SOLVING THE UNSOLVABLE

Humanity’s Toughest Challenges Require Infinite Computing

SMARTER MEDICINE
IT TAKES A LARGE AMOUNT OF COMPUTATIONALLY EXPENSIVE RESEARCH TO DEVELOP BETTER CANCER DRUGS

CLEANER ENERGY
THE ENERGY INDUSTRY HAS HARNESSED THE POWER OF GPU ACCELERATION TO DESIGN CLEANER, MORE EFFICIENT FUEL

MODERN AI
INCREASINGLY COMPLEX NEURAL NETWORKS AND THE FLOWING OF CONVERGENCE LEADS TO DEEPER UNDERSTANDING

NVIDIA® PASCAL® GPU ARCHITECTURE
OPENING A WORLD OF POSSIBILITIES

SOLVING MASSIVE COMPUTE INEFFICIENCY

TRADITIONAL DATA CENTER
Built for transactional workloads with limited computing needs. Uses many commodity servers interconnected with complex network infrastructures. Time lost to network latency and energy spent communicating across complex networks infrastructure results in performance inefficiencies.

THE NEW DATA CENTER
Designed for workloads with infinite computing needs. Uses fewer, lightning-fast nodes equal to the performance of thousands of commodity servers for simpler network infrastructure. Removing the bottleneck saves time and energy. Completing tasks in a fraction of the time.

APPLICATION PERFORMANCE: COMPUTE VS COMMUNICATE

12X TRAINING PERFORMANCE
LEAP IN NEURAL NETWORK TRAINING PERFORMANCE WITH NEW NVIDIA PASCAL ARCHITECTURE

3X MEMORY BANDWIDTH
WITH CuBERT® WITH NVA I COMPARED TO NVIDIA® MARGINAL MEMORY BANDWIDTH FOR BIG DATA WORKLOADS

5X APPLICATION SCALABILITY
WITH NVIDIA® NVEDGE® FOR MAXIMUM APPLICATION SCALABILITY

15.3B TRANSISTORS
FABRICATED WITH 16-NANOMETER FET PROCESS FOR UNPRECEDENTED ENERGY EFFICIENCY

21 SHALEFFS
DEVELOPED BY NEW AI ALGORITHMS FOR TERRA-FLOPS PERFORMANCE DEEP LEARNING

FIVE BREAKTHROUGHS
LEAPS IN TECHNOLOGY TO DRIVE COMPUTE EFFICIENCY

What Challenge Will You Solve?
Explore what the latest breakthrough in GPU acceleration can help you achieve, discover, and solve today.
www.nvidia.com/pascal

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