AWS re:Invent

NOV. 29 – DEC. 3, 2021 | LAS VEGAS, NV

EUC201

The future of virtualization and workforce agility

Muneer Mirza
General Manager
of End User Experiences
AWS

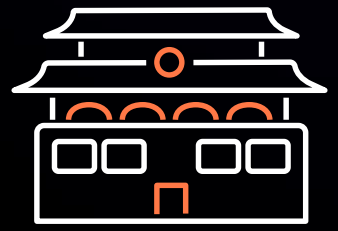
Kellie Green
Director of Amazon IT Services
AWS

Jason Skaria
Chief Information Officer
Sitel Group

Ryan Church
Chief Technology Officer
IHS Markit

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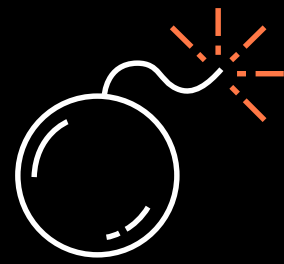
Secure access for the workforce is getting harder



Global shift to hybrid and remote work models



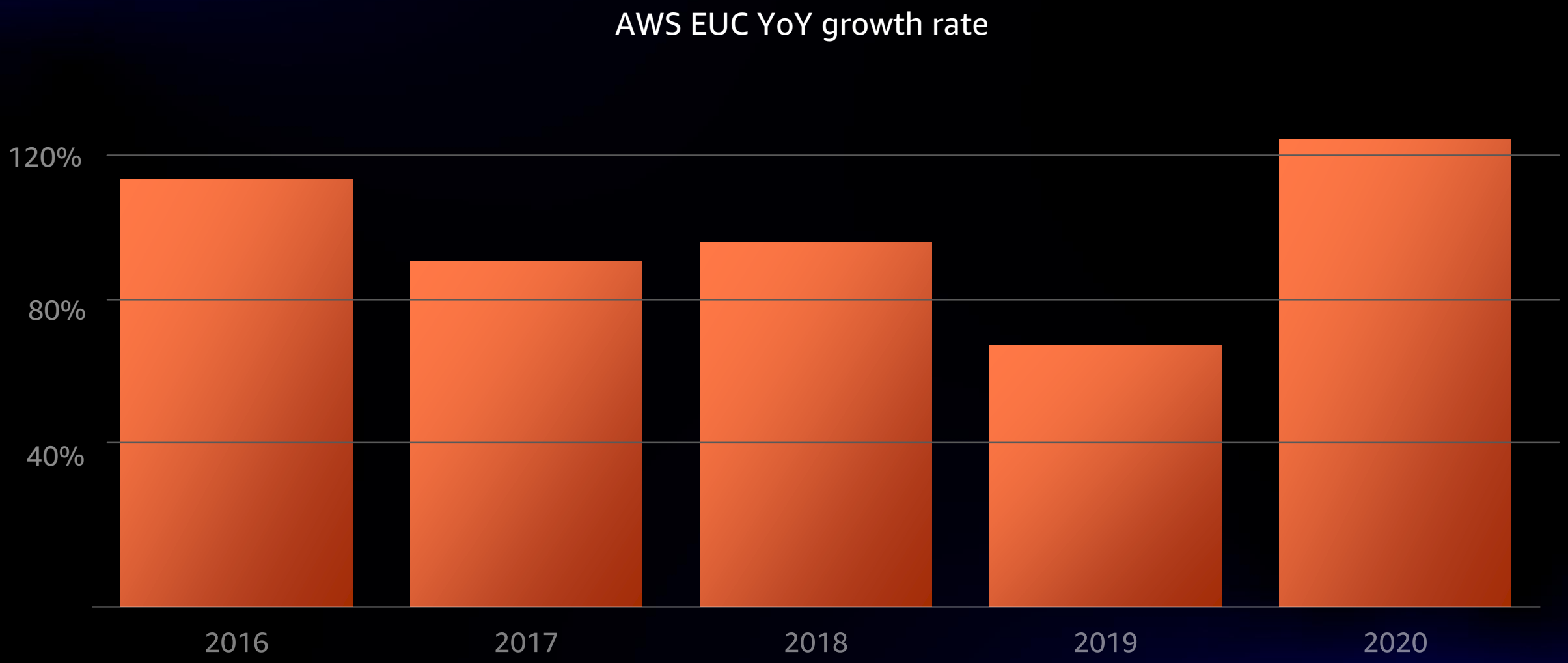
Importance of data security



Radical change happens overnight

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AWS End User Computing is growing quickly



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Amazon WorkSpaces

Cloud Native Persistent desktops

Amazon AppStream 2.0

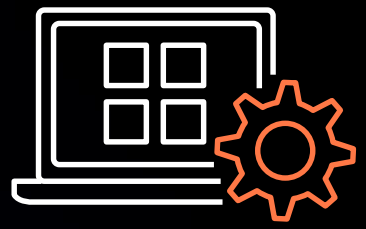
Cloud Native Non-persistent applications and desktops

Mission



END-USER

Enable workers to get their job done securely from wherever they need to be



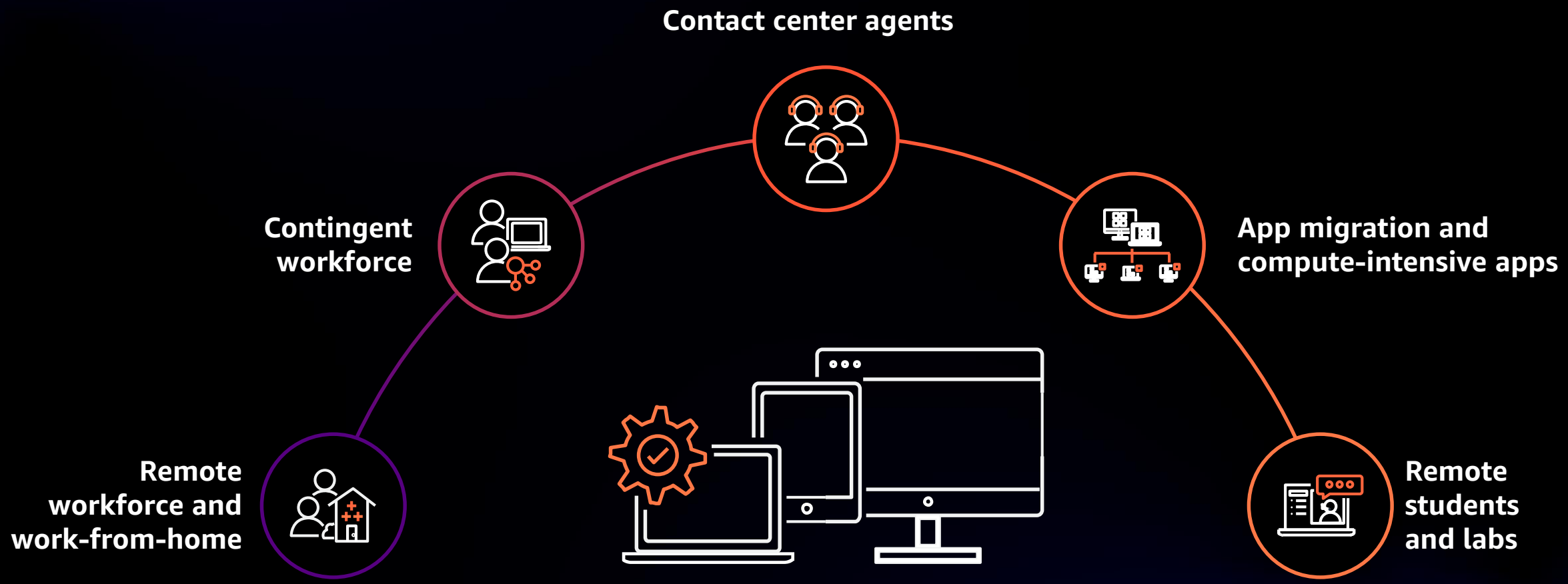
ADMIN

Help IT react to changing conditions and plan for the future with confidence

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Solutions for all your worker types



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The future of virtualization is happening now



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Thank your for trusting us with your most critical business

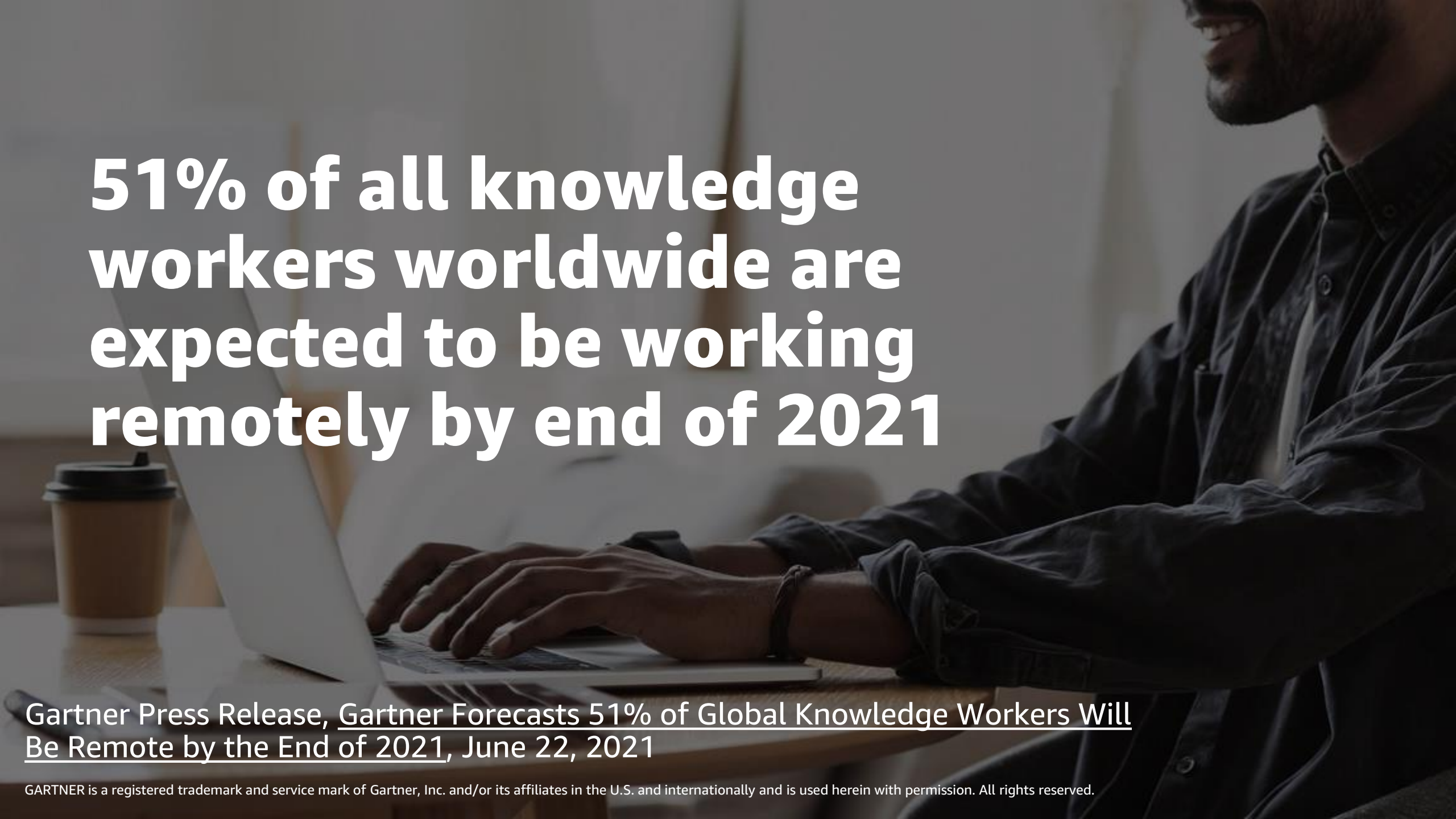


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Maximize workforce flexibility

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51% of all knowledge workers worldwide are expected to be working remotely by end of 2021

Gartner Press Release, Gartner Forecasts 51% of Global Knowledge Workers Will Be Remote by the End of 2021, June 22, 2021

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Maximize workforce flexibility

WHAT'S IMPORTANT?



Fully managed



Elastic



The right end-user experience

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Maximize workforce flexibility

WHAT'S NEW—2021 INNOVATIONS

WorkSpaces

Seamless protocol migration

Video-In/Webcam support

64 Bit Office Pro Plus 2019 Bundles

Windows Server 2019 Bundles

AppStream 2.0

AppStream Linux

Migrate Windows apps to Linux and save costs

XXL Fleets

Large scale fleets enabling 50k instance per fleet (up from 5k instances)

Amazon IT Services—client engineering

Manages the company's client devices including Amazon WorkSpaces, Amazon Chime, Amazon WorkDocs, MDM and Client Management



Kellie Green

Director, Amazon IT Services

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How Amazon used WorkSpaces before COVID



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Recent challenges due to COVID-19 pandemic

With many Amazonians working from home and all new-hire onboarding being conducted virtually a solution was need support business continuity

Security	Agility	Cost	Scale	Support	Global Operations
Support for BYOD	Slow delivery of physical devices	Shipping costs + unused instances	Large number of provisioning requests	No local IT support	Supply chain shortage

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New use cases: COVID and beyond



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The solution

Scale



Sustained a WoW growth of ~5K WorkSpaces

Bulk provisioning



New hires provisioned on Friday evenings for Monday orientation

Self-service



Web portal for WorkSpace provisioning and management

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Business impact

IT agility



2 engineer weeks scaled from 25K to 175K

Cost savings



88% hourly instances that automatically stop if users are not using them

Security



6K restricted WorkSpaces

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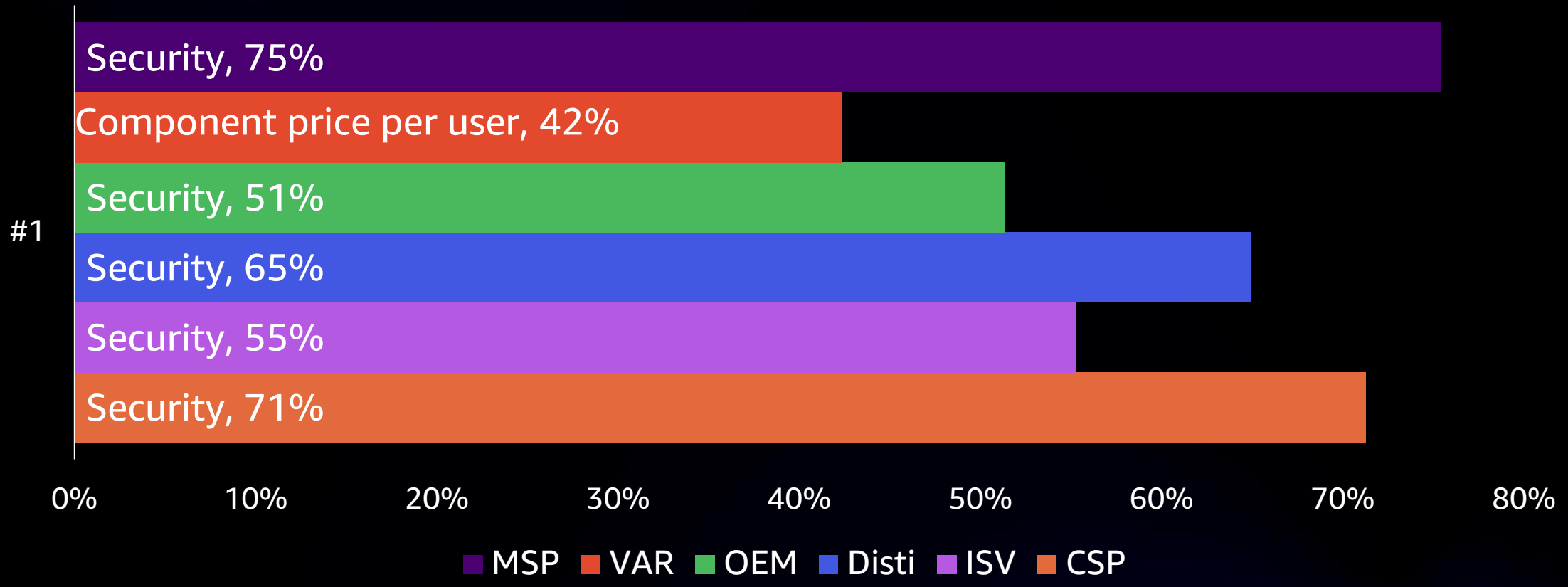
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Increase security

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We’re listening to you…… security matters

Please rank your top 5 factors when considering a vendor to purchase from for your VDI solution.



Source: IDC, October 2021

100% means ranked #1 by all respondents

N=484 VDI Intenders

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Increase security

WHAT'S IMPORTANT?



Protect company data



Meet compliance mandates

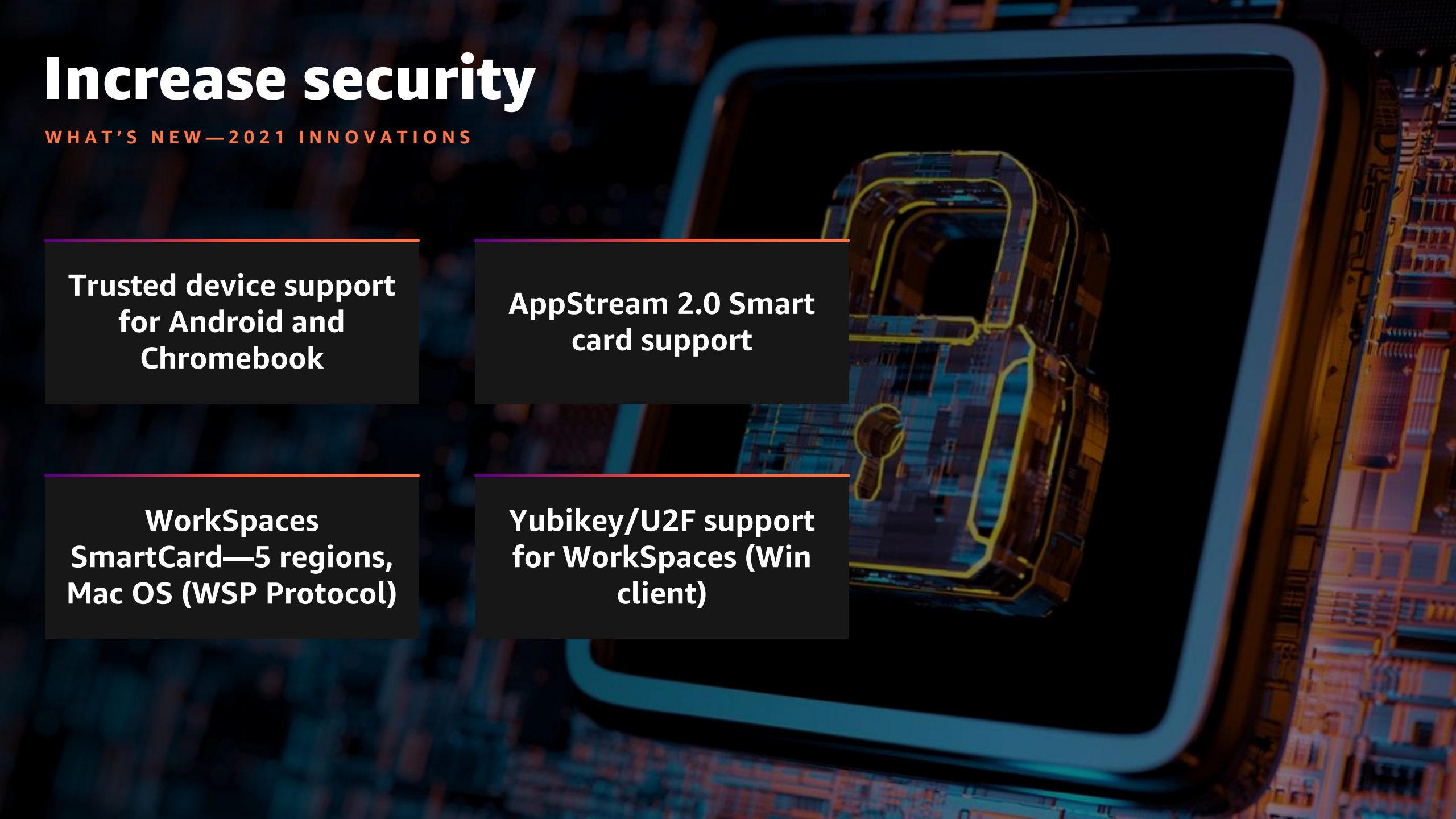


Accelerate to zero trust

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Increase security

WHAT'S NEW—2021 INNOVATIONS



Trusted device support for Android and Chromebook

AppStream 2.0 Smart card support

WorkSpaces SmartCard—5 regions, Mac OS (WSP Protocol)

Yubikey/U2F support for WorkSpaces (Win client)

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160K
Employees

40
Countries

700+
Customer brands

50+
Languages

8M
Conversations daily

Jason Skaria
Chief Information Officer,
Sitel Group®

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Our 2020 **Challenge**

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Pre-pandemic

- Services delivered primarily in-center (circa 96% of workforce)
- Technology stack built upon Microsoft, SCCM, GPO

Remote work landscape

- VPN for remote back-office support and travel
- Sitel at Home™ solution built using 3rd party VDI service (~3,000 Users)
- AWS Workspaces (~300 users)
- Client at Home solutions (~ 2500)

Challenges

- Clients refusing to allow work-at-home
- Clients insisting on same controls as in-center

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Building our **solution**

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3rd Party VDI provider

- Challenges to scale

Strategy meetings with GNS, Sitel at Home™ teams and Server Engineering

Rapid Training of Engineering Teams



VPN

- Limited by existing bandwidth and hardware
- 20K maximum estimated capacity

AWS

- Successful testing of softphone technology
- Scalable and easy to adopt

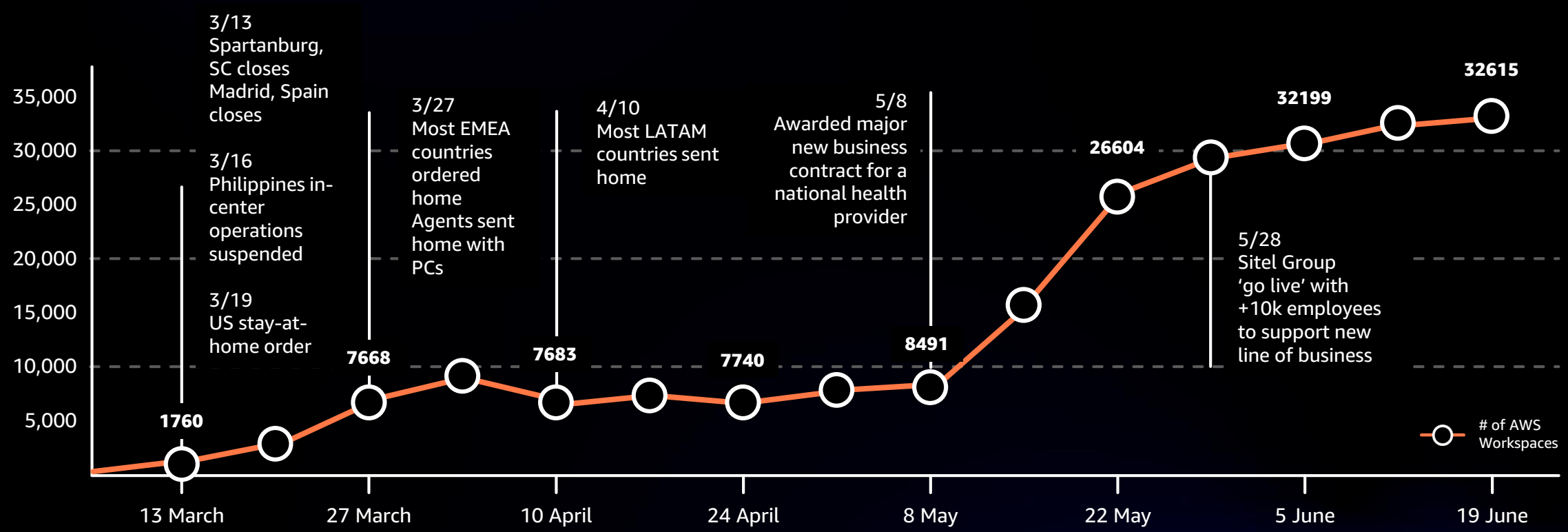
Customized builds per client

Overcoming hard limit of 50 directories per account

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Building our **Solution**



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Building Our **Solution**

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AWS Users Pre-Pandemic

Employees Moved to Virtual in < 25 Days

New Employee Workspaces for Client in < 16 Days

AWS

- Successful testing of softphone technology
- Scalable & Easy to adopt

AWS PCI certification obtained on 8/3

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Our **world today**

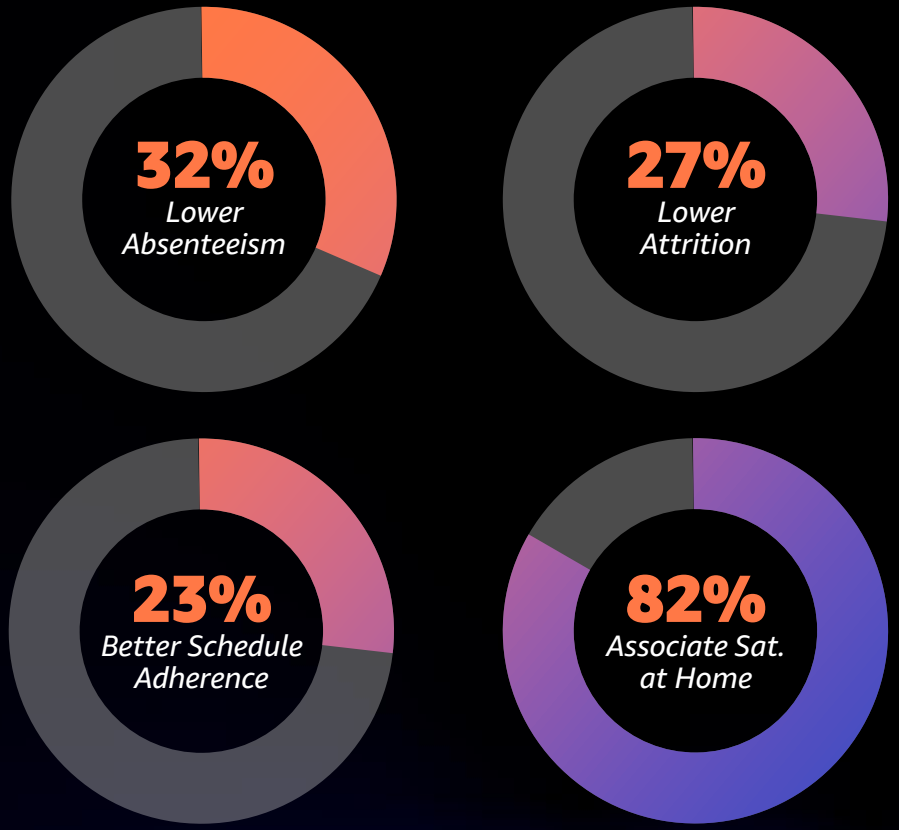
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65K
Virtual Employees

30K
AWS Workspaces

40
Countries Globally

18%
Year-on-Year Growth



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There when you need it

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The complexity of managing and operating an incorrectly architected system are evident

It takes on average, 4.8 days to deploy a virtual desktop to a user

Source: IDC, August 2021

Data depicted in mean days

N=497 VDI Adopters

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There when you need it

WHAT'S IMPORTANT?



Reliability



Global Availability



99.9% uptime

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There when you need it

WHAT'S NEW—2021 INNOVATIONS

Performance analytics—CloudWatch Events

AppStream 2.0 in London

WorkSpaces in APAC—Mumbai

Bundle Management APIs for WorkSpaces

IHS Markit® | WSO



Ryan Church
Chief Technology Officer
WSO at IHS Markit

$650B+
Assets under management
Fully outsourced services

200+
Customers

43K+
Trades/month

147
Secure Client Environments (SaaS)

650+
Daily users (AppStream2)

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WSO technology and industry challenges

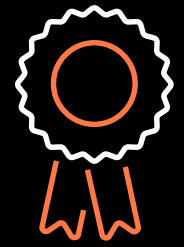
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Industry regulators decommission LIBOR



Limitations of traditional software delivery



High availability requirements for financial services

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Migration journey of WSO to Amazon AppStream 2.0



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Client migration from on-prem to SaaS infrastructure

Delivery cadence and SLA improvements

Release pipelines and upgrade artifacts

Platform migration from multi-tenant and single tenant offerings

Single tenant SaaS solution

Improving delivery cadence & reliability

Platform migrations

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Business impact to WSO

STREAMLINED APP RELEASE

- 40 hours reduced to 3 hours
- 600 releases per year in 2021
- 1500+ releases estimated for 2022

SaaS EXPANSION

- No code rewrite
- 49 SaaS customers with 650+ daily users
- Migrated platforms with 200+ customers

IMPROVED AVAILABILITY/RELIABILITY

- Faster time to market on new functionality
- Zero downtime deploys
- Automated cross–regional recovery
- Achieving 100% availability
- Migration of outsourcing businesses from data centers

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A company that puts you first

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You're helping us define and shape the future of work with end-user computing (EUC)



- Tens of thousands of EUC customers
- Over 2000 EUC customers at re:Invent
- Over 100 executive customer meetings for EUC at re:Invent
- Over 30 new customer participants in our EUC reference program

Challenges



Secure browser traffic, enabling only the access users need to be productive

Existing solutions are overly complicated, overly permissive, or both, for users who just need browser-based access



Existing solutions can be high in cost and unpredictably priced

They can come with high costs, complex operations, upfront contracts that restrict agility, and usage can be challenging to forecast

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“Many of our users just need access to a handful of websites in order to be productive ”

Ervin Sala

VP IT - Centerfield

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Introducing Amazon WorkSpaces Web

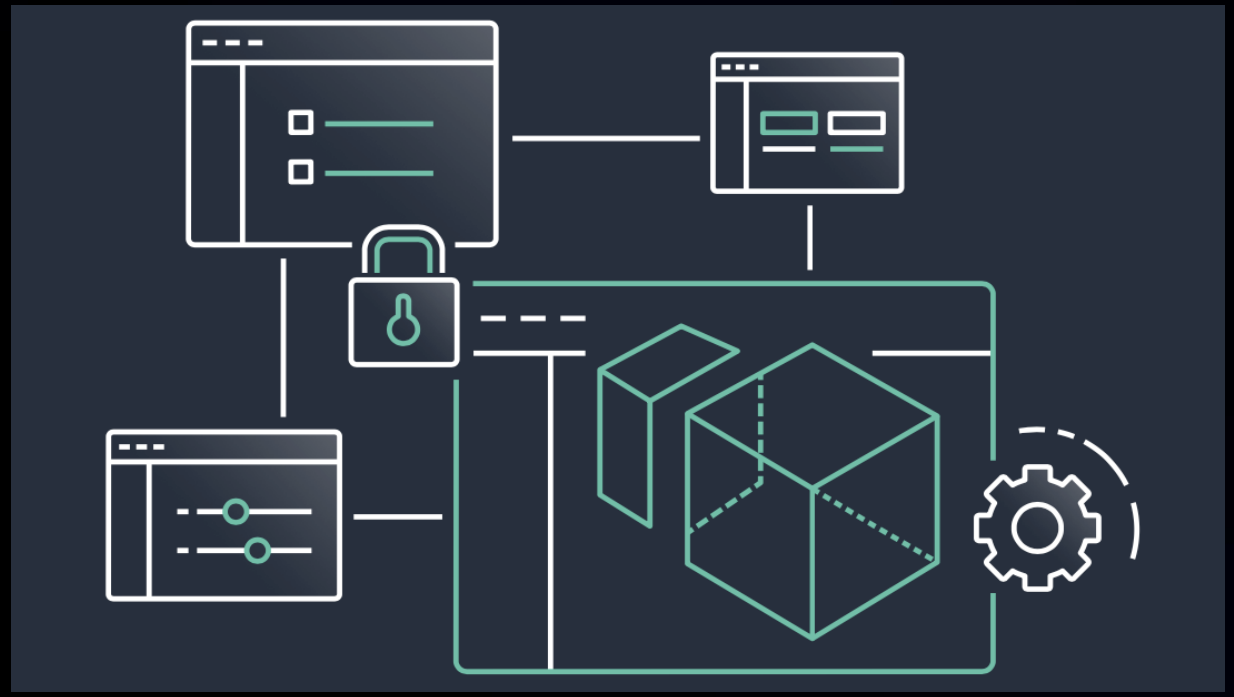


New browser-based WorkSpace built specifically to facilitate secure, web-based workloads

Fully managed, predictably priced, **with enterprise controls**

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WorkSpaces Web use cases



Secure browser-based productivity environments

Secure browsing for users who just need access to internal websites and SaaS web applications

Safe web browsing from high security networks

Enable safe browsing on the public internet with an effective barrier against attacks packaged in web content

Light weight bring your own device (BYOD) browser-based access

Simple, secure, and isolated.

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WorkSpaces Web benefits



Secure browser traffic

Company data never resides on remote devices

On like a light switch

On demand, automatically provisioned and updated

Cost Optimization

Low cost, predictably priced, with no upfront commitments or contracts

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Challenges with variable usage



Cost estimation challenges

Difficulty predicting costs to align with variable demand

Complex capacity management

Allocate resources to manage complex scaling rules for capacity

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Announcing new Elastic fleets

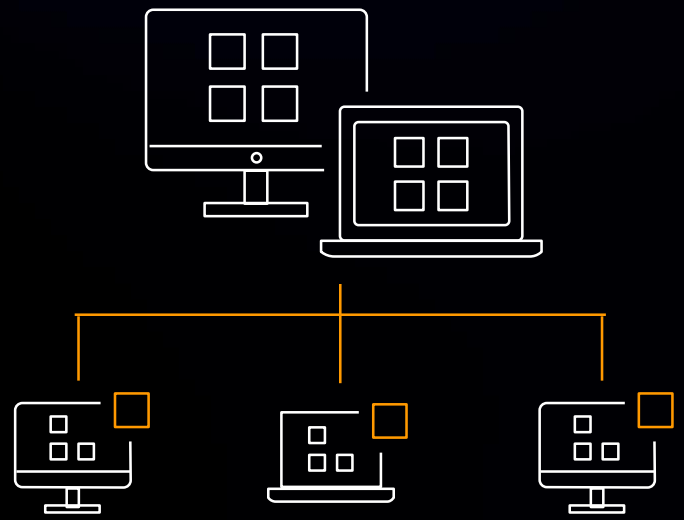


New serverless fleet type that allows you to stream applications without capacity management

Deliver applications from **Virtual Hard Drive**

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Elastic fleets benefits



Eliminate capacity management

Elastic fleets remove your need to predict variable capacity

Reduce costs

Pay per second only for the duration of the streaming session (15-minute minimum)

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Easy thin client deployments



Faster on-boarding with out-of-the-box support
for connecting to Amazon WorkSpaces

Cost efficient spending with full desktop features (DaaS)
on a lower cost device

Better security with no app data residing
on the endpoint device (BYOD)

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AWS EUC SI competency partners—30 globally

Global

accenture · NAVISITE · nuvenn · cambrian TECHNOLOGIES

Axiom IO · virtusa · CloudHesive · SynchroNet

AMER

AHEAD · Grupo Mytec · INNOVATIVE PEOPLE • TECHNOLOGY · RedNight Migrate. Manage. Empower. · JETSWEEP A Better Way to Handle Data

InterVision INNOVATION DELIVERED · escala 24x7 · eagledream TECHNOLOGIES · TEHAMA

APAC

CMD · blazeclan · Sunny Cloud · TOKAI GROUP

Serverworks · trueIDC · CONSEGNA.CLOUD CLOUD DELIVERY AND DIGITAL TRANSFORMATION · NTT EAST

EMEA

REBURA · Alscient · INQDO cloud · iOCO · BYTES

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EUC track sessions

Type	Service	Level	Title	Speakers	Code
Breakouts	EUC	200	The future of virtualization and workforce agility	Muneer Mirza, Kellie Green, Jason Skaria, Ryan Church	EUC 201
	EUC	300	Architecting for workforce agility with AWS end user computing	Jeff Ferris/Carla Blickensderfer	EUC 301
Chalk Talks	EUC	300	Amazon WorkSpaces business continuity and disaster recovery	Russel Bell/Justin Stokes	EUC 302
	EUC	300	When to choose Amazon WorkSpaces and Amazon AppStream 2.0	Dylan Barlett	EUC 303
	EUC	300	Security best security practices for Amazon WorkSpaces and Amazon AppStream 2.0	Steven Stetler, Sitel	EUC 304
	EUC	400	Scaling & maintaining Amazon WorkSpaces and Amazon AppStream 2.0 deployments	Jeremy Johnstone, Russel Bell and DraftKings	EUC 402
Builders' Session	EUC	400	Automate Amazon WorkSpaces and AppStream 2.0 with API and service integrations	Stephen Stetler, Andrew Morgan, Jeremy Schiefer	EUC 403
Workshop	EUC	200	Provisioning your first Amazon AppStream 2.0 environment	Greg LaVigne, Jeremy Schiefer, Dylan Barlett and Vishal Lakhotia	EUC 202

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Thank you!

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