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 (Mixed precision)	**500**
GPU Memory	**128 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 RDIMM DDR4**
Storage	**Data: 3X 1.92 TB SSD RAID 0** **OS: 1X 1.92 TB SSD**
Network	**Dual 10GBASE-T (RJ45)**
Display	**3X DisplayPort, 4K resolution**
Additional Ports	**2x eSATA, 2x USB 3.1, 4x USB 3.0**
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 the NVIDIA Deep Learning SDK (e.g. cuDNN, cuBLAS, NCCL), CUDA® Toolkit, and NVIDIA drivers.
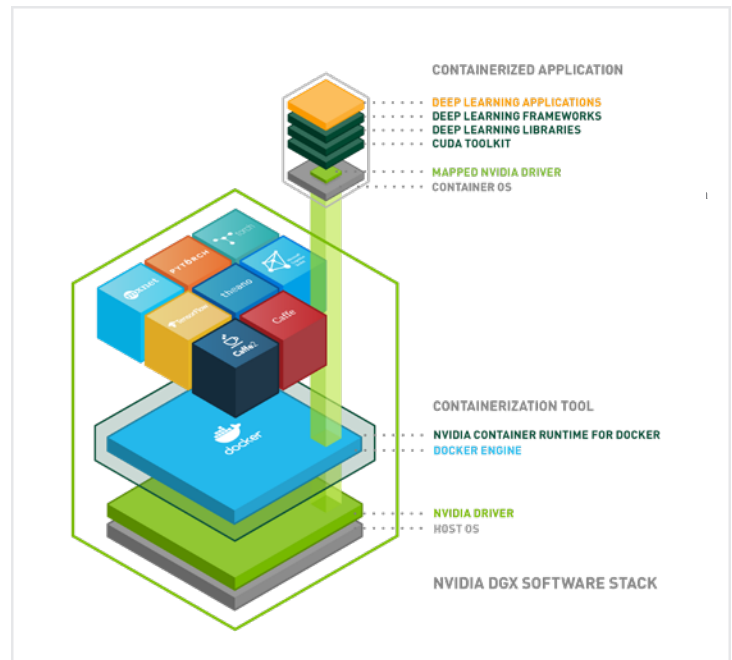
Built on container technology powered by NVIDIA Docker, this unified deep learning software stack simplifies workflow, saving you days in re-compilation time when you need to scale your work and deploy your models in the data center or cloud. The same workload running on DGX Station can be effortlessly 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 500 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:

> 72X the performance for deep learning training, compared with CPU-based servers

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

> 5X increase in bandwidth compared to PCIe with NVIDIA NVLink technology

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

NVIDIA DGX Station Delivers 72X Faster Deep Learning Training
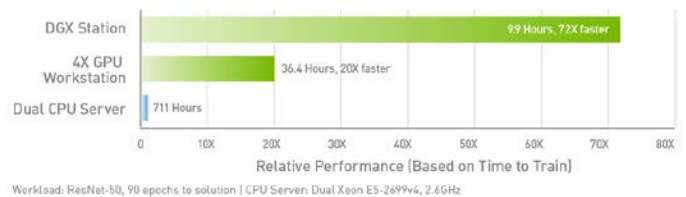
Workload: ResNet-50, 90 epochs to solution | CPU Server: Dual Xeon E5-2699v4, 2.6GHz

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, visit **www.nvidia.com/dgx-station**

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 (Mixed precision	**500**
GPU Memory	**128 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 RDIMM DDR4**
Storage	**Data: 3X 1.92 TB SSD RAID 0 OS: 1X 1.92 TB SSD**
Network	**Dual 10GBASE-T (RJ45)**
Display	**3X DisplayPort, 4K resolution**
Additional Ports	**2x eSATA, 2x USB 3.1, 4x USB 3.0**
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 the NVIDIA Deep Learning SDK (e.g. cuDNN, cuBLAS, NCCL), CUDA® Toolkit, and NVIDIA drivers.
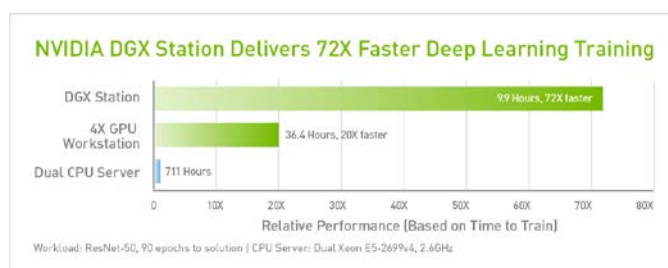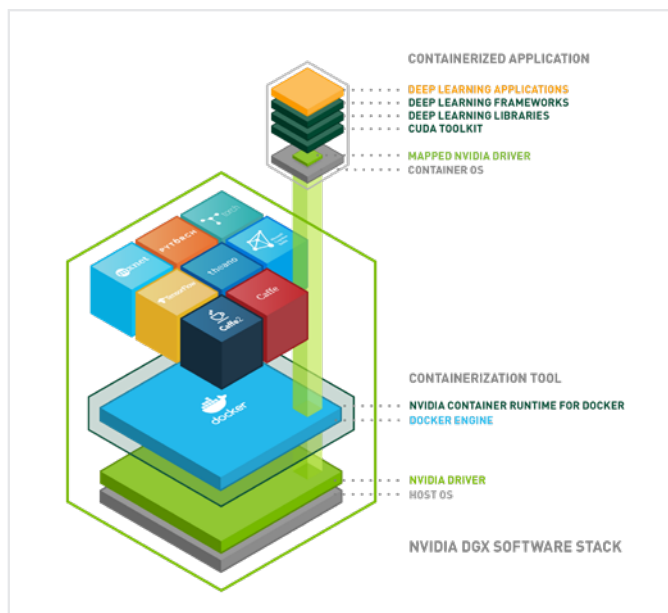
Built on container technology powered by NVIDIA Docker, this unified deep learning software stack simplifies workflow, saving you days in re-compilation time when you need to scale your work and deploy your models in the data center or cloud. The same workload running on DGX Station can be effortlessly 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 500 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:

> 72X the performance for deep learning training, compared with CPU-based servers

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

> 5X increase in bandwidth compared to PCIe with NVIDIA NVLink technology

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

CONTAINERIZED APPLICATION
DEEP LEARNING APPLICATIONS
DEEP LEARNING FRAMEWORKS
DEEP LEARNING LIBRARIES
CUDA TOOLKIT
MAPPED NVIDIA DRIVER
CONTAINER OS

CONTAINERIZATION TOOL
NVIDIA CONTAINER RUNTIME FOR DOCKER
DOCKER ENGINE

NVIDIA DRIVER
HOST OS

NVIDIA DGX SOFTWARE STACK

NVIDIA DGX Station Delivers 72X Faster Deep Learning Training

DGX Station — 9.9 Hours, 72X faster
4X GPU Workstation — 36.4 Hours, 20X faster
Dual CPU Server — 711 Hours

Relative Performance (Based on Time to Train)

Workload: ResNet-50, 90 epochs to solution | CPU Server: Dual Xeon E5-2699v4, 2.6GHz

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, visit **www.nvidia.com/dgx-station**