



MIDDLE CANYON

KLONDIKE DEEP LEARNING SUPER COMPUTER



The **Middle Canyon Klondike** is a 20 Slot PCI Chassis for Deep Learning Applications tailored to deliver speedy results for high workloads generated by Big Data and Analytics, Control and Signal Processing, and Cyber Security.

Applications

Security

- Detect anomalous behavior in network traffic to identify vulnerabilities
- Analyze data-in-motion and at rest can help find new associations or uncover patterns and facts
- Analyze internet, smart devices, and social media data to prevent criminal threats

Transportation

- Real-time management of traffic patterns and congestion
- Live monitoring of railroad conditions
- Optimize long-haul trucking routes and load capacities

Federal

- Faster processing of data streams like video, speech, image
- Disrupt planned cyber and criminal activities
- Leverage advanced object recognition technologies to locate threats faster, safer, and more accurately

Specifications

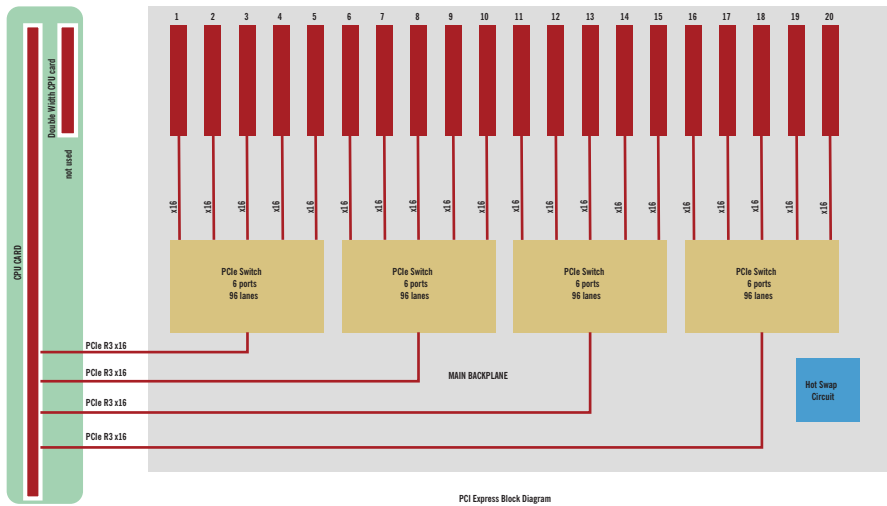
Model	MC-SP20
GPUs	10x Telsa P40 or 20x Tesla P4
TFLOPS (GPU F16)	(GPU SP Peak) 192
GPU Memory	24GB per GPU
CPU	Intel Xeon E5-2600 v3 or v4 Series, 1.7GHz – 2.6GHz
NVIDIA CUDA cores	57,344
Maximum Power Requirements	5,000 W
System Memory	512 GB 2133 MHz DDR4
Storage	4x 1.92 TB SSD RAID 0
Network	Dual 10 GbE, 4 IB EDR
Software	Ubuntu Linux Host OS
System Weight	28 lbs [12.7kg]
System Dimensions	19.875" D x 17.5" W x 4U H [505mm D x 444mm W x 131mm H]
Operating Temperature Range	50° – 95°F [10 – 35 °C]

The **NVIDIA Tesla P40** is purpose-built to deliver maximum throughput for deep learning deployment. With 47 TOPS (Tera-Operations Per Second) of inference performance of INT8 operations per GPU, a single server with 8 Tesla P40s delivers the performance of over 140 CPU servers.

As models increase in accuracy and complexity, CPUs are no longer capable of delivering interactive user experience. The Tesla P40 delivers over 30X lower latency than a CPU for real-time responsiveness in even the most complex models



Backplane Diagram



- 20 PCIe x16 G3 peripheral slots, hot-swap-able, removable from the top of the chassis
- 2 redundant PSUs, 2500W each, in the lower section, rear removable, hot-swappable
- Double width CPU card slot in the lower section, not hot-swappable
- Main backplane hosts 20 slots, PCIe switching circuit, hot-swap circuit, and power circuit
- CPU card to be inserted into AUX backplane which is connected to the main backplane

High-Density Embedded Computing System Host Board

