



**Hewlett Packard
Enterprise**

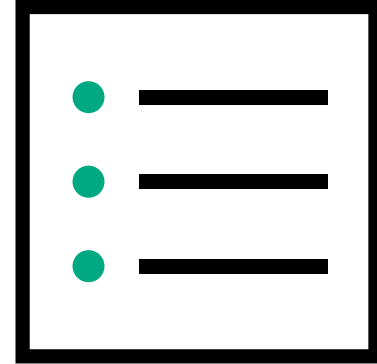
HPE's Ansys Reference Cluster for AMD Milan

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CONTENT

- HPE's ANSYS Reference Cluster (AMD Milan)
- HPE Parallel File System Storage for scale-out of the clusters



ANSYS FLUENT/CFX/LS-DYNA: HPE APOLLO 2000 GEN10 PLUS STARTER CLUSTER (AMD)

Server Options:

- Either 1 ProLiant DL325 Gen10 plus head node (external) or a single ProLiant XL225n (within the Apollo 2000 Gen10 Plus chassis)
- 2-4 ProLiant XL225n (1U, half width) Gen10 Plus compute servers

Apollo 2000 Gen10 Plus chassis

- Processors: 64 cores per compute node using the AMD EPYC 7543 2.8 GHz processors
- Up to 256 cores with four compute nodes using the AMD EPYC 7543
- Local scratch one 480GB NVME SSD drive
- 1 x HDR100 HCA
- HPE iLO Advanced
- 2x 3000W Hot Plug Power Supply

Memory for the Cluster

- Compute nodes: 512GB
- Head node 128GB

Cluster Interconnect:

- 10Gigabit Ethernet or InfiniBand (jobs scaling greater than two nodes HDR InfiniBand is recommended)

Operating Environment:

- RedHat Enterprise Linux 8.3
- SUSE Linux Enterprise Linux 15 SP2
- Windows Server 2019 (or 2019 for latest version)

Ansys Workloads:

- Suited for Fluent up to ~260M cells
- Suited for CFX up to 74M to 260M nodes

NOTE: All memory channels need to be filled and be filled with equal amounts of RAM. If not, you could see up to a 40% decrease in performance. Please file an ANSYS service request to help refine your configuration workflow before making a purchase.



HPE Apollo 2000 Gen10 Plus System front view with multiple storage options



HPE Apollo 2000 Gen10 Plus System rear view with up to 4 hot-pluggable dual-processor servers per chassis for maximum density and flexibility

ANSYS MECHANICAL: HPE APOLLO 2000 GEN10 PLUS STARTER CLUSTER (AMD)

Server Options:

- Either 1 ProLiant DL325 Gen10 plus head node (external) or a single ProLiant XL225n (within the Apollo 2000 Gen10 Plus chassis)
- 2-4 ProLiant XL225n (1U, half width) Gen10 Plus compute servers

Apollo 2000 Gen10 chassis

- Processors: 64 cores per compute node using the AMD EPYC 7543 2.8 GHz processors
- Up to 256 cores with four compute nodes using the AMD EPYC 7543
- 2 RAID0 1TB NVME write intensive SSD drives for local scratch
- 1 x HDR100 HCA
- HPE iLO Advanced
- 2x 3000W Hot Plug Power Supply

Memory for the Cluster

- Compute nodes: 1,024GB
- Head node 128GB

Cluster Interconnect:

- 10Gigabit Ethernet or InfiniBand (jobs scaling greater than two nodes HDR InfiniBand is recommended)

Operating Environment:

- RedHat Enterprise Linux 8.3
- SUSE Linux Enterprise Linux 15 SP2
- Windows Server 2019 (or 2019 for latest version)

Ansys Workloads:

- Suited for Mechanical up to 80M to 550M DOF depending on solver used

NOTE: All memory channels need to be filled and be filled with equal amounts of RAM. If not, you could see up to a 40% decrease in performance. Please file an ANSYS service request to help refine your configuration workflow before making a purchase.

Apollo 2000 Gen10 Plus system [QuickSpecs](#)



HPE Apollo 2000 Gen10 Plus System front view with multiple storage options



HPE Apollo 2000 Gen10 Plus System real view with up to 4 hot-pluggable dual-processor servers per chassis for maximum density and flexibility

ANSYS PLATFORM AND LINUX OS SUPPORT FOR MILAN

AMD:

- To use AMD Milan SKU's the customer must use a cluster running either RHEL 8.3, CentOS 8.3 or SUSE 15 SP2 as their OS.
- If you need to continue to run Ansys versions before 2021 R2 and don't have an older cluster to run these simulations on then we recommend that you look at AMD Rome since AMD Rome is supported on RHEL 7.6 back to Ansys 2020 R1*
- The same goes with SUSE 15 SP2. If you want to run older versions of Ansys than 2021 R2 and don't have an older cluster to run these simulations on then we recommend that you look at AMD Rome since AMD Rome is supported on SUSE 12 SP4 back to Ansys 2020 R1*

[*https://www.ansys.com/content/dam/it-solutions/platform-support/ansys-platform-support-strategy-plans-june-2021.pdf](https://www.ansys.com/content/dam/it-solutions/platform-support/ansys-platform-support-strategy-plans-june-2021.pdf)

HPE PARALLEL FILE SYSTEM STORAGE FOR LARGER AMD OR INTEL CLUSTERS

If your HPE cluster to run Ansys solvers scales beyond a couple Apollo 2000 Gen 10 Chassis, you will want to consider a shared parallel storage system from HPE starting at below \$50K including 3 year support for hardware and software.

Highlights

- [HPE Parallel File System Storage](#) is the first & only HPC/AI storage system that embeds the leading parallel file system in the enterprise – IBM Spectrum Scale (Formally Know As: GPFS) – without capacity-based licensing.
- We have a unique licensing model for the file system that enables us to “bake” the software license for the file system into the hardware of the HPE ProLiant DL325 Gen10 Plus-based storage servers.
- It allows you to build a shared external file system for your Ansys cluster with as little as 12 storage drives (NVMe SSD or SAS HDD) in 4 rack units – scaling up to 2,048 drives in 128 rack units



Minimum starter configuration

Functionality

- Multi-protocol scalable file service with simultaneous access to a common set of data (POSIX, NFS, SMB, Object, HDFS, S3)
- Facilitate data access with a global namespace, massively scalable file system, quotas and snapshots, data integrity and availability, and filesets
- Simplify management with GUI
- Improved efficiency with QoS and compression
- Create optimized tiered storage pools based on performance, locality, or cost
- Simplify data management with Information Lifecycle Management (ILM) tools that include policy-based data placement and migration
- Enable worldwide data access using Active File Management (AFM) asynchronous replication
- Asynchronous multi-site Disaster Recovery
- Transparent Cloud Tiering (TCT)
- Protect data with native software encryption and secure erase, NIST compliant and FIPS certified
- File audit logging for compliance
- Watch folder for monitoring folders, filesets, and inode spaces for file accesses