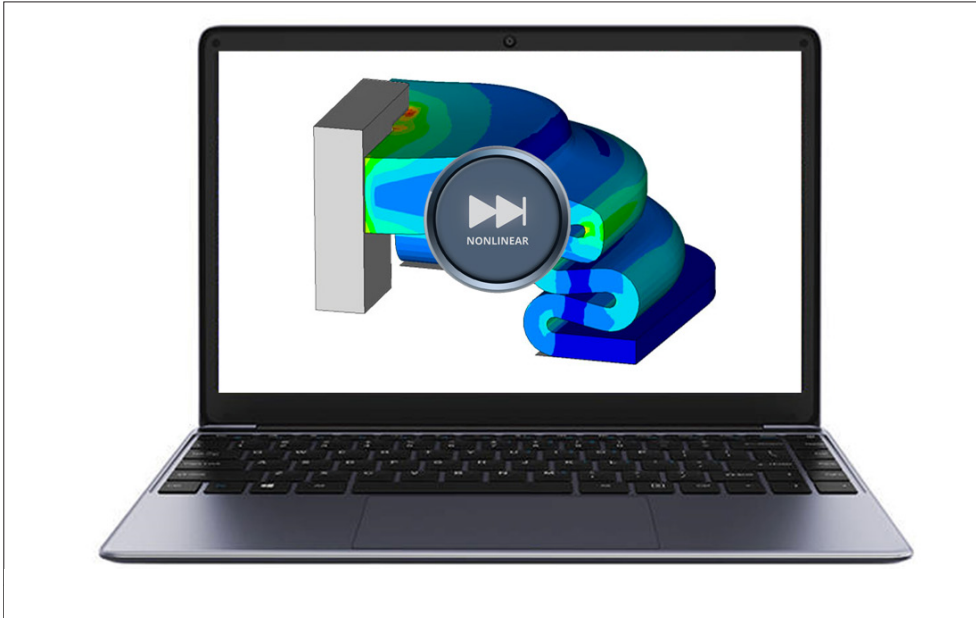# Fast Forward Nonlinear Analysis

With Altair OptiStruct™ and HyperWorks Unlimited™

△ Altair

Take home a modern nonlinear solver and state-of-the-art compute cluster to start revolutionizing your engineering decision-making on day one. Make agile design decisions, boost throughput, and reduce time-to-market by combining the modern nonlinear solver capabilities of OptiStruct with Altair's HyperWorks Unlimited appliance.

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Reasons to **Fast Forward** Your Nonlinear Analysis with **HyperWorks Unlimited**

1. **Ready to use on day one:** Appliances are pre-configure, simplifying IT setup and administration. HyperWorks Unlimited enables companies to expand CAE computing capacity and utilize HPC to quickly and intelligently manage resources.

2. **Choice of plug-in-ready physical or virtual appliance format:** Choose to install a CAE-optimized on-premise HPC solution with properly configured hardware and software or deploy a virtual appliance, bringing software, platform, and infrastructure as a service within a single intuitive portal.

3. **Scalable for growing business needs:** Appliances are available suited to any sized organization. The HyperWorks Unlimited Starter Node is ideally suited for entry-level needs and can be easily upgraded to accommodate additional computing capacity.

4. **Unlimited solver access:** All configurations include unlimited usage of Altair's HyperWorks™ solvers within the appliance, including OptiStruct for nonlinear structural analysis. An open architecture, "bring your own license" model supports both Altair and third party applications.

5. **Flexible pricing and unique license model:** Leverage Altair's licensing system to access the HyperWorks suite of products on a secure HPC infrastructure. This is particularly relevant for compute-intensive solver jobs like nonlinear structural analysis and optimization.

Learn more and request a free trial at **altair.com/hwul**
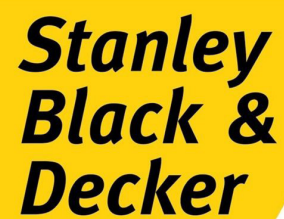
Who Can Benefit from HyperWorks Unlimited?

Small firms can now perform engineering and simulation that was once only available to OEMs, without the need for extensive capital and IT. HPC capabilities are democratized so everyone can engage in design of experiments (DOE) and become more competitive in a matter of minutes.

Medium-sized businesses can afford to expand their HPC resources because they're no longer constrained by solver licenses. Pre-configured and ready to use appliances simplify IT installation and administration.

Larger organizations with dispersed regional engineering centers — who would normally lack local HPC compute resources and support — can quickly add new and additional capacity with local support at the department level.

> "This is the way HPC should be for all CAE engineers — this simple, this powerful, this reliable."
>
> Stanley Black & Decker

Stanley Black & Decker

HyperWorks Unlimited Appliances

STARTER NODE	PHYSICAL	VIRTUAL
HyperWorks Unlimited Physical Appliance Starter Node	**HyperWorks Unlimited Physical Appliance**	**HyperWorks Unlimited Virtual Appliance**
Entry-level HPC with all-in-one compute, storage, and head node.	Fully managed, private HPC solution for CAE and CFD engineering.	Fully managed, HPC SaaS appliance for CAE and CFD engineering in Altair's Cloud.

STARTER NODE

- Powered by Intel Cascade Lake architecture: 64 cores (four 16-core, 2.8GHz Intel® Xeon® Gold 6242 processors)
- 384 GB RAM
- 9+TB usable storage
- Red Hat Enterprise Linux 7.x
- Can be upgraded to full HyperWorks Unlimited
- Ideally suited for entry-level needs

PHYSICAL

- Powered by Intel Cascade Lake architecture: Starting at 4 nodes and 128 CPU cores then scalable to ~1000 cores
- Starting at 192 GB RAM and scalable to 1.5 TB per compute node
- 85+TB usable storage
- Unlimited HyperWorks Units
- Unlimited PBS Works for user webportal and workload scheduling
- All IT/HPC system administration included

VIRTUAL

- Intel Haswell and Skylake architectures: Starting at 16 CPU cores and scalable to 1,000's of CPU cores
- 112 GB – 224 GB RAM per node
- Scalable storage in the Cloud
- High-speed interconnect
- Unlimited HyperWorks Units
- Unlimited PBS Works for user webportal and workload scheduling
- All IT/HPC system administration included

Learn more and request a free trial at altair.com/hwul