



## System Overview

- **Server:** Two-socket, Intel® Xeon® processor E5 product family; NVIDIA Quadro K-Series GPUs
- **Memory:** Up to 244 GB
- **Interconnect:** 10 GbE
- **Operating System:** Red Hat Enterprise Linux\* 6.5
- **Remote Visualization:** Accelerated GPU in separate node
- **Storage:** High-performance SSD
- **Additional Software:** Intel® MPI Library

*"Altair's cloud solutions, namely HyperWorks Unlimited Virtual Appliance on AWS, allow us to seamlessly scale our CAE needs through a simple application-aware, web browser gateway. We use HyperWorks on the cloud exactly the same way we would use it on our desktops, with the added ability of setting up large runs directly on the HPC infrastructure and post-processing all the runs on the server side, eliminating the need for downloading large result files. For companies like ours looking to do large-scale exploration, the ease of instantaneously accessing CAE and HPC without the massive integration expense and large deployment time is extremely beneficial. Altair is uniquely eliminating the barriers to HPC with its technologies and business model on the cloud."*

LeanNova

# HyperWorks Unlimited™ Virtual Appliance

Infinite exploration on the cloud – HPC in minutes

Get the Computer Aided Engineering (CAE) applications and high-performance computing (HPC) resources you need for your design work—**ready in minutes**—in a cloud data center near you... through nothing but a browser.

Altair's HyperWorks Unlimited Virtual Appliance lets users **simulate and explore** more design possibilities and **innovate faster** using all the power and resources of the **HyperWorks CAE suite**. Your design teams benefit from HPC for CAE without the capital and operational expenses or the IT resources required to house, install and maintain a powerful, sophisticated HPC cluster.

## Why HyperWorks Unlimited Virtual Appliance?

- **Instant access:** No wait time to execute and explore your CAE jobs and to start afresh or scale out.
- **Remove the barriers to innovation:** If IT resources and expertise, physical space, or available capital have kept you from expanding your CAE capacity, Altair HyperWorks Unlimited Virtual offers a simplified solution that removes those barriers to growth and innovation. Fully managed and cloud-based, HyperWorks Unlimited Virtual lets you size the solution you need—and resize it any time—to stay competitive and agile without adding to your existing IT infrastructure and resources.
- **Simplify IT administration:** Reduce the time and effort to take advantage of HPC with a pre-configured solution that's easy to use and manage.
- **Gain competitive advantage:** With easy scalability and unlimited access to Altair's best-in-class engineering software and workload management tools, HyperWorks Unlimited Virtual Appliance gives you a competitive edge, enables growth, and prepares you to easily take on larger projects that demand greater compute capabilities.

## Key Capabilities

- **Infinite exploration:** Includes unlimited access to the entire Altair HyperWorks and PBS Works suites, running on an easily scalable high-performance cluster built on the Intel® Xeon® processor E5 product family.
- **A single vendor:** Altair fully supports the appliance from deployment to ongoing maintenance and support throughout the contract period.
- **Flexible service options:** Working with Intel and Amazon Web Services, Altair offers this solution worldwide as a virtual private cloud in a region of your choosing.
- **Powerful HPC capabilities:** Integrating the HyperStudy design exploration engine with PBS Professional lets engineers vary designs to perform Design of Experiments (DOE) and stochastic and numerical optimization studies, and submit the runs directly to the HPC system.
- **Fully integrated HPC system:** Delivered as a turnkey system, loaded with Altair's HyperWorks applications plus PBS Works for workload management — for simplified deployment. Getting started takes minutes vs. days.
- **Simple, familiar UI:** The experience of using HyperWorks interactive applications remains identical to what users are familiar with: advanced remote visualization is available through a web browser using PBS Works Display Manager.
- **HPC expertise:** Only Altair delivers both HPC workload management AND simulations applications - nobody understands the needs of HPC users better.

# Who Needs HyperWorks Unlimited Virtual Appliance?

**HyperWorks Unlimited Virtual is an ideal solution for a wide range of companies:**

- **Small firms** without extensive capital, IT expertise and/or data center facilities can begin infinite exploration of their designs, and design more competitively, in a matter of minutes.
- **Medium businesses** wanting to shift more costs from capital to operations are able to start or continue taking advantage of CAE quickly and easily.
- **Larger organizations** who need to scale or replace their existing design and simulation resources can instantly add new and additional capacity.
- **Companies of all sizes** wanting to focus only on engineering can move their entire simulation lifecycle onto the cloud, reducing operational and capital expenses pertaining to managing HPC and data management systems.
- **Companies that have run out of IT space, or cannot add IT resources,** can expand their CAE computing capacity onto the cloud within minutes.

- **Organizations that have been renting HPC design and simulation time,** limiting their design exploration capabilities, can access all the design, simulation, and HPC software of Altair HyperWorks and PBS Works—and utilize their own system any time at a competitive cost.
- **Engineering firms** ready to step up from a workstation or home-grown cluster can quickly scale their CAE capabilities to a purpose-built CAE HPC solution—at whatever size they need—in an instant.

## Intel and Altair on Amazon – The Ideal Combination for Infinite Exploration

Amazon Web Services (AWS) with its powerful compute and storage capabilities is known the world over for its secure, innovative, cost-effective, flexible, powerful, and mature hosting services. For Altair HyperWorks Unlimited Virtual, AWS provides the latest-generation of Intel Xeon processor-based systems and a choice of where to deploy your CAE tools for the best response times.

*“Altair HyperWorks offers best-in-class design software powered by PBS Works optimized computing performance. With HyperWorks Unlimited Virtual Appliance you get the optimized speed and performance only Altair can deliver running on Intel processor-based servers in the cloud.”*

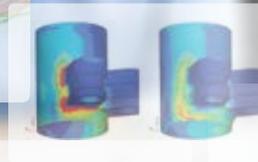
– Ravi Kunju, Vice President  
Strategy and Business Development, Altair

## Altair Cloud Solutions

Altair offers the following solutions to suite the needs of customers:

- **HyperWorks Unlimited Physical Appliance** is an on-premise, fully-configured private cloud for plug-and-play CAE.
- **HyperWorks Unlimited Virtual Appliance** is an off-premise virtual cloud, hosted in an AWS data center of your choice.
- **Simulation Cloud Suite** is a seamless solution to connect with PDM systems, access HPC resources and manage all CAE activities.

Learn more at [www.altair.com/cloud](http://www.altair.com/cloud).



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