



Machine Learning with FlexPod and NVIDIA

Successful machine learning requires the right functional model, powerful processing and a lot of real world data

Key Features

FlexPod Architecture Integrating NVIDIA's DGX-1 Machine Learning System

FlexPod is the industry's leading converged infrastructure solution, combining technology from Cisco and NetApp. Integrating the NVIDIA DGX-1 Machine Learning system into the platform, delivers the world's first enterprise grade machine learning environment.

Enhanced data access and management

If the DGX-1 is the engine of machine learning, then data is the fuel. The more access to true random real life data the system has, the more accurate will be the algorithm. FlexPod supports data integration from multiple clouds by leveraging NetApp's Data Fabric.

Security for your data and algorithms

High value data and algorithms are held in the datacenter and not on a data scientist's workstation. With Cisco ACI, secure infrastructure architectures can be created and with NetApp ONTAP your data is secure.

Fuel Your Machine Learning with FlexPod

Success in machine learning requires a combination of powerful processing hardware, the right functional models and access to large quantities of real life, genuinely random data with which to train your models.

With the NVIDIA DGX-1, it is possible to deliver a true high performance computing platform in a dense footprint capable of delivering up to 170 TFLOPS of the half precision floating point performance demanded by Machine Learning applications. The system supports popular deep learning frameworks such as Torch and Tensorflow, and ships with the NVIDIA DIGITS GPU training system, Deep Learning SDK, Docker and CUDA.

Whilst the choice of framework and function model is up to your data scientists, the other key ingredient is data. For successful machine learning, large real world data sets are needed; reliance on artificial or artificial non-random data can result in false conclusions and ineffective models. This places data collection and data management at the core of successful Machine Learning. This is where NetApp and Cisco help with their FlexPod Converged Infrastructure, including the NetApp Data Fabric to greatly enhance data acquisition and transfer.

Introducing FlexPod

FlexPod is a converged infrastructure from NetApp and Cisco combining compute, network and storage under a single management framework. It is a mature datacenter class solution and is trusted by companies worldwide, making it the market leader in the class of configurable converged infrastructure. In partnership with NVIDIA, FlexPod has the capability of supporting single or multiple NVIDIA DGX-1 systems within a system.

FlexPod provides many services that help support Machine Learning development, including the management/protection for code repositories and helping to keep the DGX-1 supplied with data through advanced data management services. With NetApp ONTAP storage, data can be rapidly transferred to the SSD cache on the DGX-1 helping to reduce load latency, whilst the ability to create snapshots and mirrors, means it is possible to quickly protect and version control data sets, algorithms and code repositories. Using clones, it is also possible to efficiently provision new writable volumes for new code branches without having to store full repeat copies of the code and data.

The Data Fabric and Success in Machine Learning

A key to success in Machine Learning is having easy access to the right data sources for training. With NetApp ONTAP and the NetApp Data Fabric, we make data access from locations such as the cloud, the corporate datacenter or the edge of the network as simple and efficient as possible, thereby increasing the ability to work with new real world data sets.



FlexPod offers critical data and code repository management, protection and security for your Machine Learning applications. With the NetApp Data Fabric, connectivity to training and active data sources in the cloud and at edge is simple and data transfer is highly efficient.

Secure

Protecting and securing code and data assets is essential. FlexPod can secure your data to datacenter standards, making just the live stream accessible and not the files themselves. Further data is held securely within the NetApp FAS Storage Array where it is managed and protected by NetApp ONTAP the world's leading Storage Operating System.

Efficient

FlexPod offers significant management and efficiency advantages over other solutions, including consolidation of resources allowing intensive processing to be moved to the datacenter, and away from the workstation under the desk. This not only enables savings on power and cooling, but also supports higher utilization of your Machine Learning Systems, allowing them to operate as a shared service rather than as discrete systems. FlexPod's balanced design also avoids bottlenecks that might waste system resources, and with NetApp storage efficiencies you also save space by a de-duplicating between multiple copies of your code and data sets.

Summary

FlexPod offers the ideal platform for supporting and hosting your machine learning environment. With FlexPod and the NetApp Data Fabric, protecting your code repositories is easy and access to real world machine learning data source is made easy. Customers rely on FlexPod to deliver

NetApp and Cisco Partnership

Customers depend on NetApp and Cisco to move, process and safeguard their applications and valuable information assets. FlexPod is a long-established partnership between the two companies which has resulted in over 100 verified designs and the industry's leading solution for converged infrastructure.

Contact your NetApp account manager to see how FlexPod can improve the performance and security of your 3D content and applications.

How to Buy?

In the UK, FlexPod with DGX-1 integration can purchased through specialist Avnet aligned NetApp partners Ebb3 and Scan Computers.

Contact your NetApp sales representative for further details.

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

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