Deploy Ultra-secure Remote Desktops with Teradici PCoIP® Solutions

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- Introduction
- Why government agencies trust Teradici PCoIP technology
- Enable ultra-secure remote access to applications and data
- Secure the desktop client
- Customer Use Cases
- Work-From-Home Update
- Q&A

Teradici is the **leader** in technology solutions for **high performance** remote workloads in **multicloud architectures**

FORTUNE 500

Developer of the **revolutionary PCoIP®** multi-codec remote display protocol, **enhanced in 2019 with PCoIP Ultra™ features.**

Today, there are more than **13 million PCoIP users** across the world. We have been awarded 74 patents for our technological innovations.

We are the **leaders of secure virtual workloads**. Customers include Fortune 500 enterprises and institutions.

We work with major **technology partners** to provide our offerings to end users everywhere.
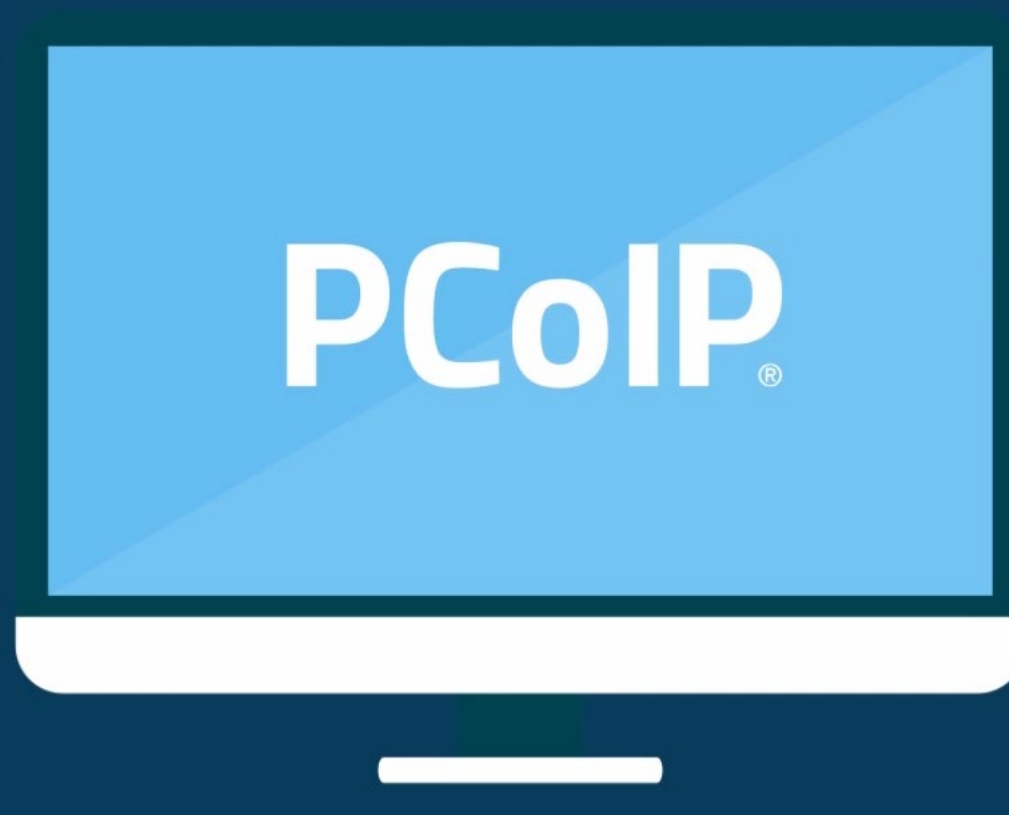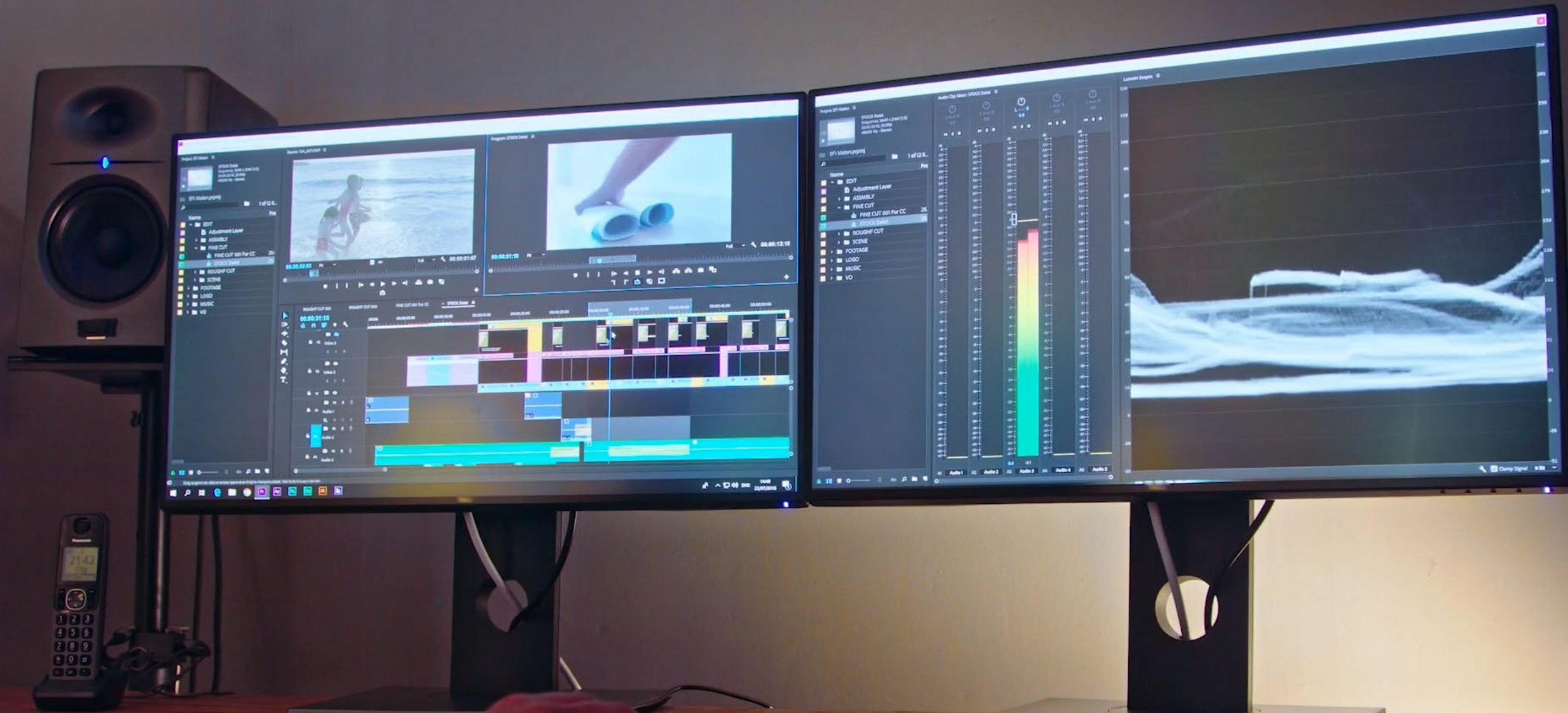
Protocol

Endpoints

Software Solutions

4

PCoIP

PCoIP is a display protocol that securely delivers applications or entire workspaces from the cloud or your data center to any endpoint.

Compresses, encrypts and rapidly transports pixels
to deliver secure and lossless visualization

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AES 256
encryption

8

Multicloud

Multicloud is becoming inherent to **cloud adoption**

Security and IP Protection

Valuable IP needs to be controlled and **securely accessed** from any location
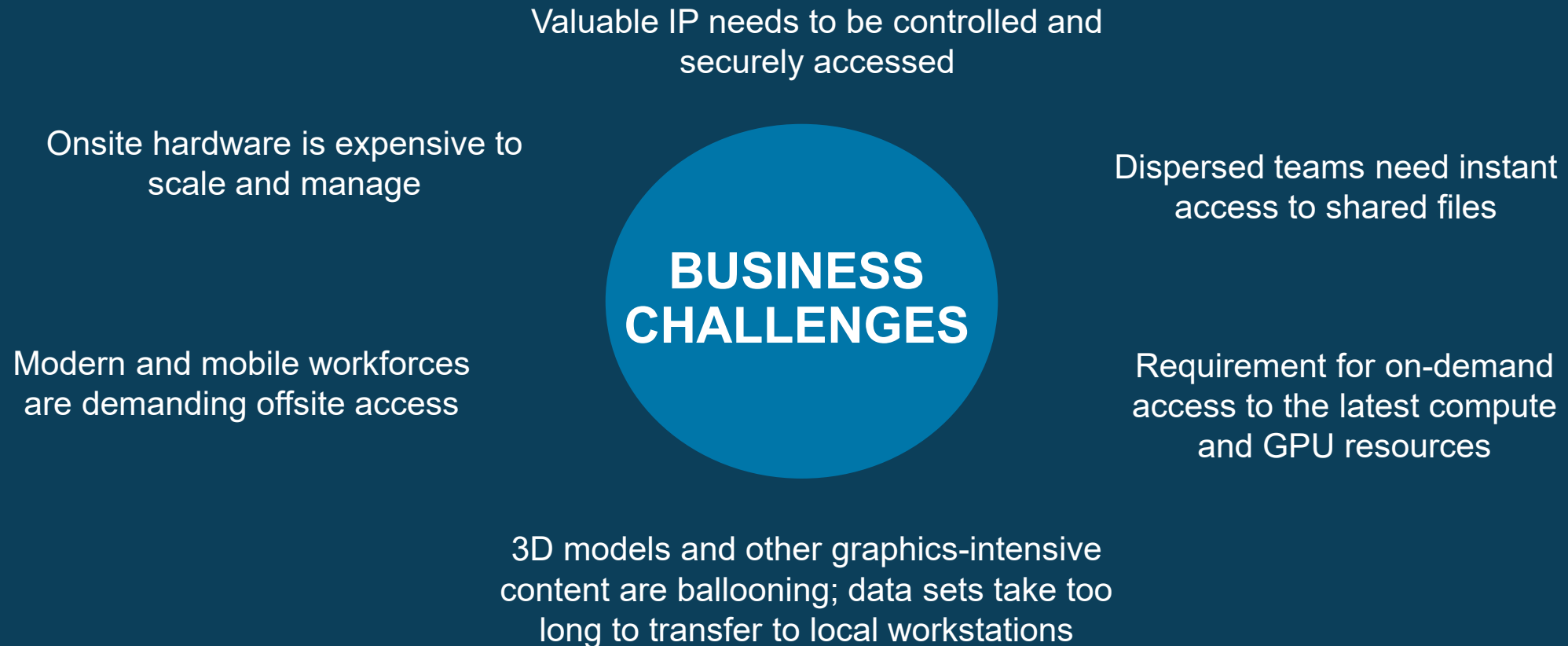
Mobile Workforce

Scalable **mobile** workforce relies on rich multimedia real-time **collaboration**
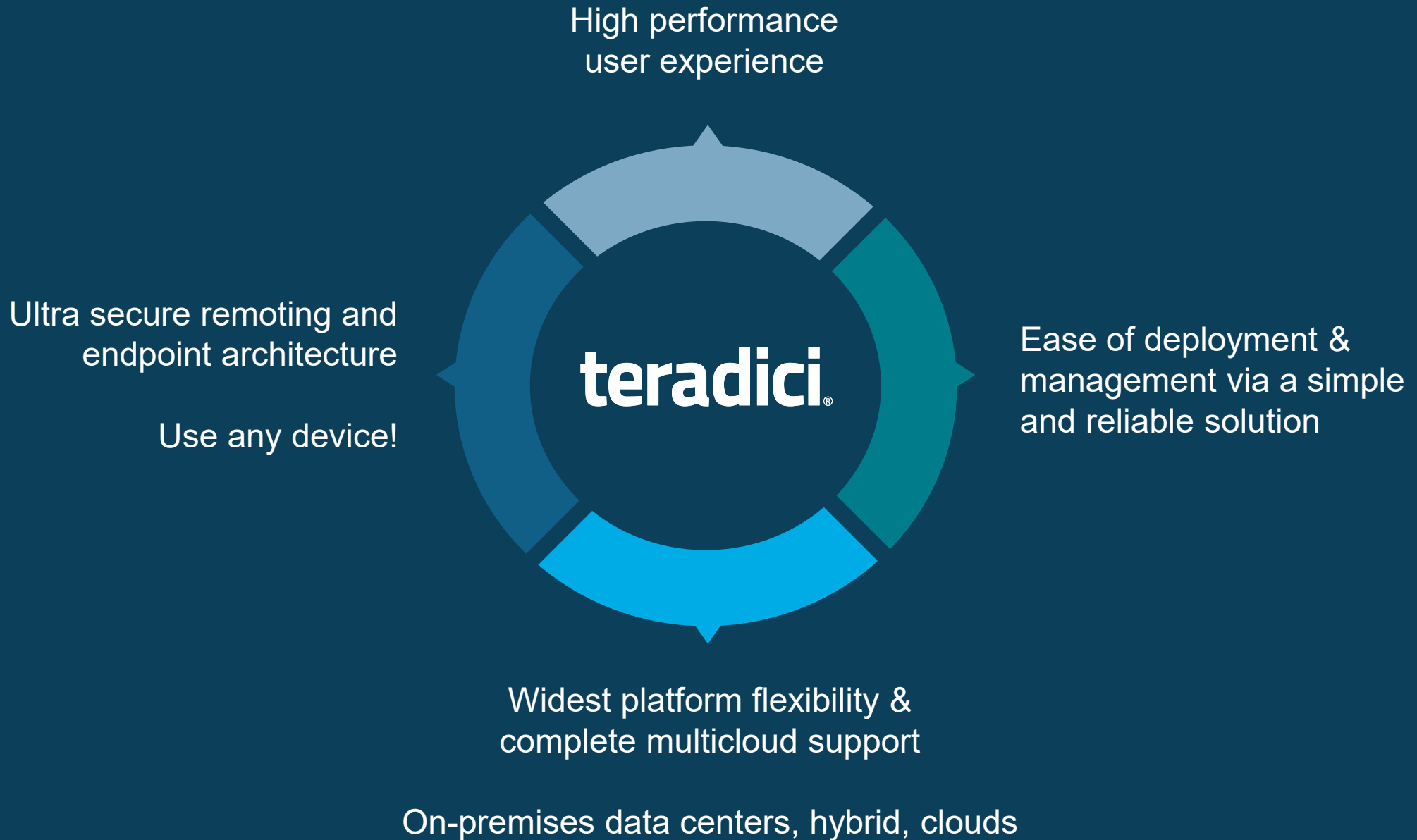
Desktop as-a-Service (DaaS)

Enterprises use Desktop-as-a-Service to leverage **latest compute and GPU resources**

Valuable IP needs to be controlled and securely accessed

Onsite hardware is expensive to scale and manage

Dispersed teams need instant access to shared files

BUSINESS CHALLENGES

Modern and mobile workforces are demanding offsite access

Requirement for on-demand access to the latest compute and GPU resources

3D models and other graphics-intensive content are ballooning; data sets take too long to transfer to local workstations

What is Cloud Access Software?

Teradici Cloud Access Software is a high-performance remote desktop solution that enables enterprises to easily deliver Windows and Linux desktops and applications from any multicloud architecture to any device.

Built on industry-leading **PCoIP® technology**, it provides the highest user experience and ultimate security, while offering complete freedom and flexibility on any combination of public or private cloud.
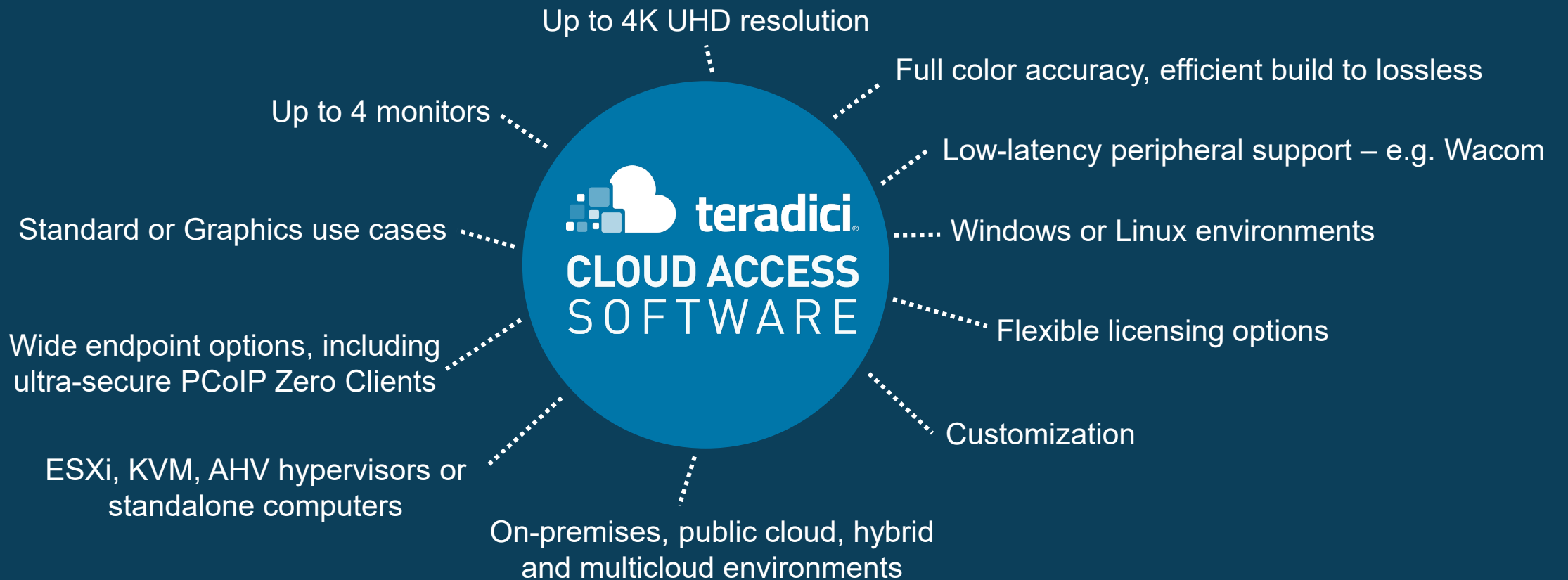
PCoIP Ultra enhancements deliver **high frame rate 4K/UHD graphics workloads without compromise**.

Now included in Cloud Access Software, PCoIP Ultra protocol enhancements propels our industry-recognized performance into the future of remote computing, with faster, more interactive experience for users of remote workstations working with high-resolution content.

Cloud Access Software Supports:

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Up to 4K UHD resolution

Full color accuracy, efficient build to lossless

Up to 4 monitors

Low-latency peripheral support – e.g. Wacom

Standard or Graphics use cases

teradici®
CLOUD ACCESS
SOFTWARE

Windows or Linux environments

Flexible licensing options

Wide endpoint options, including
ultra-secure PCoIP Zero Clients

Customization

ESXi, KVM, AHV hypervisors or
standalone computers

On-premises, public cloud, hybrid
and multicloud environments

Cloud Access Software Delivers High Business Value to Government

BUSINESS VALUE

Control and protect classified data; only encrypted pixels are transferred

Flexibility and ability to work with applications virtually on Windows and Linux OS

Choose from on-premises, private clouds, or public clouds to drastically reduce hardware investments and outsource management to lower costs

On-demand access to workstations and data for dispersed teams in times of war or natural disasters

Leverage existing deployments of ultra-secure PCoIP Zero Clients and connect instantly to DR resources

Secure, centralized access even for graphics-intensive applications (data visualization, modeling, simulation, etc.) without compromising user experience or color accuracy

Efficiently and securely enable contractors to access internal federal systems – easily remove access after project completion.
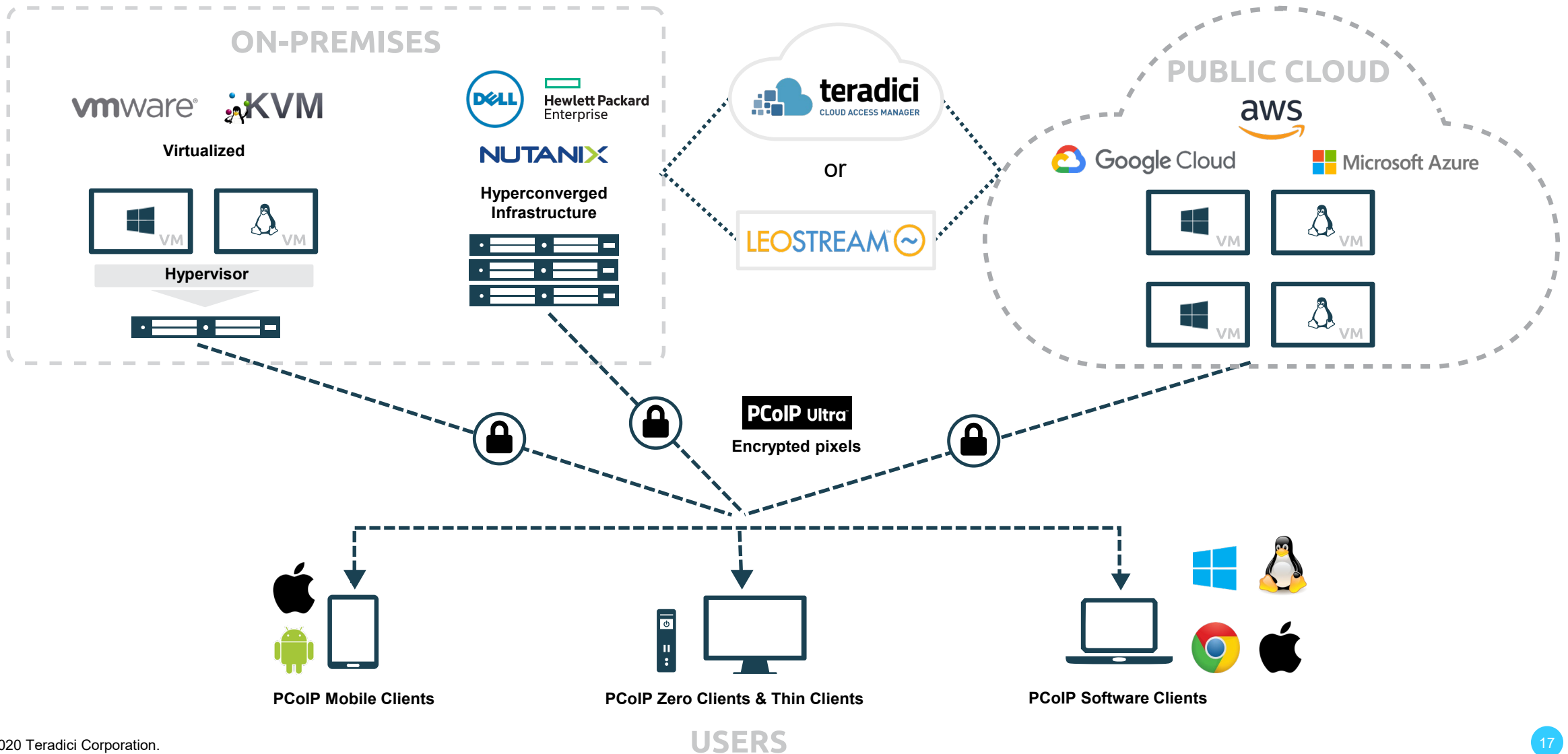
Teradici Cloud Access Remote Workloads and Workstations on Azure Stack Hub
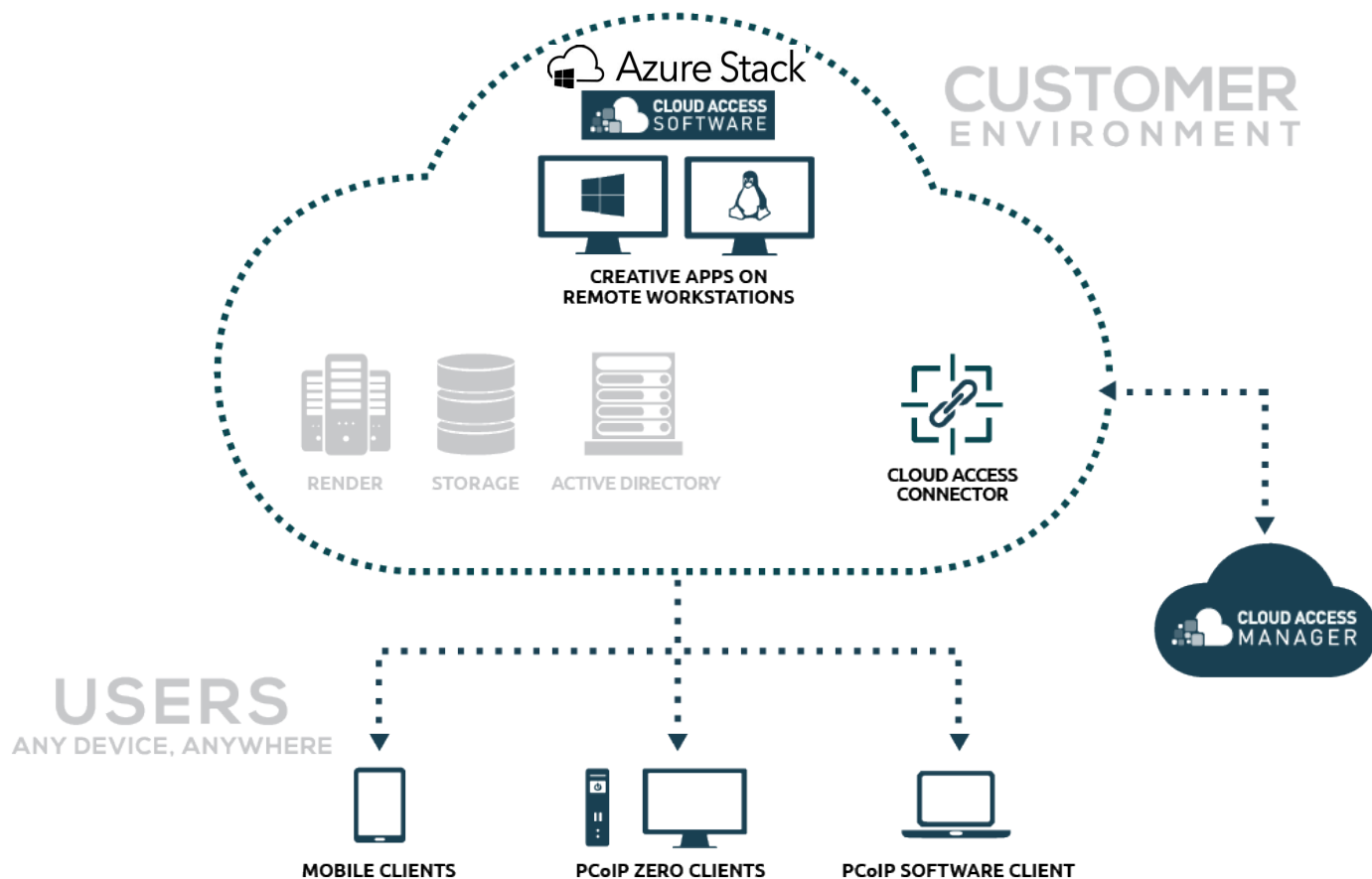
A private/public cloud service that simplifies deployment of creative applications:

- **Improve administrative efficiency** and minimize manual tasks by automatically provisioning Linux or Windows remote workstations with/without GPUs
- **Scale with your business** - Align OPEX with business demands by effortlessly scaling resources up or down
- **Manage cloud consumption** and optimize costs by automatically turning off out-of-use machines
- **Broker secure connections** and alleviate any need for users to remember machine names or IP addresses

Cloud Access Manager: **Teradici SaaS operating on Azure**

Cloud Access Connector (CAS): Customer Environment CAS Functions

- **Cloudshell or Powershell** deployment
- **Greenfield or Corporate Domain attached** with only a few customer defined parameters
- **Multi-region** support

Hybrid Remote Workload Solution featuring Teradici Cloud Access, Azure and Azure Stack Hub

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Architecture overview

Azure Stack enables you to deploy Azure services following the same operations methodology in Azure. Similarly, Teradici Cloud Access enables you to run remote workstations in Azure and Azure Stack, and to move workstations and users seamlessly across both platforms. This Teradici Cloud Access hybrid solution blueprint highlights the connectivity and communications between the Azure Stack on-premises components and Azure public cloud.

Implementation guidance for Azure to Azure Stack

- Virtual Network and Azure Stack networking
- VPN Gateway Documentation
- Virtual Machines Overview and Azure Stack virtual machines
- Azure Stack User Documentation

Implementation guidance for Teradici Cloud Access

- Installing Teradici Cloud Access Manager
- Installing the Cloud Access Connector
- Deploying remote workstations for Linux and Windows
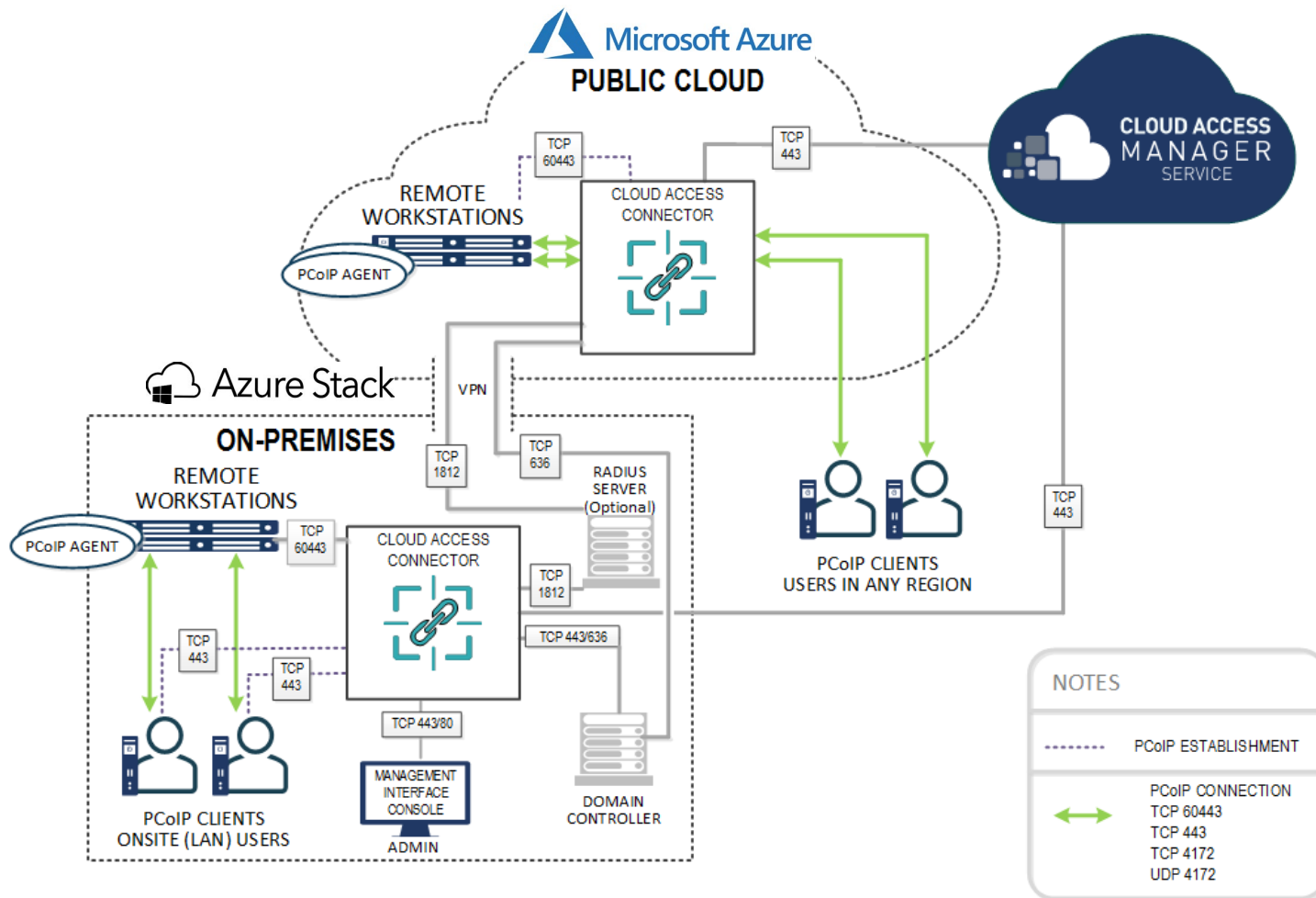
PCoIP Zero Clients

✓ Stateless endpoint delivering a superior experience

✓ Easiest endpoint to manage with:

- No application operating system
- No moving parts
- No user data stored on the device

✓ Simple and quick management with PCoIP Management Console

✓ Provides a full Desktop/Workstation experience with an amazingly simple PCoIP-powered Zero Client

✓ Cloud and VDI investment is maximized

Highest Level of Security and Ease of Management

- No local storage
- Only hardware decode for encrypted PCoIP data (pixels)
- Suite B security level, TLS 1.2 support
- In-session AES-256-GCM encryption

Encrypted PCoIP pixels are sent
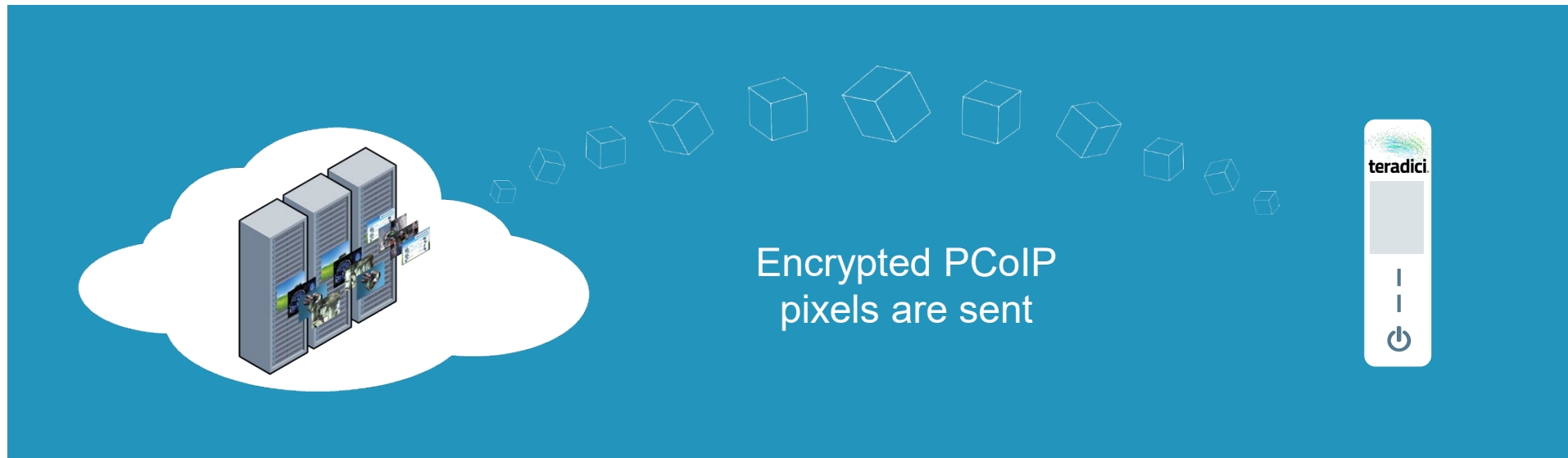
Persistent application data secured in the cloud or on-premises

No application data is ever delivered to PCoIP Zero Client

A Comprehensive Suite of Security Features

- Best VDI client on the market for security-critical deployments
- No Windows/Linux OS and no hard drive

SECURITY FEATURE	SECURITY BENEFIT
No OS to maintain	No viruses or spyware, no application maintenance
No persistent user data	No local storage to lock up at night
No application data sent over network	Only fully AES-encrypted pixels are sent over the network
SIPR hardware token support	Supports secure SIPR authentication mandated by DoD
Full control of USB device authorization may be disabled	USB devices or certain classes of USB devices
802.1x network authentication	Allows network devices to be authenticated before use
Fiber support (100BASE-FX)	Fiber option to further secure endpoints on network
IPv6 support	Ready for government mandates for IPv6 deployments
Support for CAC/PIV smart cards	Supports a variety of CAC/PIV smart cards required by federal and government agencies

More on SmartCard support: https://www.teradici.com/web-help/pcoip_zero_client/tera2/20.01/ref_smart_cards/#tested-smartcard-models

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PCoIP
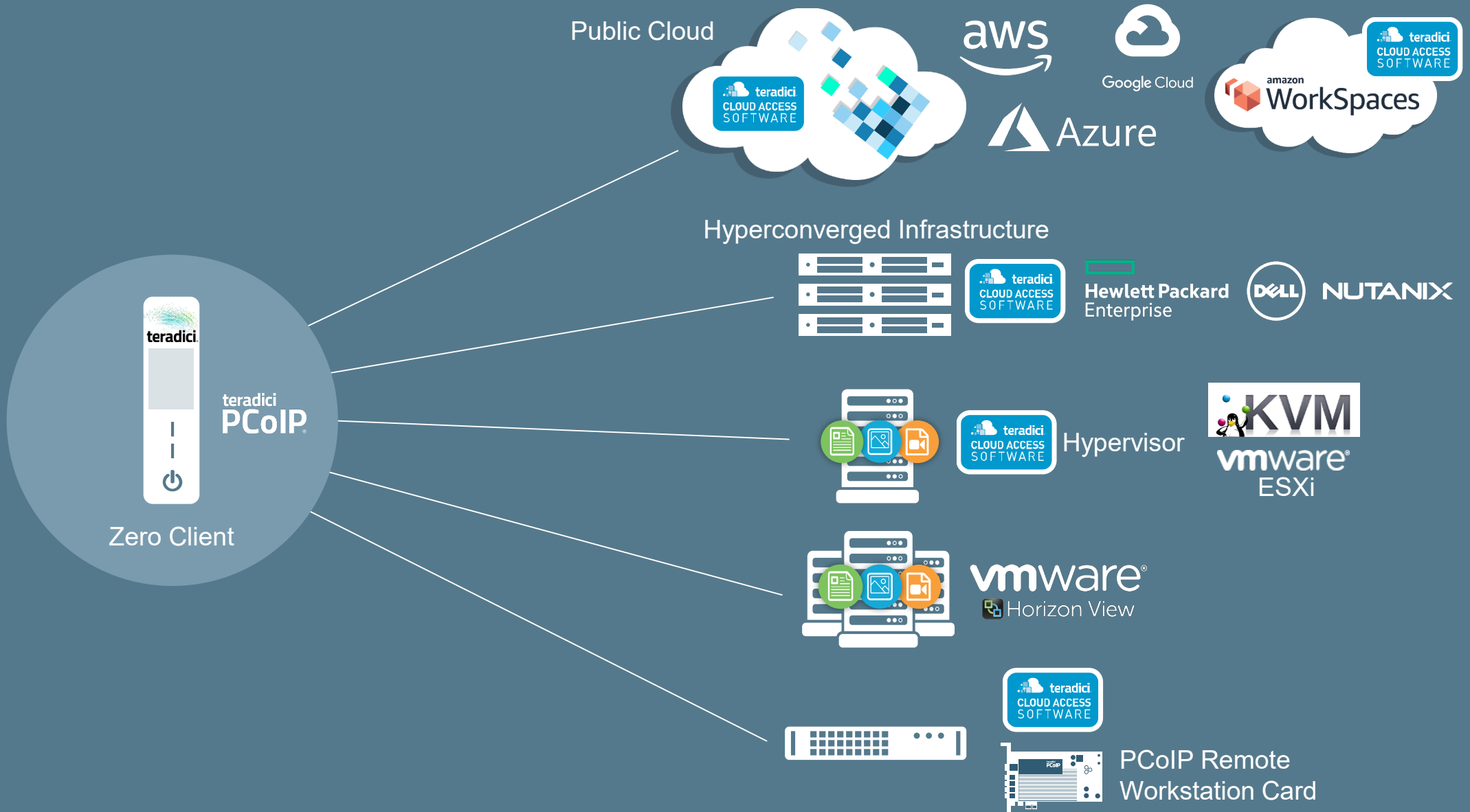
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FIPS 140-2 certification timeline update

- Jan 2020:   IUT Listing / submission to test lab
- May 2020:   Submission to CMVP
- Sep-Dec 2020:   FIPS 140-2 Certification

Where to find the IUT listing?

Teradici Management Console Enterprise – Key Capabilities

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Manages your whole deployment

- Manages up to 20,000 PCoIP Zero Clients and PCoIP Remote Workstation Cards
- Provides multiple administrators with full capabilities
- Supports System Admin, Admin and helpdesk user roles
- Active Directory support for secure management of users

Administer devices in one place

- Saves time and resources with remote control from a single console
- Maintains consistency and enables fast problem resolution across multiple devices

Quickly provisions endpoints

- Simple remote configuration and deployment
- Available as OVA (VMware), RPM (Redhat Package Manager), or AMI (Amazon) instance
- Set up is under five minutes
- Dashboard provides at-a-glance view

Includes new features

- All Access Subscriptions include access to PCoIP Management Console, including maintenance and support for Management Console, Tera2 PCoIP Zero Client firmware updates, and PCoIP Remote Workstation Card firmware and host software updates

Standalone desktop clients

All-in-one monitors

Laptops

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Customer Use Cases

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Government Contractor

Low-cost, secure and resilient desktop disaster recovery solution

CUSTOMER STORY

About
The contractor has an exclusive contract with a large U.S. federal government agency.

Challenges
The government customer requires that the contractor meet its data security and disaster recovery requirements. Previously the contractor's employees had to remove or lock up their hard drives when they were away from their desk.

Solution
The contractor replaced physical desktops with on-site virtual desktop infrastructure (VDI). Employees now access their desktops over the network from ultra-secure PCoIP Zero Clients. The desktops reside in an on-premises virtual desktop environment which simplifies desktop maintenance and eliminate the burden and risks of locking up hard drives.

Results
Now employees don't have to lock their doors and lock up their hard drives: no actual data ever resides on the PCoIP Zero Client. The contractor also met its customers' DR requirements at low cost.
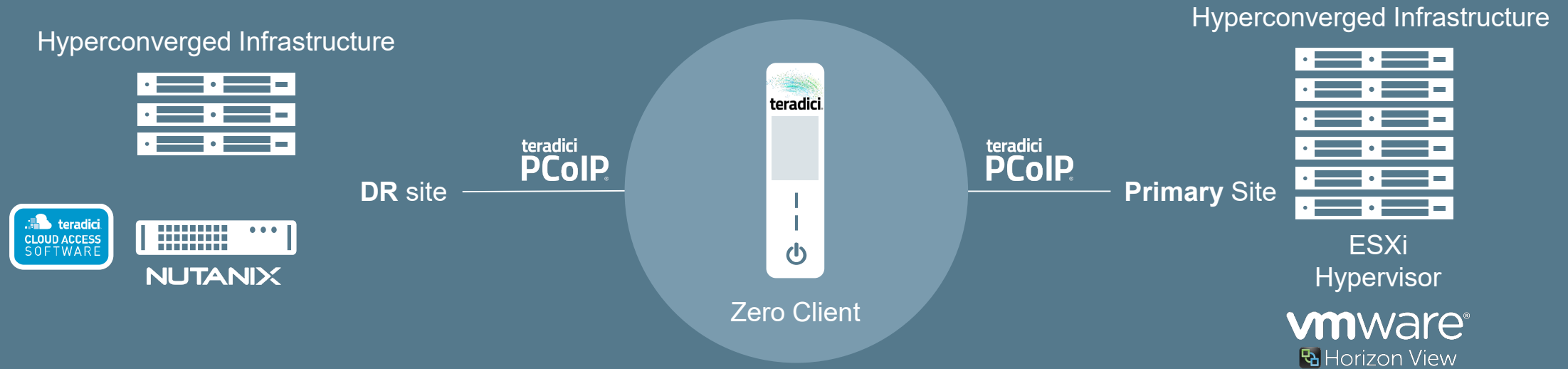
Bell

Complex 3D simulations from zero clients and laptops

CUSTOMER STORY

About

Headquartered in Ft. Worth, Texas, Bell is an industry-leading producer of commercial and military vertical-lift aircraft sold in more than 120 countries.

Challenges

Bell's stress analysts for rotor and drive systems use demanding applications to conduct 3D simulations—to measure wear, for instance. As models grew to over 1 TB, the company could no longer lease under-the-desk workstations with sufficient CPU and GPU power.

Solution

Bell deployed powerful Dell workstations in the data center, with Teradici PCoIP Remote Workstation Cards and NVIDIA Quadro GPUs. Stress analysts access their workstations from PCoIP Zero Clients by Dell Wyse or laptops with Teradici Cloud Access Client Software.

Results

Same great experience: The experience is indistinguishable from being in front of a local workstation—including support for the USB mouse that analysts use to navigate through their models. Image loading feels instantaneous, and analysts can see finer details and zoom in better compared to other protocol Bell has tried.

Increased productivity: Analysts can conduct more tests in the same time because they don't have to wait for large data sets to travel between their desktops and high-performance compute (HPC) clusters in the data center.

Security: PCoIP technology complies with stringent data security requirements for U.S. Department of Defense contractors.
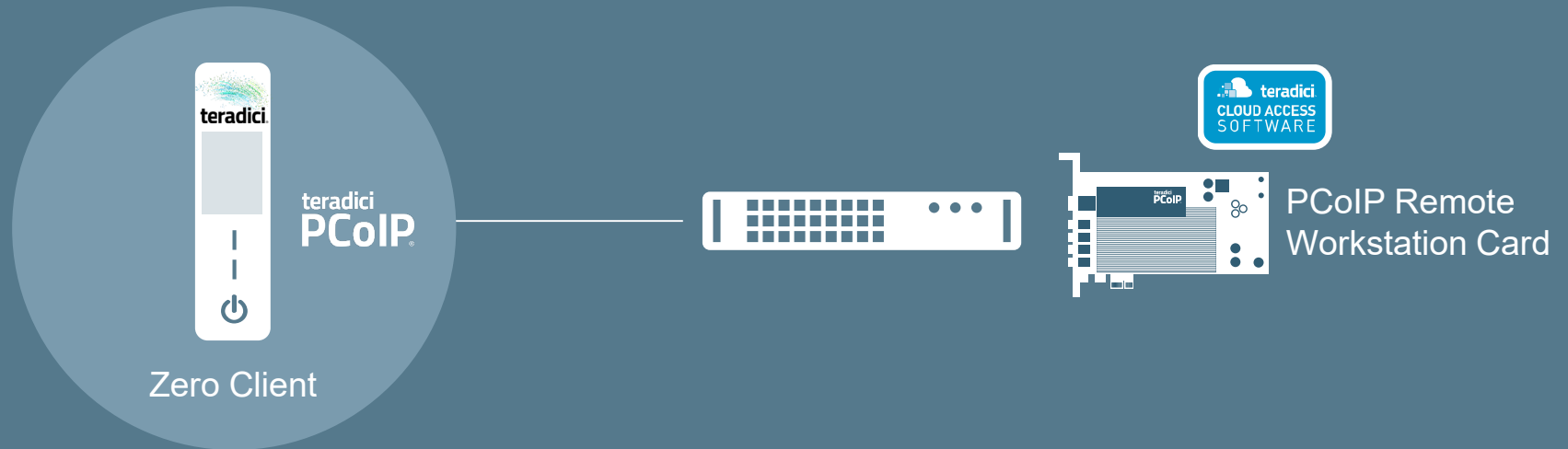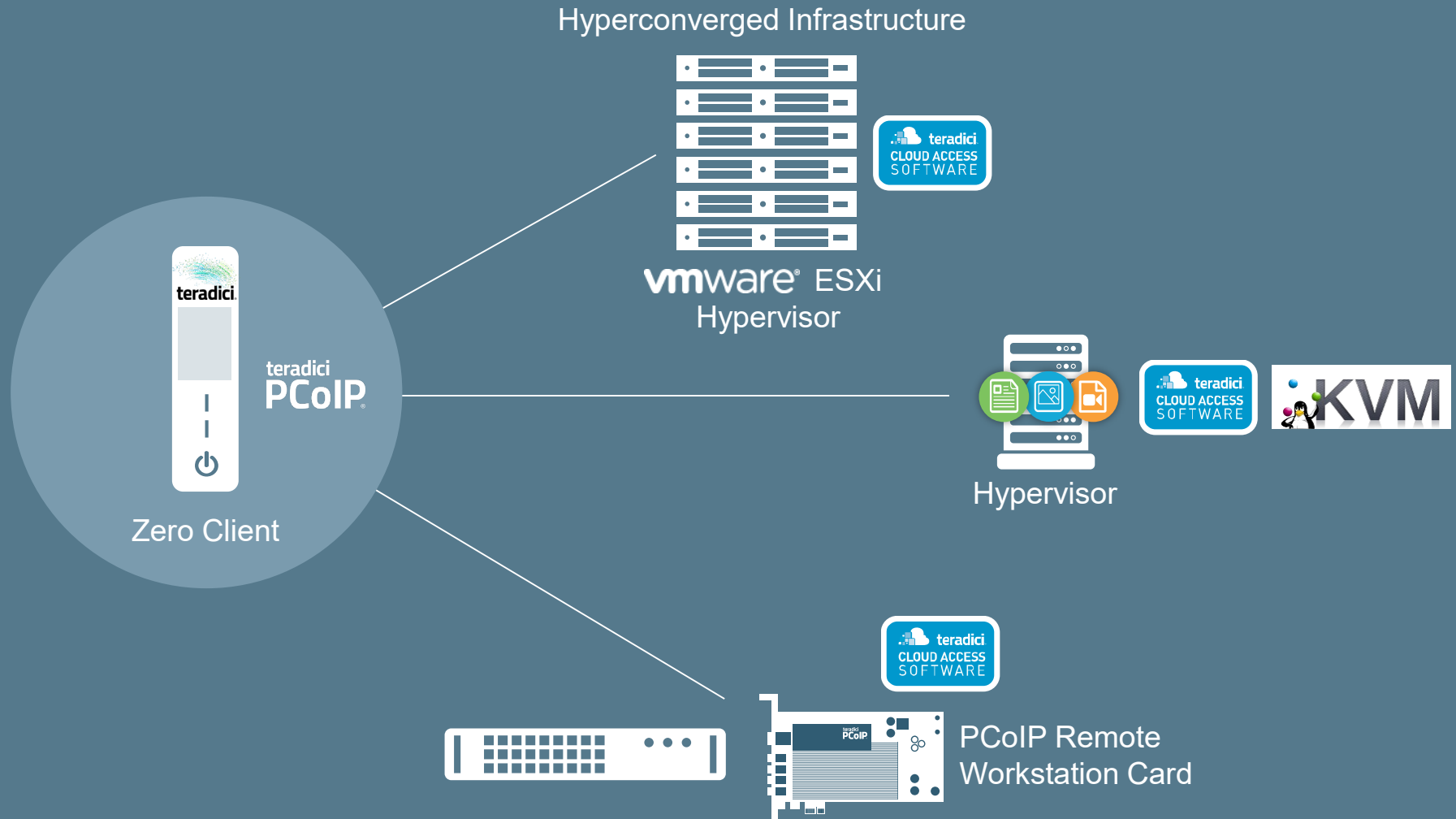
PCoIP Remote Workstation Card

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Zero Client

PCoIP Remote Workstation Card

- Virtual machines installed with Cloud Access Software reside in a high-classification zone

- Only AES-265 encrypted pixels are transmitted across the "airgap" to external endpoints (via the PCoIP protocol)

- NSA suite B used from Zero client to workstation card .

- Data and applications remain secure within the high-classification zone

- The endpoint stores no application data – it is invulnerable to security breaches

- Tracking of sensitive data in distributed storage devices is completely eliminated

- The end-to-end solution of Cloud Access Software with PCoIP Zero Clients supports customers in meeting critical security mandates, such as:
  - Secure on-premises or hybrid deployments
  - Government-compliant cloud deployments
  - 1000BASE-FX fiber endpoint connectivity

Cloud Access Software / PCoIP Remote Workstation Card

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Hyperconverged Infrastructure

teradici CLOUD ACCESS SOFTWARE

vmware® ESXi
Hypervisor

teradici CLOUD ACCESS SOFTWARE KVM

Hypervisor

teradici PCoIP®

Zero Client

teradici CLOUD ACCESS SOFTWARE

PCoIP Remote
Workstation Card

Secure remote access and collaboration of corporate IP and data
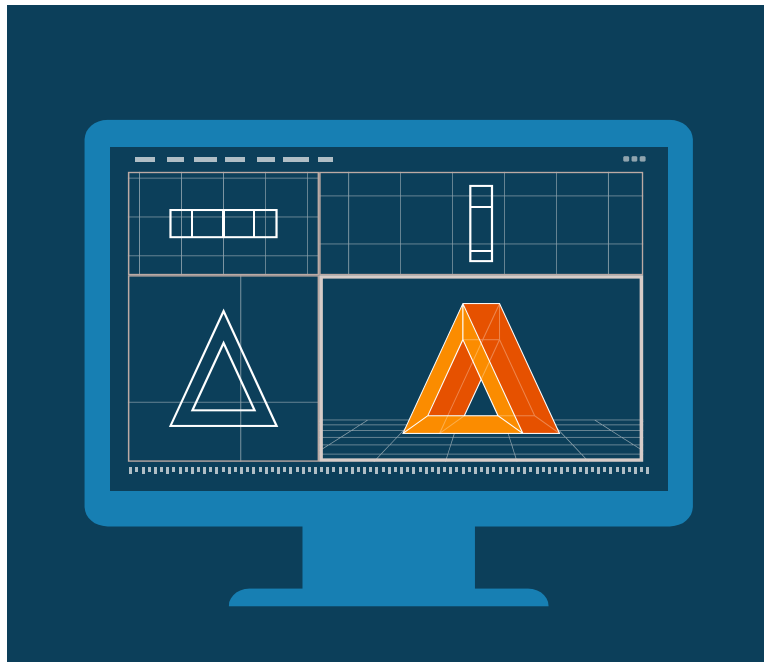
Situation

Product designers and engineers in Ship systems, Automotive, Aerospace and other graphics intensive industries work together to design, build and validate large data sets & simulations. They remotely access and collaborate on Graphic design systems across geographically dispersed teams including external suppliers and contractors via a secure approved connection.

Key Challenges

- Server and storage is often located off site in R&D facility so large data sets must be downloaded by Performance Development Team for analysis
- Production development with dispersed teams copying data can take hours
- Process for preparing workloads, scheduling, maintaining and retrieving data is cumbersome and in some cases a manual process
- Difficult to collaborate across geographically dispersed teams, suppliers and contractors with large data sets
- Secure remote access to proprietary designs and data

Results

- Securely collaborate with contractors and suppliers while protecting corporate IP and keeping confidential/customized data secure in one location
- Ability to access to data and applications from any secure site makes it possible to retain talent and also recruit non-local talent
- System flexibility and scalability enables diverse work flows
- Faster time to value with centralized solution with anywhere access
- Better human capital utilization across locations

High fidelity access to geospatial visualization data from remote locations
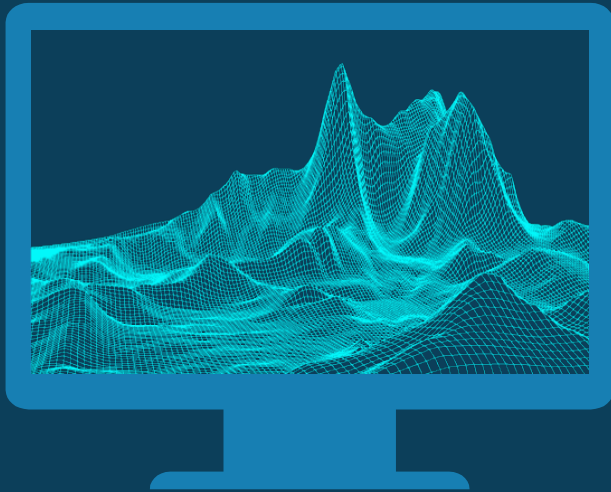
Situation
Engineers, scientists, Military strategists and other professionals who rely on real-time geospatial data and imagery as a key part of their big data analysis leveraging powerful visualization applications. They require secure remote anywhere access from field locations to their applications and geospatial data to visualize, analyze and make critical decisions to meet key mission deliverables.

Key Challenges
- Poor user experience accessing and interacting with geospatial visualization data and related applications
- Real-time visualization by teams on single set of geo-application data from remote locations
- Mobility to work from anywhere and access geospatial and GIS driven applications from any field location
- Provisioning users for temporary field projects in locations with centralized access to GIS without heavy infrastructural cost
- High latency from forward operations

Results
- Superior user experience & performance while accessing interactive graphical applications
- Real-time visualization on same GIS data across remote teams and projects in far flung field locations
- Flexibility to work from anywhere on any device & access geospatial and GIS applications from anywhere
- Easily create and remove workspaces for users to meet mission roles and requirements.
- Centralized solution provides secure access to data from anywhere

Deliver Linux Developer Desktops from the Cloud Access Software
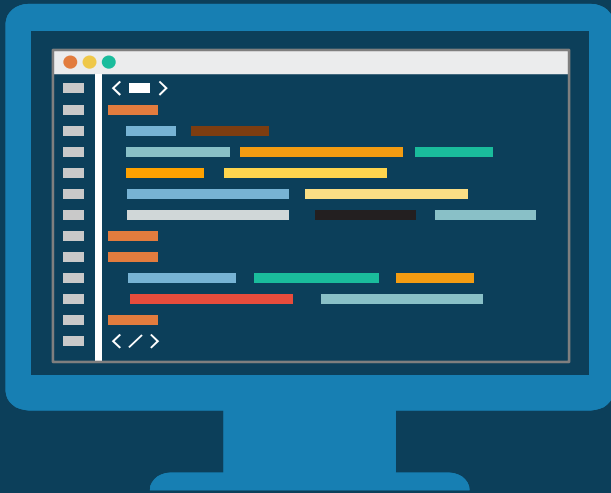
Situation
Secure Government Labs need to provide secure access to GUI Linux Workspaces and Graphical IDEs to their Linux developers and users while meeting high standards of performance, security and scalability they need access to workspaces and graphical development tools/ IDEs.

Key Challenges
- Provide exceptional user experience and productivity for developers to access centralized Linux desktops and/or Graphical needs
- Protection of Enterprise IP with secure centralized Linux workspaces
- Efficient management of distributed enterprise Linux developer workstation and desktops
- Security for developers to access secure Linux workspaces from HCI cluster

Results
- Superior User Experience and Performance for access from anywhere to centralized Linux workspaces and/or Graphical IDEs
- Developers securely collaborate while enterprises protect corporate IP
- Easily and efficiently scale up to more powerful Linux workspaces as required
- Faster time to value with centralized solution with anywhere access
- Efficient maintainability of Linux developer end points with savings on Linux developer hardware

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Deliver Secure Education Training and Testing Services from the Cloud

Situation
Government training and professional certification centers deliver training and testing modules across the world. These centralized assets need to be delivered securely and provide test takers a seamless experience that match physical desktops.

Key Challenges
- Migrating mainstream test and training applications for centralized location delivery without re-writes
- Provide exceptional user experience and performance where the highest level of interactivity are involved for fixed time duration in training and testing
- Protect training IP through centralized delivery without data leakage and theft
- Controlling the training user experience due to downloads of software on non standardized hardware
- Inefficient processes and disproportionate resource to set up standardized training labs

Results
- Superior User Experience and Performance for controlled access to highly interactive training and testing modules
- Training and testing centers can protect their training and testing IP with centralized access
- Easily and efficiently scale up or down depending on the needs of the training class
- Faster time to value with centralized solution with anywhere access using broker technology
- Efficient maintainability and delivery of training and testing assets with the Zero client

Work From Home Options

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Enable Your Virtual Workforce Today

Cloud Access Software empowers employees to work from home

Learn How

https://www.teradici.com/remote-work/

- Work-from-home Rapid Response Guide
- Cloud Deployment Guides
- Technical Guides
- How-to videos
- Webinars
- Blogs

43

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Teradici is offering special 3-month Cloud Access subscriptions to support remote work and business continuity requirements

This temporary offer is available through June 30, 2020

Contact us to inquire about this offer

All Access Subscription Plans

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Subscribers get a complete set of remoting solutions for knowledge workers and power users, enabling lower IT costs and administrative time and the flexibility to work any way they need to.

Desktop Access

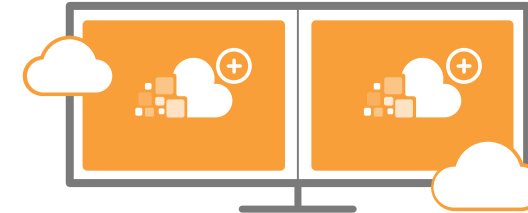Support and management software
for PCoIP Zero Clients

$30/year

Cloud Access

Deliver Windows or Linux workloads
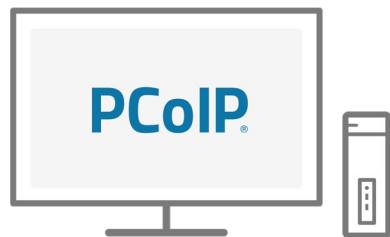from the cloud or your data center
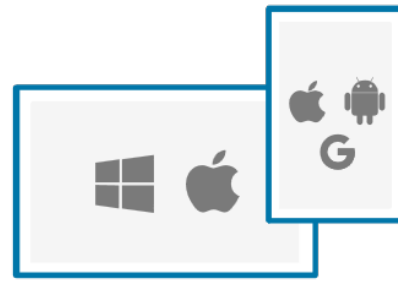
$120/year

Cloud Access Plus

Deliver graphics-intensive Windows or Linux
applications from the cloud or your data center

$240/year

PCoIP Software and Services Portfolio

PCoIP Zero Clients

**Software and
Mobile Clients**

Cloud Access Software

PCoIP Management Console

**Support and
Professional Services**

LEARN MORE:
teradici.com/remote-work

Customer Success Stories
teradici.com/resource-center/customer-stories

Teradici Cloud Access Software
Cloud Access Software product page
Cloud Access Software datasheet
Cloud Access Manager datasheet
Release Notes, Admin Guide and more

PCoIP Zero Clients
Zero Client product page
Product finder

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Or email us today!
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Q & A Session

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