EFFICIENT, HIGH DENSITY, VERSATILE HARDWARE FOR MODERN DATA CENTERS

Dense packed clusters of low power SOC’s are the easy scalable and efficient server hardware for the growing parallel workloads in the modern data center. MicroDataCenter’s high density not only save on Capital Costs requiring fewer Space, IT cabinets, rack power distribution units (PDUs); smaller fire detection and suppression systems; shorter fiber/copper cable lengths; and shorter electrical power feeders. Also a reduction of the Operational Costs are achieved through, hot water cooling, easy deployment, simple installation, less administration and maintenance of less and more reliable solid-state parts.

The key cost savings come from lower space occupancy, energy efficiency of the servers using low power SOC’s, multiplying the workloads processed / Watt and the ability to re-use the server heat or cool with passive evaporation.

Our ZX3000 uses can be configured with Xeon-D, ARM, FPGA, GPU, low power SOC’s delivering more workload/ Watt then traditional servers equipped with regular Server CPU’s (Xeon E5, AMD). For example our Xeon-D processes minimum 2x more workload/ Watt then a traditional server equipped with a Xeon E3. Comparing the workload/ Watt of our Xeon-D, ARM, FPGA or GPU with the workload/ Watt of the Xeon E5, AMD, the multiple is much larger then 2.
HIRO ZX3000 MicroDataCenter

64 SERVERS, single platform & combinations
The ZX3000, 2U Microdatacenter carries 64 server nodes. The following server nodes are available:
Xeon-D 1543 (available Q2 2018): 8 Cores/ 12 Threads, 1.9GHz-2.5GHz turbo, 32 GB DDR4. Outperforms the Xeon-E3 and some of the lower end Xeon-E5’s for applications using up to 4Gb/ Core. Unbeatable high performance/ Watt.
ARM A72: 8 Cores, 32GB DDR4, With the integrated DP-FPU, integrated Neon Vector Unit, large cache, high performance Cache Coherent Interconnect. For dense computing environments addressing applications that require lots of raw throughput and relatively simple code execution, the A72 could form the basis of a compelling solution.
PowerPC-64 T4240: 12 Cores/ 24 Threads, 1.667GHz, 32 GB DDR3, Altivec technology SIMD engine, dramatically boosting the performance of heavy math algorithms with DSP-like performance.
GPU Xavier Nvidia (available Q4 2018): Volta GPU Architecture with 8 Core CPU, computer vision accelerator, capable of 20 TOPS (trillion operations per second) of performance, while consuming only 20 watts of power.

Available combinations in 2U Case, accumulated 42U Rack:

<table>
<thead>
<tr>
<th></th>
<th>2U Case</th>
<th>42U Rack including in-rack hot water heat exchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xeon-D 1543/ ARM-A72/ PowerPC-64 T4240</td>
<td>64</td>
<td>1216</td>
</tr>
<tr>
<td>FPGA Xilinx Kintex Xilinx</td>
<td>64</td>
<td>1197</td>
</tr>
<tr>
<td>GPU Xavier Nvidia</td>
<td>32</td>
<td>608</td>
</tr>
<tr>
<td>Additional 4TB NVMe Storage</td>
<td>32</td>
<td>1216</td>
</tr>
</tbody>
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TOR SWITCHES, case and rack architecture

Fat Tree
Aspen Tree
Torus
Hierarchical Mesh
etc.

Determined by Rack level Cabling