

# Moving Your Desktop to the Cloud with Amazon WorkSpaces

Steve Mueller

Lead WorkSpaces Specialist, Amazon Web Services

Twitter: @awscloud



# End-User Computing in AWS

## WorkSpaces

Virtual desktops



Secure access from anywhere  
Monthly pricing

*March 2014*

## WorkSpaces Application Manager

Virtual applications

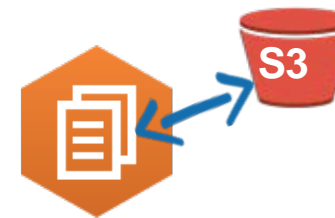


Centralized application deployment  
Monthly subscription options

*April 2015*

## WorkDocs

Secure enterprise  
document collaboration



Central sync, document feedback  
Secure access from anywhere

*September 2014*

## WorkMail

Secure email and  
calendaring



Strong security controls  
Existing desktop, mobile support

*January 2015*



## Directory Service

Managed directories

*October 2014*

Simple AD, AD Connector,  
Managed AD

# What is WorkSpaces?

# Managed Cloud Desktops



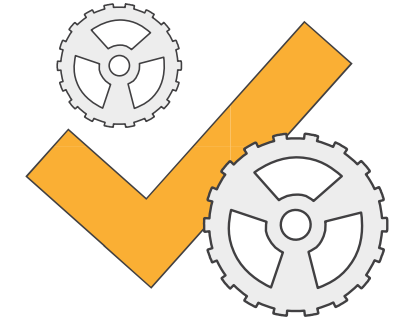
**Secure**



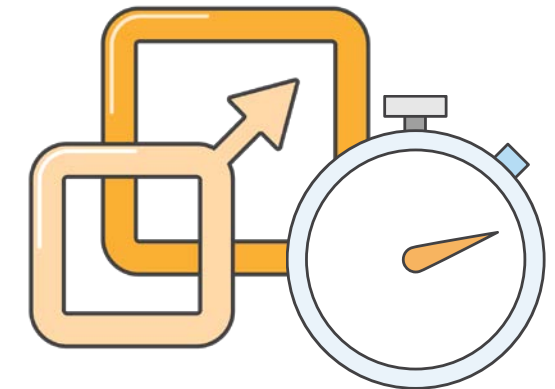
**Pay-as-you-go**



**Highly interactive and secure  
desktops your users will love**



**Simple to deploy and  
manage**



**Scale &  
consistent performance**

# Desktop as a Service



## Microsoft Windows desktops on AWS

- realizing the “virtual desktop dream”

## The cloud replacement for traditional VDI

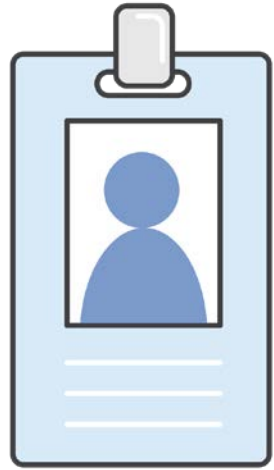
- no-hassle infrastructure, capacity, perf
- anywhere-access, industry-standard security

## Decentralization meets consumerization

- “Corporate IT embraces Consumer IT”
- device *and* location independence

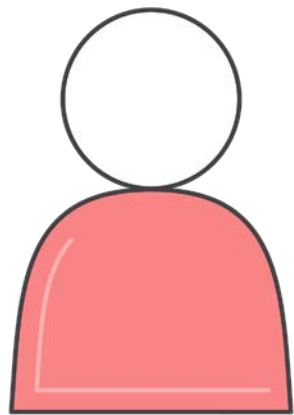
# Why WorkSpaces?

# Why Desktops as a Service?



## Admins want to

- Secure resources
- Lower cost structure
- Deliver high quality user experience
- Simplify administration
- Scale on-demand

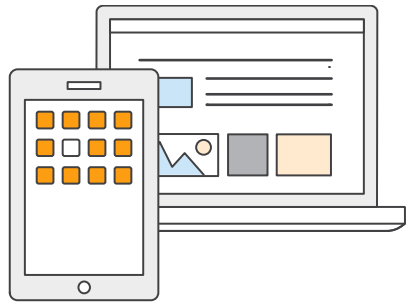


## Users want to

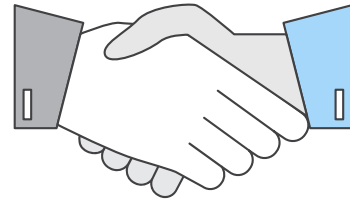
- Get instant access to apps and data
- Go between devices
- Get work done from anywhere



# Popular Use Cases



**BYOD**



**Mergers and  
acquisitions**



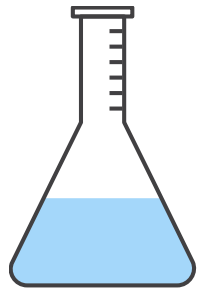
**Mobile workers**



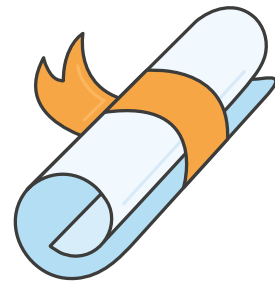
**Temporary workers**



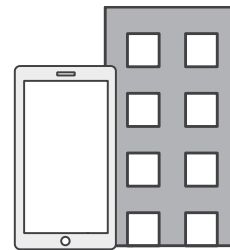
**Securing data**



**Dev/Test**



**Compliance  
requirements**



**Call centers**



**Training and labs**



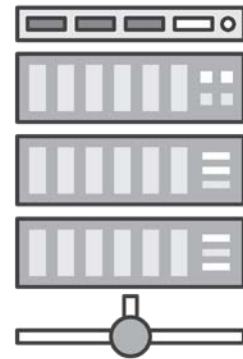
**Demos**



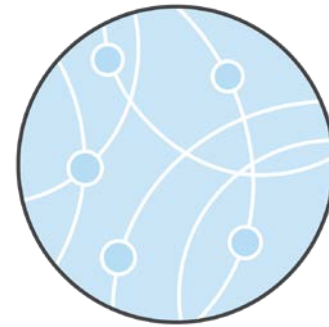
# Simplify Desktop Deployments



Logistics



Storage



Networking



Monitoring



Global Scale

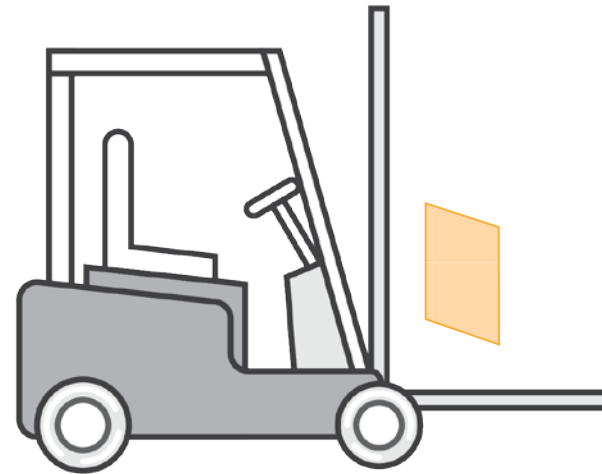


**Amazon WorkSpaces simplifies physical and virtual desktop deployments**

# Feels Familiar



Launch the number of  
WorkSpaces needed



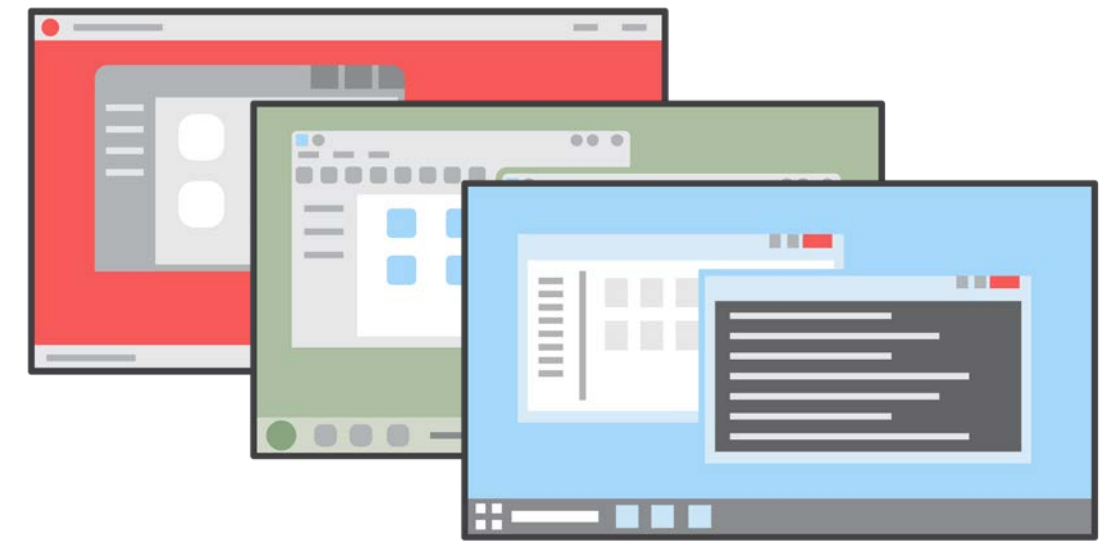
Heavy lifting taken  
care of by AWS



On-demand,  
pay-as-you-go

# Standard Windows Management

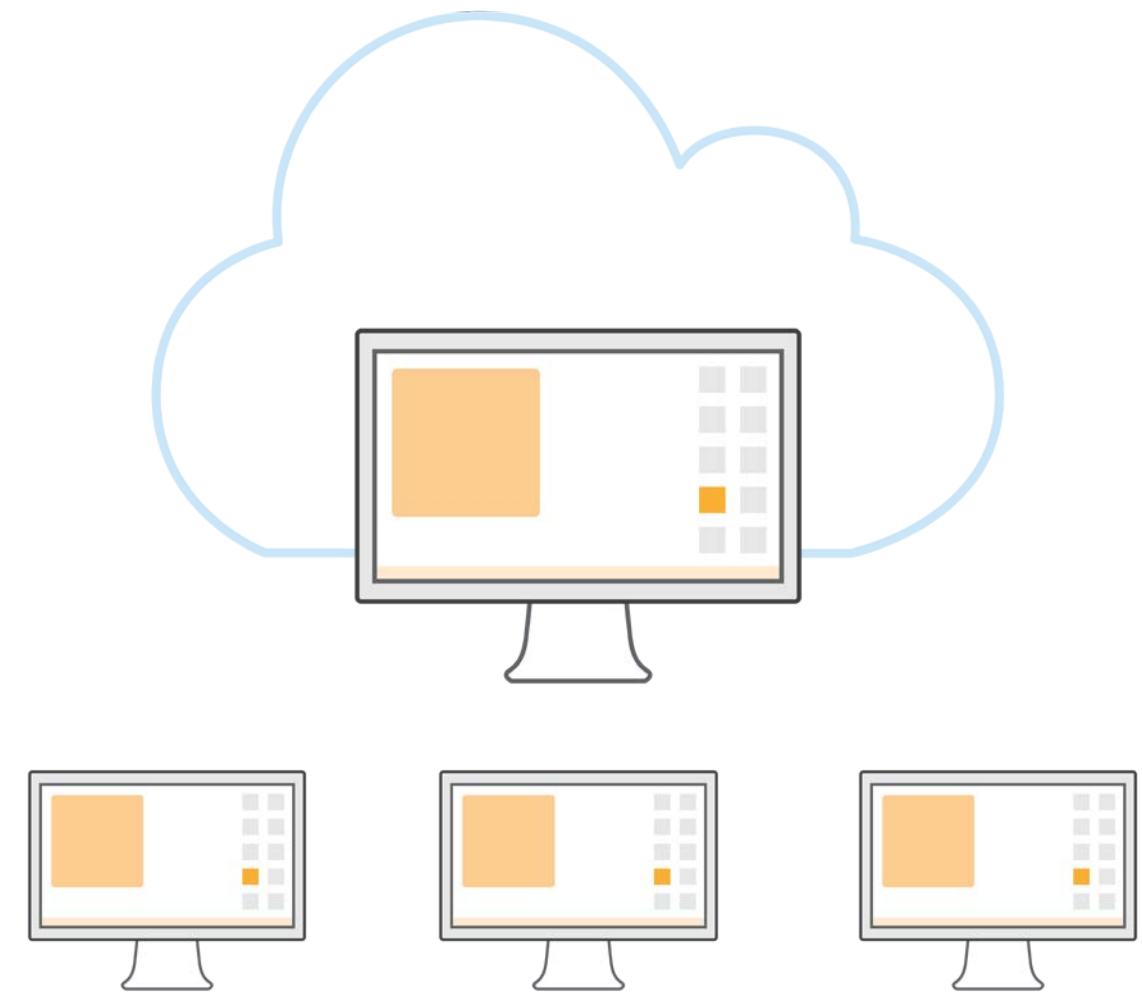
- Treat like any other Microsoft Windows desktop environment
- **Auth and Policy:** Active Directory, GPOs
- **Patching:** WSUS, SCCM, 3<sup>rd</sup>-party
- **Distribution:** SCCM, App Layering, App Virt
- **Profile Management:** 3<sup>rd</sup>-party
- **Automation:** Powershell, .NET, and more



**Use the technologies you know.**

# Simple to Provision

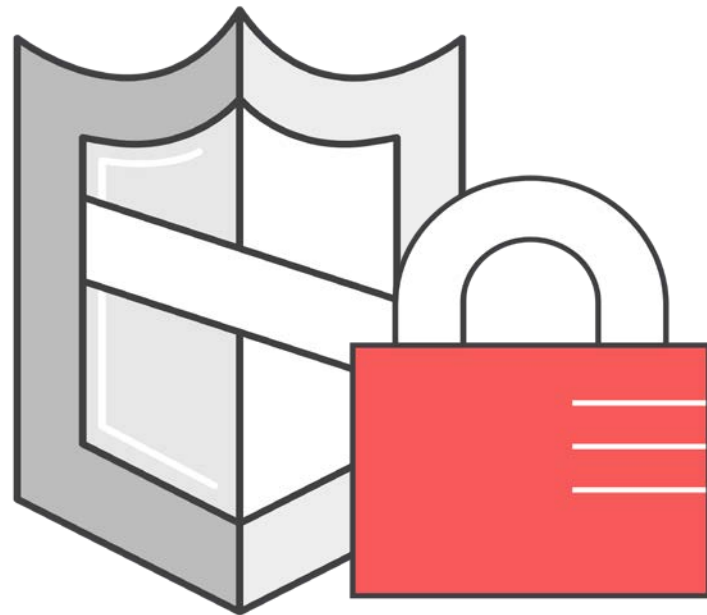
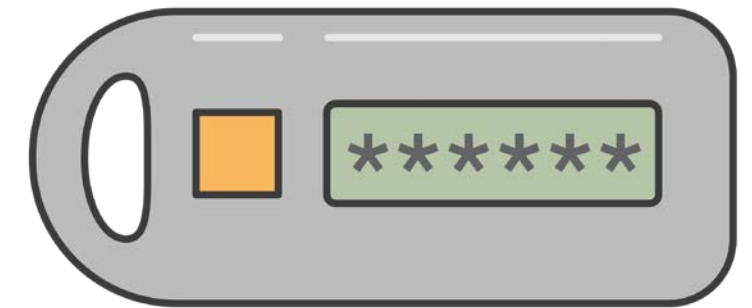
- **custom-image the way you want**
  - install-all or inject
- **map to desired hardware configuration**
  - 1 vCPU, 2GB RAM
  - 2 vCPU, 4GB RAM
  - 2 vCPU, 8GB RAM
  - **NEW!** 8vCPU, 16GB RAM, nVIDIA K520 GPU



**Zero to desktop in ~30 minutes.**

# Keep Data Highly Secure

- **Enforce MFA with RADIUS-based solutions**
- Gemalto, Entrust, RSA, Duo Security ... just to name a few



- **no data stored locally** on end-user device
- utilizes **Teradici PCoIP** for streaming protocol
- supports **storage volume encryption** with customer-owned keys

# Supports Multiple Devices



**Reuse your existing devices, or  
acquire to fit your needs.**

- **Desktop, Laptop:** PC, Mac
- **Tablets:** iOS, Android, Kindle, Surface
- **Zero Clients**
- **Thin Clients**
- **Chrome OS**

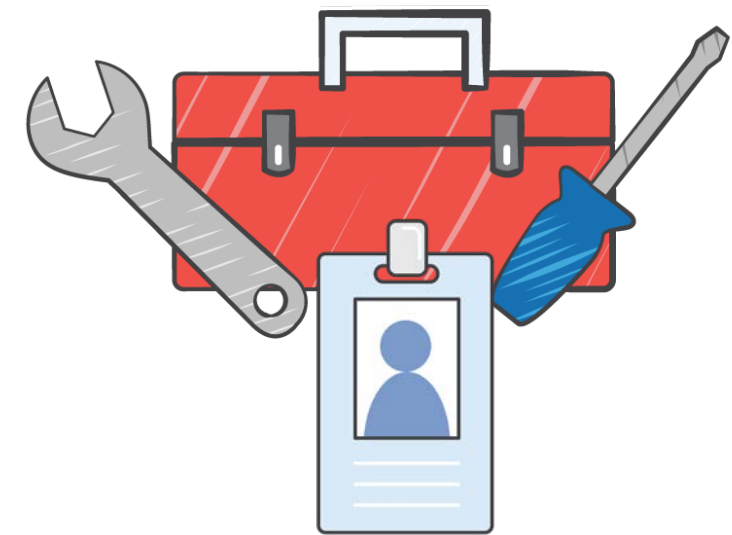
# Monitoring Support



- Consume custom metrics and events
- Take action on key conditions as they occur
- **Become more proactive, not reactive**

## Tie in with other AWS services to ...

- open trouble tickets if something happens
- archive data for reporting and analysis
- process large file sets in the cloud



# General Availability

## 7 Regions

- Americas
  - Oregon
  - Northern Virginia
- EMEA
  - Ireland
  - Frankfurt
- APAC
  - Tokyo
  - Singapore
  - Sydney



<http://aws.amazon.com/about-aws/global-infrastructure/>  
(as of November 2016)



# Why are Multiple Regions Important?



**Keep your desktops close  
to your users ...**

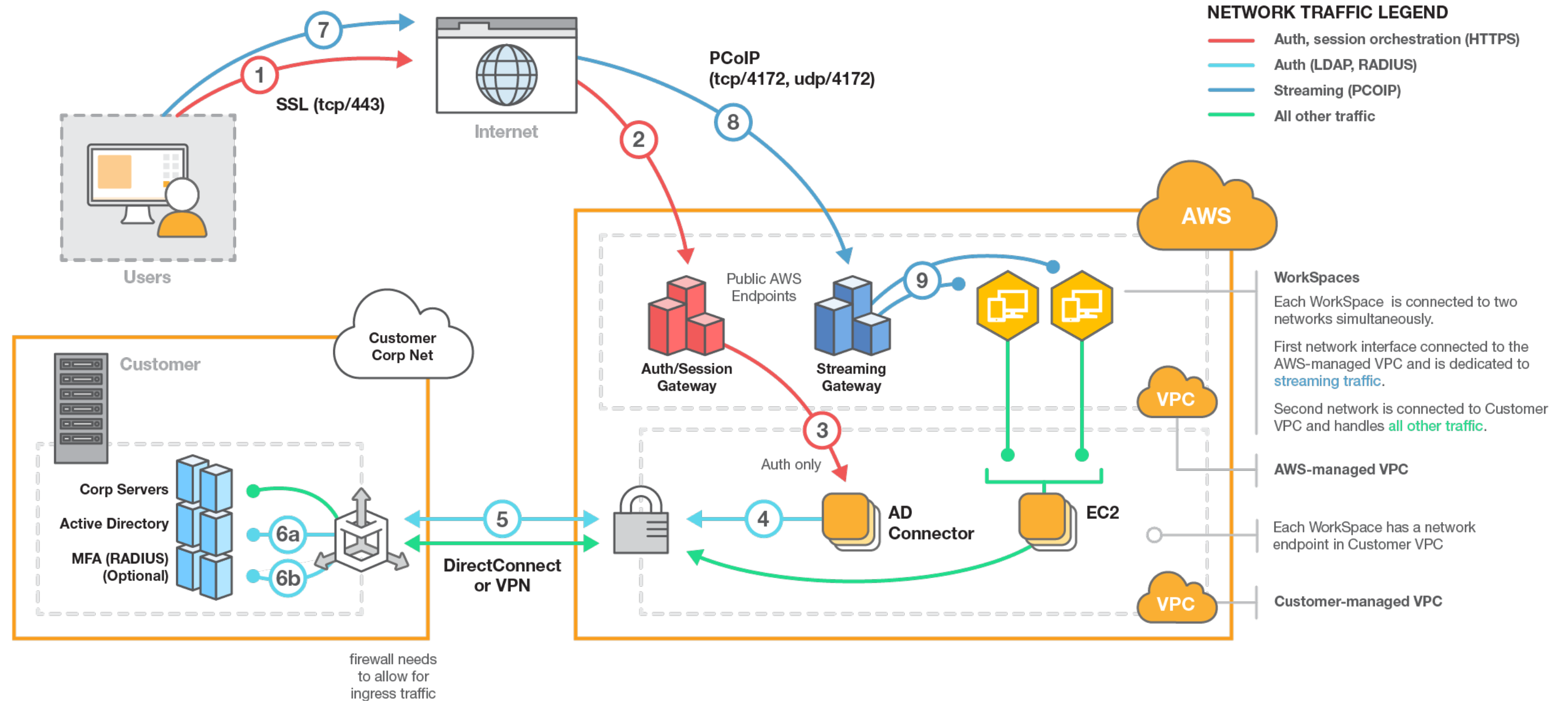
**or ...**

**Keep your desktops  
close to your apps.**



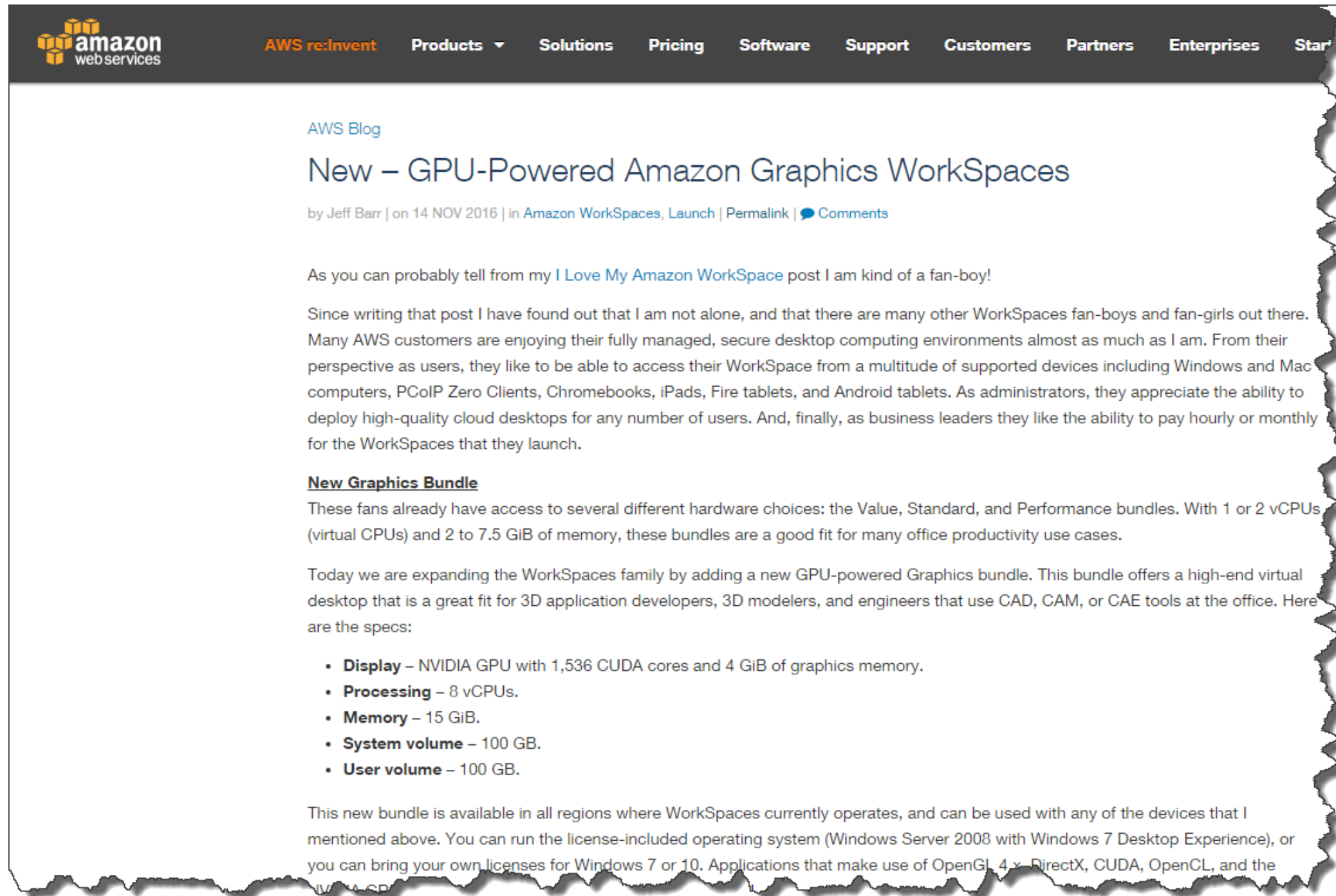
**You decide.**

# Putting It All Together



# Graphics WorkSpaces

# Just Announced!



The screenshot shows the AWS Blog interface. At the top is a dark navigation bar with the Amazon Web Services logo on the left and a series of menu items: AWS re:Invent, Products, Solutions, Pricing, Software, Support, Customers, Partners, Enterprises, and Start. Below the navigation bar, the page is titled 'AWS Blog' and the main heading is 'New – GPU-Powered Amazon Graphics WorkSpaces'. The author is 'by Jeff Barr' and the date is 'on 14 NOV 2016'. There are links for 'Amazon WorkSpaces', 'Launch', 'Permalink', and 'Comments'. The main text of the blog post begins with 'As you can probably tell from my I Love My Amazon Workspace post I am kind of a fan-boy!'. It then describes how many AWS customers are enjoying their fully managed, secure desktop computing environments. A section titled 'New Graphics Bundle' follows, stating that these fans already have access to several different hardware choices: the Value, Standard, and Performance bundles. It then lists the specifications for the new GPU-powered Graphics bundle: Display (NVIDIA GPU with 1,536 CUDA cores and 4 GiB of graphics memory), Processing (8 vCPUs), Memory (15 GiB), System volume (100 GB), and User volume (100 GB). The post concludes by stating that this new bundle is available in all regions where WorkSpaces currently operates and can be used with any of the devices mentioned above.

amazon  
web services

AWS re:Invent Products Solutions Pricing Software Support Customers Partners Enterprises Start

AWS Blog

## New – GPU-Powered Amazon Graphics WorkSpaces

by Jeff Barr | on 14 NOV 2016 | in [Amazon WorkSpaces](#), [Launch](#) | [Permalink](#) | [Comments](#)

As you can probably tell from my [I Love My Amazon Workspace](#) post I am kind of a fan-boy!

Since writing that post I have found out that I am not alone, and that there are many other WorkSpaces fan-boys and fan-girls out there. Many AWS customers are enjoying their fully managed, secure desktop computing environments almost as much as I am. From their perspective as users, they like to be able to access their Workspace from a multitude of supported devices including Windows and Mac computers, PCoIP Zero Clients, Chromebooks, iPads, Fire tablets, and Android tablets. As administrators, they appreciate the ability to deploy high-quality cloud desktops for any number of users. And, finally, as business leaders they like the ability to pay hourly or monthly for the WorkSpaces that they launch.

### New Graphics Bundle

These fans already have access to several different hardware choices: the Value, Standard, and Performance bundles. With 1 or 2 vCPUs (virtual CPUs) and 2 to 7.5 GiB of memory, these bundles are a good fit for many office productivity use cases.

Today we are expanding the WorkSpaces family by adding a new GPU-powered Graphics bundle. This bundle offers a high-end virtual desktop that is a great fit for 3D application developers, 3D modelers, and engineers that use CAD, CAM, or CAE tools at the office. Here are the specs:

- **Display** – NVIDIA GPU with 1,536 CUDA cores and 4 GiB of graphics memory.
- **Processing** – 8 vCPUs.
- **Memory** – 15 GiB.
- **System volume** – 100 GB.
- **User volume** – 100 GB.

This new bundle is available in all regions where WorkSpaces currently operates, and can be used with any of the devices that I mentioned above. You can run the license-included operating system (Windows Server 2008 with Windows 7 Desktop Experience), or you can bring your own licenses for Windows 7 or 10. Applications that make use of OpenGL 4.x, DirectX, CUDA, OpenCL, and the



# Graphics WorkSpaces and AU2016

## Quick Stats

- ~500 Graphics WorkSpaces for user desktop
- centralized file servers for lab datasets (~150GB data)
  - 16 NVIDIA K80 GPUs, 64 vCPUs, 732 GiB, 20Gbps network I/O
- zero clients for true stateless conditions
  - HP t310, Dell Wyse 5030

# Demo

# How did I do?

- Your class feedback is critical. Fill out a **class survey** now.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**



