SC22 SCC Cloud Component

This year teams will have access to two sets of cloud-based infrastructure, as well as the on-premise cluster that each in-person team will bring to SC22:

- Each team will have a fixed-size cluster in [Oracle Cloud Infrastructure (OCI)](). This cluster will have 4 nodes of [BM.Optimized3.36]() (Intel Ice Lake). The virtual-only teams will also have a [BM.GPU4.8]() node (with 8 NVidia A100 GPUs) on their Oracle cluster, as they will be using this in place of the physical cluster that each in-person team brings.

- Each team will get access to their own [Azure CycleCloud]() installations to deploy and manage cloud clusters, with a selection of VM types based on the latest Intel and AMD CPUs and AMD and NVidia GPUs available in Azure. Teams will be given a budget (announced at the competition kick-off on Monday November 14) to use during the competition.
  There will be measures in place to prevent any team from monopolizing resources during the competition. Teams should also not plan on being able to run all of this infrastructure during the competition, since it will almost certainly cause them to go over budget.
  An estimate of the node types and counts that will be available to each team is shown in the table below. Note that the exact VM types and counts may change before the competition begins, depending on availability - the final set of node types and counts will be announced at the competition kick-off on Monday November 14.

Node type	Count
[D16 v4]()	8
[HB120rs v3]()	10
[ND96amsr A100 v4]()	4
[HC44]()	10
[ND40rs v2]()	4
[Fs72v2]()	15

Each competition application and benchmark is restricted to one set of cloud-based infrastructure, and the on-premise clusters:

- The benchmarks (HPL, HPCG, IO500 and MLPerf) may be run only on on-premise clusters for in-person teams, and on the OCI cluster for virtual teams.

- PHASTA and LAMMPS may be run on OCI or on-premise clusters, but must not use Azure.

- The Mystery Application and the Reproducibility Challenge may be run on Azure or, for in-person teams, their on-premise cluster, but must not use OCI. Note that this means virtual-only teams *must* use Azure for the Mystery Application and the Reproducibility Challenge