Dell Precision Workstations

Powering mission critical work.

Sjoerd van der Lee

Workstation Sales Specialist

Dell Precision is the **most comprehensive** workstation solutions portfolio

Products   +   Software   +   Accessories   +   Services

1 to many

Dell Wyse Datacenter for virtualized workstations

1:1

Rack workstation

Dell Precision R7610

Entry & small form factor, to full power, fully expandable towers

Dell Precision T1700, T3610, T5610, T7610

Powerful, single & dual core mobile

Dell Precision M4800 & M6800

Thin & light

Dell Precision M3800

Entry mobile

Dell Precision M2800

Dell Precision Optimizer | Intel CAS-W | Reliable Memory Technology (RMT)

most **secure** | most **manageable** | most **reliable**

backed by ProSupport

Dell Precision M2800

Removing cost-barriers for workstation-class performance & mission-critical reliability
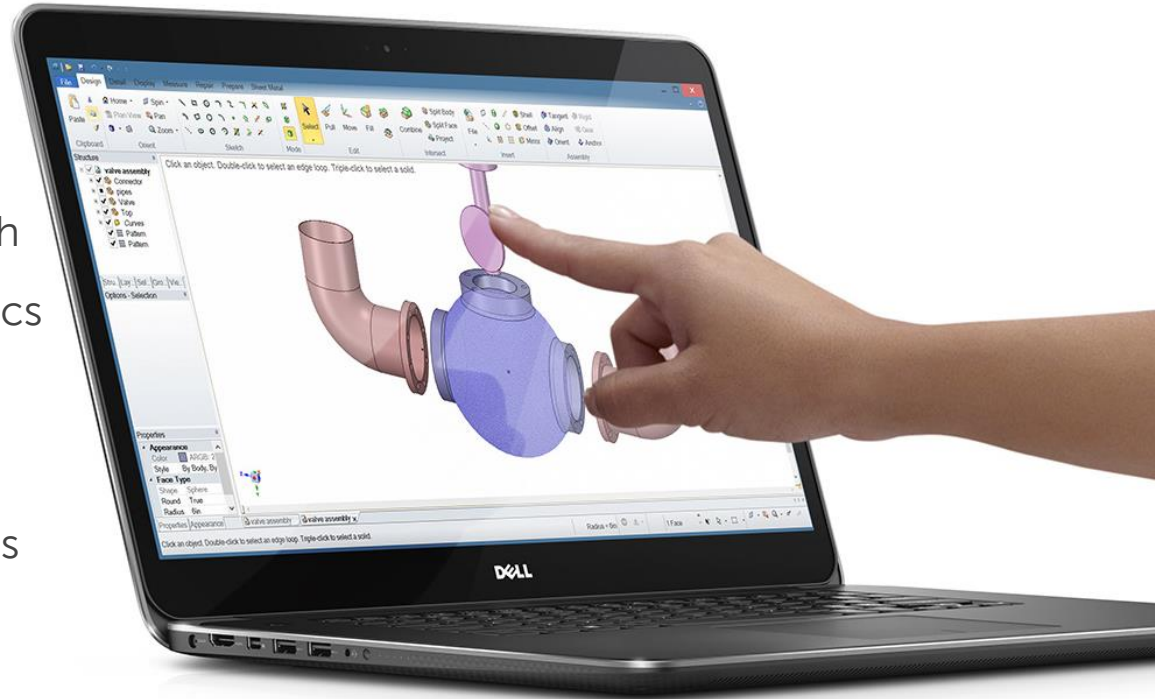
- ISV-certified on critical applications
- Dell Precision Performance Optimizer
- Up to Intel Core i7 (47W) Quad Core Processors
- Professional grade AMD FirePro Graphics 2GB of dedicated
  video memory
- Up to 16GB of system memory
- HD & FHD display options
- Latitude& Precision Compatible docking
- Weight - 2.56kg

The lightest, thinnest mobile workstation

Dell Precision M3800

- Intel Haswell QC i7 (37W)

- FHD and QHD+

- edge to edge displays with touch

- Professional ISV-certified graphics

- Ultra thin (18mm)

- Lightweight (1.8 KG)

- NVIDIA Quadro K1100M graphics

NOTE: Dell Precision naming convention change

Old name   **New Name**

- T3610 ➡️ Dell Precision Tower 5810

- T5610 ➡️ Dell Precision Tower 7810

- T7610 ➡️ Dell Precision Tower 7910

- R7610 ➡️ Dell Precision Rack 7910

Introducing the next-gen of Precision workstations

Tower 5810

*Follow on to T3610

Outstanding mainstream performance, innovative chassis

- E5-1600V3 Haswell & future Broadwell EP
- Up to One 160W CPU
- Up to 300W professional graphics
- DDR4 RDIMM memory up to 256GB*
- Integrated 6.0Gb/s SATA controller,
- Optional 12Gb/s PCIe Raid Controller Cards
- Intel vPro
- ISV Certifications

Tower 7810

*Follow on to T5610

More processing power in a compact innovative chassis

- E5-2600 V3 Haswell & future Broadwell EP
- Up to Dual 160W CPUs
- Up to 300W professional graphics
- DDR4 RDIMM memory up to 256GB*
- Integrated 6.0Gb/s SATA controller,
- Optional 12Gb/s PCIe Raid Controller Cards
- Intel vPro
- ISV Certifications

Tower 7910

Follow on to T7610

Ultimate Workstation performance & scalability

- E5-2600 V3 Haswell & future Broadwell EP
- Up to Dual 160W CPUs
- Up to 675W professional graphics
- DDR4 RDIMM memory up to 1TB*
- Integrated 12Gb/s SW Raid controller
- Optional 12Gb/s PCIe HW Raid Controller Card
- Intel vPro
- ISV Certifications
- Highly expandable

Rack 7910

Follow on to R7610

Ultimate Workstation performance, scalability & security in a 2U rack form factor

- E5-2600 V3 Haswell & future Broadwell EP
- Up to Dual 160W CPUs
- Up to 675W professional graphics
- DDR4 RDIMM memory up to 1TB*
- Integrated 6.0Gb/s SATA controller,
- Optional 12Gb/s Mini-PERC RAID Controller cards
- Dell iDRAC Datacenter Manageability
- Best in class remote access solutions
- Ideal for workstation virtualization

* Post RTS

The most advanced Dell Precision workstations ever

All new on the inside **means significant performance gains vs. prior generations**
- NEW! **Processor:** Intel Xeon E5-2600 v3 and E5-1600 v3 Haswell
  - New CPUs deliver higher performance particularly with compute intensive workloads
  - Up to 4.7x faster on Tower 7910 vs. previous generation for computationally intensive workloads like rendering, simulation and analysis per SPEC CPU 2006 v1
- NEW! **Graphics:** AMD and NVIDIA graphics options deliver amazing performance gains!
  - Up to 5.5X faster on T5810 Vs previous generation T3500 using SPECviewperf 12.0.1 benchmark
- NEW! **Memory:** 2133Mhz DDR4 Memory up to 1TB on Tower 7910 and Rack 7910
- NEW! **Quieter:** Improved acoustic performance,
- NEW! **Configurations:** Added high end graphics on single socket Tower 5810, more CPU and memory SKU choices
- NEW! **Support** for consumer graphics cards with supplementary power connectors on top
- NEW! **I/O:** 12Gb/s PCIe SATA/SAS controller card options support SW and HW RAID 0,1,5,10 to deliver improved I/O performance and data availability
- NEW! **Software:** Dell Precision Optimizer 2.0
- NEW! **Remote options:** Teradici PCoIP workstation Access Software
- NEW! **Support options:** Quick Resource Locator (QRL) codes to access FAQs faster
- NEW! Thunderbolt 2 support

What it means for you: outstanding performance gains

Dell Precision Tower 5810 delivers up to

5.5x higher

graphics performance than previous generations on SolidWorks, **3.7x on CATIA, 5.5x on CREO, 6.8x on MAYA, and 3.6x on Siemens NX,***

Dell Precision Tower 5810 delivers up to

75% better

performance than previous generations for iterative design and prototyping[1]

Dell Precision Tower 7910 delivers up to

4.3x higher

graphics performance than previous generations on **SolidWorks, 2.5x on CATIA, 3.6x on CREO, 2.5x on MAYA, and 3.2x on Siemens NX**

Dell Precision Tower 7910 delivers up to

4.7x faster

than previous generations for computationally intensive workloads like rendering, simulation & analysis

All the features you love stay the same

- **Dell Performance Optimizer 2.0** – delivers higher application performance (NEW version!)

- **Industry leading chassis design** delivers outstanding usability and quick internal access for updates & maintenance

- **Dell's Reliable Memory Technology** – improves system uptime for mission critical applications

- **Intel CAS-W (new & improved version!)** caching solution improves storage speeds for better overall performance

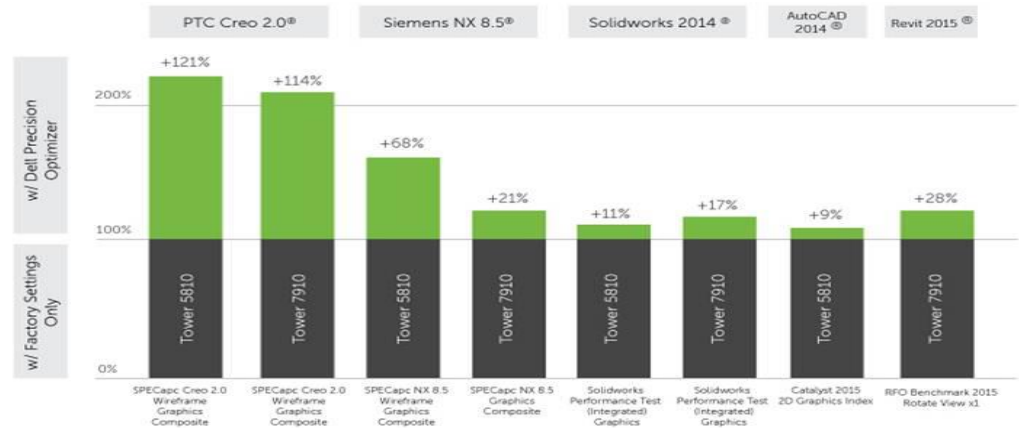- **One-stop-shop** for Dell accessories and peripherals

Meet Dell Precision Optimizer v2.0

- **NEW! 2 additional performance profiles** for Autodesk 3ds Max and Inventor, for a total of 13 performance profiles to improve your productivity
- **NEW! Enhanced system management** monitor utilization through graphs and reports, compare workloads and send reports to IT
- **NEW! Connect to Dell** for upgrades
- **NEW! Japanese and Simplified Chinese** support in addition to English, German and French
- **NEW! Improved user interface**

- Performance profiles automatically adjust Intel® Hyper-Threading, # of CPU cores, as well as graphics, and power settings
- Included *free* with your Precision system
- Custom-built profiles for your application's workload
- Works in the background
- Provides system utilization tracking and reporting
- Enables updates of drivers, software and firmware

NEW! Sept. 2014!

Optimizer 2.0 delivers significant Performance Gains

| PTC Creo 2.0® | | Siemens NX 8.5® | | Solidworks 2014 ® | | AutoCAD 2014 ® | Revit 2015 ® |

w/ Dell Precision Optimizer — w/ Factory Settings Only

+121% (Tower 5810) +114% (Tower 7910) +68% (Tower 5810) +21% (Tower 7910) +11% (Tower 5810) +17% (Tower 7910) +9% (Tower 5810) +28% (Tower 7910)

SPECapc Creo 2.0 Wireframe Graphics Composite | SPECapc Creo 2.0 Wireframe Graphics Composite | SPECapc NX 8.5 Wireframe Graphics Composite | SPECapc NX 8.5 Graphics Composite | Solidworks Performance Test (Integrated) Graphics | Solidworks Performance Test (Integrated) Graphics | Catalyst 2015 2D Graphics Index | RFO Benchmark 2015 Rotate View x1

* Test results are a weighted geometric mean of optimized configuration samples, compared to factory-installed default settings.
** Benchmarks are industry standard applications using SPEC committee and other industry standard benchmarks.

Maximize uptime- Dell Reliable Memory Technology

- Exclusive Dell patented technology virtually eliminates blue screens (caused by memory errors) when running your mission critical workstation applications
- Increases reliability of the system by preventing the OS from writing to a previously detected bad spot on a DIMM
- Extends memory life
- Notifies you of memory errors before the DIMM is unusable

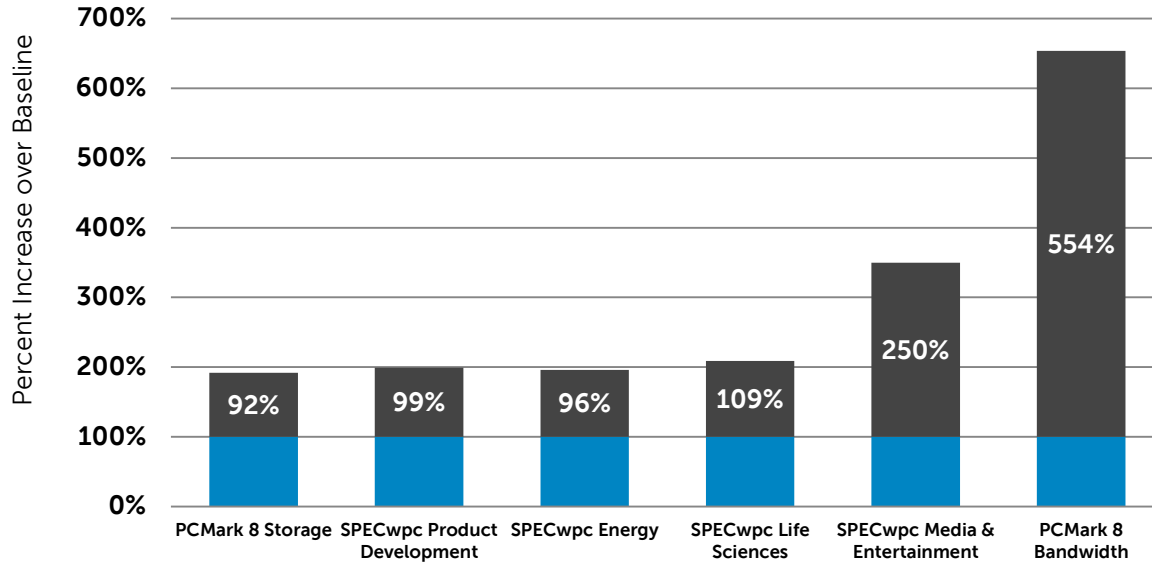**With Dell RMT** – The bad memory bit is mapped out, so the DIMM can still be used

Without Dell RMT – Bad memory is still present, leaving your system vulnerable to blue screens or requiring resources to replace

Supported on the Tower 5810, 7810, 7910 and Rack 7910 with ECC memory

Eliminate the bottleneck you never knew you had:
Intel CAS-W

Increased Storage Performance with CAS-W

- **Exclusive** Dell Software

- Cache acceleration software for workstations

- Gives large capacity, rotating disk drive high performance up to & exceeding, SSD

*T3610 with Xeon E5-1650 v2, 64GB memory (4x16GB), 500GB 7200RPM SATAIII boot drive, 128GB cache drive, CAS-W build 10301-2017

Dell - Restricted - Confidential

Dell Precision Rack 7910 workstation with Wyse P25/45 Zero Clients

1:1 Remote access from anywhere **now includes software client** **and host!**

Datacenter/Central Location
Rack 7910/New Towers
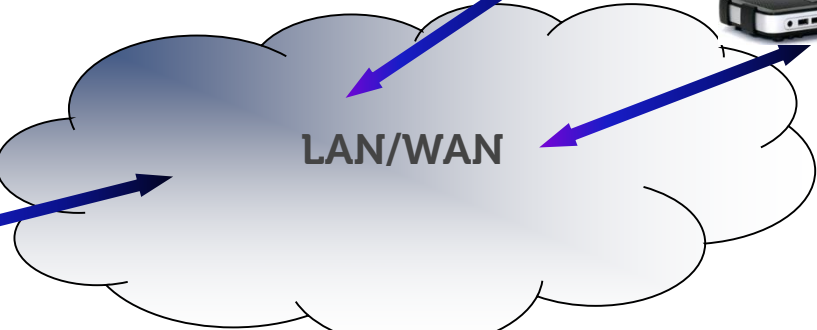
New Teradici Sofware Host

Direct from Teradici

REMOTE USER

Teradici PCoIP Software Client (Windows)

GRAPHICS CARD

P25 Zero Clients

HARDWARE DECOMPRESSION
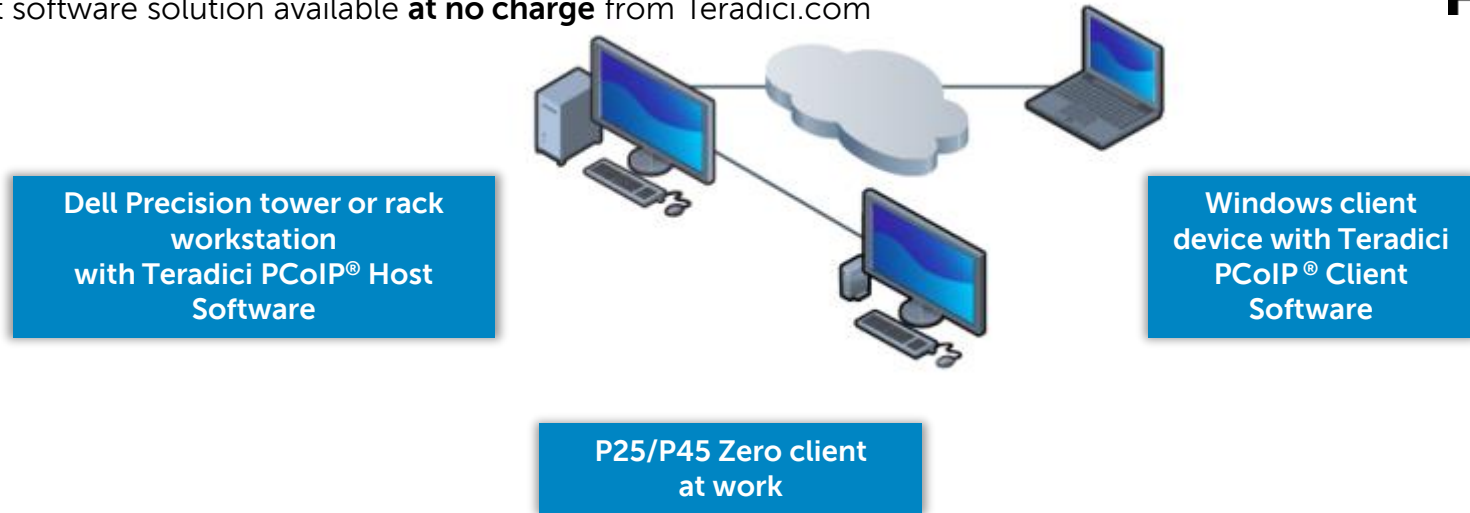
Mini DP

LAN/WAN

PCIe REMOTE ACCESS <u>DUAL</u> DISPLAY HOST CARD
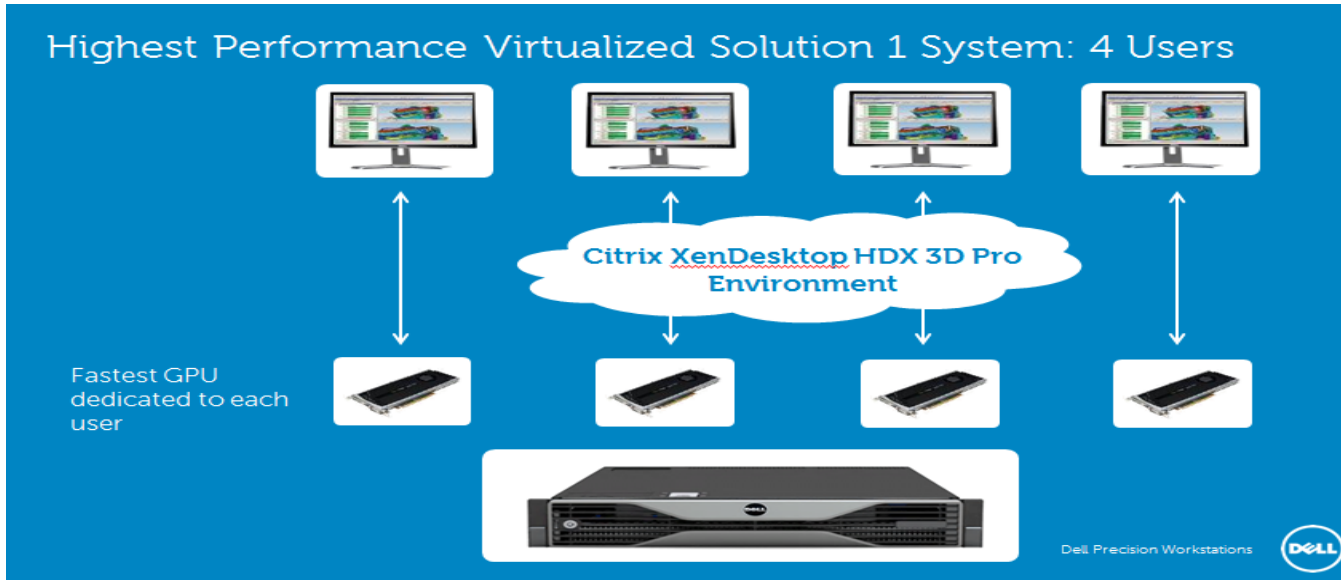**TERADICI PCoIP® HARDWARE COMPRESSION**

Meet New Teradici PCoIP® Workstation Access Software

- Completely host **software**-based solution enabling **secure remote connection** to a Precision tower or rack workstation with any PCoIP® enabled client device

- **Enables seamless productivity solution**

- Provides **mobility** and **flexible** working environment for occasional users

- Host software solution available on **Dell Precision tower or rack workstations**

- **One year of 24x7x365 support** provided by Teradici (with support SKU)

- Client software solution available **at no charge** from Teradici.com

Dell Precision tower or rack workstation with Teradici PCoIP® Host Software

Windows client device with Teradici PCoIP® Client Software

P25/P45 Zero client at work

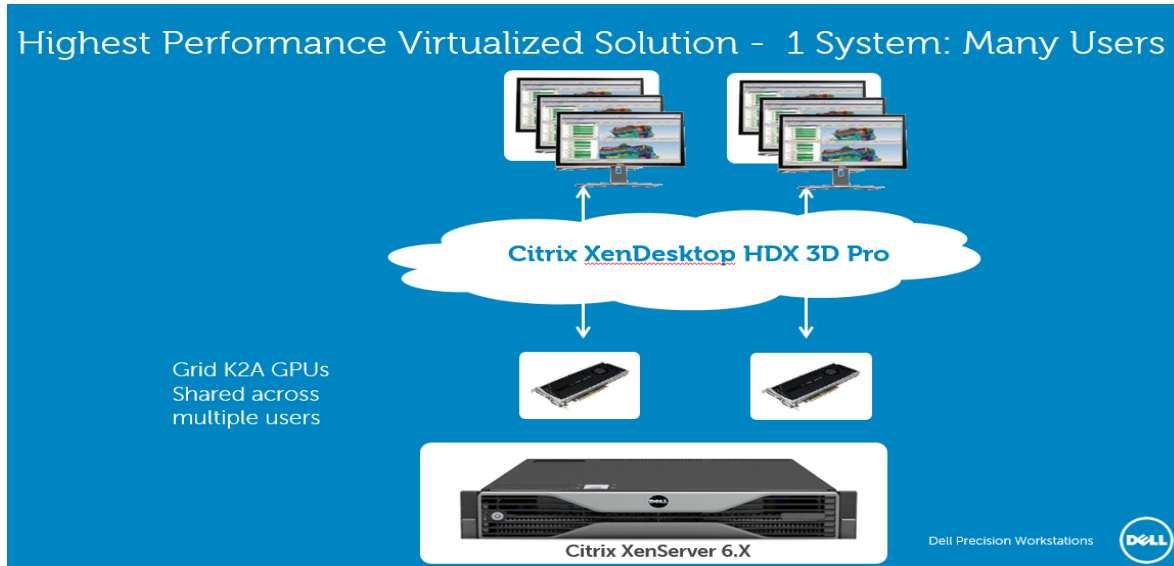# Virtualizing Workstations – 1 to many

- **Direct GPU aka Pass Through** - direct assignment of graphics card to each user (virtual machine)

- Best graphics performance
- # users limited by # GPUs – 4 single width discrete cards, and 4 with 2 x K2A

Virtualizing Workstations 1 to many with shared GPU

- **Shared (virtualized) GPU) – vGPU** with Nvidia Grid K2(A) with Citrix XenServer

Highest Performance Virtualized Solution – 1 System: Many Users

Citrix **XenDesktop** HDX 3D Pro

Grid K2A GPUs
Shared across
multiple users

Citrix XenServer 6.X

Dell Precision Workstations

Performance with workstation class graphics workloads TBD
- – Host System resources (not graphics) will likely be gate to # of users
- – VMware "Svga" support with Open GL 4.x expected mid to late CY 15

Combining the best of both worlds

Dell Precision values

- High performance
- High reliability
- Great user experience
- ISV certifications
- Top-notch service and support

Cloud Client Computing values

- Optimized hardware, software and services
- Best-in-class thin clients
- Secure access to centralized data and applications
- Streamlined deployment and management

Dell Wyse Datacenter for Virtual Workstations

- Certified for key use cases
- Best-in-class data security, performance and reliability
- Centralized management
- Complete end-to-end optimized solution
- World class client devices and support

Dell Wyse Datacenter for Virtual Workstations
End to end solution for predictable desktop virtualization deployments

SIEMENS **PTC** **AUTODESK.** **DASSAULT SYSTEMES**

Best in class datacenter components & Precision workstations

NVIDIA GRID GPU

Leading GPU technology

Dell Wyse #1 thin clients

vmware

CITRIX

Top Desktop virtualization software providers

- Reference Architectures
- Fast deployment
- Fully supported
- Single point of accountability
- Predictable performance
- Predictable densities

- Siemens available globally today
- Autodesk, PTC & Solidworks coming this spring

True Workstation ISV application certified VDI solution

Elements of the reference architectures

AUTODESK. **SIEMENS** **PTC®** **DASSAULT SYSTEMES**

Desktop Virtualization SW

Hypervisor

Efficient Data Center

Cloud Client Computing Infrastructure **Precision workstation R7610**

Services

ISV
- Siemens at launch
- Dassault, PTC and Autodesk spring 2014

Virtualization broker
- R7610: Citrix XenDesktop
- R720: VMware Horizon View and Citrix XenDesktop

Hypervisor
- Citrix XenServer – R720 and R7610
- vSphere– R720

Datacenter components
- Precision R7610 or PowerEdge R720
- EqualLogic and Compellent Storage
- Force10 Networking
- NVIDIA K1 and K2 GRID Cards
- Wyse Thin and Zero clients

Services
- Consulting, Implementation, Support, Management

Thank You!