NVIDIA® IRAY® SERVER
THE ULTIMATE DISTRIBUTED RENDERING SOLUTION
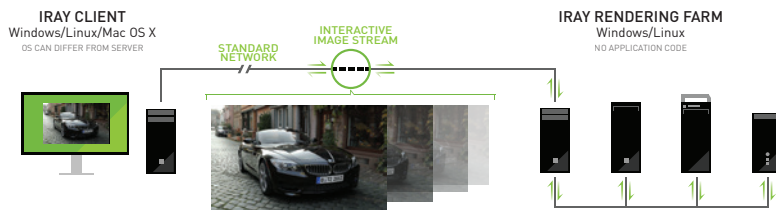
Courtesy Vincent Gault, Allgorithmic

NVIDIA Iray Server is a software solution that provides distributed Iray rendering across networked machines.

It uses a common installation and license to deliver traditional offline batch rendering and interactive rendering to all NVIDIA Iray plug-in products, without the need to install any other application. All machines running Iray Server coordinate with each other to reduce the time needed to render an offline image. This allows a render farm to process poster-size images in a fraction of the time of a sin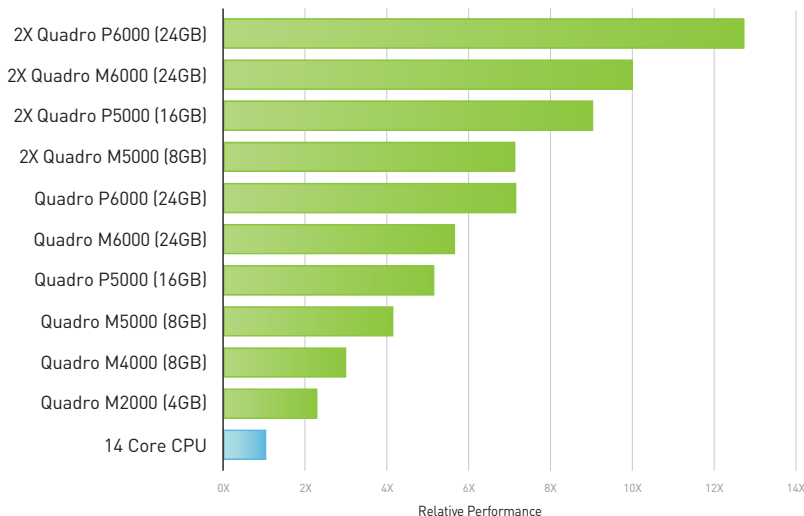gle machine. A central management console provides flexible control over submitted jobs with the ability to adjust and rerun past jobs. Iray Server also speeds up your creative process by bridging to your Iray application and streaming back the rendered results as you manipulate your scene. Now even a modest laptop can interact with Iray at the speed of your most powerful machine housing professional GPUs.

IRAY CLIENT
Windows/Linux/Mac OS X
OS CAN DIFFER FROM SERVER

STANDARD NETWORK

INTERACTIVE IMAGE STREAM

IRAY RENDERING FARM
Windows/Linux
NO APPLICATION CODE

SYSTEM REQUIREMENTS

SOFTWARE	**Iray client - Iray for Maya, Iray for 3ds Max, Iray for Rhino, Iray for Cinema 4D, DAZ Studio or Siemens NX**
OPERATING SYSTEM	**64-bit Windows or 64-bit Linux**
QUEUED RENDERING	**Locally networked machines with x86 CPUs and/or CUDA-capable GPUs of Fermi generation or later**
INTERACTIVE STREAMING	**Requires NVIDIA Quadro®, Tesla®, and/or Grid™ GPUs**
NETWORKING	**Streaming: 100Mbps Queuing: Queuing 10Mbps Multicast or TCP/IP for distributed rendering**

IRAY WORKSTATION PERFORMANCE SCALING

Configuration	Relative Performance
2X Quadro P6000 (24GB)	~12.8X
2X Quadro M6000 (24GB)	~10X
2X Quadro P5000 (16GB)	~9X
2X Quadro M5000 (8GB)	~7X
Quadro P6000 (24GB)	~7X
Quadro M6000 (24GB)	~5.5X
Quadro P5000 (16GB)	~5X
Quadro M5000 (8GB)	~4X
Quadro M4000 (8GB)	~3X
Quadro M2000 (4GB)	~2.2X
14 Core CPU	~1X

Relative Performance (0X–14X)

Tests run on a workstation with Intel Xeon E5 2697 V3, 14 cores, 2.6 GHz, 32GB RAM, running Windows 7 SP1 64-bit, using Iray 2016.2 and NVIDIA driver version 373.01, 4K render resolution
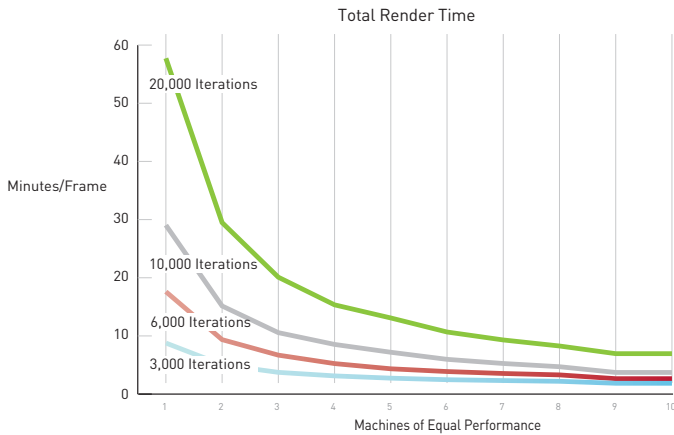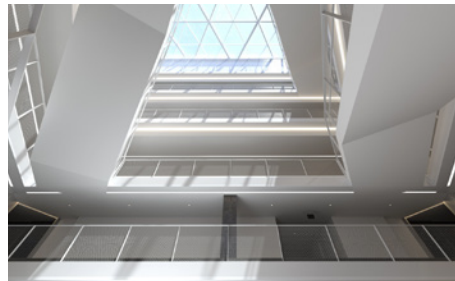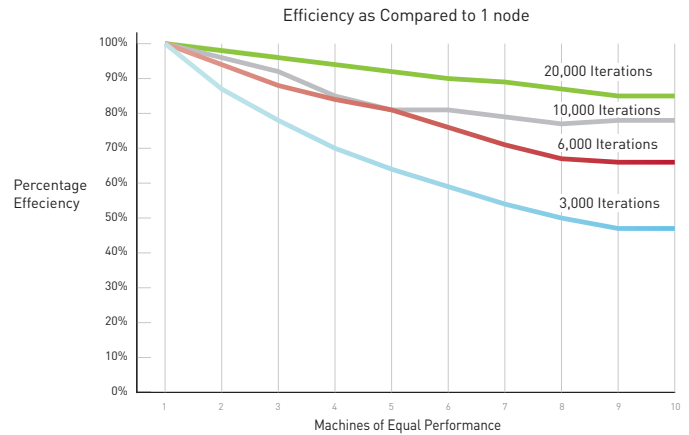
NVIDIA® Iray®

$295/year per machine

PERFORMANCE SCALING FOR EFFICIENT CLUSTER RENDERING

Slash rendering times by using a cluster of machines for queued rendering. The more complicated the rendering, the greater the benefit from adding more machines. Each machine in a cluster always contributes its maximum capability, making it easy to maintain efficiency even when machines vary in their individual rendering speed.

IRAY SERVER – REDUCING RENDER TIMES

Total Render Time

Minutes/Frame — Machines of Equal Performance

20,000 Iterations
10,000 Iterations
6,000 Iterations
3,000 Iterations

IRAY SERVER - SCALING EFFICIENCY

Efficiency as Compared to 1 node

Percentage Efficiency — Machines of Equal Performance

20,000 Iterations
10,000 Iterations
6,000 Iterations
3,000 Iterations

IRAY SERVER FEATURES

Rendering

Runs on Windows or Linux, independent of submitting applications

Uses all supported GPUs and CPUs within the machine

Features sophisticated cache management that minimizes submission times

Same installation supports distributed rendering between machines or interactive streaming from a single machine

Iray Photoreal and Iray Interactive rendering modes supported

Single pass stereo with control over eye separation and output composition

Multiple Iray versions supported, enabling a single installation to serve differing Iray client versions

Queuing

Reliable distributed rendering solution for all NVIDIA Iray products

Flexible render queue management system with user accounts

Super-fast job submission that quickly frees host application

Fastest possible Iray rendering, free of any host application overhead

Incremental updates for highly efficient animation rendering

Automatic cluster configuration between Iray Server machines

Ability to edit past jobs to adjust rendering options without resubmission, such as resolution, format, stop criteria, Buffers, and Light Path Expressions

Job progress reporting and remote image result viewing

Streaming

Interactive streaming to Iray client application from a remotely connected machine

Streaming behavior that's identical to local rendering with minimal latency

Incremental updates that minimize transmission for fluid editing workflows

Streaming quality control of H.264 video or sequential image formats for balancing quality with bandwidth

For more information on the Iray, visit: **www.nvidia.com/irayserver**

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