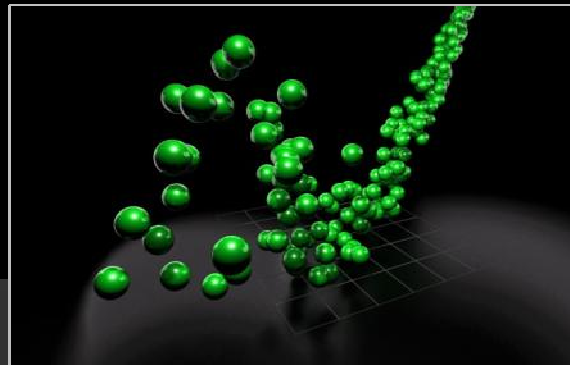
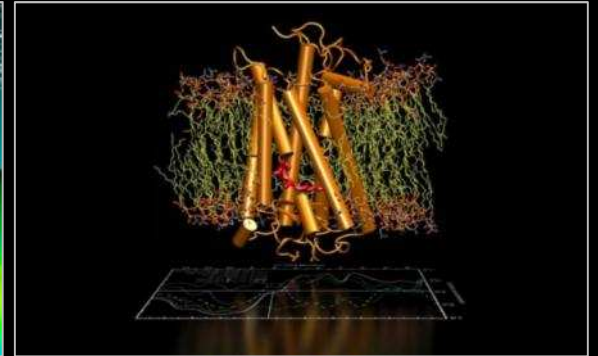
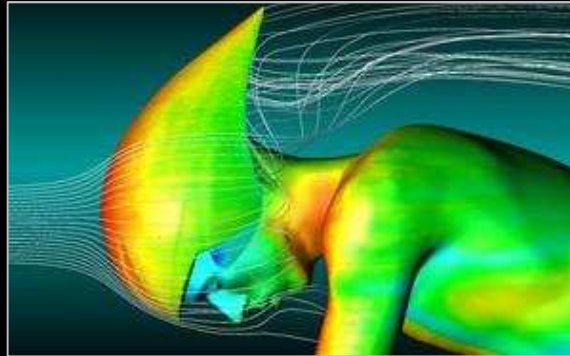


TESLA



Fueling The Race For Better Science

Supercomputer TOP500 #2: Dawning Nebulae

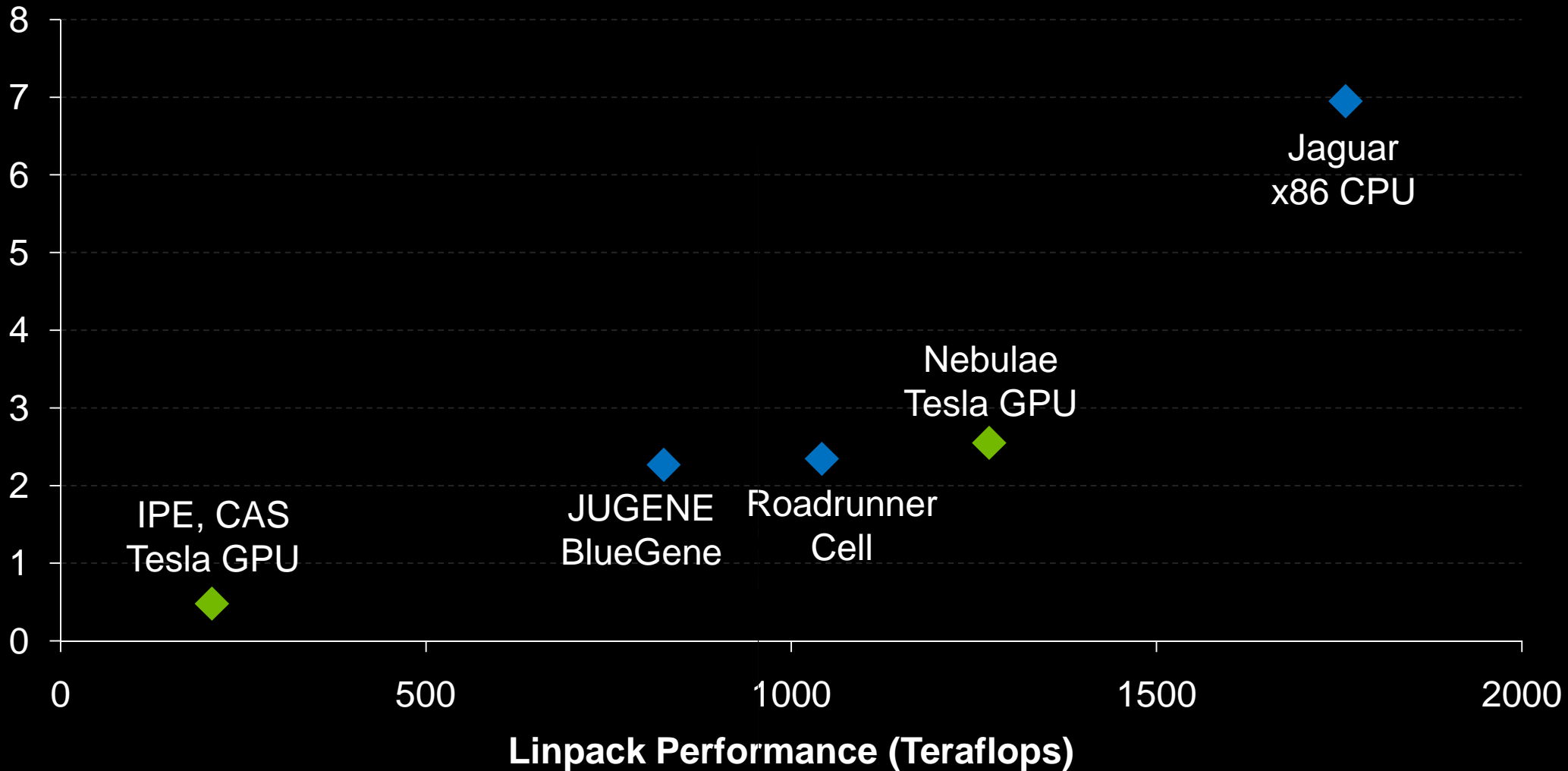
1.27 Petaflop

4640 GPUs / Tesla C2050

2.55 MWatts

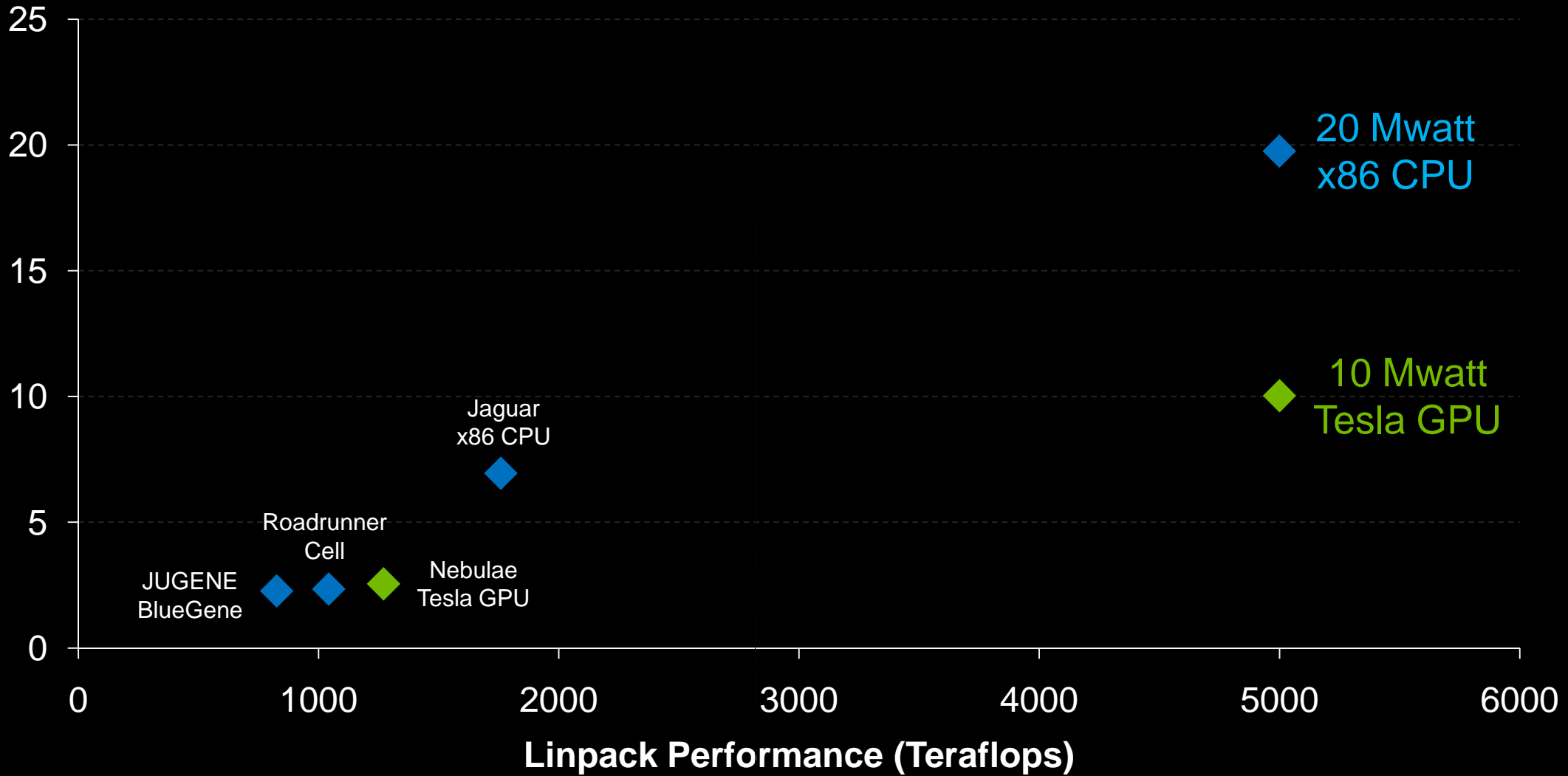
2x Performance / Watt

Power
MegaWatts

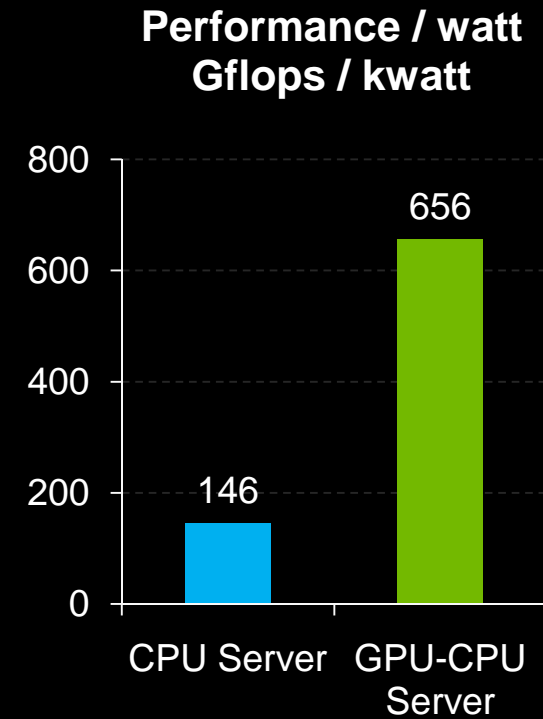
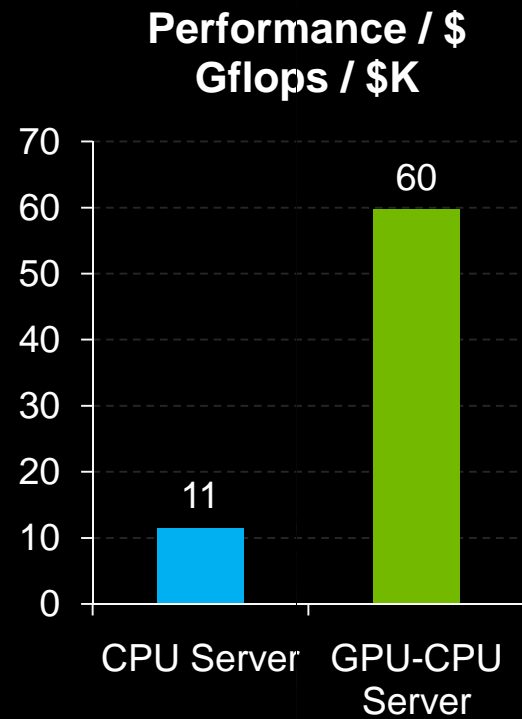
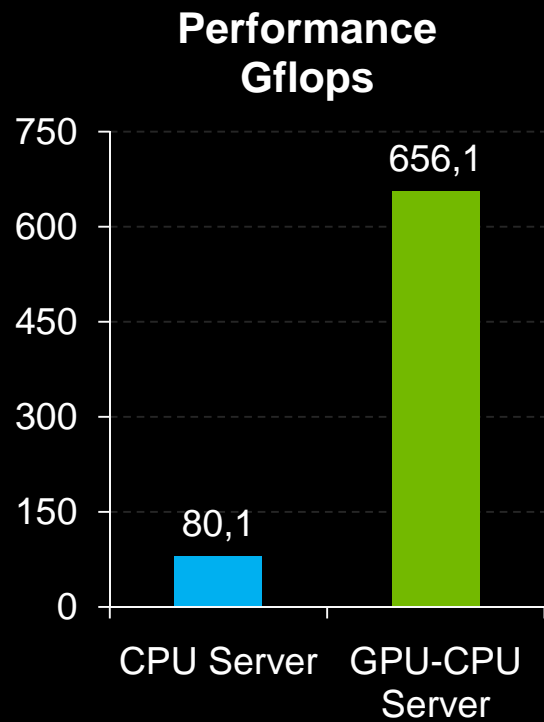


Power
MegaWatts

Scaling to 5 PetaFlop Cluster

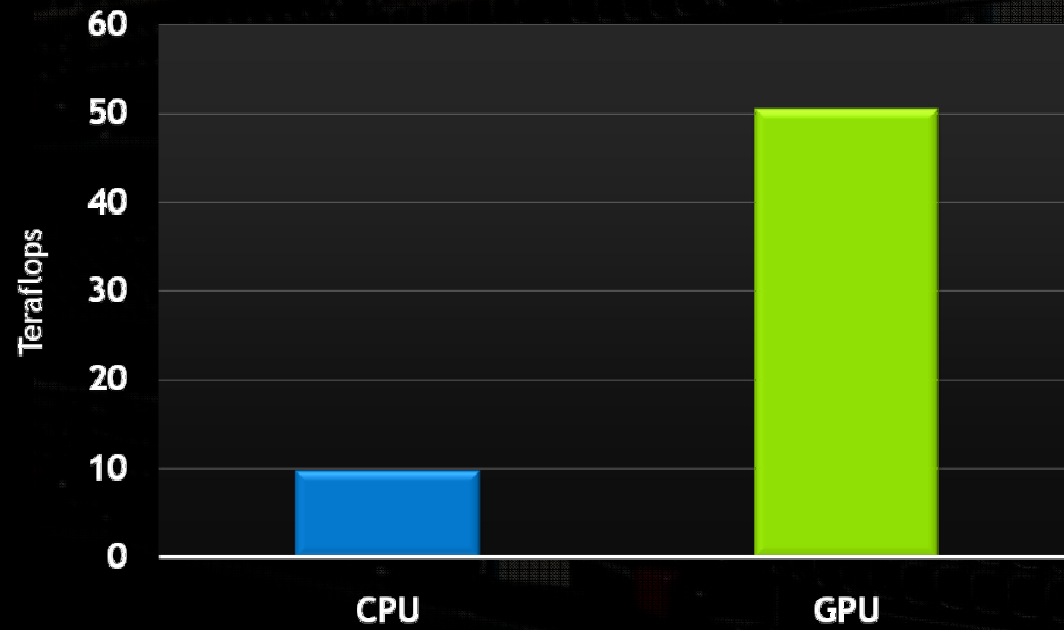


8x Higher Linpack



CPU 1U Server: 2x Intel Xeon X5550 (Nehalem) 2.66 GHz, 48 GB memory, \$7K, 0.55 kw
GPU-CPU 1U Server: 2x Tesla C2050 + 2x Intel Xeon X5550, 48 GB memory, \$11K, 1.0 kw

\$1M Budget



CUDA 3.1 new features

Function Pointers

Recursion

printf()

Unified Visual Profiler for CUDA C/C++ & OpenCL

Libraries Performance Improvements

TCC Driver for C-series GPUs

NVIDIA GPUDirect™

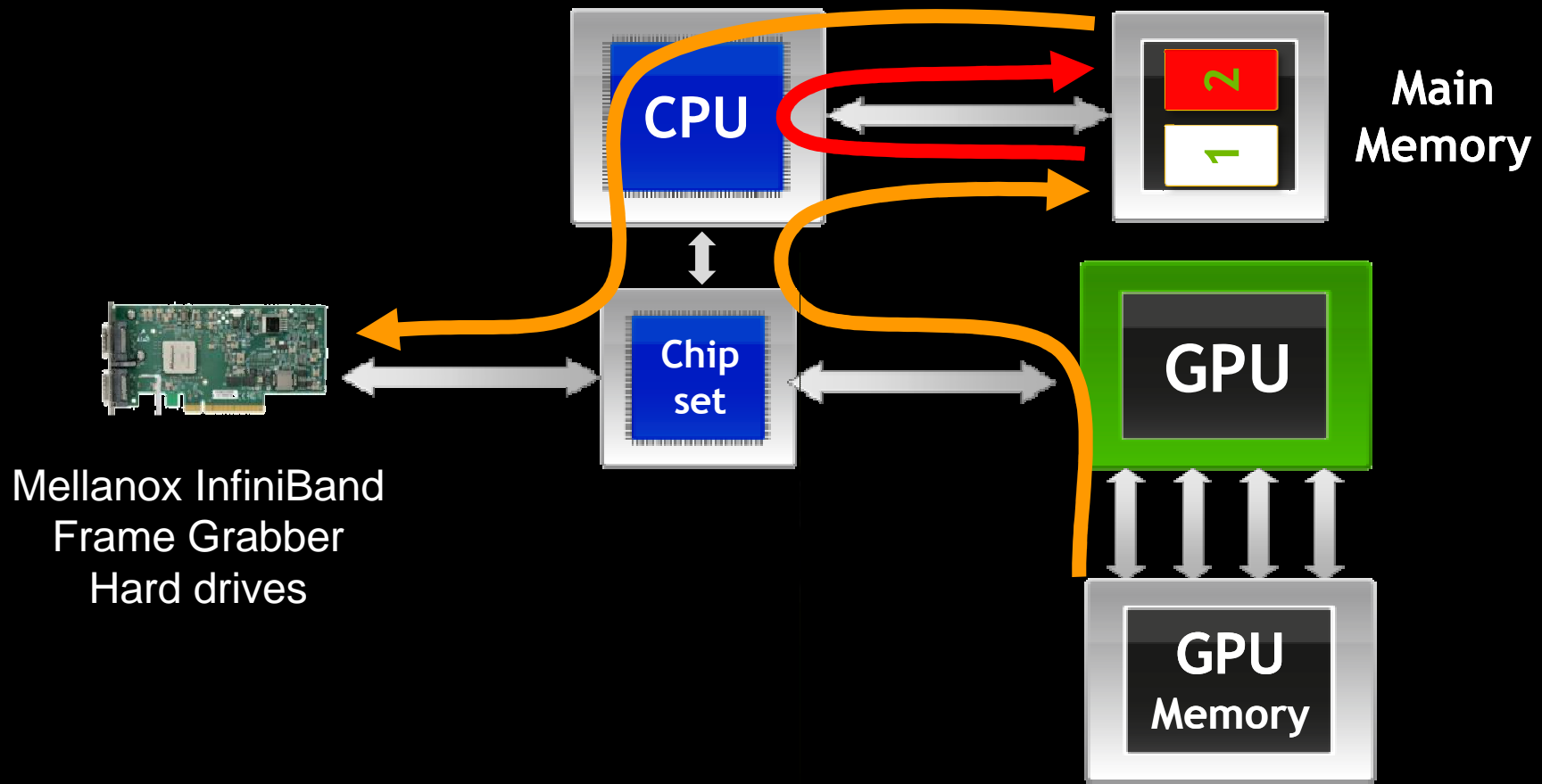
TCC CUDA Driver for Windows

- **TCC enables RDP & Services, reduces launch overhead**
- **Adding TCC support for all Tesla products (C, M, S)**
- **OSes supported**
 - **Windows Vista, Windows 7 – 32 bit and 64-bit**
- **Supports only CUDA C, C++, Fortran**

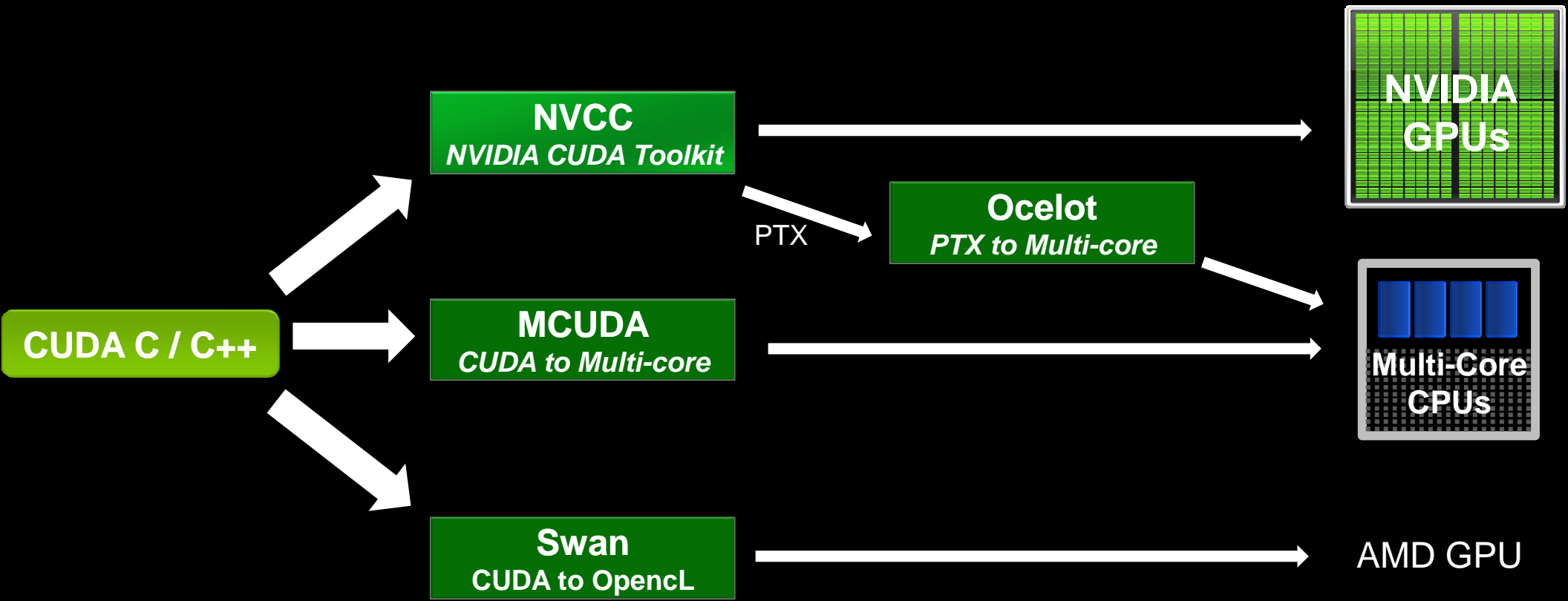
- **Limitation**
 - **Must use with non-NVIDIA graphics**
 - **Will support NVIDIA graphics in next driver release**

NVIDIA GPUDirect™: Faster Communication with GPUs

30% Savings in Communication Time



Targeting Multiple Platforms with CUDA



MCUDA: <http://impact.crhc.illinois.edu/mcuda.php>
Ocelot: <http://code.google.com/p/gpuocelot/>
Swan: <http://www.multiscalelab.org/swan>

CUDA Certification Program

Ensuring availability of certified GPU Computing professionals
NVIDIA Certified CUDA Programmer

- Low cost programming exam delivered in over 5000 secure locations worldwide
- Detailed Study Course
- Discounts to NVIDIA Consultant Partners
- Regular technology refresh seminars
- www.nvidia.com/certification



Centers administered by Prometric
Used by Microsoft, SUN, CISCO and many others

Certified CUDA Programmer – More Details

- Certification for individuals not companies
- Certification valid for 1 year
 - Free 6 month extension by attending technical update webinars
- Pricing \$200 to \$250 – depending on country of test center
- Test Scheduling Details and Pricing www.prometric.com/nvidia
- Recommended course www.nvidia.com/certification
- Register interest by emailing to certification@nvidia.com