NVIDIA DGX STATION
PERSONAL AI
SUPERCOMPUTER

The Personal Supercomputer for Leading-Edge AI Development

Your data science team depends on computing performance to gain insights, and innovate faster through the power of deep learning and data analytics. Until now, AI supercomputing was confined to the data center, limiting the experimentation needed to develop and test deep neural networks prior to training at scale. Now there's a solution, offering the power to experiment with deep learning while bringing AI supercomputing performance within arm's reach.

Groundbreaking AI, at Your Desk

Now you can get the computing capacity of 400 CPU's, in a workstation that conveniently fits under your desk, drawing less than 1/20th the power. NVIDIA® DGX Station™ delivers incredible deep learning and analytics performance, designed for the office and whisper quiet with only 1/10th the noise of other workstations. Data scientists and AI researchers can instantly boost their productivity with a workstation that includes access to optimized deep learning software and runs popular analytics software.

Get Started in Deep Learning, Faster

DGX Station breaks through the limitations of building your own deep learning platform. You could spend a month or longer, procuring, integrating, and testing hardware and software. Then additional expertise and effort are needed to optimize frameworks, libraries, and drivers. That's valuable time and money spent on systems integration and software engineering that could be spent training and experimenting.

NVIDIA DGX Station is designed to kickstart your AI initiative, with a streamlined plug-in and power-up experience that can have you training deep neural networks in just one day.

SYSTEM SPECIFICATIONS

GPUs	**4X Tesla V100**
TFLOPS (GPU FP16)	**480**
GPU Memory	**64 GB total system**
NVIDIA Tensor Cores	**2,560**
NVIDIA CUDA® Cores	**20,480**
CPU	**Intel Xeon E5-2698 v4 2.2 GHz (20-Core)**
System Memory	**256 GB LRDIMM DDR4**
Storage	**Data: 3X 1.92 TB SSD RAID 0** **OS: 1X 1.92 TB SSD**
Network	**Dual 10 Gb LAN**
Display	**3X DisplayPort, 4K resolution**
Acoustics	**< 35 dB**
System Weight	**88 lbs / 40 kg**
System Dimensions	**518 D x 256 W x 639 H (mm)**
Maximum Power Requirements	**1,500 W**
Operating Temperature Range	**10–30 °C**
Software	**Ubuntu Desktop Linux OS** **DGX Recommended GPU Driver** **CUDA Toolkit**

Productivity That Takes You from Desk to Data Center

Deep learning platforms require software engineering expertise to keep today's frameworks optimized for maximum performance, with time spent waiting on stable versions of open source software. This means hundreds of thousands of dollars in lost productivity, dwarfing the initial hardware cost.

NVIDIA DGX Station includes the same software stack found in all DGX solutions. This innovative, integrated system includes access to popular deep learning frameworks, updated monthly, each optimized by NVIDIA engineers for maximized performance. It also includes access to 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, and NVIDIA drivers.

Built on container technology powered by NVIDIA Docker, this unified deep learning software stack simplifies workflow, saving you days in re-compilation time when you need to scale your work and deploy your models in the data center or cloud. The same workload running on DGX Station can be effortlessly migrated to a DGX-1 or the cloud, without modification.

Supercomputing Performance, at Your Desk

DGX Station brings the incredible performance of an AI supercomputer in a workstation form factor that takes advantage of innovative engineering and a water-cooled system that runs whisper-quiet.
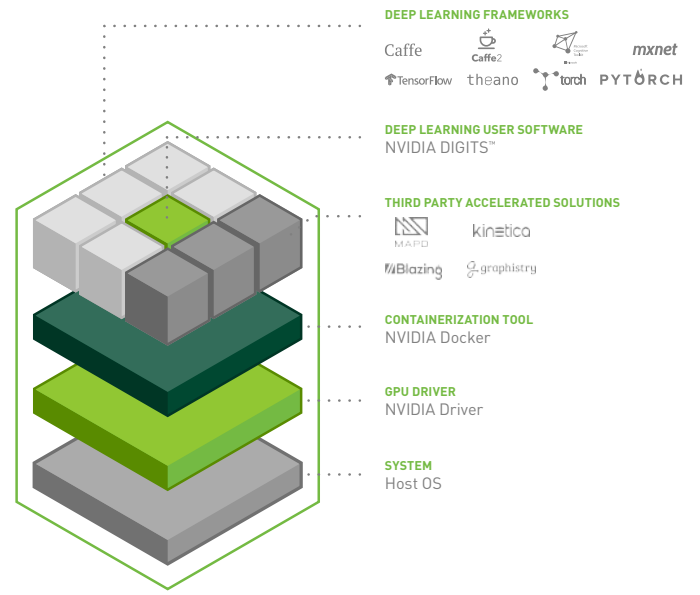
The NVIDIA DGX Station packs 480 TeraFLOPS of performance, with the first and only workstation built on four NVIDIA Tesla® V100 accelerators, including innovations like next generation NVLink™ and new Tensor Core architecture. This ground-breaking solution offers:

> 3x the performance for deep learning training, compared with today's fastest GPU workstations

> 100x in speed-up on large data set analysis, compared with a 20 node Spark server cluster

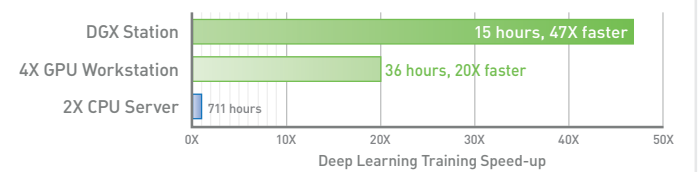> 5x increase in I/O performance over PCIe-connected GPU's with NVIDIA NVLink technology

NVIDIA DGX-1 Software Stack

DEEP LEARNING FRAMEWORKS
Caffe Caffe2 mxnet
TensorFlow theano torch PYTORCH

DEEP LEARNING USER SOFTWARE
NVIDIA DIGITS™

THIRD PARTY ACCELERATED SOLUTIONS
MAPD kinetica
Blazing graphistry

CONTAINERIZATION TOOL
NVIDIA Docker

GPU DRIVER
NVIDIA Driver

SYSTEM
Host OS

NVIDIA DGX Station Delivers 47X Faster Training

DGX Station — 15 hours, 47X faster
4X GPU Workstation — 36 hours, 20X faster
2X CPU Server — 711 hours

0X   10X   20X   30X   40X   50X
Deep Learning Training Speed-up

> maximized versatility with deep learning training and over 30,000 images/second inferencing

Investment Protection

With DGX Station, you get enterprise grade support with access to NVIDIA deep learning expertise, a library of expert training, software upgrades and updates, and priority resolution of your critical issues—all in one place. For more information on NVIDIA DGX Station, visit www.nvidia.com.

For more information, visit **www.nvidia.com/dgx-station**

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