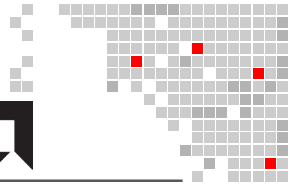


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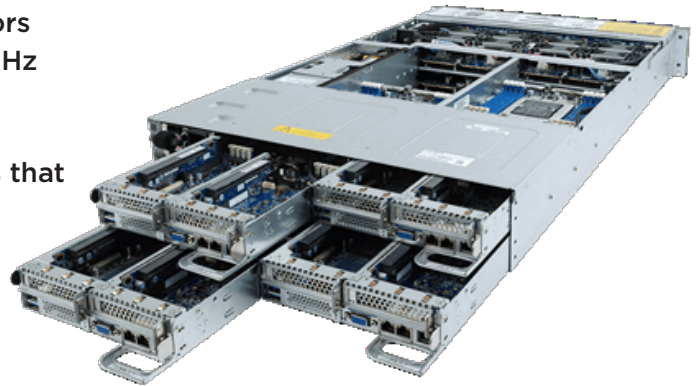
The following solution features the 7452 AMD EPYC processor with 512 total cores and 4Gb of memory per core. Visit our site at <http://bit.ly/clprocessors> to see all processor choices.

For questions about this system, contact:

Email: sales@advancedclustering.com | Phone: (913) 643-0300

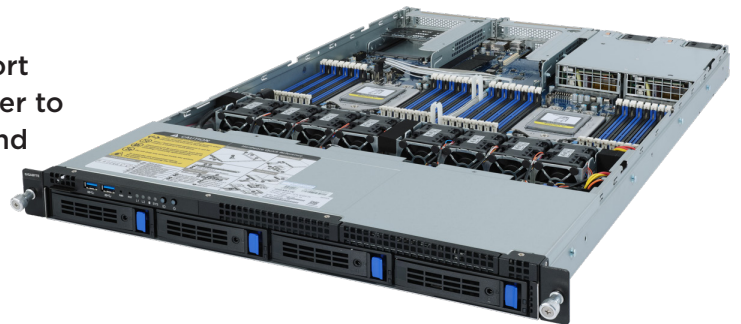
NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTBLADE E230 COMPUTE NODES	8	\$37,500.00	\$75,100.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 240GB SSD
- HDR-100 InfiniBand
- These nodes are housed in our ACTblade chassis that supports 4x compute nodes in 2U of space and includes redundant power
- 3 year warranty with lifetime technical support



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTSERV E1210 LOGIN NODE	1	\$10,600.00	\$10,600.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 2x 240GB mirrored OS SSDs
- HDR-100 InfiniBand
- 1U chassis with redundant power
- 3 year warranty with lifetime technical support
- Login nodes are for users to SSH to the cluster to submit jobs, copy files to/from the cluster, and to compile code they want to run



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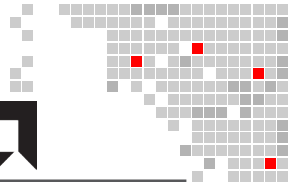
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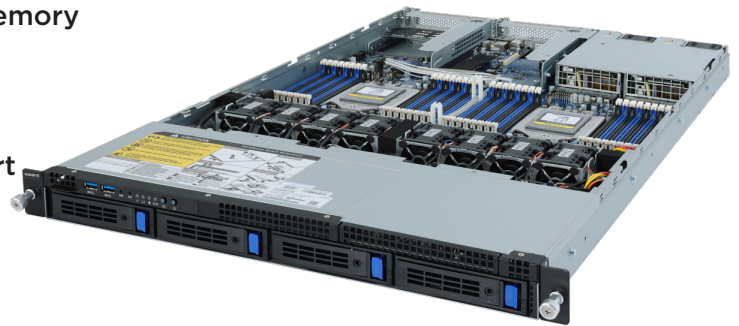
\$150,000 CLUSTER



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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ACTSERV E1210 - ZFS STORAGE CONTROLLER	1	\$11,100.00	\$11,100.00
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- 2x AMD EPYC 7452 (32-core, 2.35GHz) processors
- 256GB of 3200MHz Registered ECC DDR4 memory
- 2x 240GB mirrored OS SSDs
- HDR-100 InfiniBand
- 1U chassis with redundant power
- 3 year warranty with lifetime technical support



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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ACTSTOR 4060J - STORAGE TARGET	1	\$24,300.00	\$24,300.00
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- 384TB usable storage
- 4U chassis with redundant power
- HDR-100 InfiniBand
- 1x 8TB onsite cold spare drive
- 3 year warranty with lifetime technical support



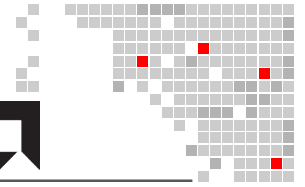
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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
NETWORK SYSTEM	1	\$1,700.00	\$1,700.00

Node communication is provided through an Ethernet network. This switch gives you the ability to:

- Manage file system traffic, cluster utility communication, system admin & maintenance
- Remotely monitor temperatures, voltages, fans, and power supplies
- Allow for remote power cycling of each node
- Uplink via 10Gb ports

NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
HDR INFINIBAND NETWORKING	1	\$17,600.00	\$17,600.00

- 100Gb HDR-100 nodes
- 40 port HDR IB switch; supports 40x 200Gb IB ports, 80x 100Gb ports or a combination of the two speeds.
- 3 year warranty



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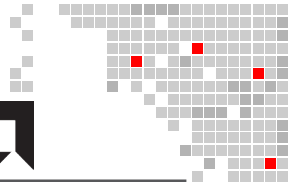
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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
SOFTWARE	1	\$0.00	\$0.00

ClusterVisor is Advanced Clustering's HPC cluster management solution.

ClusterVisor includes the ability to:

- Manage your cluster from a simple web interface (GUI) or from the command line
- Control server processes on every node
- Customize multiple dashboards
- Manage users and groups
- Create rack diagrams
- Configure nodes, SLURM, time servers, etc.
- Sensors track such things as CP, memory, Infiniband and GPU's



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
RACK AND POWER INFRASTRUCTURE	1	\$4,500.00	\$4,500.00

POWER AND COOLING (ESTIMATED DATA)

Weight: 911.25 lbs.

Rack space used: 13U

Power: 8.3 kW

BTU: 28,825.77 BTU/hr.

HVAC needed: 2.40 tons

CIRCUITS NEEDED:

Qty 1 - IEC 309 60A 3P+PE

308V ePH at 60 Amps



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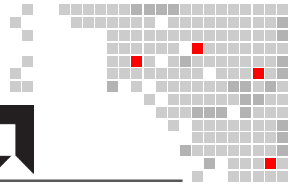
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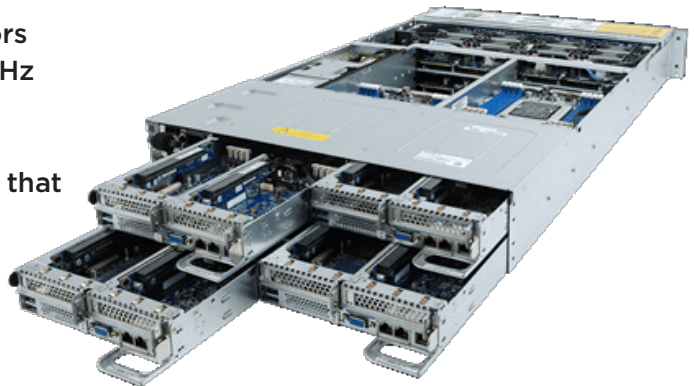
The following solution features the 7452 AMD EPYC processor with 1,024 total cores and 4Gb of memory per core. Visit our site at <http://bit.ly/clprocessors> to see all processor choices.

For questions about this system, contact:

Email: sales@advancedclustering.com | Phone: (913) 643-0300

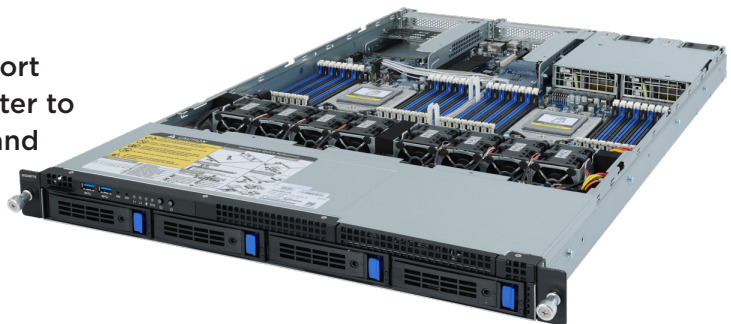
NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTBLADE E230 COMPUTE NODES	16	\$37,500.00	\$150,200.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 240GB SSD
- HDR-100 InfiniBand
- These nodes are housed in our ACTblade chassis that supports 4x compute nodes in 2U of space and includes redundant power
- 3 year warranty with lifetime technical support



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTSERV E1210 LOGIN NODE	1	\$10,600.00	\$10,600.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 2x 240GB mirrored OS SSDs
- HDR-100 InfiniBand
- 1U chassis with redundant power
- 3 year warranty with lifetime technical support
- Login nodes are for users to SSH to the cluster to submit jobs, copy files to/from the cluster, and to compile code they want to run



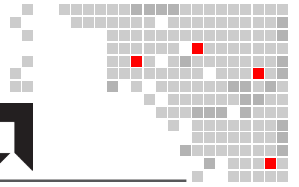
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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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BEEGFS PARALLEL FILE SYSTEM HDD STORAGE BLOCK	1	\$40,600.00	\$40,600.00
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Storage target: Storage target as configured below

- Enclosure: 4U, 60 drive JBOD with redundant SAS expanders and power supplies
- Storage space: 480TB usable - 6GB/s (60x 10TB)
- Onsite cold spare(s): 10TB Drive w/ Carrier
- Warranty: 3 year standard warranty



Storage server: Storage server as configured below

- Base system: 2U Dual socket Xeon storage controller
- Metadata option: Shared meta data with storage server
- Metadata size: Support a total filesystem less than 640TB
- Networking: 2x RJ45 10Gb ethernet ports, 2x 10Gb SFP+ ethernet ports
- Fabric: Single port HDR-100 InfiniBand (100Gb/s)
- Warranty: 3 year standard warranty
- BeeGFS support: 3 year BeeGFS support contract



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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NETWORK SYSTEM	1	\$1,750.00	\$1,750.00
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- Manage file system traffic, cluster utility communication, system admin & maintenance
- Uplink via 10Gb ports
- Remotely monitor temperatures, voltages, fans, and power supplies
- Allow for remote power cycling of each node



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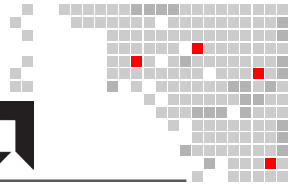
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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
HDR INFINIBAND NETWORKING	1	\$17,600.00	\$17,600.00

- 100Gb HDR-100 nodes
- 40 port HDR IB switch; supports 40x 200Gb IB ports, 80x 100Gb ports or a combination of the two speeds.
- 3 year warranty

NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
SOFTWARE	1	\$0.00	\$0.00

ClusterVisor is Advanced Clustering's HPC cluster management solution. ClusterVisor includes the ability to:

- Manage your cluster from a simple web interface (GUI) or from the command line
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- Customize multiple dashboards
- Manage users and groups
- Create rack diagrams
- Configure nodes, SLURM, time servers, etc.
- Sensors track such things as CP, memory, Infiniband and GPU's



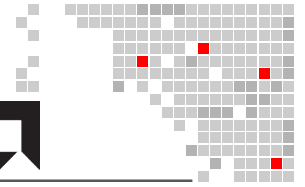
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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
RACK AND POWER INFRASTRUCTURE	1	\$4,500.00	\$4,500.00

POWER AND COOLING (ESTIMATED DATA)

Weight: 1,223.25 lbs.

Rack space used: 18U

Power: 12.4 kW

BTU: 42,474.34 BTU/hr.

HVAC needed: 3.54 tons

CIRCUITS NEEDED:

Qty 1 - IEC 309 60A 3P+PE

208V 3PH at 60 Amps



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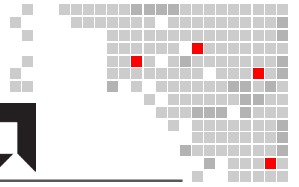
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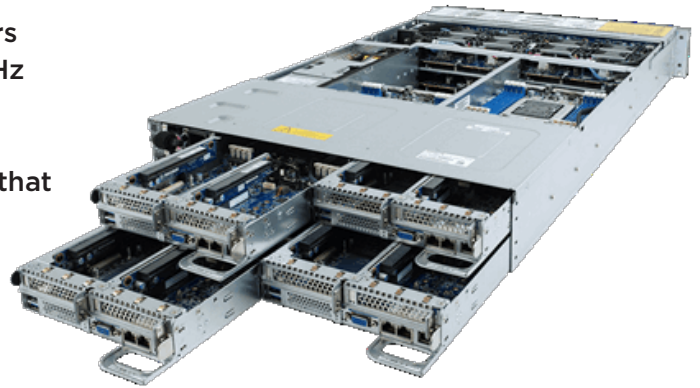
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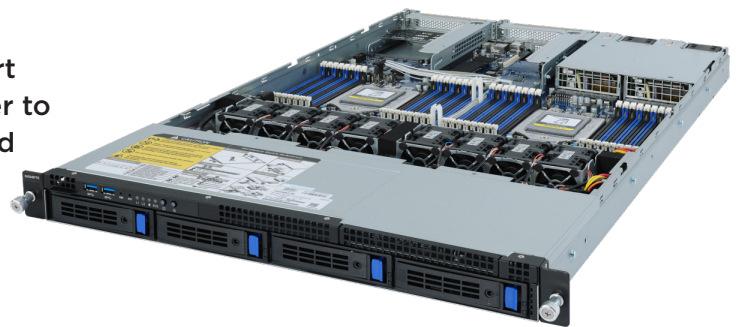
NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTBLADE E230 COMPUTE NODES	44	\$37,500.00	\$413,200.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 240GB SSD
- HDR-100 InfiniBand
- These nodes are housed in our ACTblade chassis that supports 4x compute nodes in 2U of space and includes redundant power
- 3 year warranty with lifetime technical support



NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
ACTSERV E1210 LOGIN NODE	1	\$11,100.00	\$11,100.00

- 2x AMD EPYC 7452 (32-core, 2.35 GHz) processors
- Registered ECC DDR4 memory 256GB of 3200MHz
- 2x 240GB mirrored OS SSDs
- HDR-100 InfiniBand
- 1U chassis with redundant power
- 3 year warranty with lifetime technical support
- Login nodes are for users to SSH to the cluster to submit jobs, copy files to/from the cluster, and to compile code they want to run



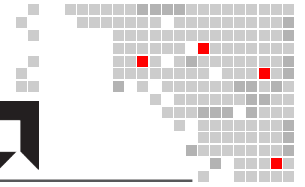
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\$500,000 CLUSTER

NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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BEEGFS PARALLEL FILE SYSTEM HDD STORAGE BLOCK	1	\$56,000.00	\$56,000.00
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Storage target: Storage target as configured below

- Enclosure: 4U, 60 drive JBOD with redundant SAS expanders and power supplies
- Storage space: 480TB usable - 6GB/s (60x 10TB)
- Onsite cold spare(s): 10TB Drive w/ Carrier
- Warranty: 3 year standard warranty



Storage server: Storage server as configured below

- Base system: 2U Dual socket Xeon storage controller
- Metadata option: Shared meta data with storage server
- Metadata size: Support a total filesystem less than 640TB
- Networking: 2x RJ45 10Gb ethernet ports, 2x 10Gb SFP+ ethernet ports
- Fabric: Single port HDR-100 InfiniBand (100Gb/s)
- Warranty: 3 year standard warranty
- BeeGFS support: 3 year BeeGFS support contract



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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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NETWORK SYSTEM	1	\$1,750.00	\$1,750.00
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- Manage file system traffic, cluster utility communication, system admin & maintenance
- Uplink via 10Gb ports
- Remotely monitor temperatures, voltages, fans, and power supplies
- Allow for remote power cycling of each node

NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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HDR INFINIBAND NETWORKING	1	\$22,700.00	\$22,700.00
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- 100Gb HDR-100 nodes
- 40 port HDR IB switch; supports 40x 200Gb IB ports, 80x 100Gb ports or a combination of the two speeds.
- 3 year warranty

NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
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SOFTWARE	1	\$0.00	\$0.00
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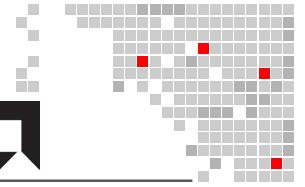


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NAME	QUANTITY	UNIT PRICE	TOTAL PRICE ***
RACK AND POWER INFRASTRUCTURE	1	\$6,000.00	\$6,000.00

POWER AND COOLING (ESTIMATED DATA)

Weight: 1,980.15 lbs.

Rack space used: 32U

Power: 27.8 kW

BTU: 95,021.32 BTU/hr.

HVAC needed: 7.29 tons

CIRCUITS NEEDED:

Qty 1 - IEC 309 60A 3P+PE

208V 3PH at 60 Amps



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