NVIDIA's Unique Approach in Quantifying User Experience



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Windows 10 is Microsoft's most demanding OS





Providing a local like User Experience

Local PC/Workstation

- Dedicated resources
- GPU (integrated or dedicated)
- Great End-User Latency

VDI Desktop

- Sharing resources
- Sometimes without a GPU
- Increased End-User Latency (Remoting stack + network)
- Remoting protocol "optimizes" frame quality and quantity to save other resources (bandwidth, CPU, etc.)

Defining User Experience

Displayed Frames

Describes the number of frames sent to the display device on the end client.

End-User Latency

Describes how remote the session feels or how interactive/laggy the session is.

Image Quality

Describes how much the image was manipulated by the remote protocol.

Functionality

Describes if the remote desktop supports the same range of applications (API Support).

Consistency

Describes how much the user experience varies.

Applying Known Metrics from Physical PCs to Virtual PCs



Measures the end user responsiveness

Measures the fluidity of your session

Measures the impact of the remote protocol

Definition of a Knowledge Worker

Web browsing with modern web browsers



Google Chrome

Viewing videos (Web or Local)



Viewing/Editing content



Google Chrome, Windows Media Player Microsoft Word 2016, Excel 2016, PowerPoint 2016, Edge

Real World Workflows









Reference image



Same remote protocol with two settings

1.0

0.8

0.6

0.4

0.2

0.0

-0.2



NVIDIA GRID vPC Delivers the Best Windows 10 VDI User Experience



Tested by NVIDIA on knowledge worker workloads (Excel, Word, PowerPoint, Chrome browsing with WebGL, Media Player, PDF) running on dual 1080p resolution monitor on Citrix Virtual Desktop 1808.2, Windows 10 1803, Office 2016 with NVIDIA Tesla M10-1B and NVIDIA virtual GPU 8.0 release, with 32 users per GPU.

Summary

End-Users expect a similar to local user experience

- Focus on User Experience for successful deployments
 - Just like in every PC/Phone/Tablet provide the user with access to same physical resources (CPU, GPU, RAM, etc..)
 - NVIDIA GRID improves the user experience



Windows 10 Sizing Guide:

• http://www.nvidia.com/object/grid-win10-guide.html

Quantifying the Impact of Virtual GPUs: See how NVIDIA benchmarks UX in VMware virtualized environments

<u>https://www.nvidia.com/object/quantifying-impact-of-vgpu-whitepaper.html</u>

NVIDIA® Virtual GPU Software Documentation

<u>https://docs.nvidia.com/grid/index.html</u>