

## ICER 2022 HPCC buy-in details - **Deadline October 4, 2022**

ICER has committed to buying a new cluster comprised of CPU and GPU compute nodes from Dell Technologies, with **hardware expected to arrive on campus in late fall 2022 and be available by no later than January 2023**. As part of this commitment, we are offering MSU researchers the opportunity to purchase nodes for their own use on a first come, first served basis. Details of these nodes are listed below.

**Buy-in details:** MSU requires you to pay the price of the compute hardware only. In return, MSU provides all other infrastructure (racks, networking, software, power, cooling, etc.), as well as a 5-year support contract from the vendor. In return, other users may use your nodes for short jobs when you are not using them.

More precisely, the nodes you buy are owned by you, and nobody outside of the pool of researchers that you designate may run a job of longer than 4 hours on that node. Once someone in your group requests access to your node(s) via the batch queue, they would wait a maximum of 4 hours after which they can queue as many jobs as they like. Those queued jobs would be processed prior to any 4-hour job requests from non-designated users. Once your node(s) are no longer in use by you or your research group, 4-hour jobs can again get access to your node(s).

**Node details:** The various node options and prices are listed below. **The listed prices are while our supply of nodes lasts** - if demand exceeds supply, a second hardware acquisition will take place and prices will be significantly higher. All nodes will be connected via a 100G Infiniband network and will have access to ICER's existing parallel file systems. Note that the only GPU option we are offering is a node with 4 NVidia A100 "Ampere" GPUs, with the maximum amount of memory per GPU (80 GB). All nodes include one permanent 100 gigabit/s network connection; due to supply chain issues we may also provide a 10/25 gigabit/s connection initially.

Node option	Price per node	Node description
CPU-A	\$11,641.26	2 <a href="#">AMD EPYC 7763</a> processors (64 cores per processor, 2.45 GHz clock speed) - 128 cores per node. 4 GB memory/core - 512 GB memory per node. Nodes include one 480 GB SSD drive.
CPU-B	\$15,262.92	As CPU-A, but 8 GB memory/core (1 TB/node)
CPU-C	\$23,660.95	As CPU-A, but 16 GB memory/core (2 TB/node)
GPU	\$57,553.57	2 <a href="#">AMD EPYC 7713</a> processors (64 cores per processor, 2.0 GHz clock speed) - 128 cores per node. 4 <a href="#">NVidia A100 GPUs</a> ("Ampere") w/80 GB of high-bandwidth memory per GPU, 2 TB/s of memory bandwidth, and 4-way NVLink connectivity. 1 TB memory per node. Nodes include one 4 TB NVMe SSD drive.

**Purchase details:** To purchase one or more nodes, please fill out the form at <https://forms.gle/9sN7Z4oqvgsiK4JAA> (MSU login required) with all of the required information, which includes the type and quantity of nodes as well as the MSU account number that should be charged. If you wish to split the purchase across multiple accounts, please let us know how the costs should be divided up. **The deadline for purchases at the rates listed in the table on the previous page is Tuesday, October 4th, and if demand exceeds supply the list price will be available on a first come, first served basis.**

**Timeline:** We have made a commitment to our vendor for a fixed amount of hardware at this price. The prices stated in this document are good through the October 4th deadline and while nodes are available. While we may be able to purchase additional nodes after that to satisfy demand, it will be during a second round of purchasing and may have significantly higher pricing.

We expect that the new cluster will be delivered in late Fall 2022, installed and tested near the end of the calendar year, and available to users by no later than January 2023. Due to supply chain issues, full network performance may not be available until March 2023, but we do anticipate that the available network performance (10-25 gbit/s) will be sufficient for most workloads. Nodes that are ordered in a second round of purchasing will likely not arrive until late spring due to supply chain issues.