

Graphics in the Cloud

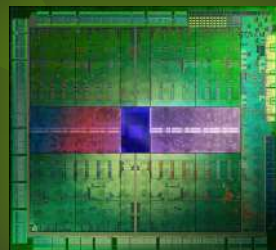
Will Wade, NVIDIA VGX Product Line Manager
Ian Williams, Director of Applied Engineering

Siggraph | August, 2012

A Brand New Idea...

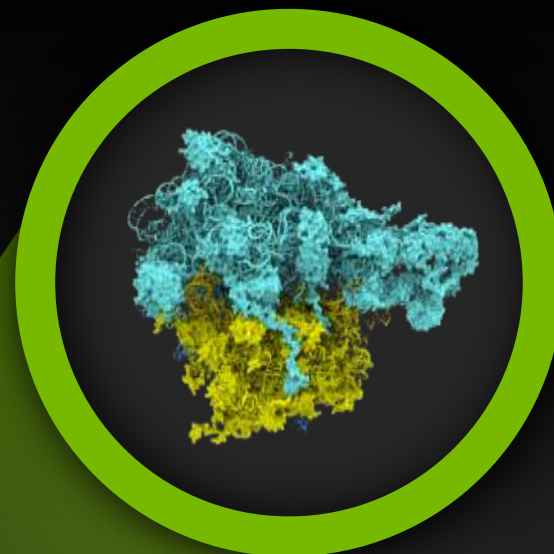


Graphics

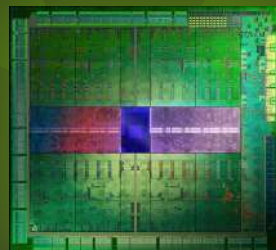




Graphics



Computing

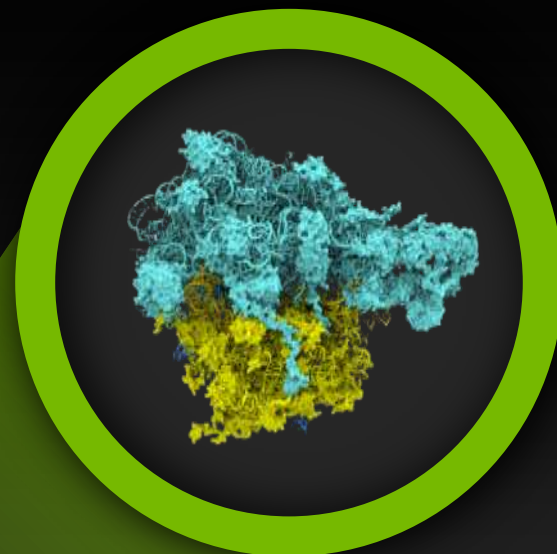




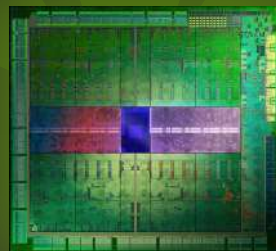
Graphics



Cloud



Computing



“BYOD” Movement



Windows PCs

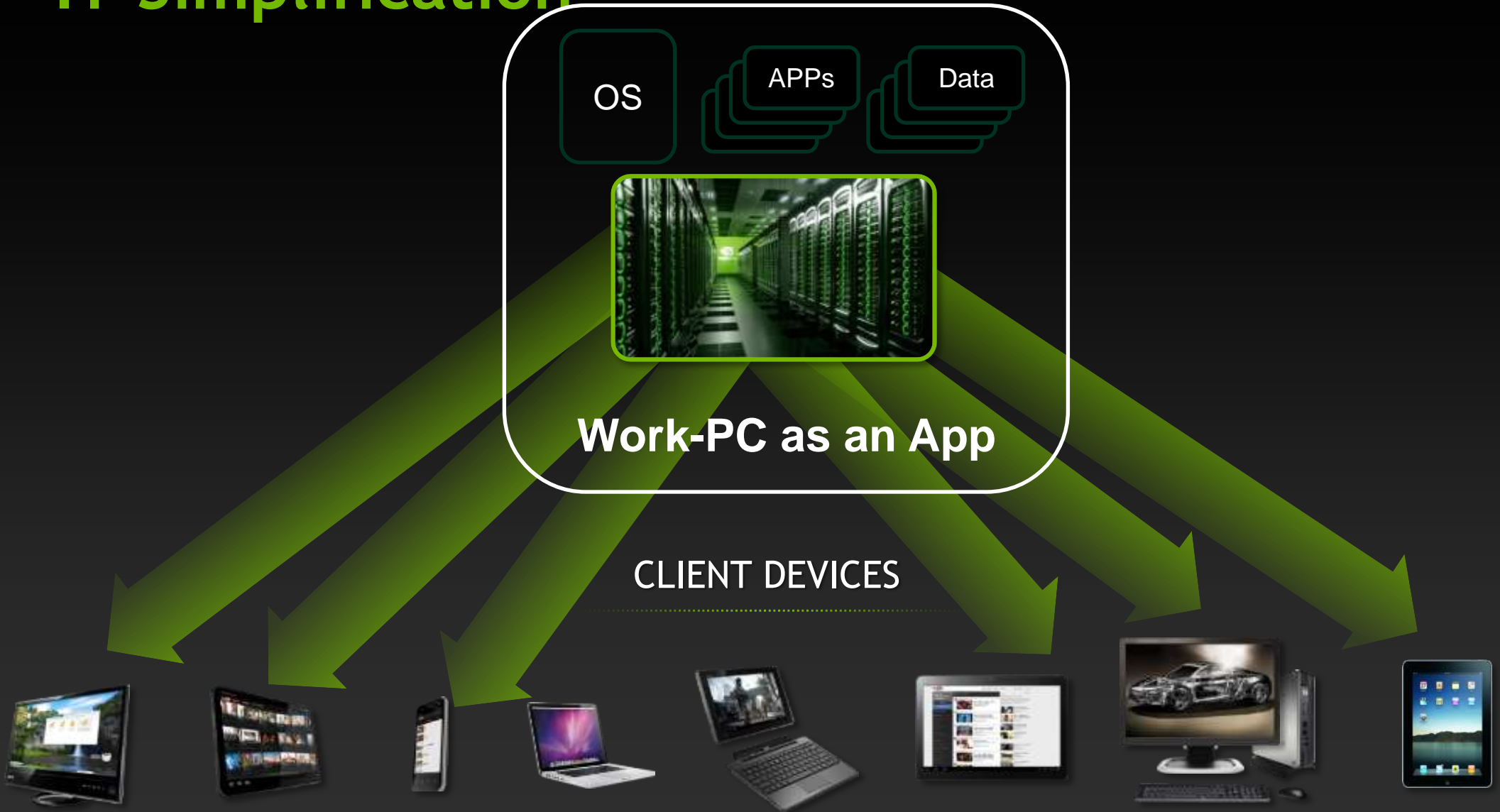


Tablets and
Smartphones



Mac PCs

IT Simplification



GPUs in the Cloud

GAMING GRAPHICS

GeForce™ GRID

Cloud Gaming



PROFESSIONAL GRAPHICS

VGX™

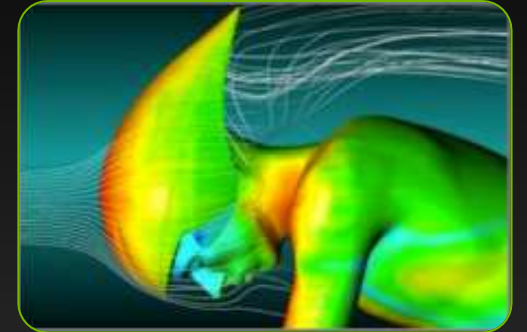
Remote PC and Workstation



PARALLEL COMPUTING

TESLA™

Cloud Computing

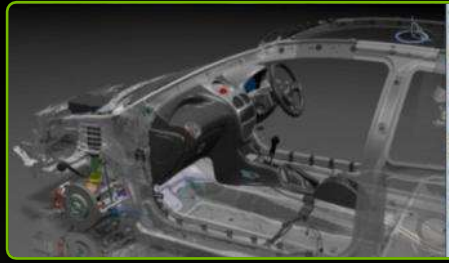


CLIENT DEVICES

TEGRA™



Enterprise Computer Users



DESIGNER
(CATIA, CS6, Inventor)

25M



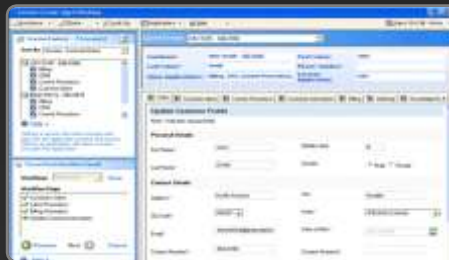
POWER USER
(PLM, Med Img, Showcase)

200M



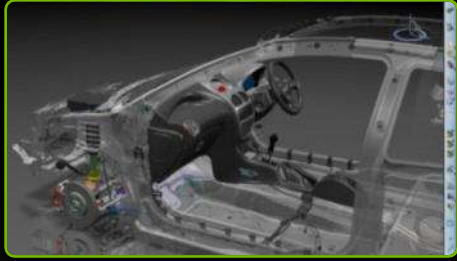
**KNOWLEDGE
WORKER**
(MS Office, Photoshop)

400M



TASK WORKER
(Call Center Apps)

100M



DESIGNER

(CATIA, CS6, Inventor)



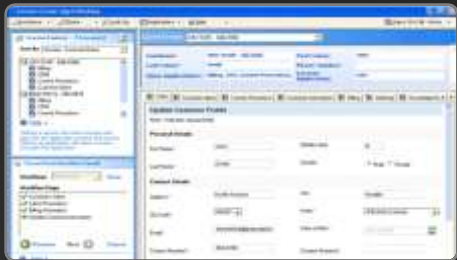
POWER USER

(PLM, Med Img, Showcase)



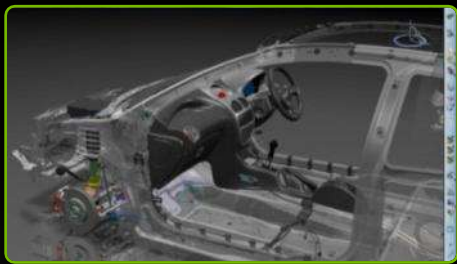
KNOWLEDGE WORKER

(MS Office, Photoshop)



TASK WORKER

(Call Center Apps)



DESIGNER

(CATIA, CS6, Inventor)



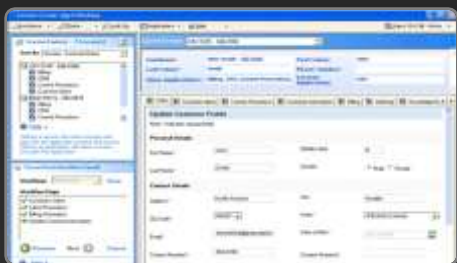
POWER USER

(PLM, Med Img, Showcase)



KNOWLEDGE WORKER

(MS Office, Photoshop)



TASK WORKER

(Call Center Apps)

PC

GPU
Pass-
through

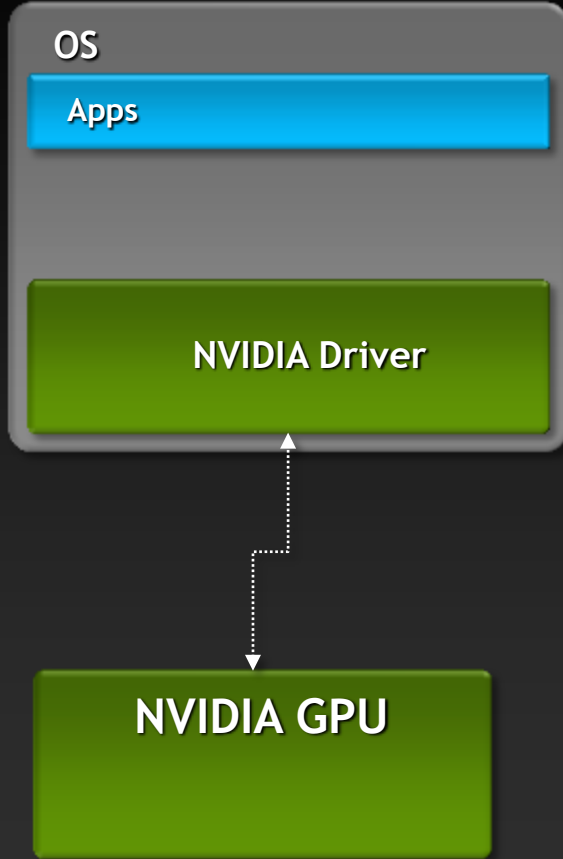
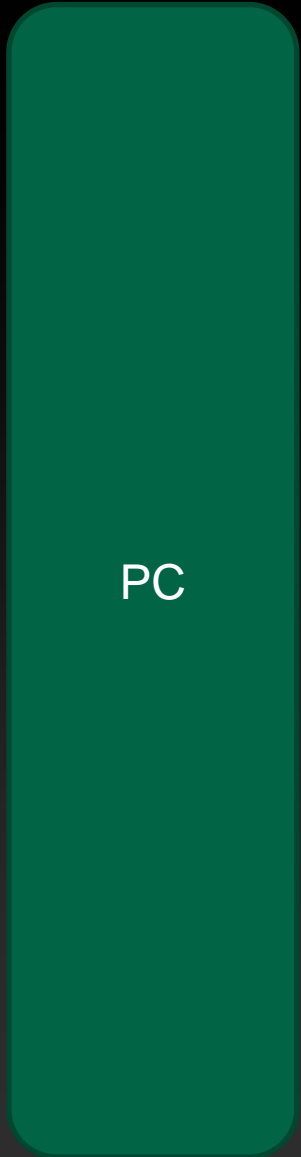
API
Intercept

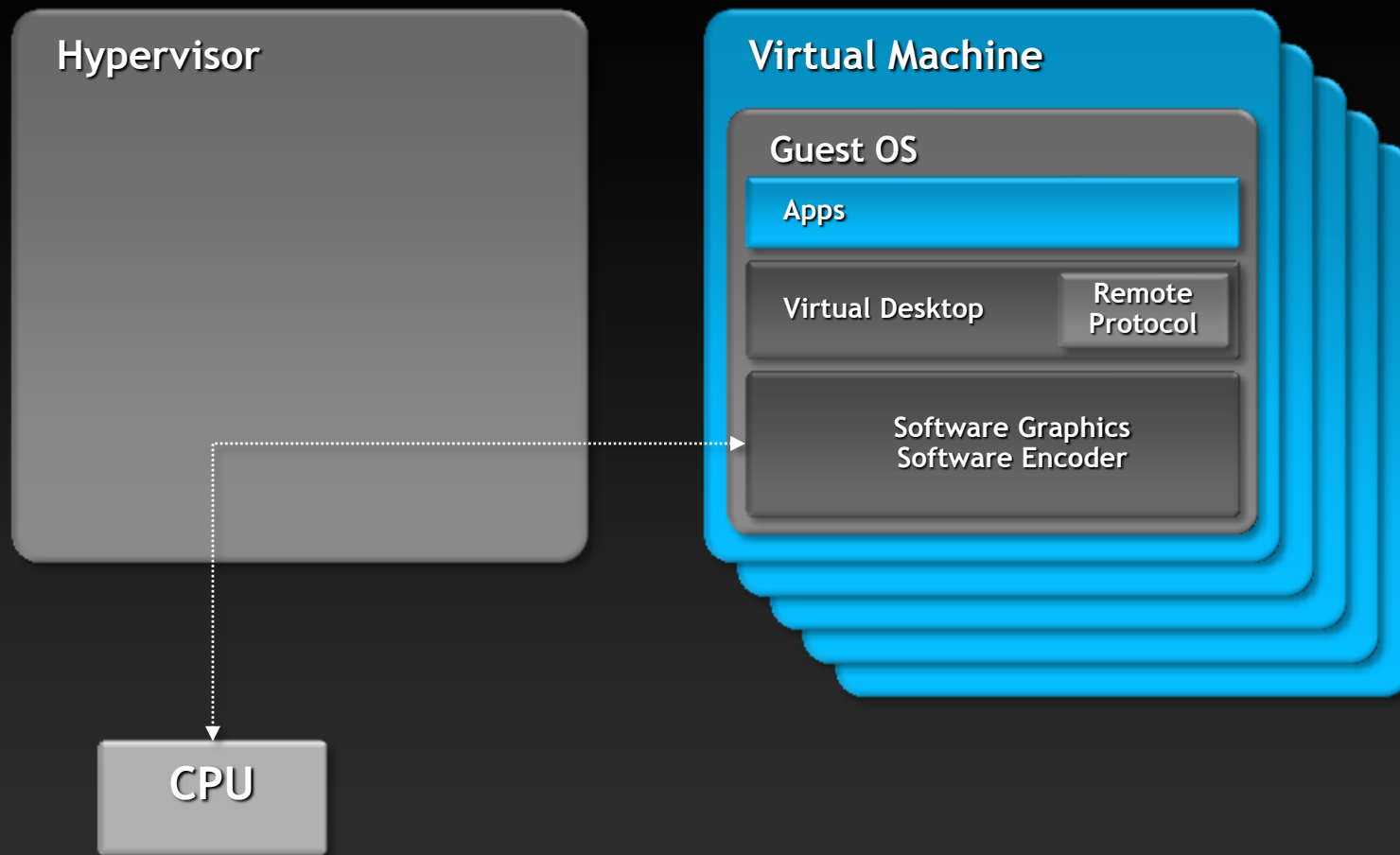
Software
(CPU)
Rendered
Graphics

NVIDIA
VGX



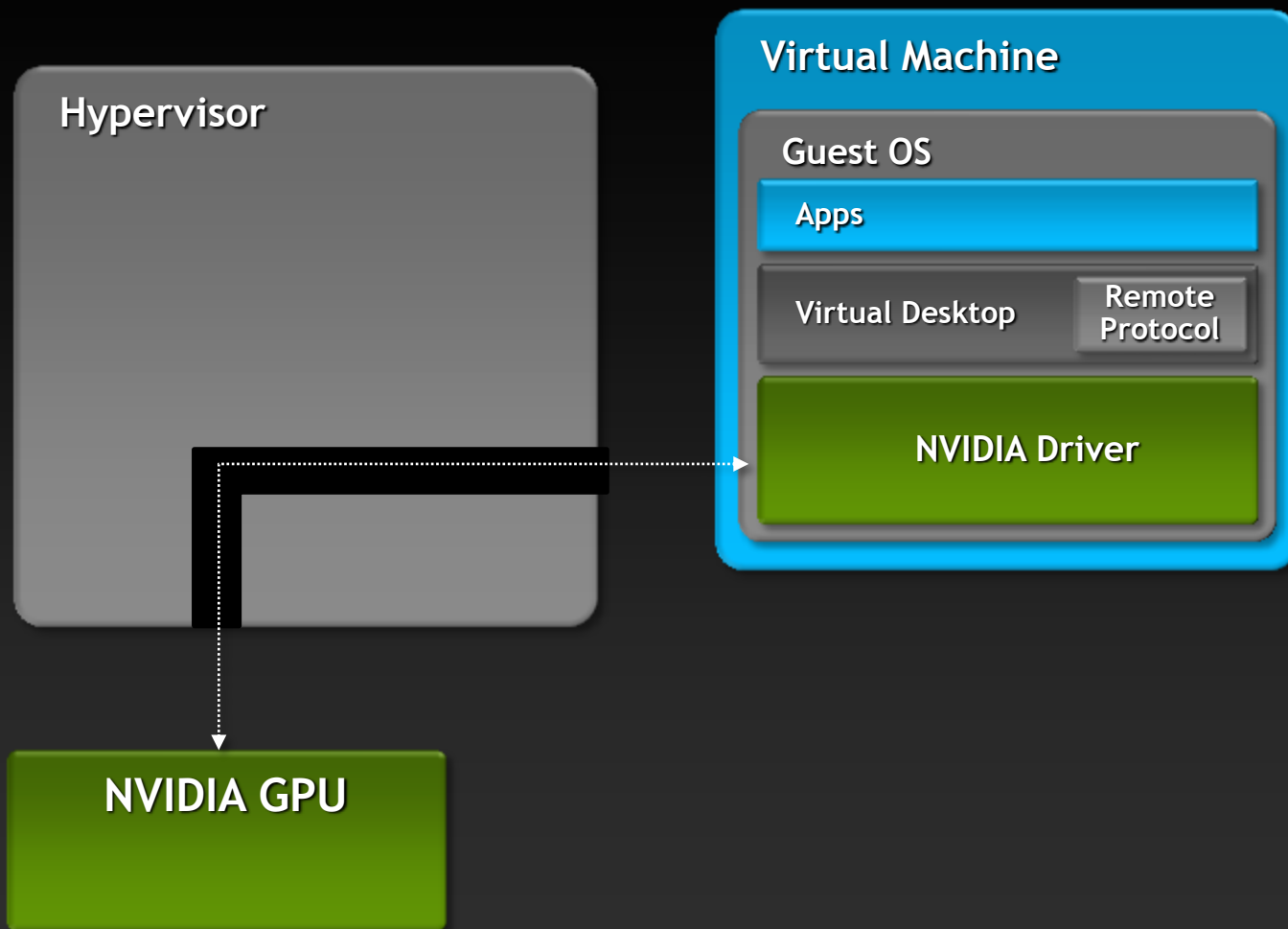
PC



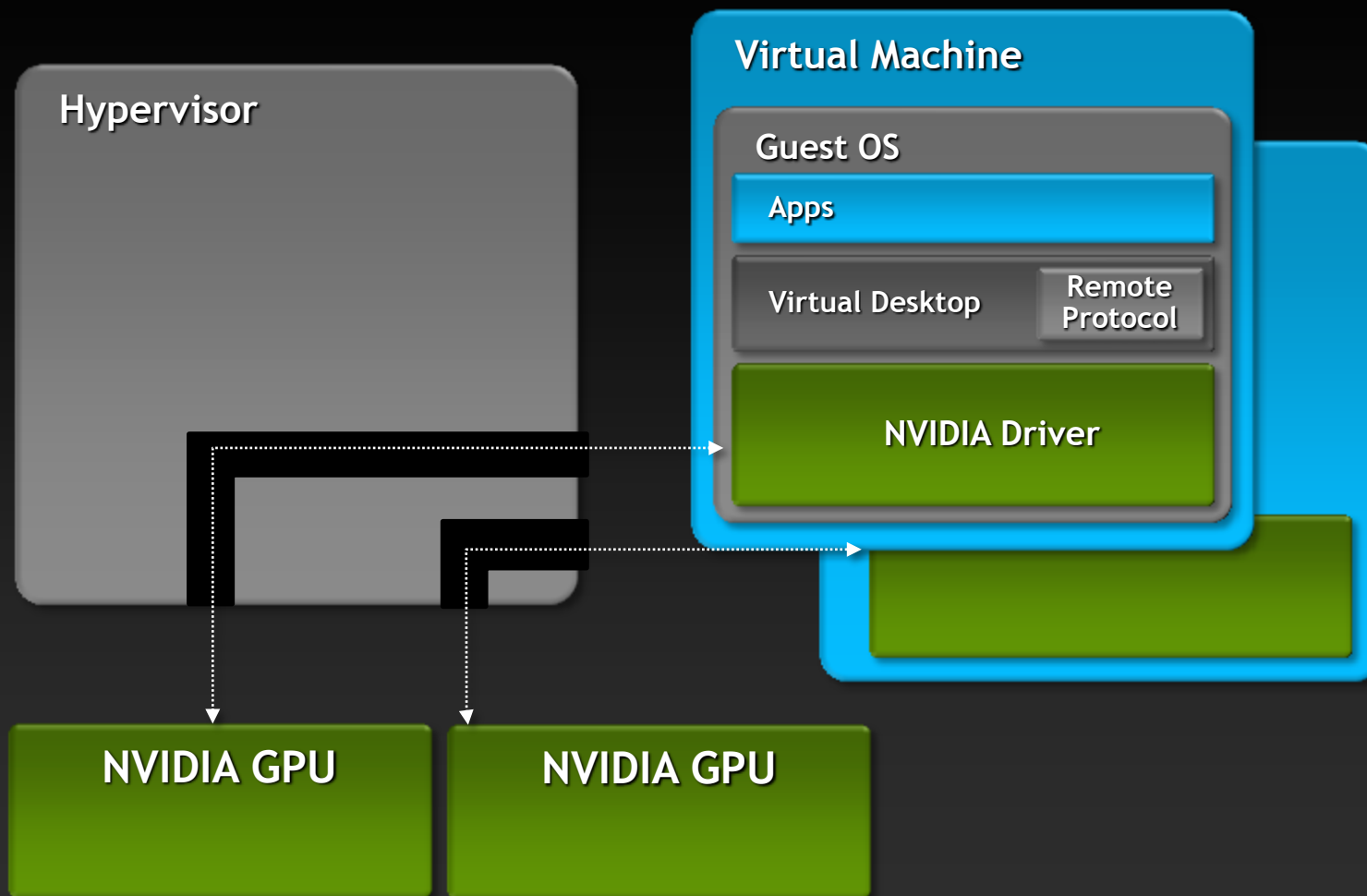


Software
(CPU)
Rendered
Graphics

GPU
Pass-
through



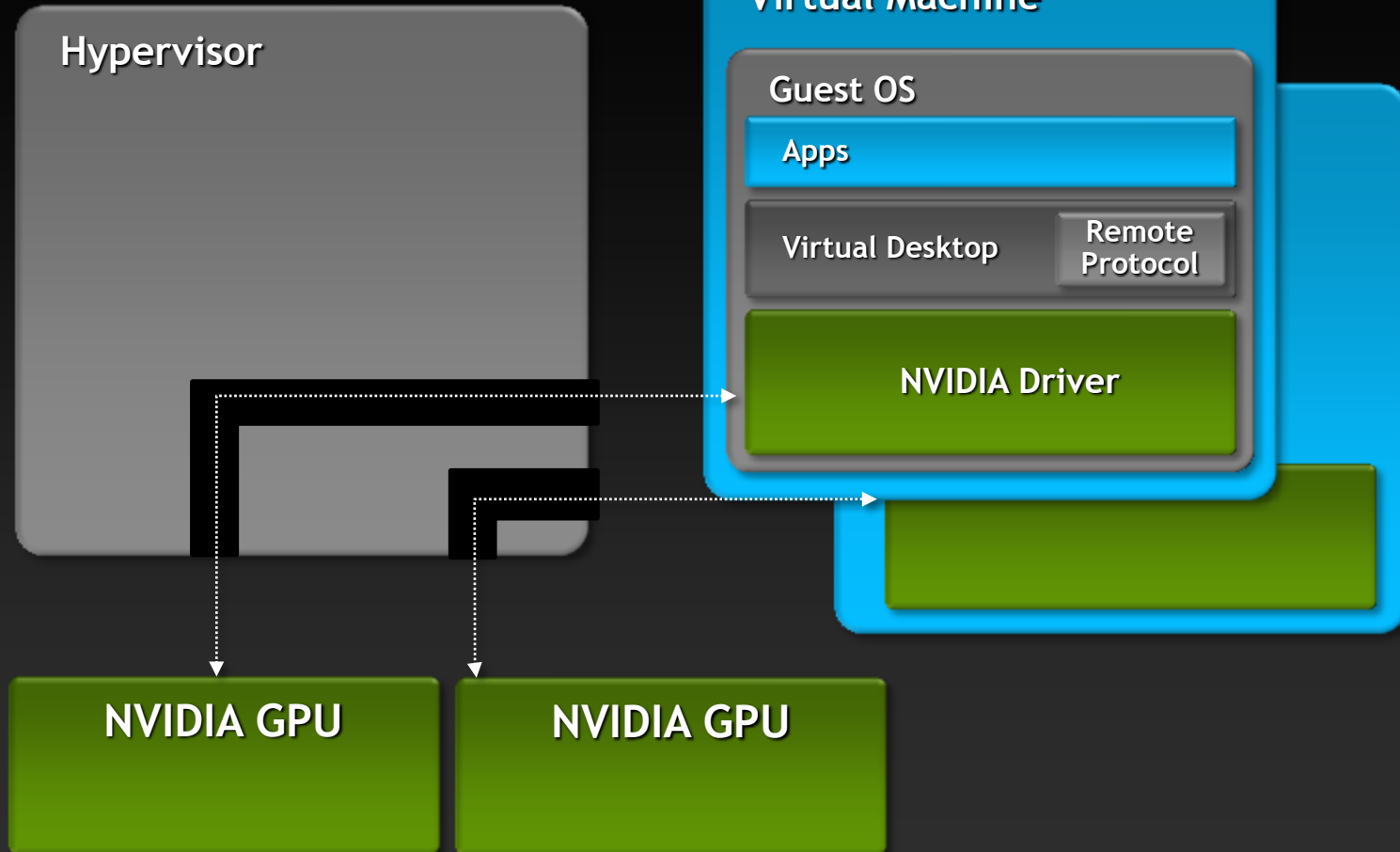
GPU Pass-through

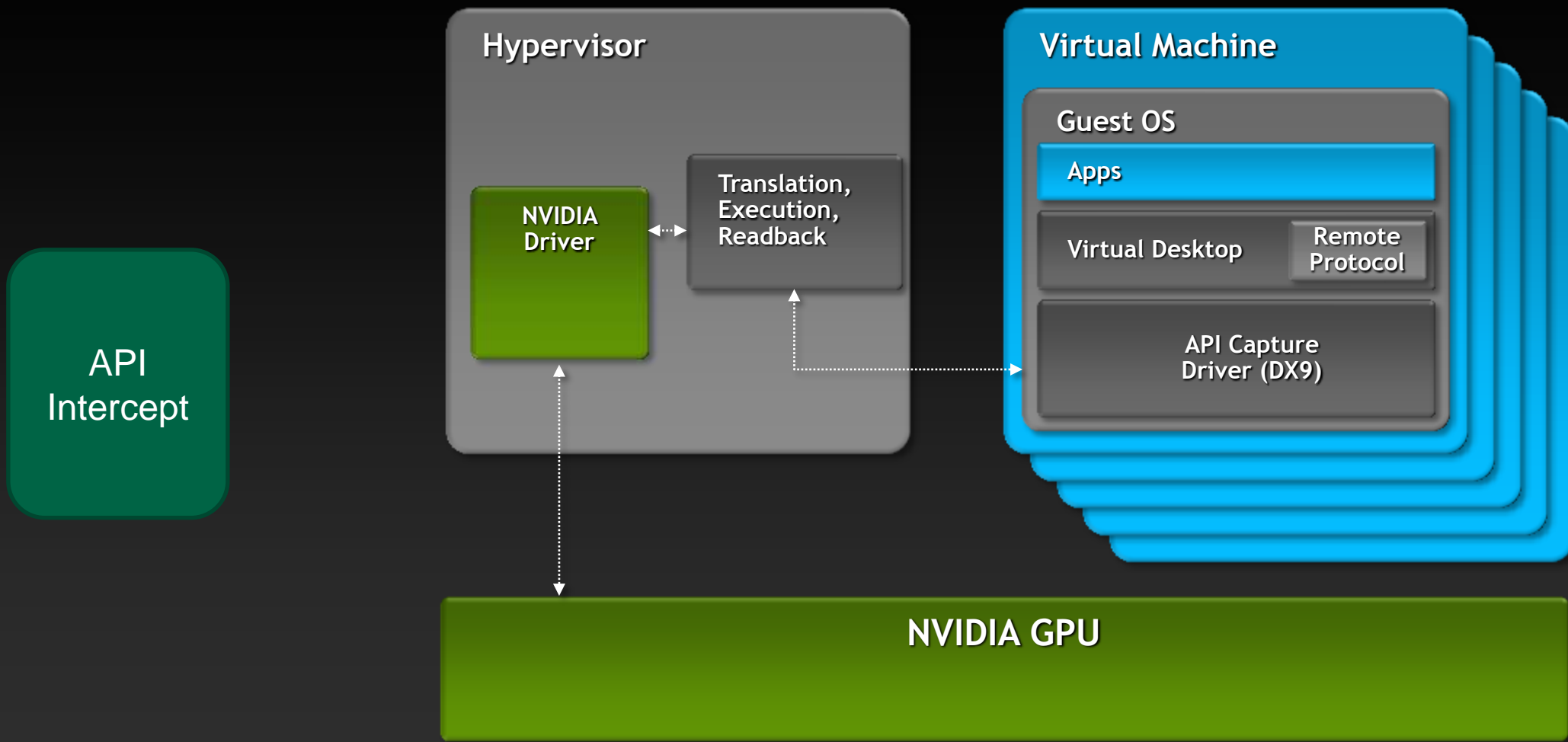


GPU Pass-through

- Citrix XenServer 6
- VMware ESX - Coming Soon
- Parallels Workstation 6 Extreme

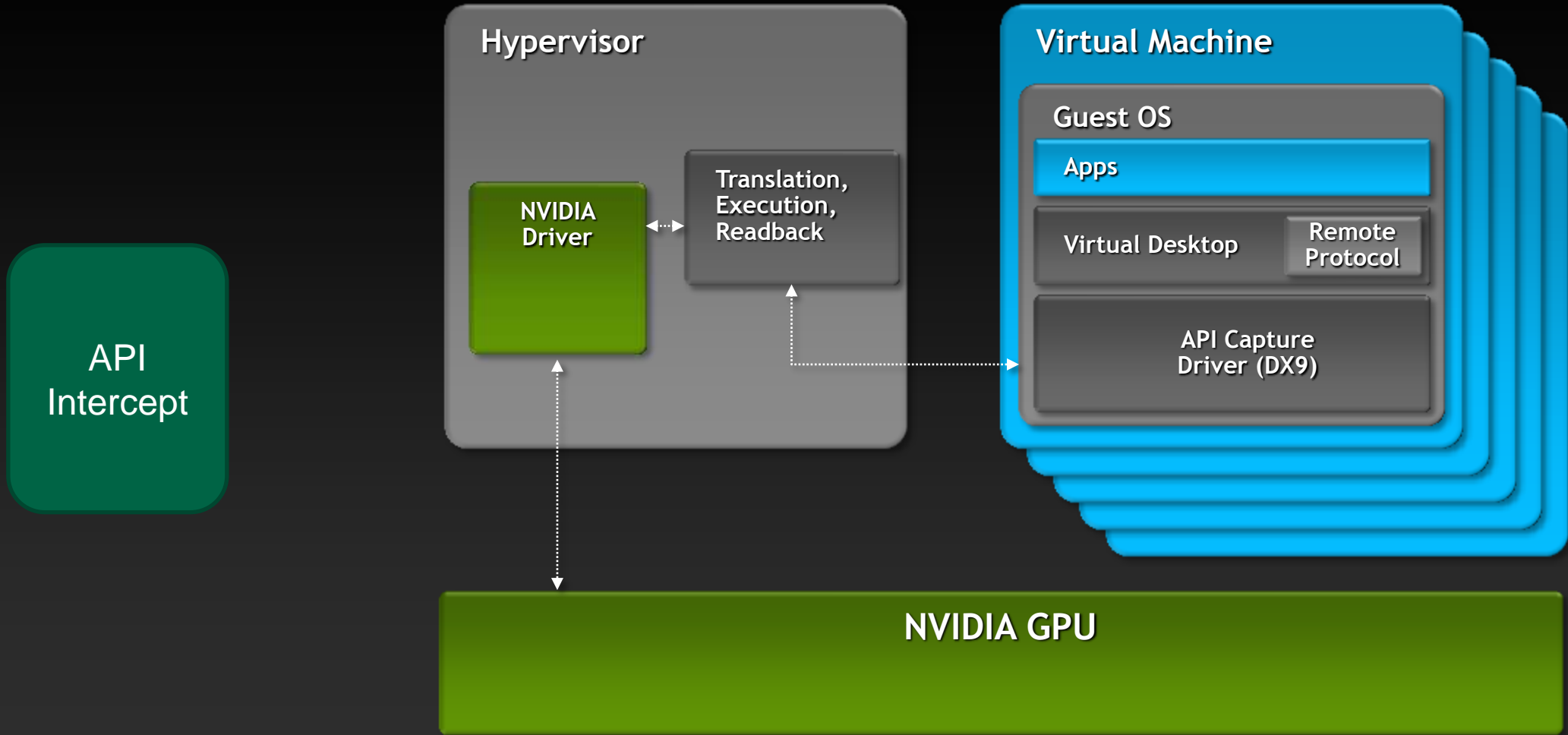
- Citrix XenDesktop 5.6
- VMware View - Coming Soon





- Microsoft Server 2008 HyperV
- VMware ESX - Coming Soon

- Microsoft RemoteFX
- VMware View - Coming Soon



NEW!

NVIDIA
VGX

NEW!

NVIDIA
VGX

GPU
MMU

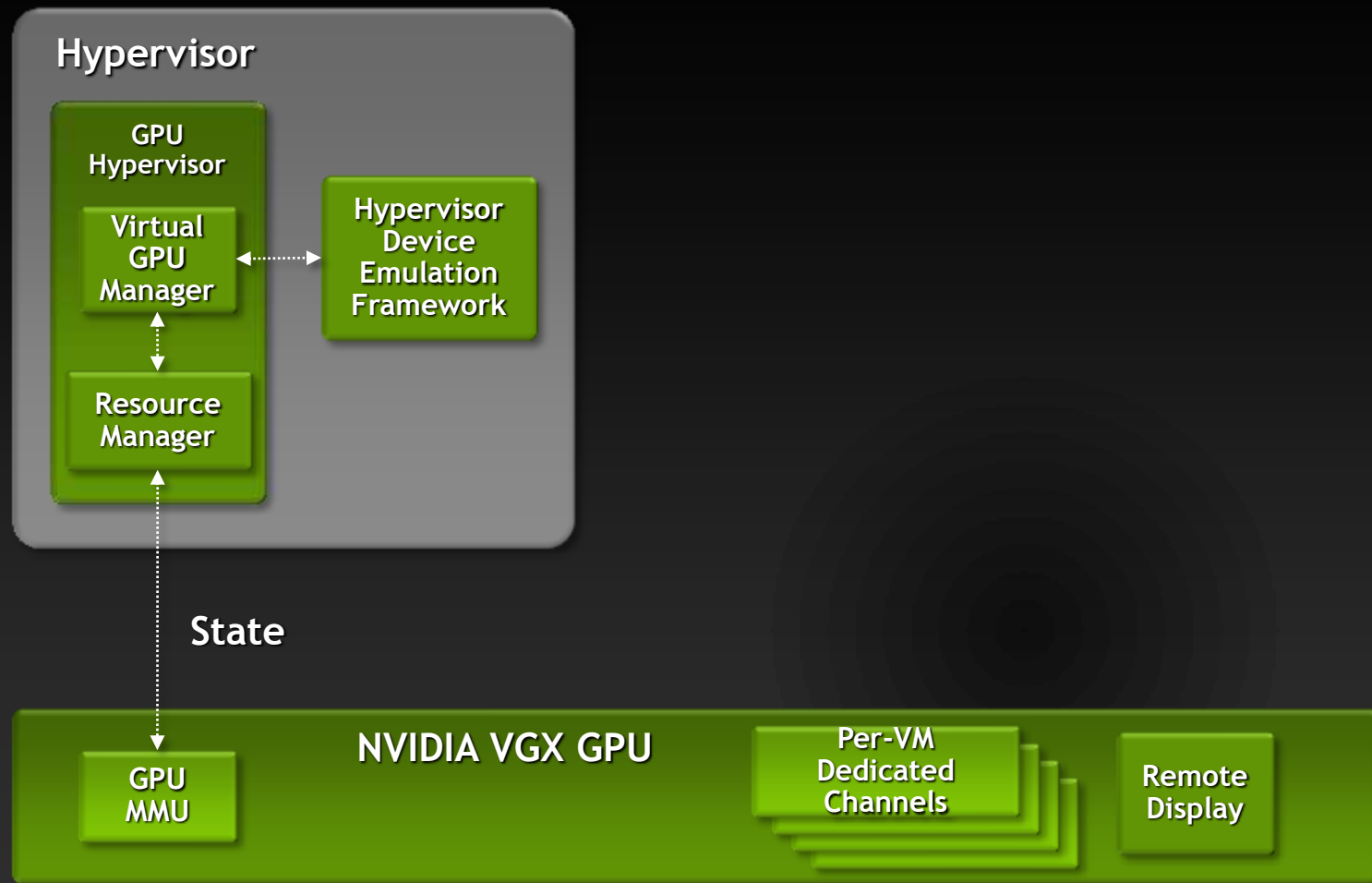
NVIDIA VGX GPU

Per-VM
Dedicated
Channels

Remote
Display

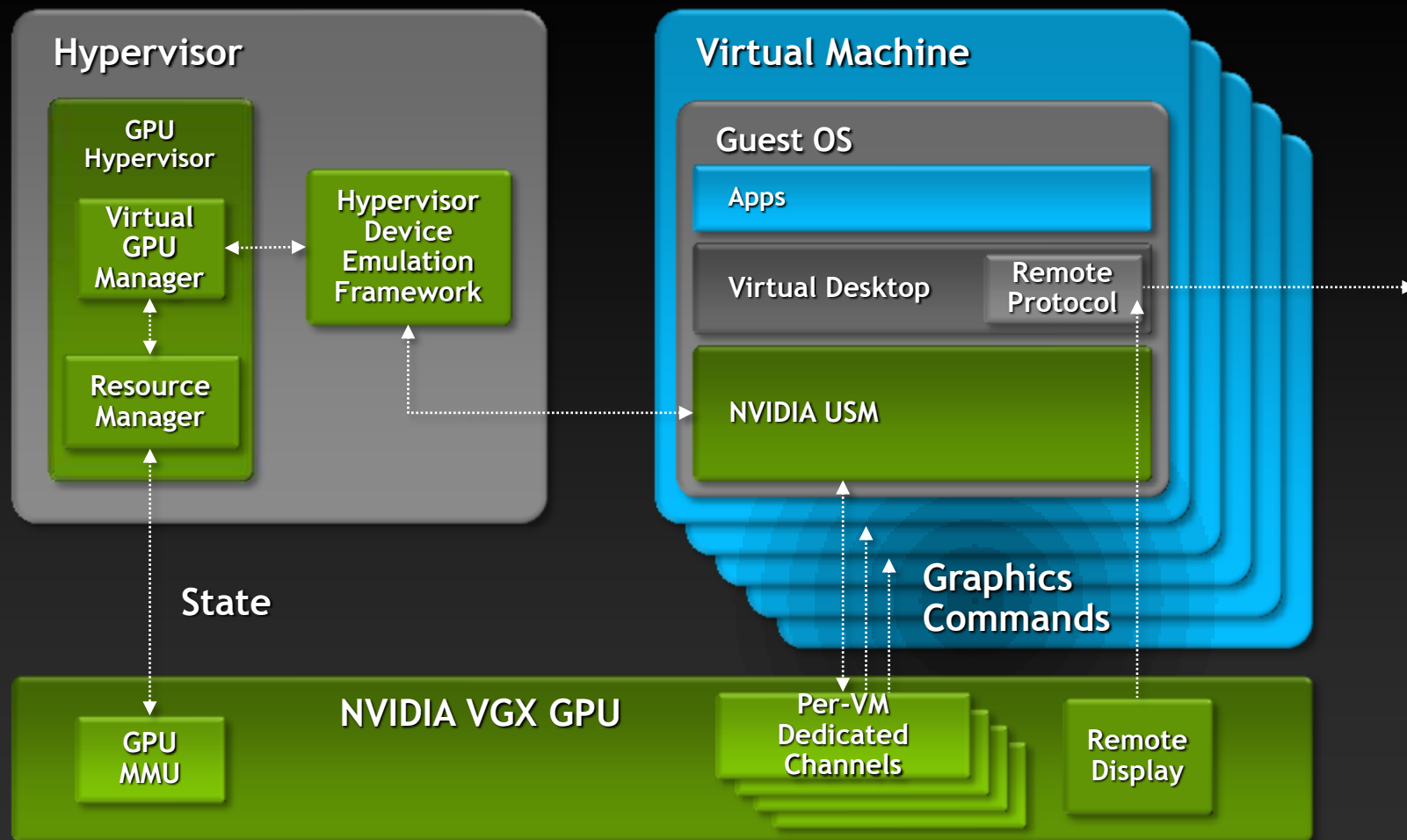
NEW!

NVIDIA
VGX

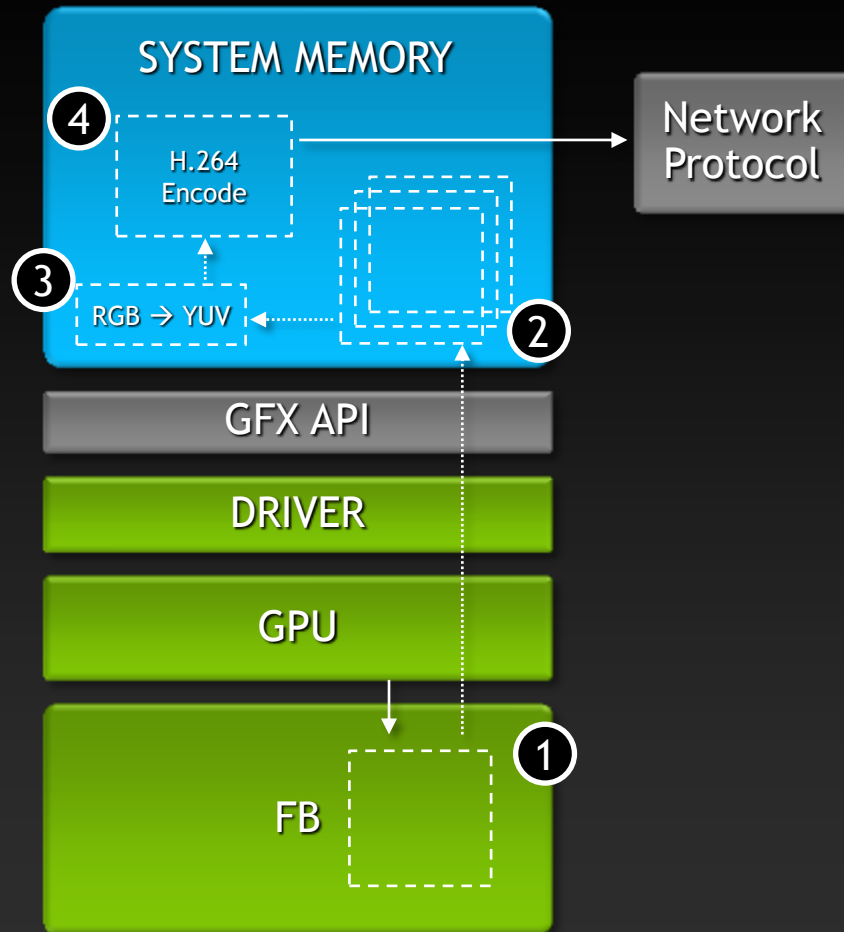


NEW!

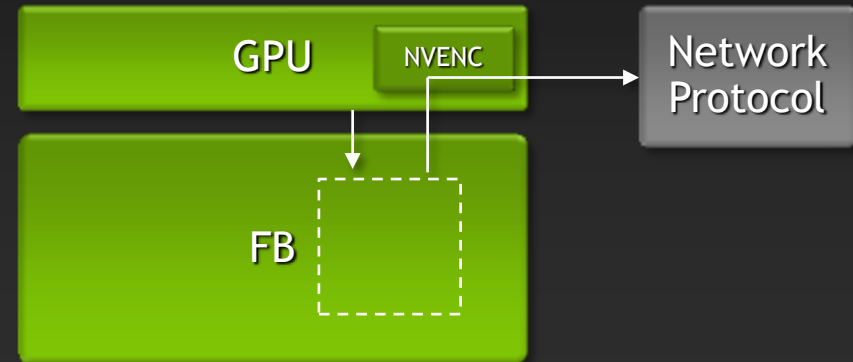
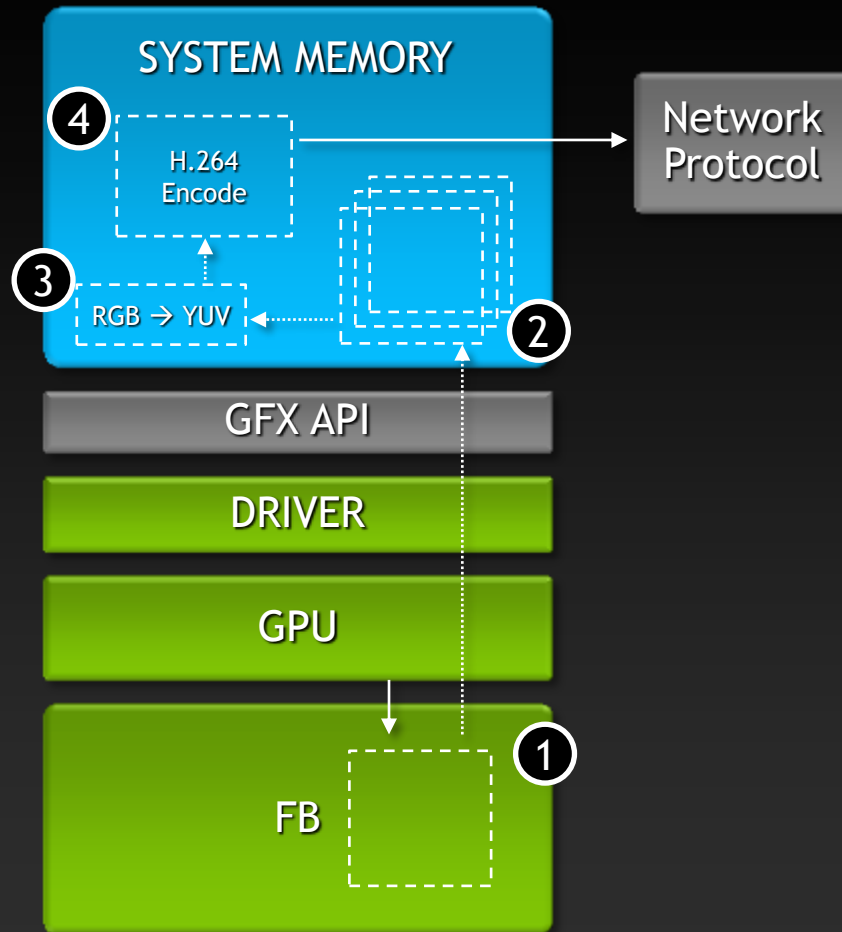
NVIDIA
VGX



NVIDIA VGX Remote Display



NVIDIA VGX Remote Display



NVIDIA® VGX™ Platform

Frees Users to Run A True PC as a Service From Any Connected Device

VGX Board

World's First Virtualized GPU

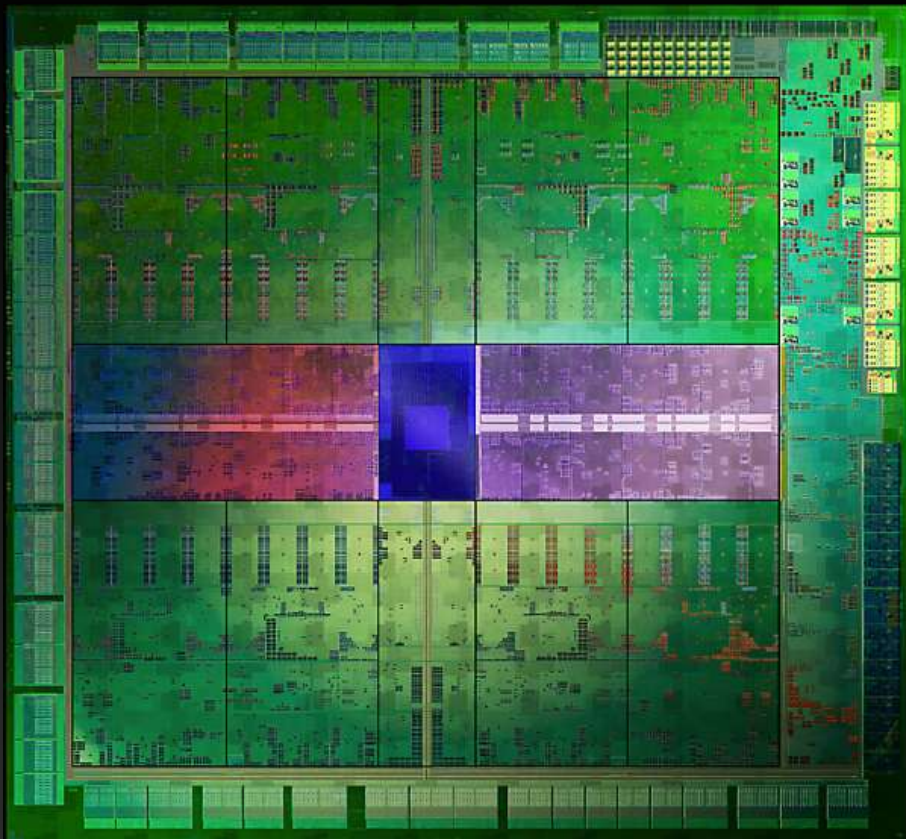
VGX HyperVisor

True Virtual PC, Running Any App

User Selectable Machines

Enterprise Manageability





KEPLER

THE WORLD'S FIRST GPU for
CLOUD COMPUTING

Virtualized GPU

Low Latency Remote Display

Super energy-efficiency

NVIDIA® VGX™ Board

Hardware Virtualization

Four GPUs, 16GB of Frame Buffer

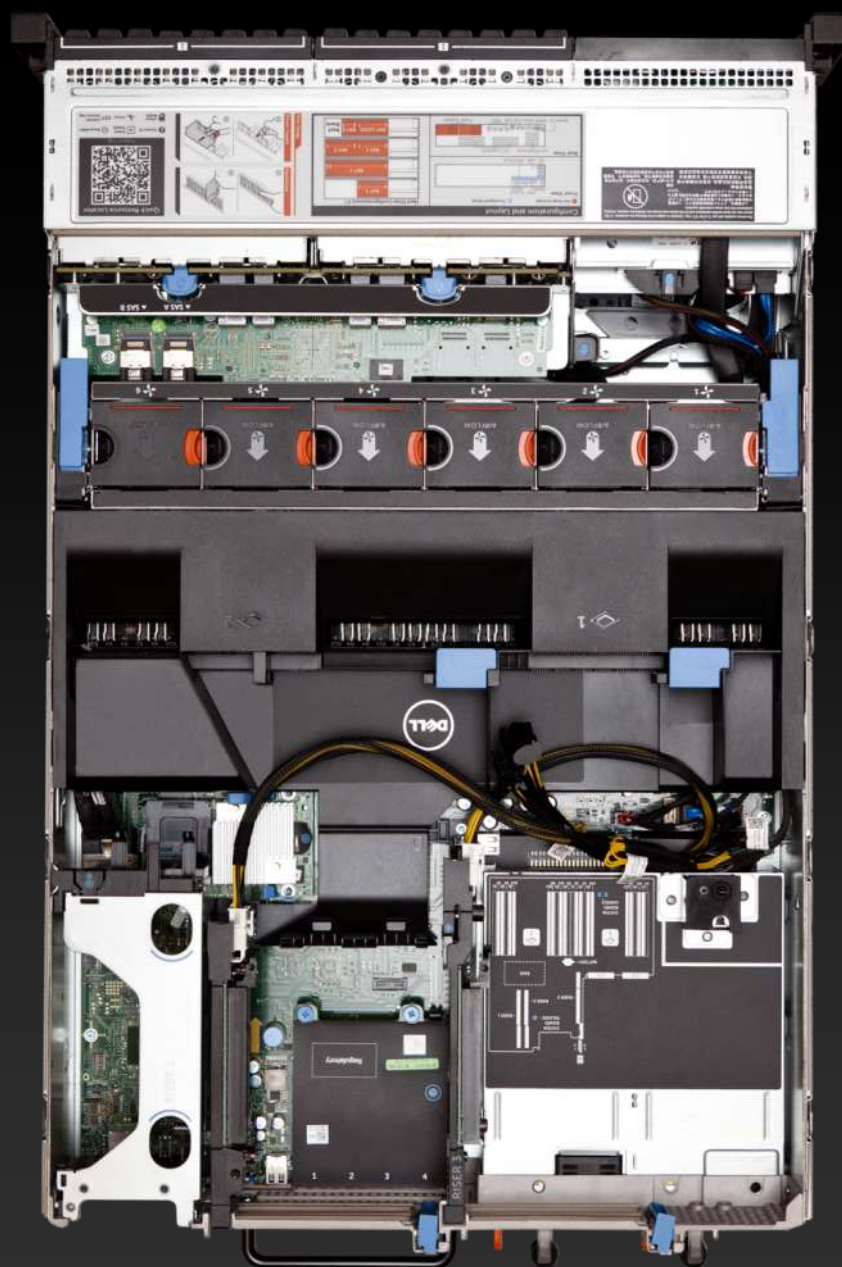
Low Latency Remote Display

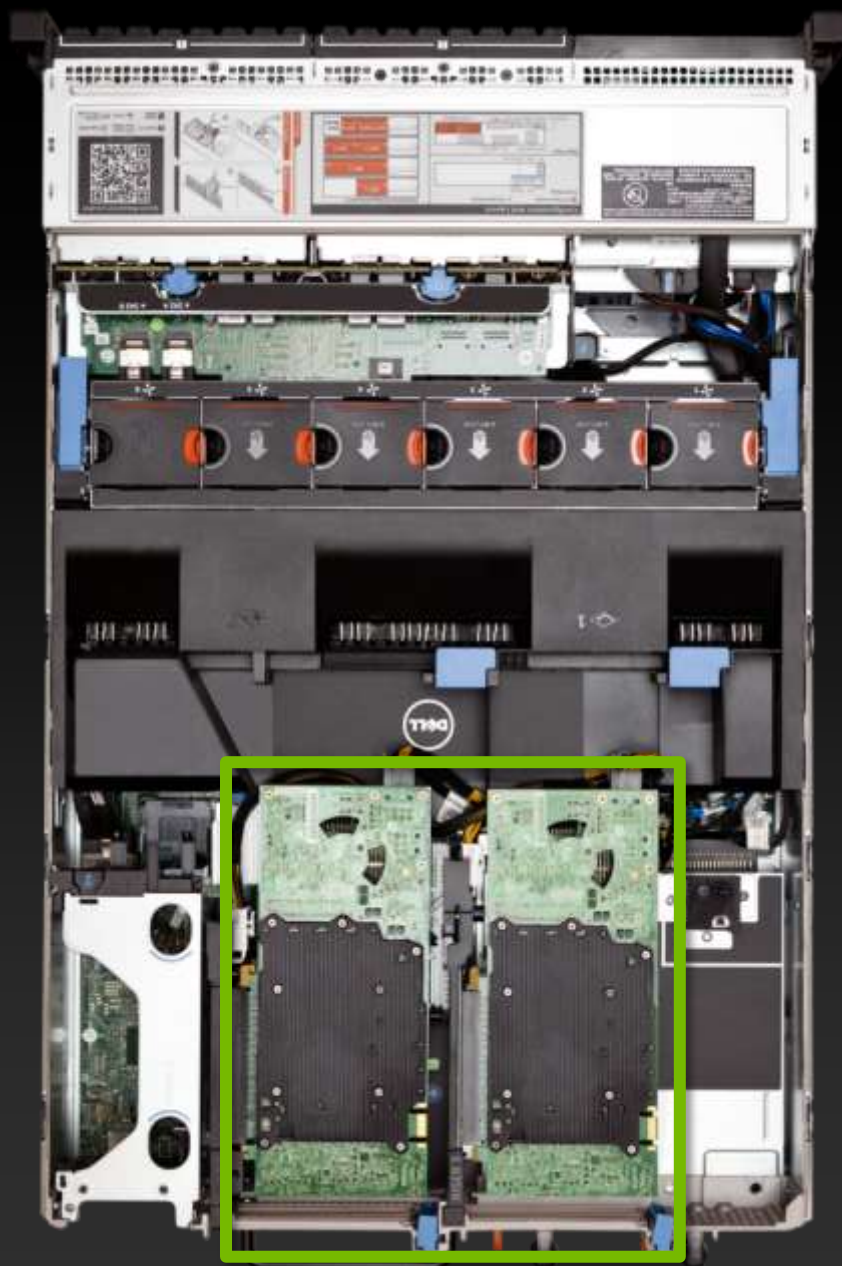
Dedicated h.264 Encoder

Datacenter Efficiency

New SMX Shader Design, Passively Cooled



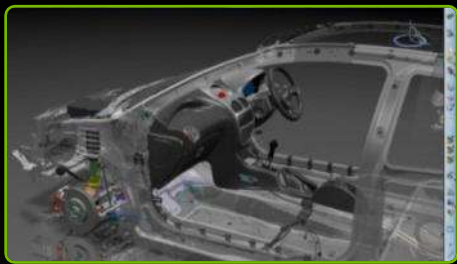






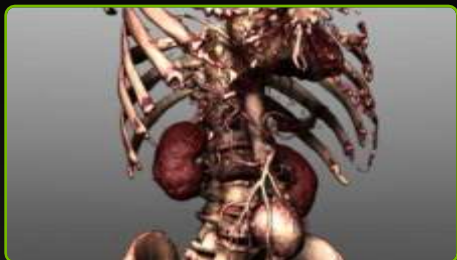


DEMO: Fully-Accelerated PC as an App



DESIGNER

(CATIA, CS6, Inventor)



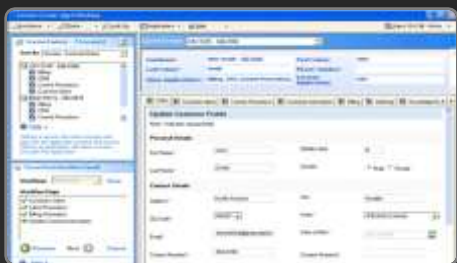
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GPU
Pass-
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API
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Software
(CPU)
Rendered
Graphics

NVIDIA
VGX

GTC 2013 | March 18-21 | San Jose, CA

The Smartest People. The Best Ideas. The Biggest Opportunities.

Opportunities for Participation:

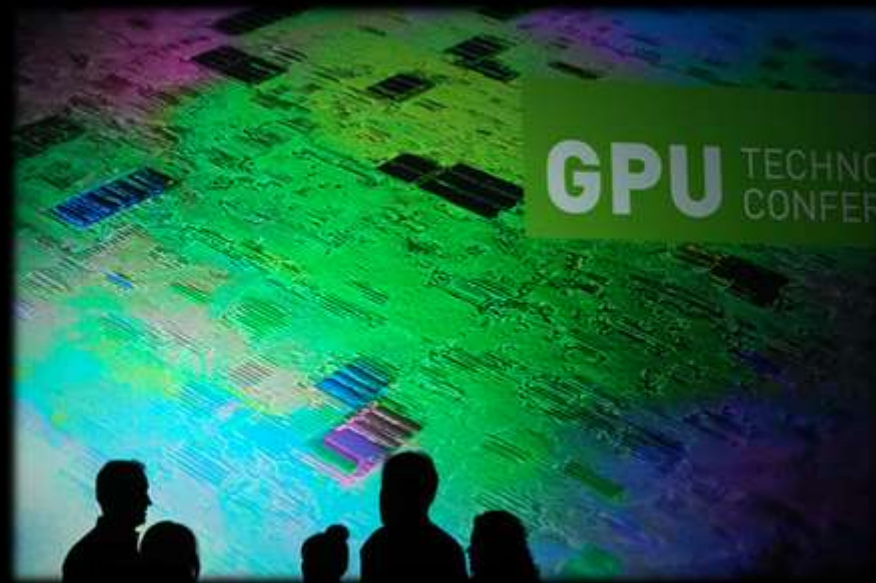
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