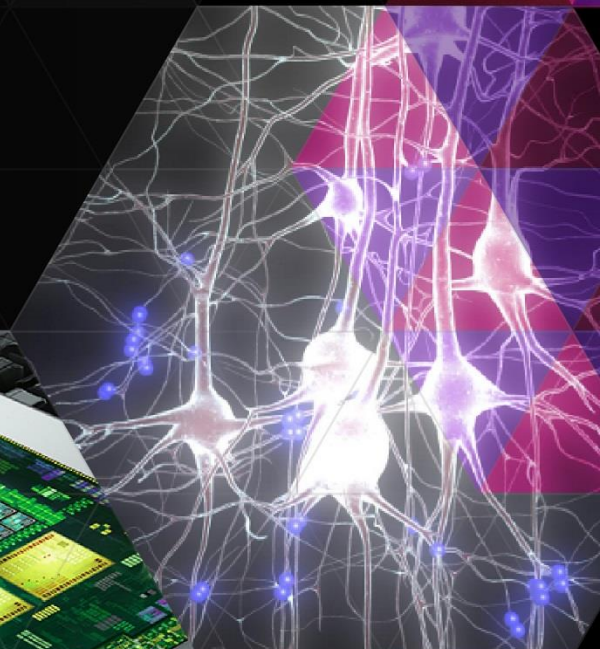
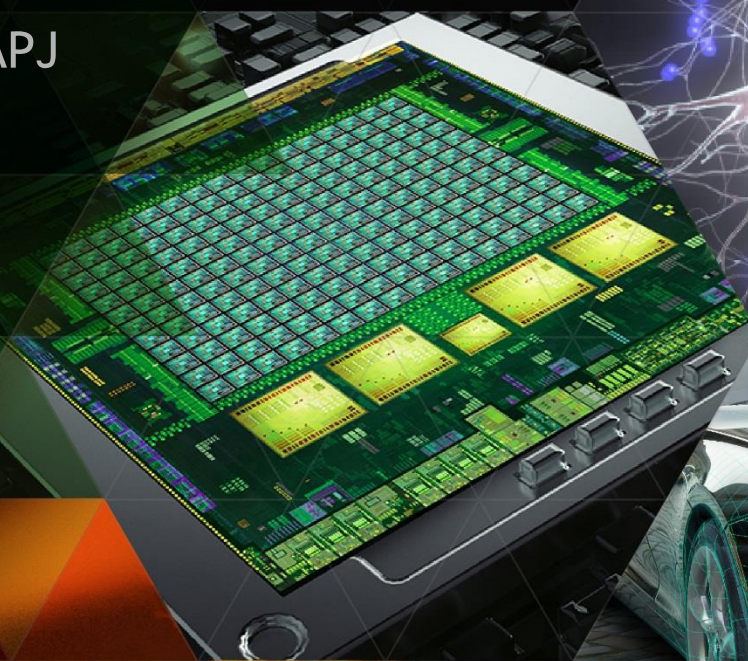




THE FUTURE OF PROFESSIONAL GRAPHICS

Mike Wang, Solutions Architect, NVIDIA APJ



What is professional graphics? be



- ▶ CUDA

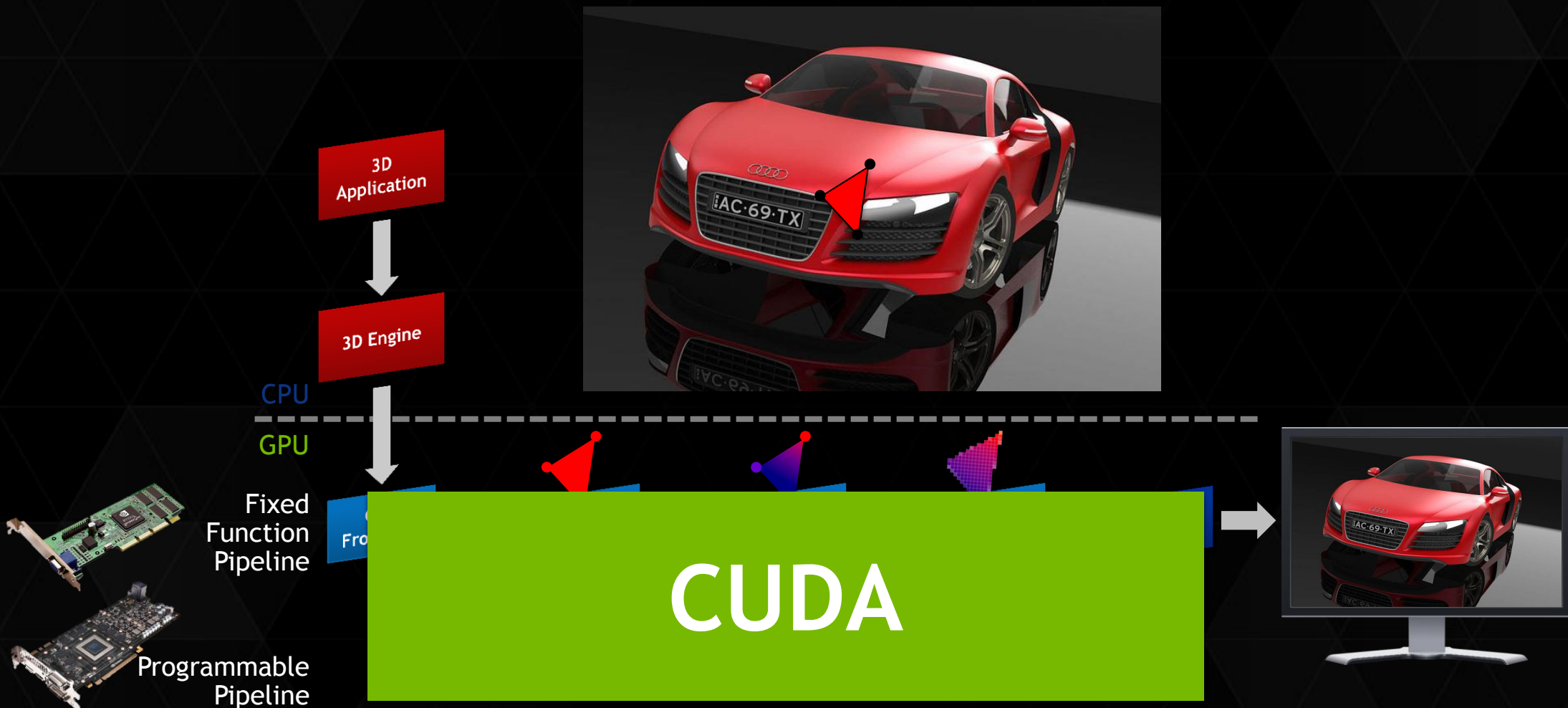
- ▶ Photorealism

- ▶ Cloud

- ▶ Simplicity

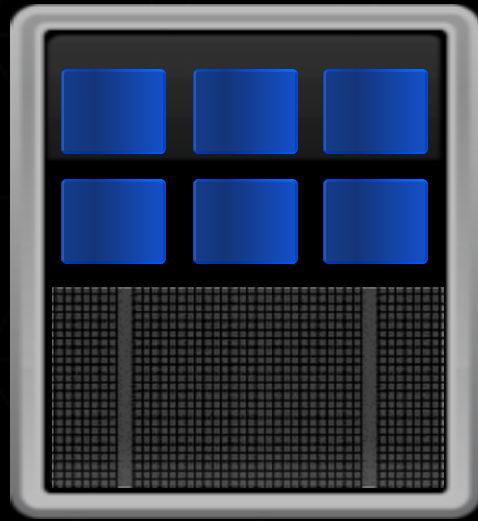
CUDA

EVOLUTIONARY GRAPHICS



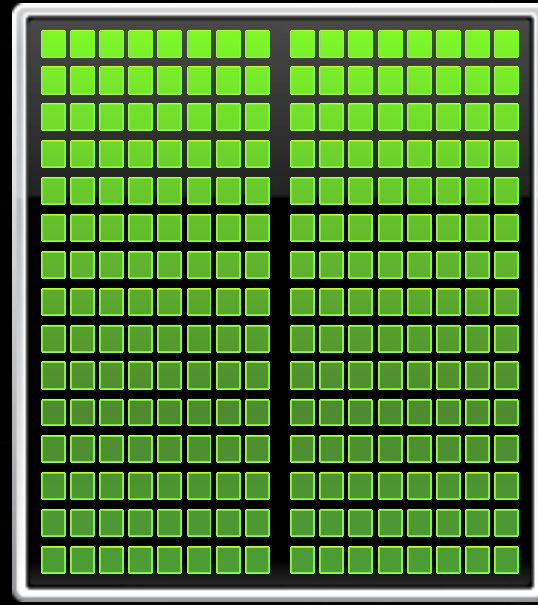
CUDA IS ACCELERATED COMPUTING

CPU
Optimized for
Serial Tasks



+

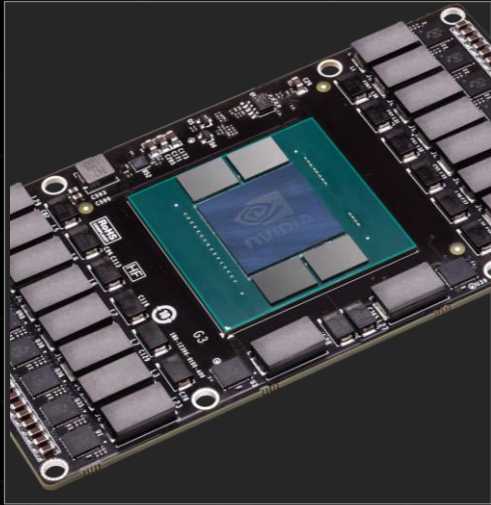
GPU Accelerator
Optimized for
Parallel Tasks





CUDA EVERYWHERE

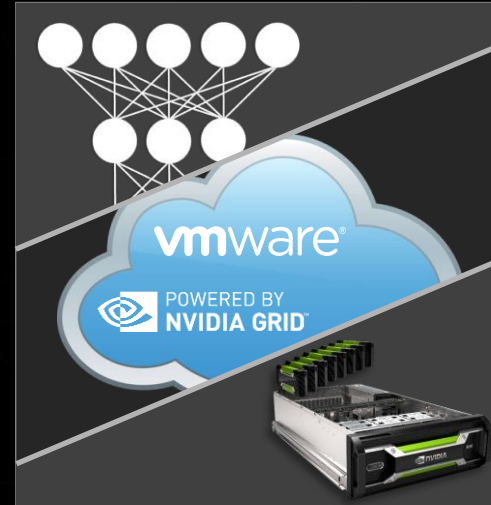
PASCAL



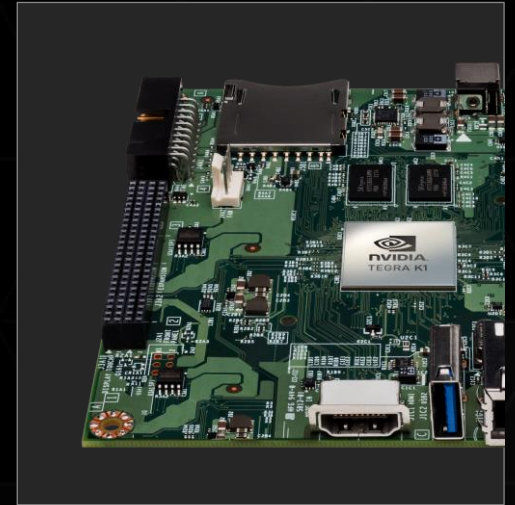
PC



CLOUD



MOBILE



CLOUD RENDERING

UNBIASED GLOBAL ILLUMINATION

Simulating real physics of light transport



Image courtesy migenius

NVIDIA IRAY VCA



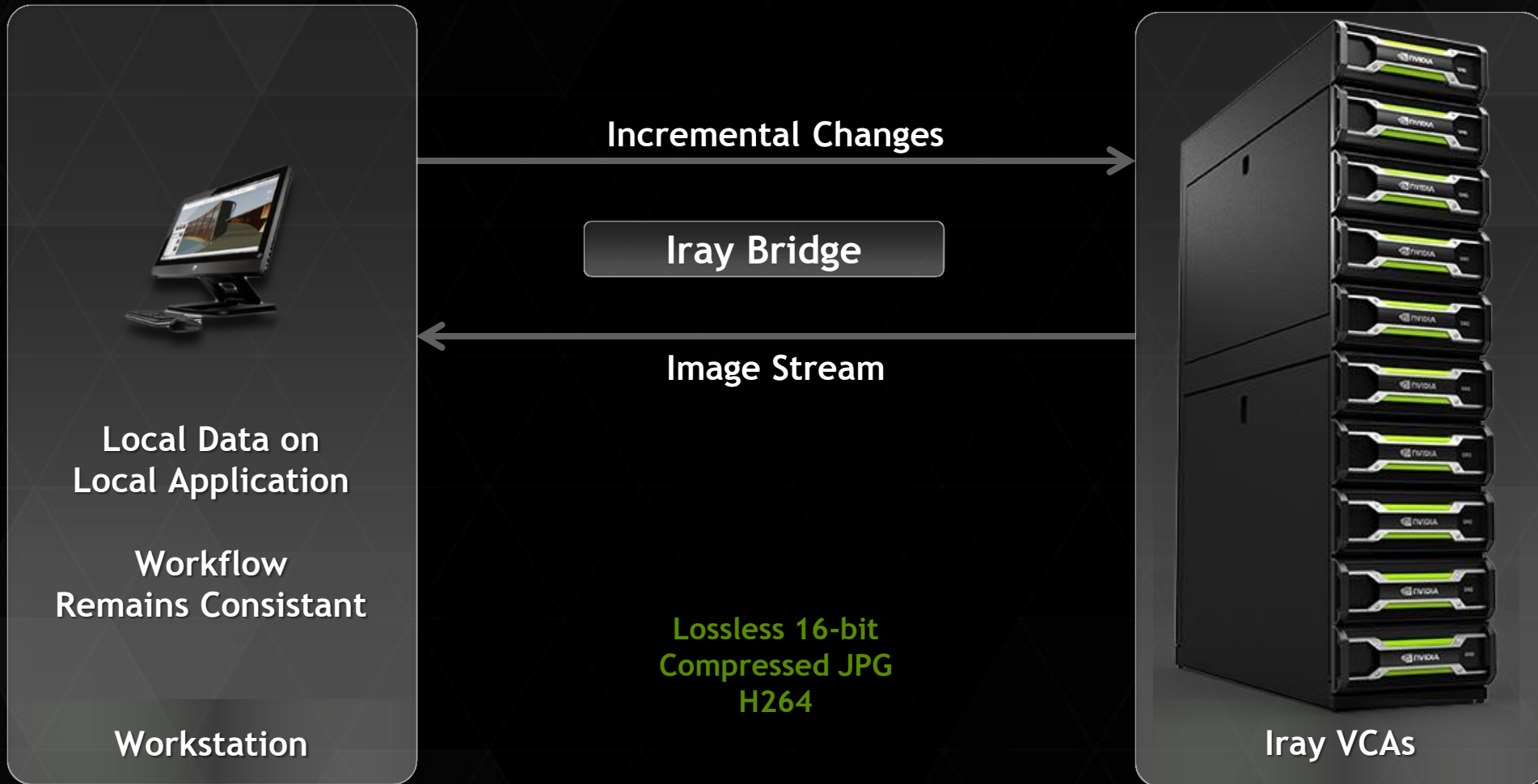
Which is Iray and which is a photograph?

IRAY VCA HARDWARE CONFIGURATION



GPUs	8 Quadro K6000-VCA GPUs
GPU Memory	12 GB per GPU
CUDA Cores	23,040
CPU Cores	20
System Memory	256 GB
Storage	4 x 512GB SSD
Network	2 x 1GigE 2 x 10GigE (SFP+) 1 x InfiniBand
Installed Software	Cent OS Linux + Iray
US MSRP	\$50,000

IRAY BRIDGE & IRAY IQ



IRAY IQ IN OPERATION



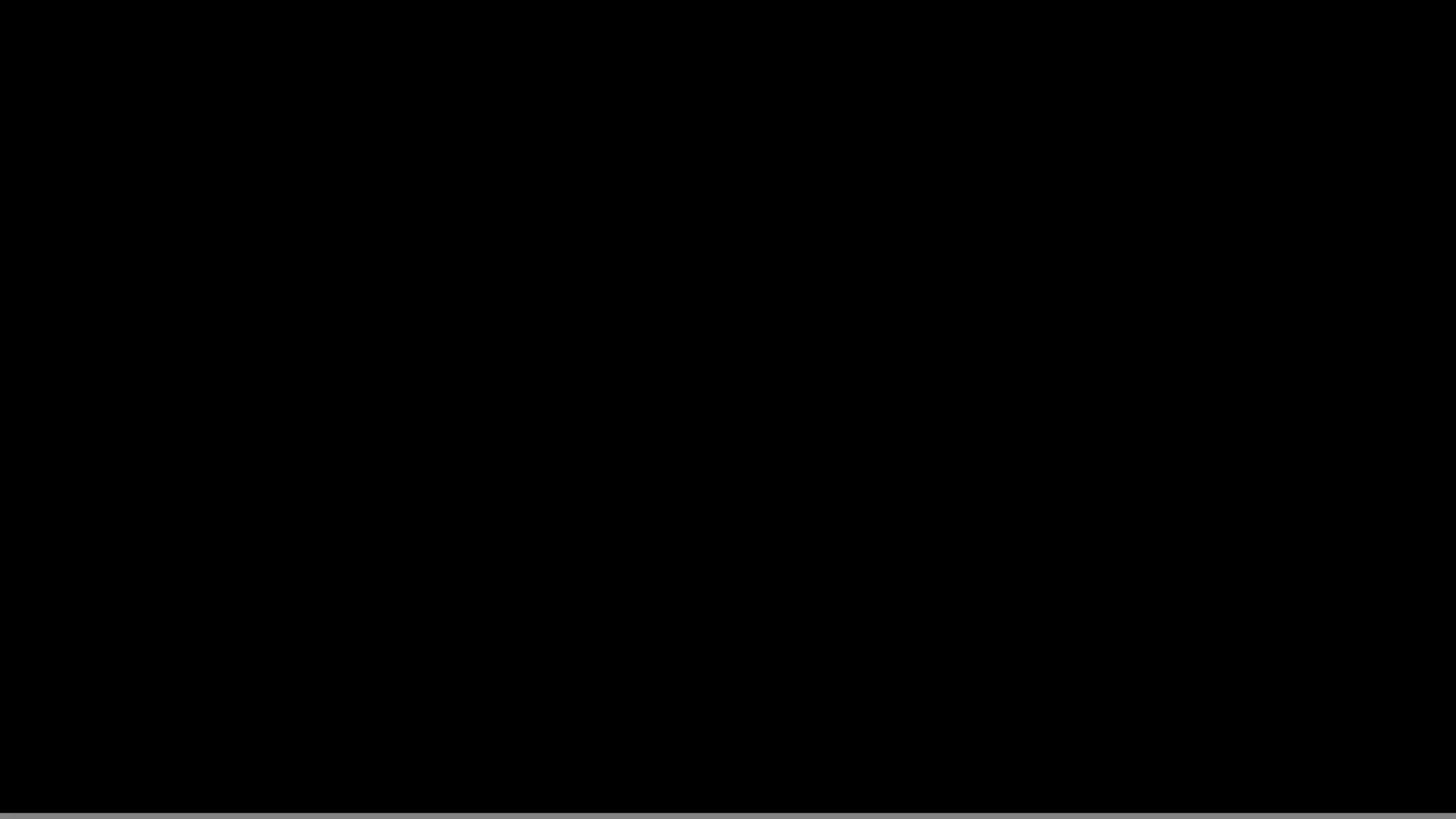
Iray Photoreal renders progressively, and a “noisy” start converges to final image over time

- ▶ **Iray IQ:** Calculate many progressions in parallel
 - ▶ Noiseless interactive GI with large enough cluster
- ▶ **Speed** established by single VCA speed
- ▶ **Quality** scales linearly with number of VCAs



GPU RENDERING FOR FILM







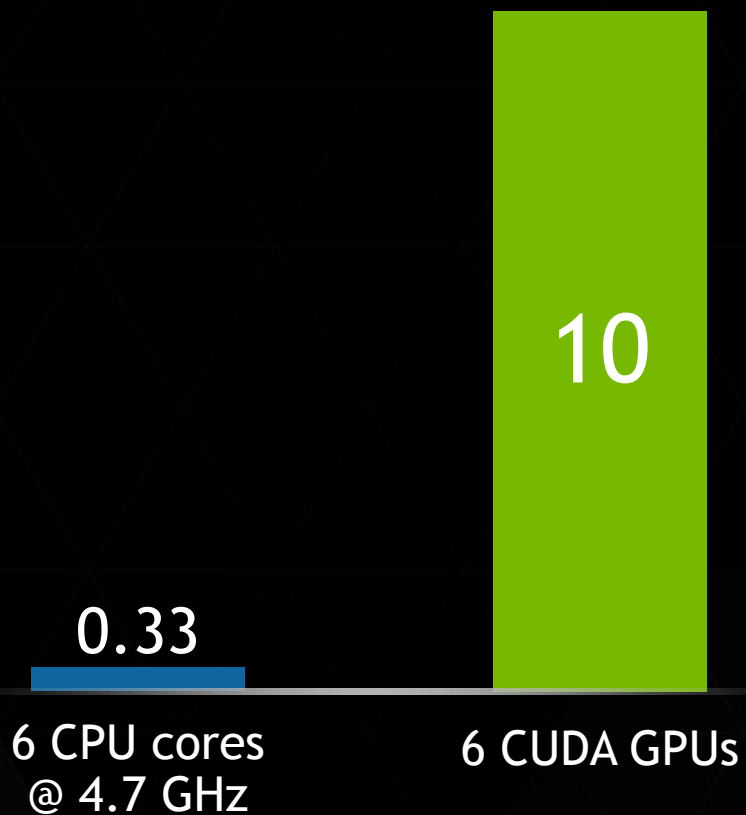
otoy



octanerender

Supercharged rendering with CUDA

Frames
rendered
per hour





SCALABLE
VISUALISATION
SOLUTIONS

NVIDIA MOSAIC for multiple displays



4X4 - MANAGED BY WINDOWS



4X4 - NVIDIA MOSAIC

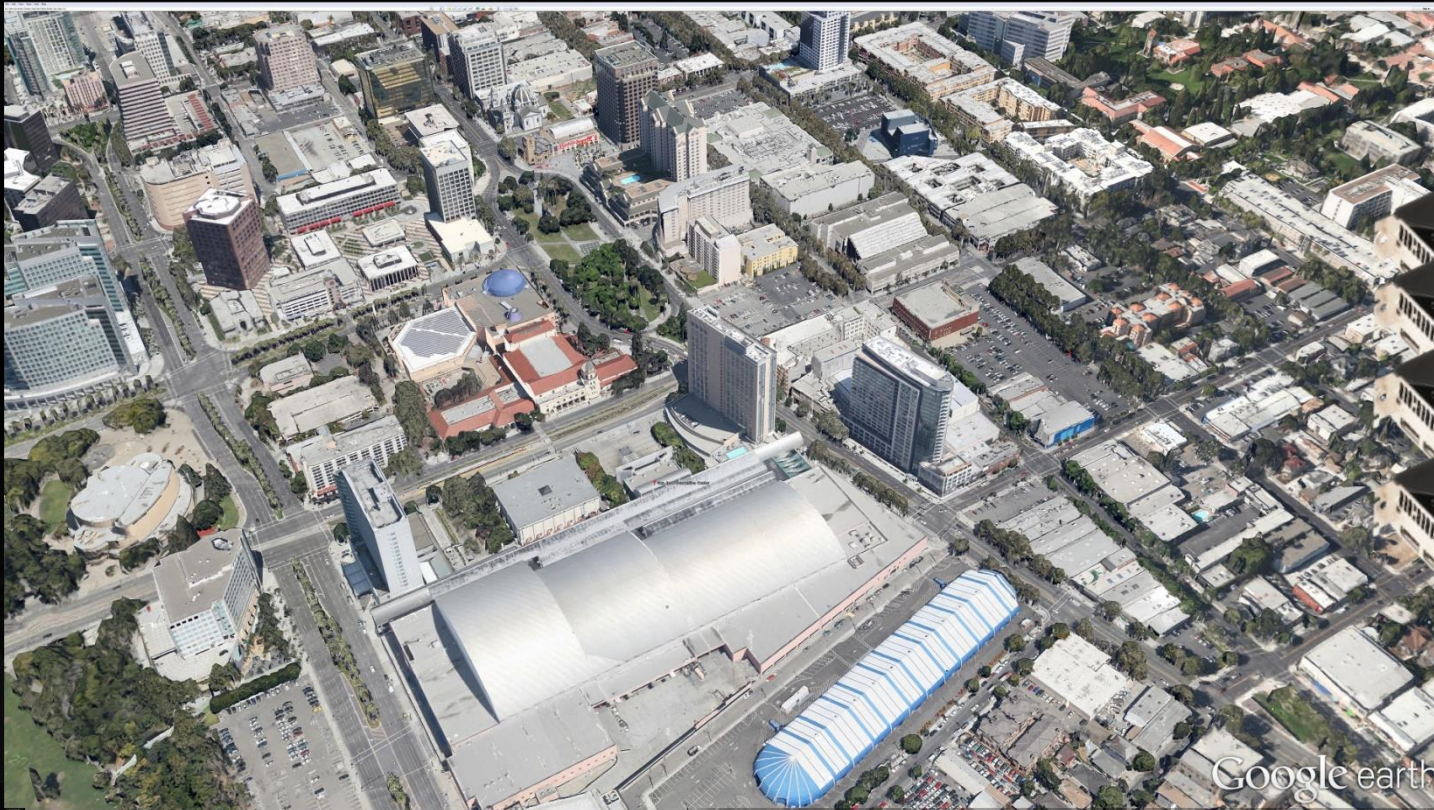




Image courtesy Vislogix

MOSAIC

Creating a single unified Desktop

Up to 16 Displays

Supported on Quadro + NVS

Linux, Windows 7 + Windows 8

Let's do more...

DISTRIBUTED RENDERING

Increasing complexity can introduce problems



QUADRO SYNC

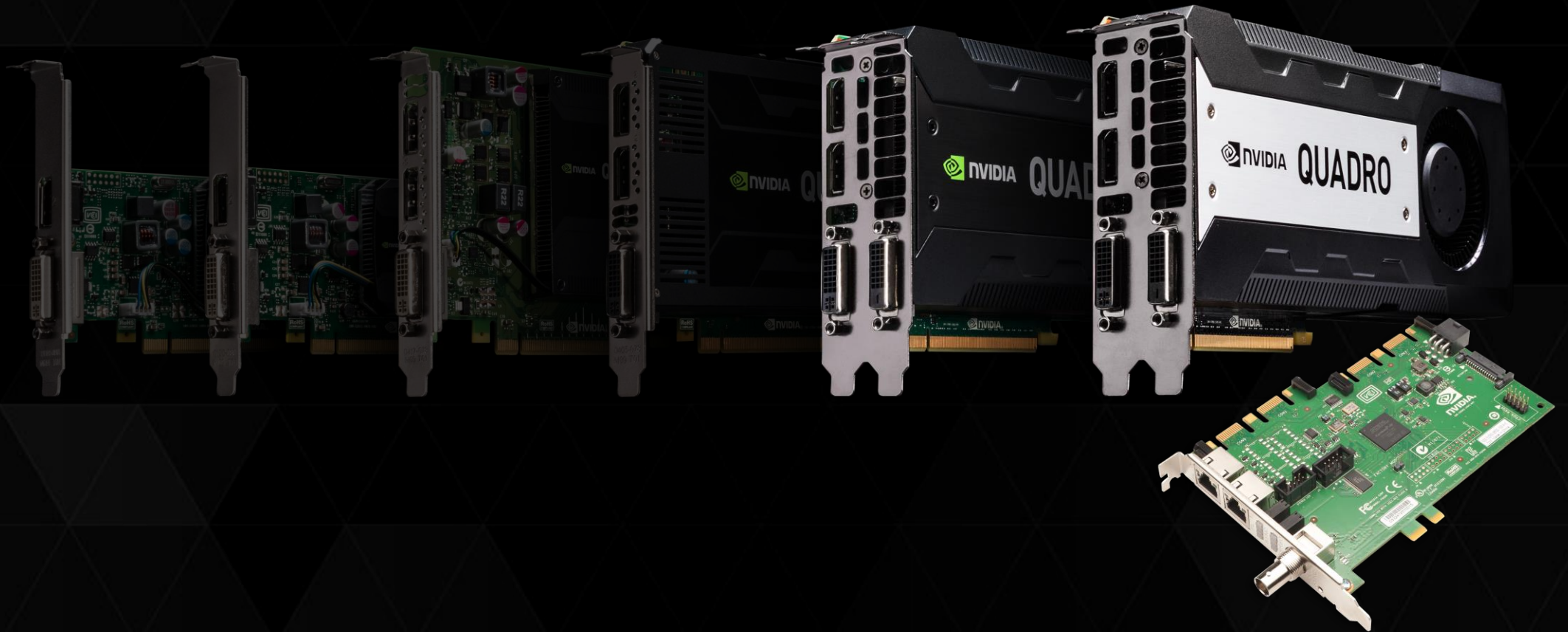




Image courtesy VR Technologies, Coal Services

360° IMMERSIVE THEATRE



Virtual Reality
Technologies



Let's do even more...









nVIDIA®