



# NVIDIA DGX-1

## Essential Instrument For AI Research



### The Challenges of Building a Platform for AI

Data scientists depend on computing performance to gain insights and innovate faster, using the power of deep learning and analytics. GPU technology offers a faster path to AI, but building a platform goes well beyond deploying a server and GPU's. AI and deep learning can require a substantial commitment in software engineering. An investment that could delay your project by months as you integrate a complex stack of components and software including frameworks, libraries, and drivers. Once deployed, additional time and resources are continually needed as you wait for the ever-evolving open source software to stabilize. You'll also be waiting to optimize your infrastructure for performance, along with administrative costs that increase as the system scales.

### The Fastest Path to Deep Learning

Inspired by the demands of AI and data science, NVIDIA® DGX-1™ fast-tracks your AI initiative with a solution that works right out of the box so that you can gain insights in hours instead of months. With DGX-1 you can simply plug in, power up, and get to work, thanks to the integrated NVIDIA deep learning software stack and DGX-1 cloud management services. Now you can start deep learning training in as little as a day, instead of spending months integrating, configuring, and troubleshooting hardware and software.

### SPECIFICATION

GPUs	8X Tesla V100	8X Tesla P100
TFLOPS (GPU FP16)	960	170
GPU Memory	128 GB total system	
CPU	Dual 20-Core Intel Xeon E5-2698 v4 2.2 GHz	
NVIDIA CUDA® Cores	40,960	28,672
NVIDIA Tensor Cores (on V100 based systems)	5,120	N/A
Maximum Power Requirements	3,200 W	
System Memory	512 GB 2,133 MHz DDR4 LRDIMM	
Storage	4X 1.92 TB SSD RAID 0	
Network	Dual 10 GbE, Up to 4 IB EDR	
Software	Ubuntu Linux Host OS	
System Weight	134 lbs	
System Dimensions	866 D x 444 W x 131 H (mm)	
Packing Dimensions	1,180 D x 730 W x 284 H (mm)	
Operating Temperature Range	10–35 °C	

### Effortless Productivity

NVIDIA DGX-1 removes the burden of continually optimizing your deep learning software and delivers a ready-to-use, optimized software stack that can save you hundreds of thousands of dollars. It includes access to today's most popular deep learning frameworks, NVIDIA DIGITS™ deep learning training application, third-party accelerated solutions, the NVIDIA Deep Learning SDK (e.g. cuDNN, cuBLAS), CUDA® toolkit, fast multi-GPU collectives NCCL, NVIDIA Docker and NVIDIA drivers.

### Investment Protection

Your AI initiative is critical to your organization's success, and dependent on a frequently optimized software stack and integrated hardware infrastructure. With today's rapidly evolving open source software and the complexity of libraries, drivers, and hardware, it's good to know that NVIDIA's enterprise grade support and software engineering expertise are behind every DGX-1. This software stack is built on years of R&D, innovation, and deep learning expertise, and maintained by monthly optimized framework releases. Also, NVIDIA's support includes software upgrades and priority resolution of critical issues; you can have peace of mind that your environment is tuned for maximized performance and uptime.

