NF	04/13/2023	YES	View Only	HEALTHY	CERTIFIED	
3Gcore NF-1	Sandbox (POC)	Test account for	05/19/2021	YES	View Only	UNHEALTHY	EXPIRED	

Tenant
Management



Add AppDynamics Project

Name

Description

Team Alias

Alert Alias

Admin AD Group Users

View AD Group Users

AD Group Owners

Tenant Budget Limit (Qtr) Remaining Tenant Budget (Qtr) Estimated Service Cost (Qtr)

Quota

Application Performance Monitoring (APM)

Application Group Name

Microservice Instances to be monitored (Qty)

Non-Microservice Instances to be monitored (Qty)

End User Monitoring (EUM)

Application Group Name:

Number of estimated Page Views (Qty)

Number of estimated Units (Qty)

Once tenant and fund is established you can start ordering your services



Classification: Enterprise Application Internal Access Level: Administrator

Health Status: HEALTHY Certification Status: Certified

Budget Management

Access Control

Flex Group Management

Budget:
\$100,000,000.00



Spent: \$0.00

Budget Limit (Qtr):	\$100,000,000.00	Total Remaining Budget (Qtr):	\$99,999,623.55	Actual Spent (Qtr):	\$0.00
Total Estimated Cost (Qtr):	\$376.45	Remaining Central-IT Budget (Qtr):	\$0.00	Actual Spent (Month):	\$0.00
		Remaining Department Budget (Qtr):	\$99,999,623.55	Projected Spend (Qtr):	\$0.00

[Consumption Report](#)

Six Months Consumption

Cisco IT Cloud

AWS Cloud

Azure Cloud

GCP Cloud

Traditional Services

Total Estimated Spend
(Qtr): **\$361.45**

Total Actual Spent
(Month): **\$0.00**

Sort Service Group By: **Narr**

Search by name



Cost
Visibility

> **ig1** [Details](#) Business Application: RunOn - Lifecycle: PROD - Service Group Actual Spent (Month): \$0.00

> **ig2** [Details](#) Managed Business Application: RunOn - Lifecycle: PROD - Service Group Actual Spent (Month): \$0.00

> **ig_managed_1** [Details](#) Managed Business Application: RunOn - Lifecycle: PROD - Service Group Actual Spent (Month): \$0.00

MultiCloud
Manager

My Dashboard



My Tenants



Transactions Log



Inventory Search



Tenant Access

⚠ Multiple CRs - The OpenStack cluster in RTP will be updated from the OSP 13 (Queens) to OSP 16.2 (Train) version from May 6th to June 11th, 2023. Clients using ephemeral flavors will be impacted for up to 4 hours as the underlying hypervisor is upgraded.

Due to CR on indexers OS upgrade, some Splunk services via MCMP are not available. Please reach out to instead.



Projected Spending

Spent: \$3,465.55

Budget Limit (Qtr) :

\$40,050.00

Total Remaining Budget (Qtr) :

\$29,942.66

Total Estimated Cost (Qtr) :

\$10,107.34

Remaining Central-IT Budget (Qtr) :

\$19,765.63

Remaining Department Budget (Qtr) :

\$10,177.03

Actual Spent (Qtr) :

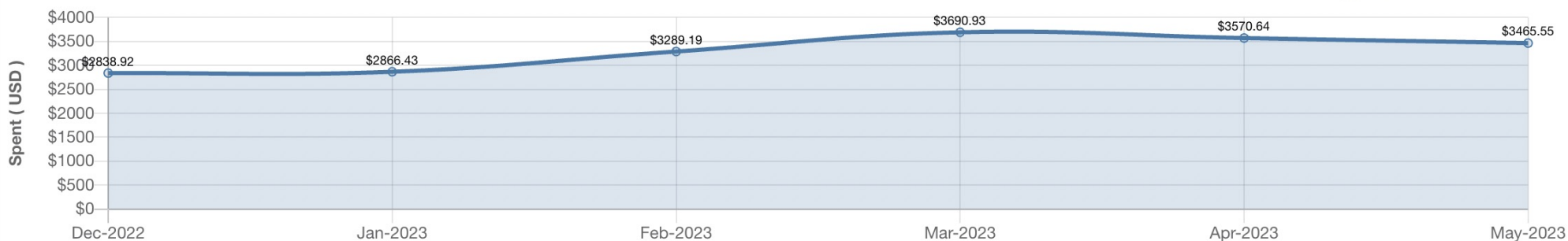
Actual Spent (Month) :

Projected Spend (Qtr) :

Consumption Report

Consumption
Trend

Six Months Consumption

Filter by provider: ☒ Cisco IT Cloud ☒ AWS ☒ GCP ☒ AzureChart Area Bar Line
Type:

Cisco IT Cloud

AWS Cloud

Azure Cloud

GCP Cloud

Traditional Services

CISCO Live!

IT Leadership Program

#5. Hybrid Cloud Management

Outcomes



Standardised,
Secure and
Managed at Scale

Unified UX

Common GitOps pipeline

Integrated foundational
services

Improved security
posture

Cost
Optimised

Common tooling and
enterprise-standard
services

Best-fit cloud provider
and services

Vendor lock-in
avoidance across
application portfolio

Efficiency-Driven

Economies of scale
through standardisation

Increased business
agility

Application teams can
focus on solving
business problems

What's in our kitchen?

Products & Services

Technologies

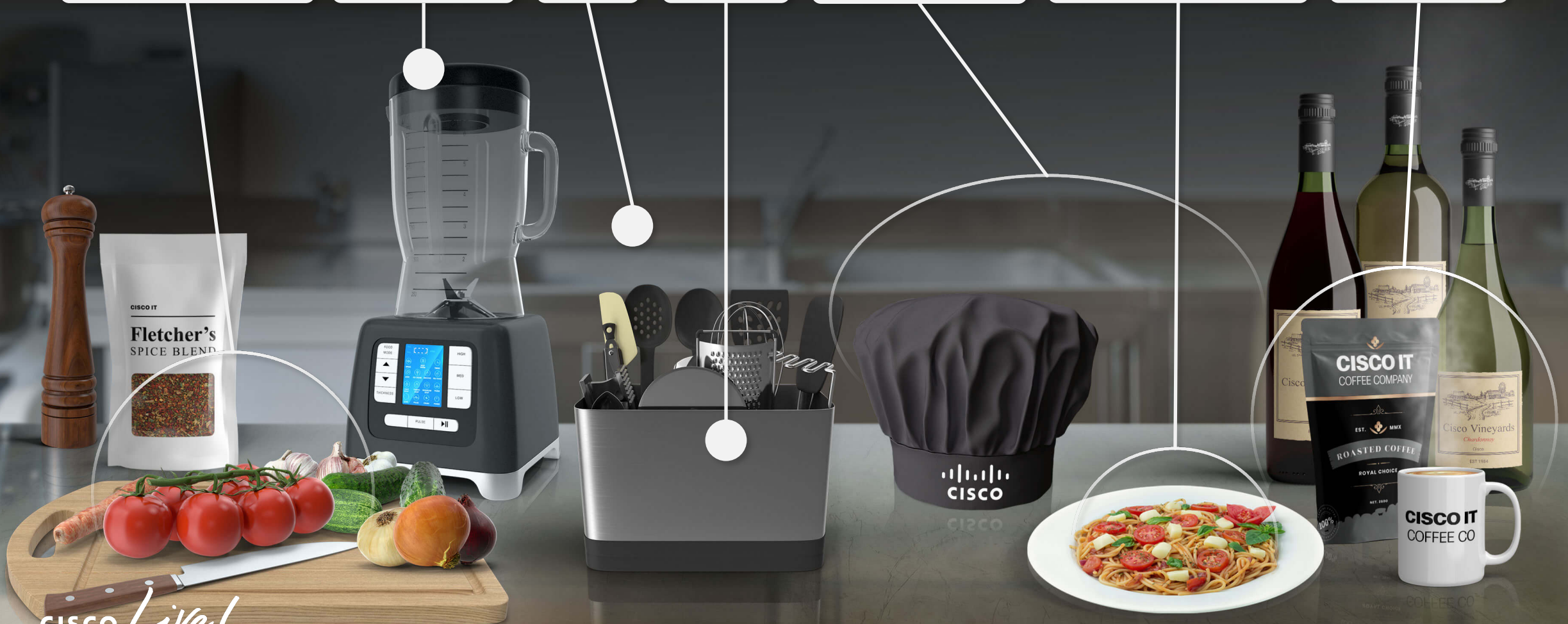
Tools

Talent

Secret Sauces

Business Outcomes

Inspiration



IT Leadership Program

#CiscoLive

What's are we working on now

SASE

Controller Driven Network

Sustainability

Smart buildings

Full stack observability

Exploring AI