Powering Scale-Out AI Training and Inference

Supercharge any server with NVIDIA® T4 GPU, the world’s most performant scale-out accelerator. Its low-profile, 70W design is powered by NVIDIA Turing™ Tensor Cores, delivering revolutionary multi-precision performance to accelerate a wide range of modern applications. This advanced GPU is packaged in an energy-efficient 70-watt, small PCIe form factor, optimized for scale-out servers and purpose-built to deliver state-of-the-art AI.

### Inference Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>NVIDIA T4</th>
<th>CPU</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNMT</td>
<td>27X</td>
<td>1X</td>
<td>27X</td>
</tr>
<tr>
<td>ResNet-50</td>
<td>21X</td>
<td>3X</td>
<td>7X</td>
</tr>
<tr>
<td>DeepSpeech2</td>
<td>21X</td>
<td>3X</td>
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</tr>
</tbody>
</table>

Comparisons made of one NVIDIA T4 GPU versus servers with dual-socket Xeon Gold 6140 CPU.

### Training Performance

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<tr>
<td>ResNet-50</td>
<td>9.3X</td>
<td>3X</td>
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Comparisons made of dual NVIDIA T4 GPUs versus servers with dual-socket Xeon Gold 6140 CPU.

### SPECIFICATIONS

- **GPU Architecture**: NVIDIA Turing
- **NVIDIA Turing Tensor Cores**: 320
- **NVIDIA CUDA® Cores**: 2,560
- **Single-Precision**: 8.1 TFLOPS
- **Mixed-Precision (FP16/FP32)**: 65 TFLOPS
- **INT8**: 130 TOPS
- **INT4**: 260 TOPS
- **GPU Memory**: 16 GB GDDR6
- **Bandwidth**: 300 GB/s
- **ECC**: Yes
- **Interconnect**: 32 GB/sec
- **System Interface**: x16 PCIe Gen3
- **Form Factor**: Low-Profile PCIe
- **Thermal Solution**: Passive
- **Compute APIs**: CUDA, NVIDIA TensorRT™, ONNX
Scale-Out Performance Driving Data Center Acceleration

Small form factor 70-watt (W) design makes T4 optimized for scale-out servers, providing an incredible 50X higher energy efficiency compared to CPUs, drastically reducing operational costs. In the last two years, NVIDIA’s Inference Platform has increased efficiency by over 10X, and remains the most energy-efficient solution for distributed AI training and inference.

Turing Tensor Core technology with multi-precision computing for AI powers breakthrough performance from FP32 to FP16 to INT8, as well as INT4 precisions. It delivers up to 9.3X higher performance than CPUs on training and up to 36X on inference.

The NVIDIA T4 data center GPU is the ideal universal accelerator for distributed computing environments. Revolutionary multi-precision performance accelerates deep learning and machine learning training and inference, video transcoding, and virtual desktops. T4 supports all AI frameworks and network types, delivering dramatic performance and efficiency that maximize the utility of at-scale deployments.

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To learn more about the NVIDIA T4, visit www.thinkmate.com/systems/servers/gpx/t4