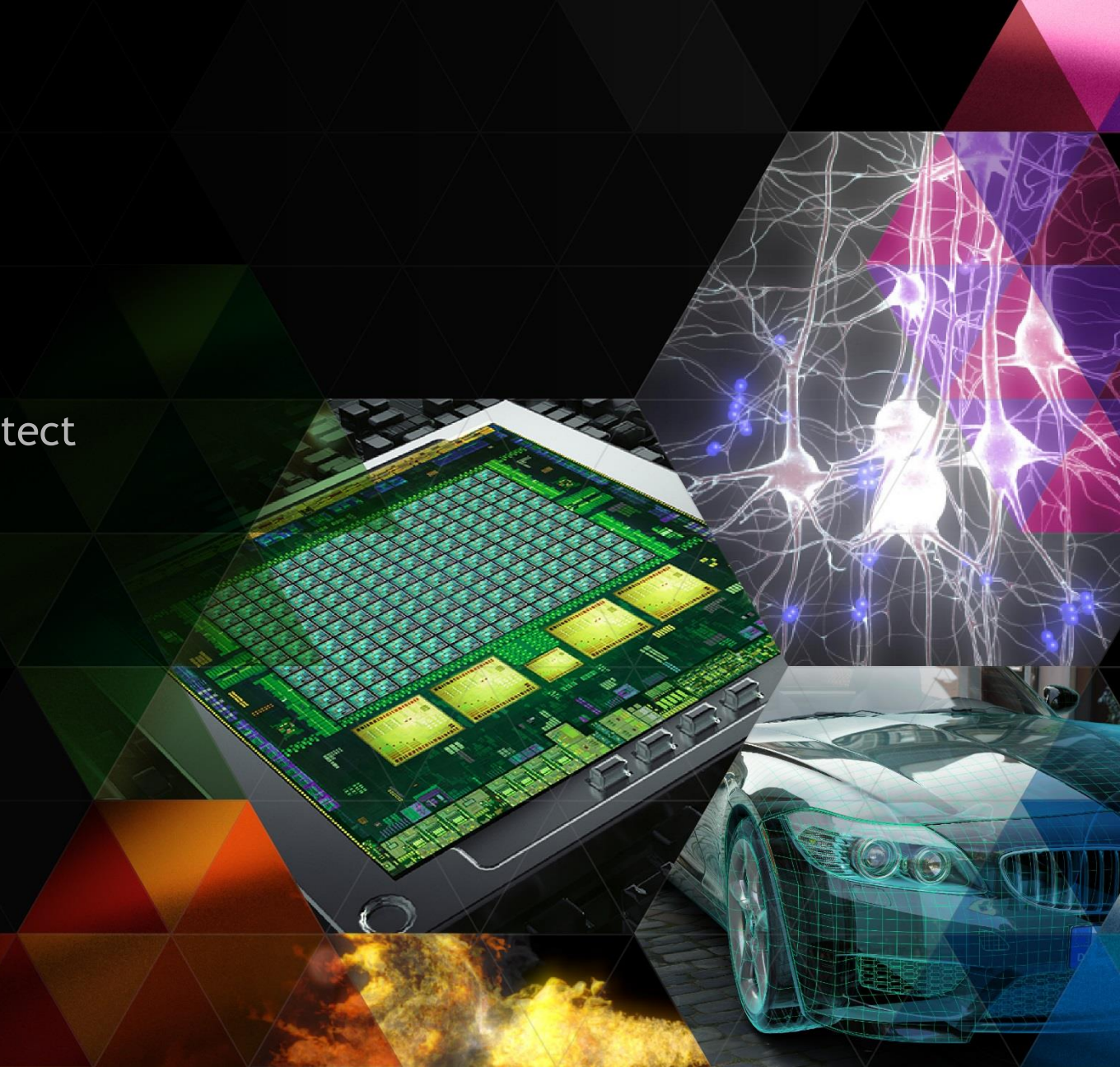
NVIDIA

NVIDIA GRID

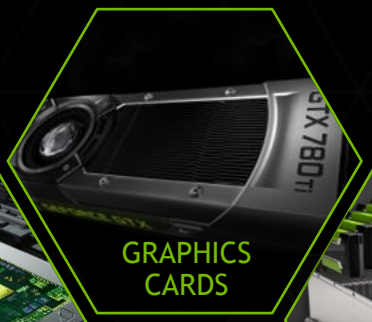
Jared Cowart, Sr. Solution Architect



AGENDA

1. Importance of GPUs in VDI
2. Desktop Virtualization
3. VDI with NVIDIA GRID GPUs

WORLD LEADER IN VISUAL COMPUTING



FROM SUPER PHONES TO SUPER CARS

GPUs delivers a better visual experience by offloading work that the CPU is not efficient at processing

(Direct X, OpenGL, Video)

ALL USERS EXPECT A GREAT VISUAL EXPERIENCE!

Every Notebook, Tablet And Smartphone Has A GPU

- GPUs delivers a better visual experience by offloading work that the CPU is not efficient at processing
- (Direct X, OpenGL, Video)

RICH GRAPHICS ANYWHERE, ANY DEVICE

With NVIDIA GRID technologies, large enterprises can deliver amazing graphics to their mobile workforces on any device. And creative professionals in smaller shops can access graphics-intensive apps with uncompromised performance.

BENEFITS OF DESKTOP VIRTUALIZATION

FLEXIBILITY

- Work isn’t a place, it’s something you do from anywhere

ACCESS

- Virtual desktop works independently of location, endpoint and network. Use the Virtual Desktop from any client endpoint; Work Anywhere, with Any Device in LAN, WiFi and WAN scenarios. Support work from home, global product development teams, contractors and BYO scenarios

SECURITY AND CONTROL

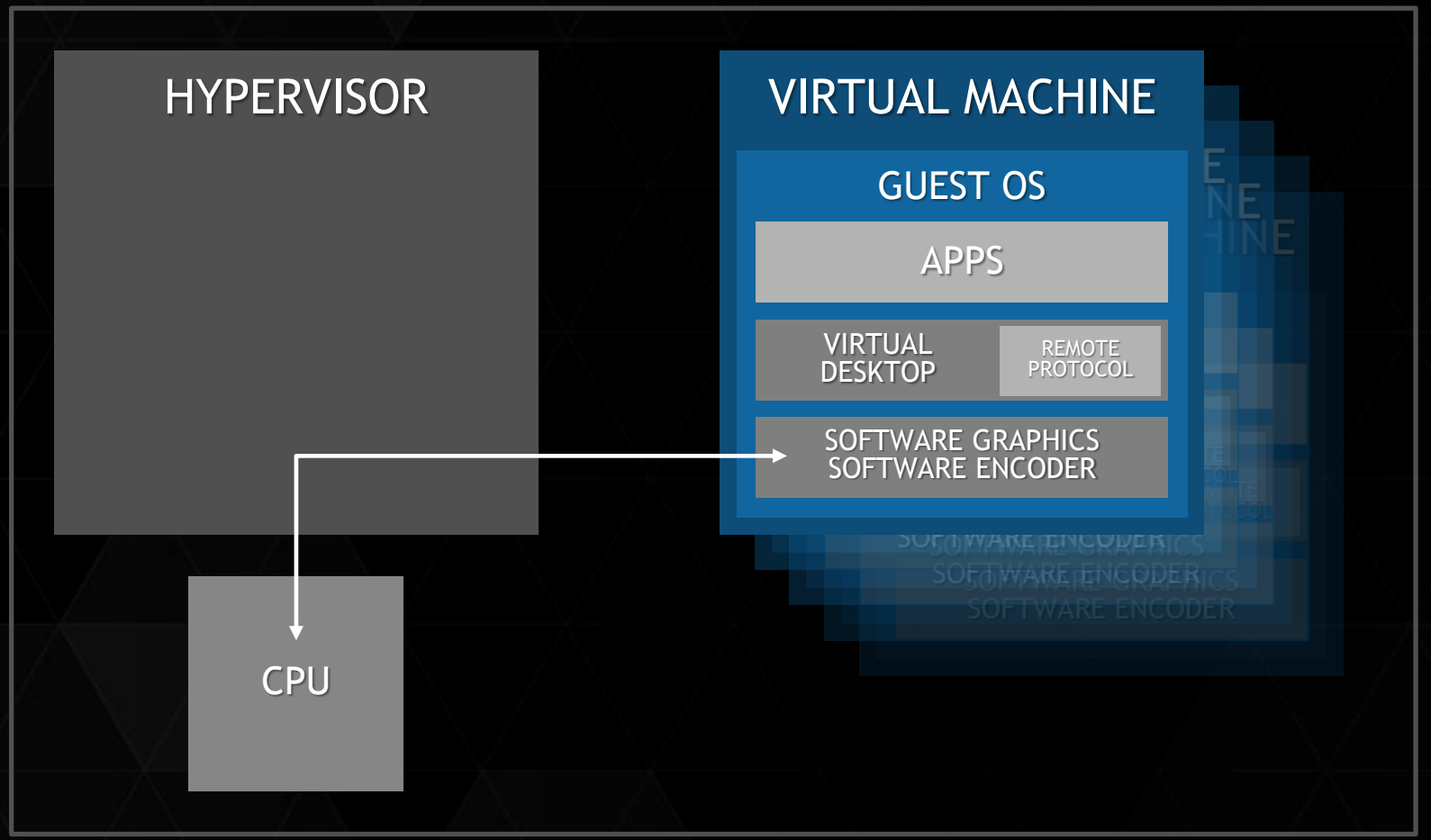
- Information systems and data stays in the datacenter center; Protect Intellectual Property (IP)

BYO

- Enables delivery of applications and desktops for Bring Your Own Device

CLASSIC VDI

CPU Rendered Graphics



LIMITED ADOPTION
Due To Poor Application Performance

LIMITED DENSITY WITH CPUS
Inefficiently Rendering Graphics

POWERED BY
NVIDIA GRID™

VIRTUAL MACHINE

WINDOWS 7

NVIDIA GRID ENABLED
VIRTUAL DESKTOP

NVIDIA DRIVER

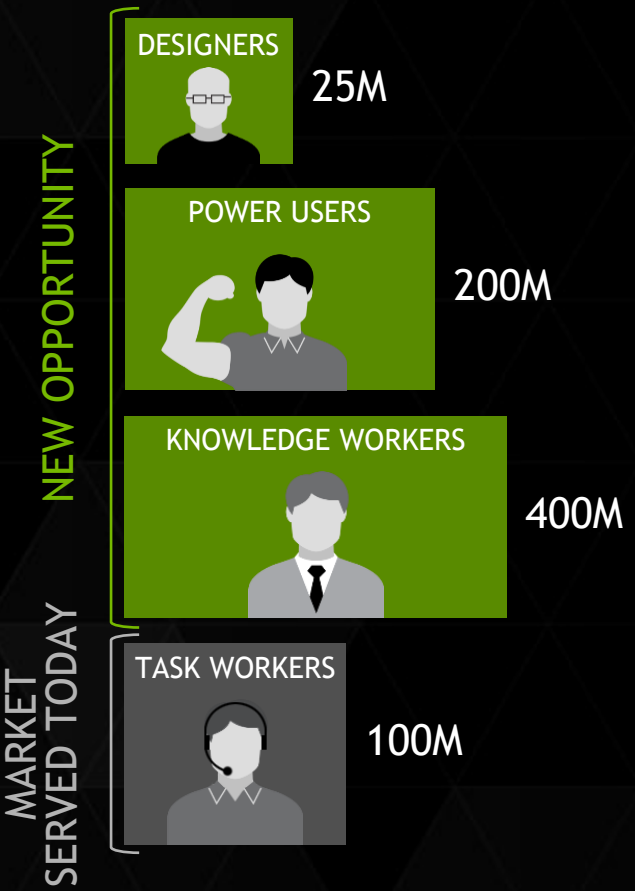
NVIDIA GRID ENABLED
HYPERVISOR

NVIDIA GRID GPU

VIRTUAL DESKTOPS

IMPORTANCE OF A GPU

COMMERCIAL MARKETS



MUST HAVE

3D Engineering & Design Apps

AUTODESK.
SOLIDWORKS
PTC

PLM & Volume Design

TEAMCENTER
AUTODESK.

Media Rich Web

HTML

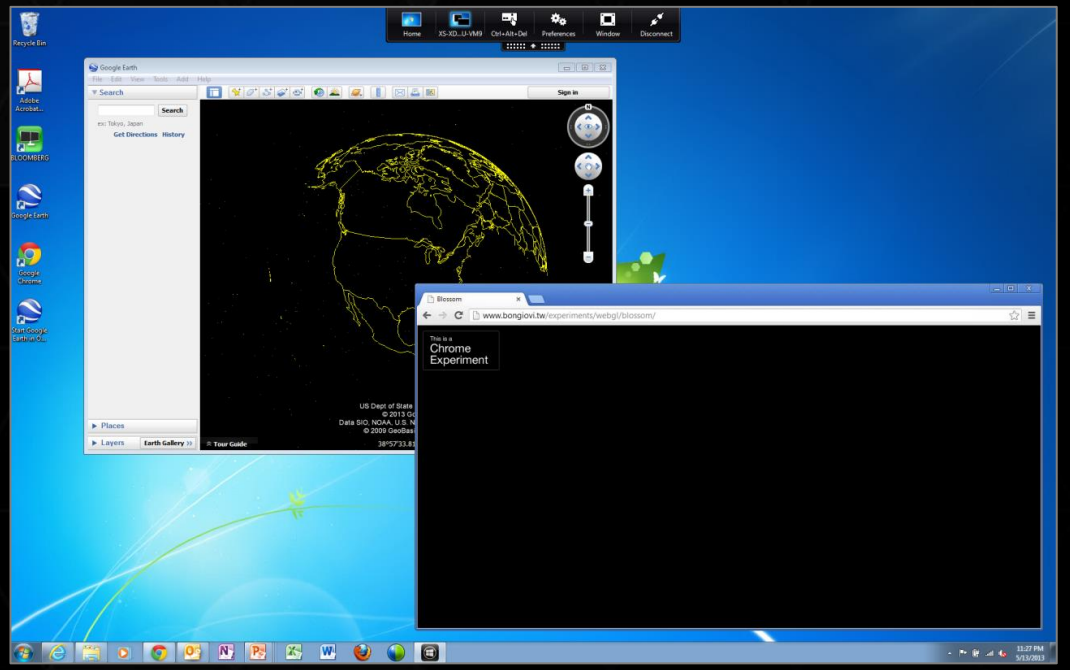
INCREASINGLY NICE TO HAVE

Office Productivity

Medical Records

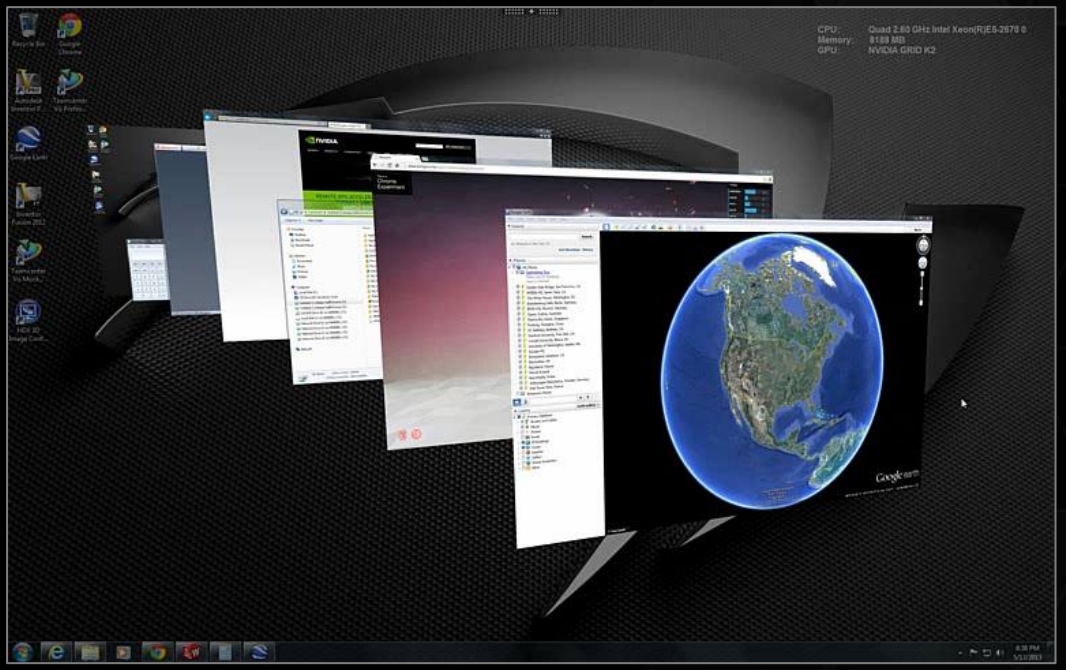
Cerner
McKESSON
Epic
SIEMENS

WINDOWS AERO



NO GPU

*Windows Aero Not Supported



GPU ENABLED VDI

Screen Capture of Two Live VDI Sessions

Forbes

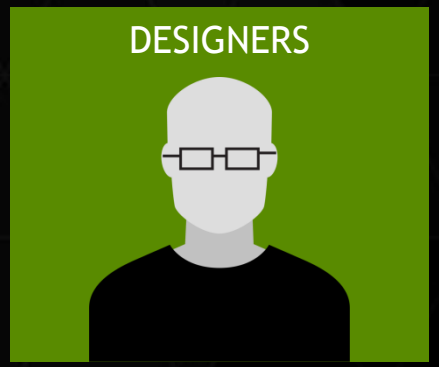
“…these new Nvidia GRID capabilities quite frankly pull hundreds of millions more workers into the potential fold of remote desktop...Net-net, Nvidia helped create and now has access to an addressable market 6X the size of the current one.”

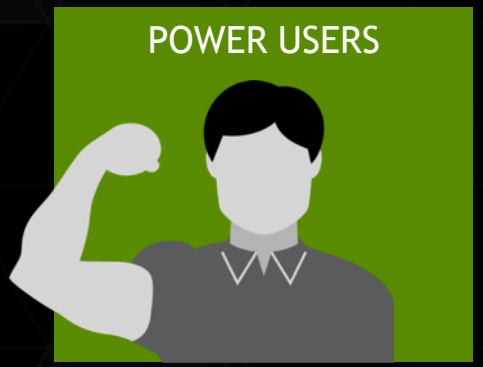
—Pat Moorhead, Forbes

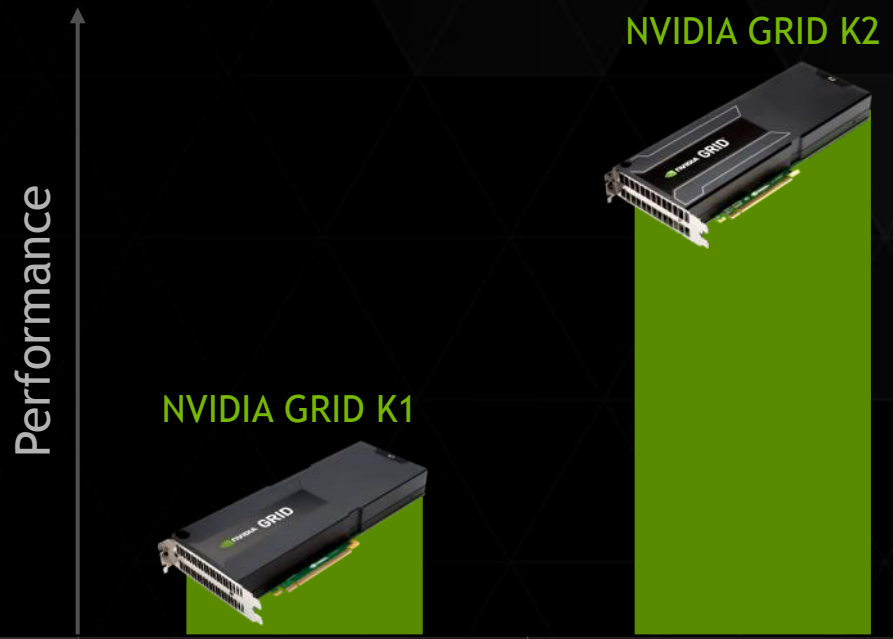
CIO

“Just like it took a few decades for tablets to reach the iPad stage, when they were accepted with the right technology, backing and execution, the idea of the thin client was actually a good one. We were just waiting for the right offering. Well, it just emerged, driven by VMware and Nvidia. It blends PC and server architectures with some new technologies to create something amazing.”

—Rob Enderle, CIO



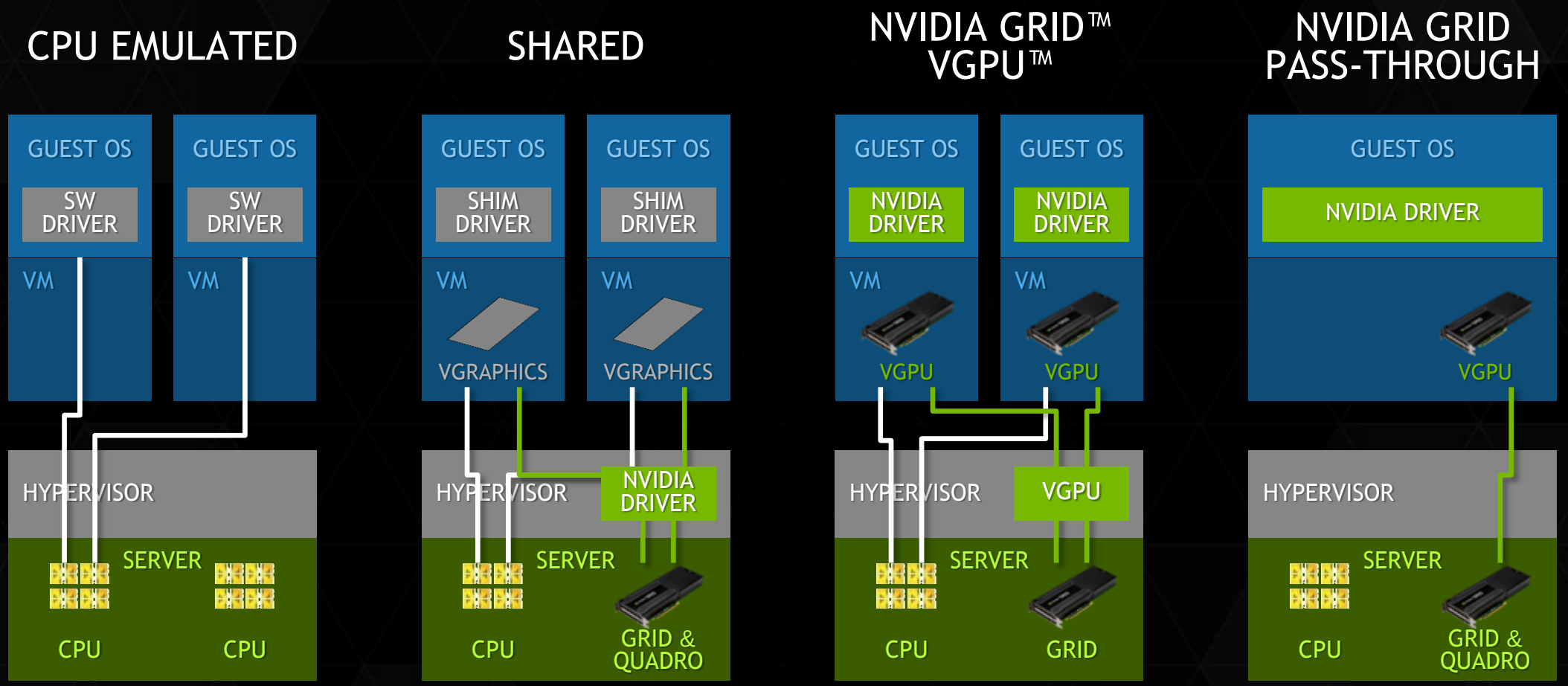




GPU	4 Kepler GPUs	2 High End Kepler GPUs
CUDA Cores	768 (192/GPU)	3072 (1536/GPU)
Memory Size	16GB DDR3 (4GB/GPU)	8GB GDDR5 (4GB/GPU)
Max Power	130 W	225 W
Number of Users	Up to 32	Up to 16

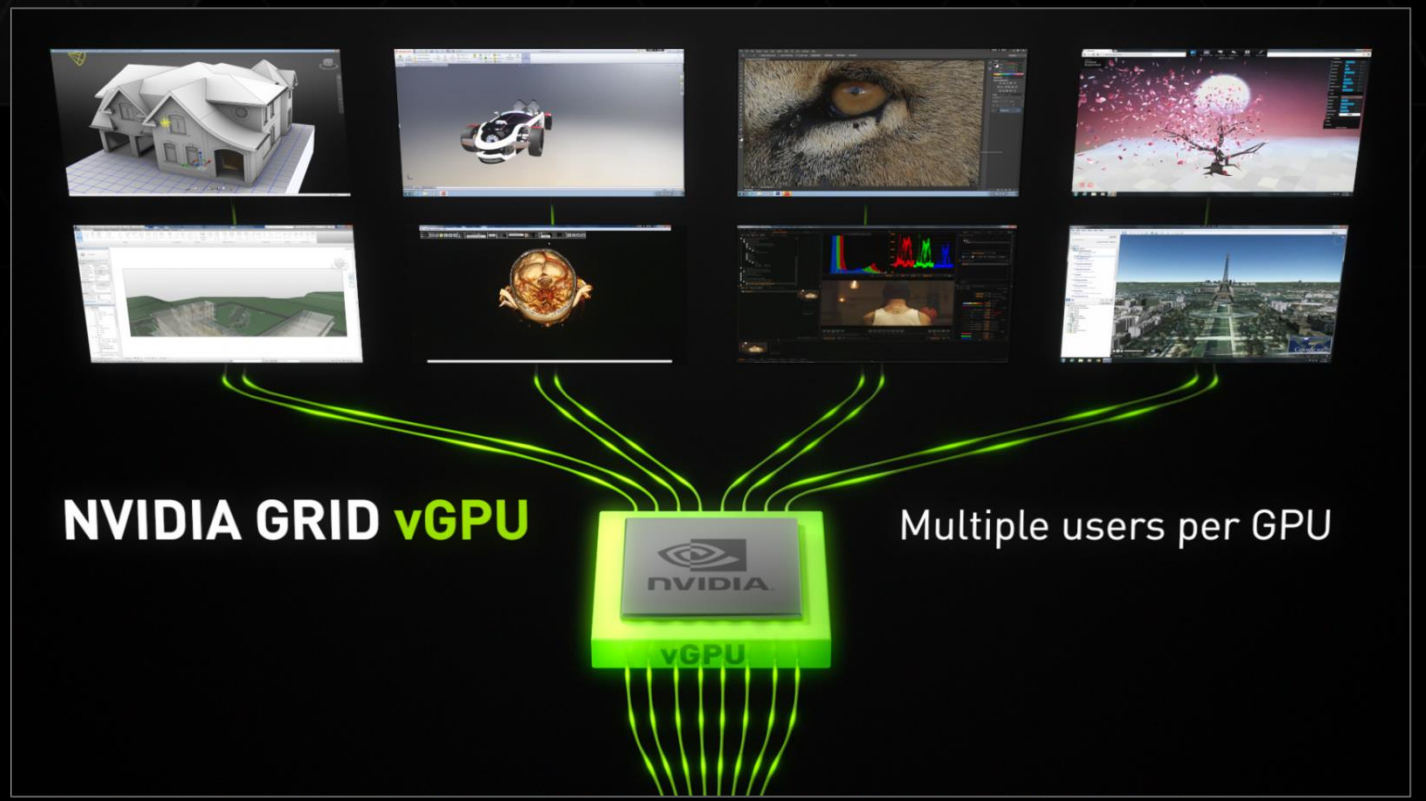
[1] Number of users depends on software solution, workload, and screen resolution

GRAPHICS OPTIONS IN VIRTUALIZATION



DELIVERING RICH GRAPHICS EXPERIENCES FROM ANY CLOUD – PUBLIC OR PRIVATE

NVIDIA GRID vGPU INNOVATION WIDENS ADOPTION OF RICH USER EXPERIENCES

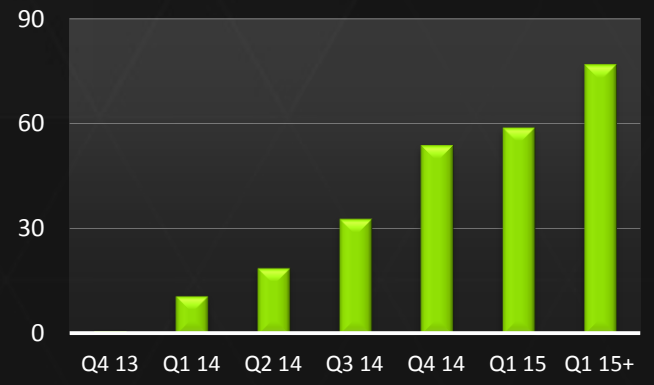


vmware®

Tech Preview
Late 2014

WIDESPREAD ECOSYSTEM ADOPTION

GRID-ENABLED SERVERS

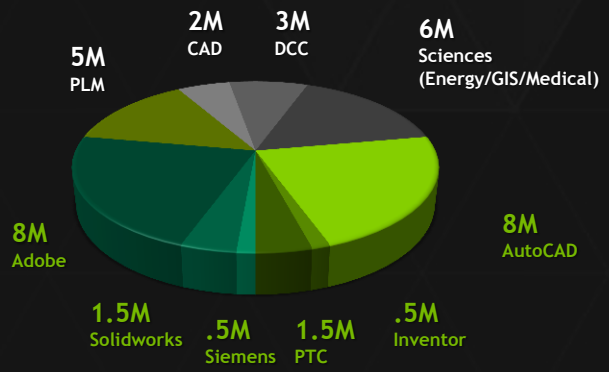


EXPANDING ECOSYSTEM

OEM | Virtualization | Services

cisco · CITRIX · amazon.com · DELL · hp · vmware · vmware Horizon DaaS Platform · IBM · Microsoft · SUPERMICRO · HITACHI · KVM · FUJITSU

GRID-CERTIFIED APPS



"NVIDIA and VMware Bring Graphics-Rich Virtual Desktops and Applications to Public Clouds" – *VMWare, NVIDIA Release, 3/25/2014*

TARGET MARKETS

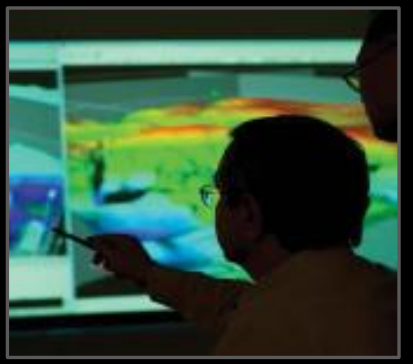
ARCHITECTURE, ENGINEERING & CONSTRUCTION

EDUCATION

GOVERNMENT

HEALTHCARE

MANUFACTURING



OIL & GAS

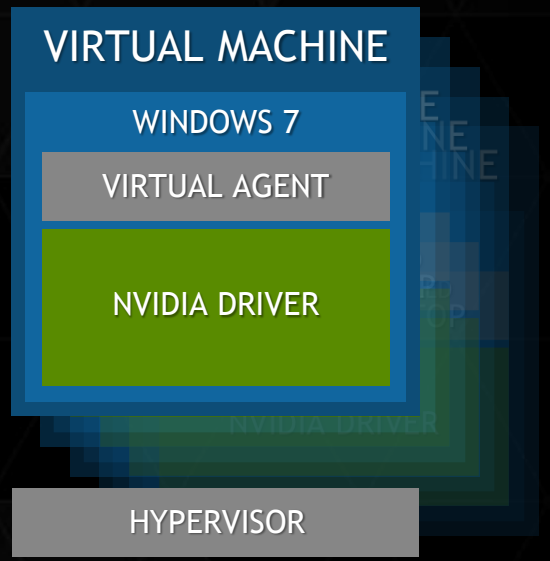
“With GPUs we can reduce our simulation times by a factor of 2X. Reducing simulation time means faster time to market. An engineering laptop is heavy & cumbersome. With NVIDIA GRID we can get access the same compute power from anywhere – whether on a workstation, laptop or tablet. We’ve had a great response for NVIDIA GRID and personally that’s all I use.”

—Patrick Godwin, Manager, Engineering Systems at SpaceX

CUSTOMERS SHARE SUCCESSES WITH MORE GRAPHICS SESSIONS THAN EVER INCLUDING

Citrix Xendesktop & NVIDIA GRID Enable Spacex To Colonize Other Planets

PROOF ON CONCEPTS REQUIRE INVESTMENT

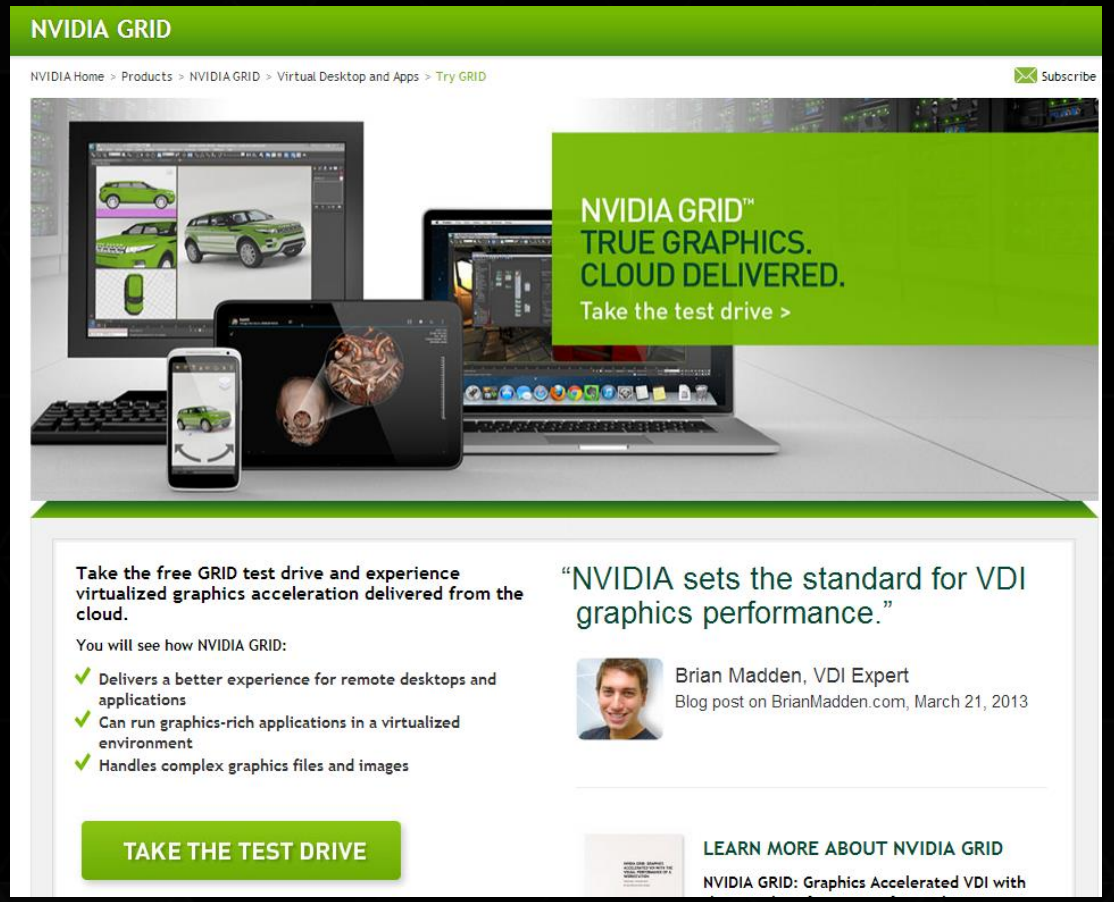


- INSTALL RECEIVER ON ENDPOINTS
- INSTALL APPLICATIONS
- INSTALL OS IMAGE
- INSTALL HYPERVISOR
- PROCURE SERVER

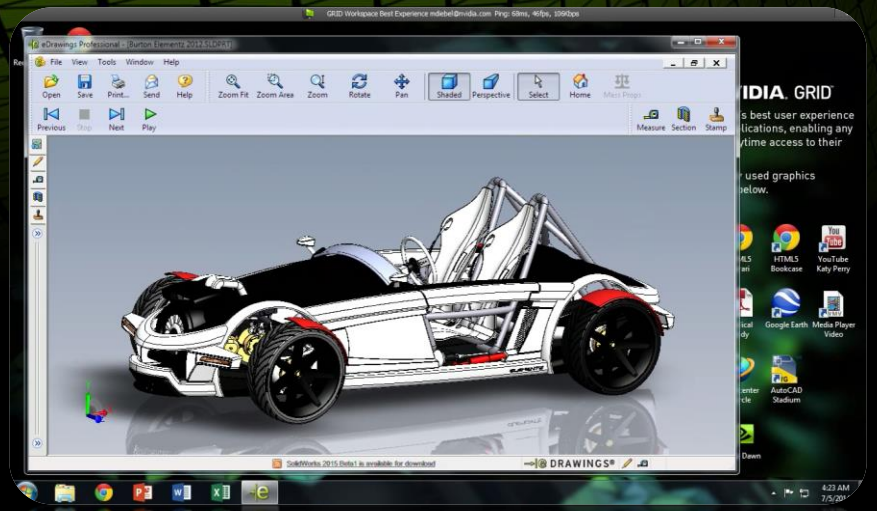
4 WEEKS
$20-35K

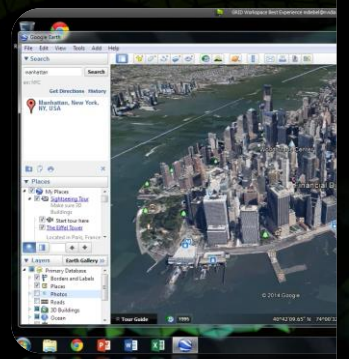
INSTANT ACCESS TO GRAPHICS-ACCELERATED VIRTUAL DESKTOPS IN THE CLOUD

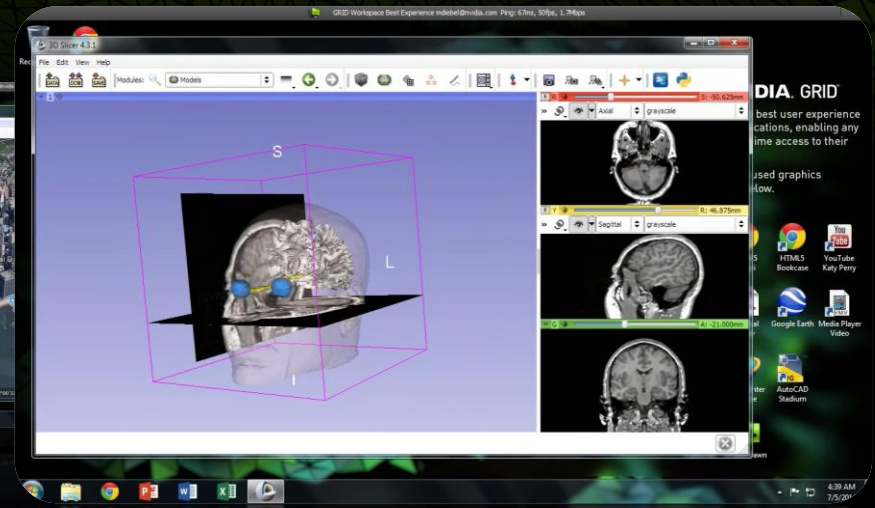
INSTANT ACCESS TO FREE GRID TEST DRIVE

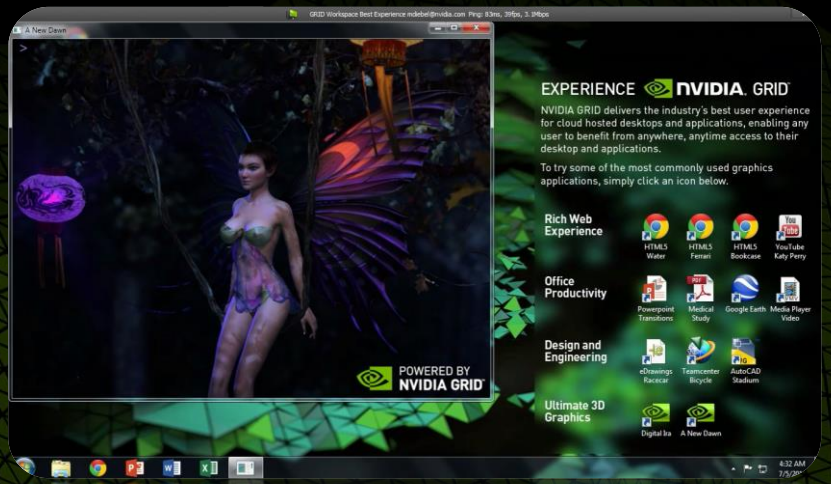


www.nvidia.com.tw/trygrid









EXPERIENCE NVIDIA GRID

NVIDIA GRID delivers the industry's best user experience for cloud hosted desktops and applications, enabling any user to benefit from anywhere, anytime access to their desktop and applications.

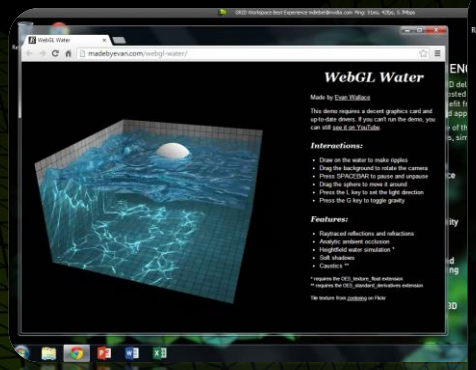
To try some of the most commonly used graphics applications, simply click an icon below.

Rich Web Experience

Office Productivity

Design and Engineering

Ultimate 3D Graphics



NVIDIA GRID RESOURCES

GRID WEBSITE
www.nvidia.com/vdi

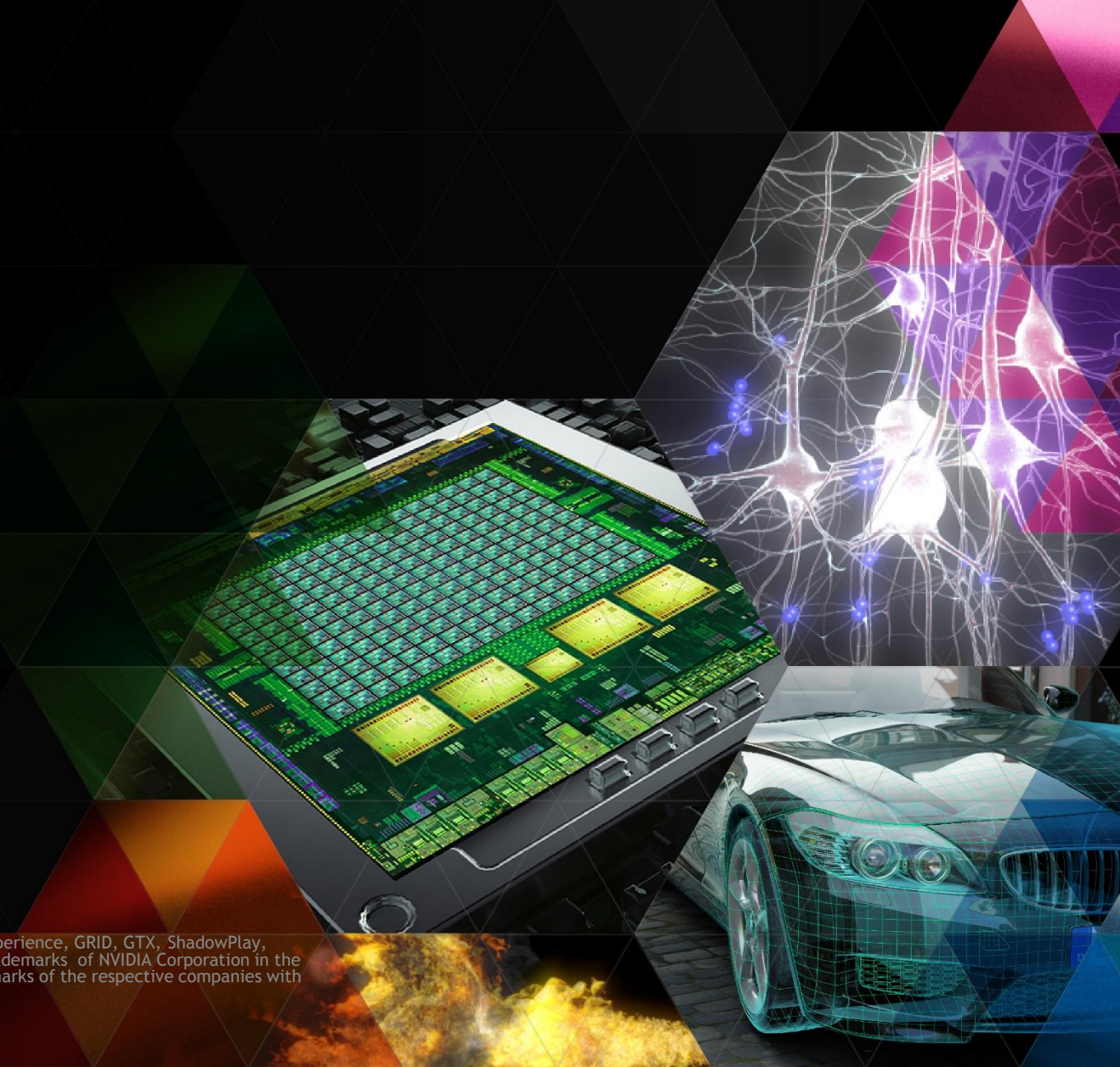
SIGN UP FOR THE MONTHLY GRID VDI NEWSLETTER
http://tinyurl.com/gridinfo

GRID YOUTUBE CHANNEL
http://tinyurl.com/gridvideos

QUESTIONS? ASK ON OUR FORUMS
https://gridforums.nvidia.com

NVIDIA GRID ON LINKEDIN
http://linkd.in/QG4A6u

FOLLOW US ON TWITTER
@NVIDIAGRID



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