TEN TECH LLC Reduces Abaqus Runtime By Over 90% With Rescale
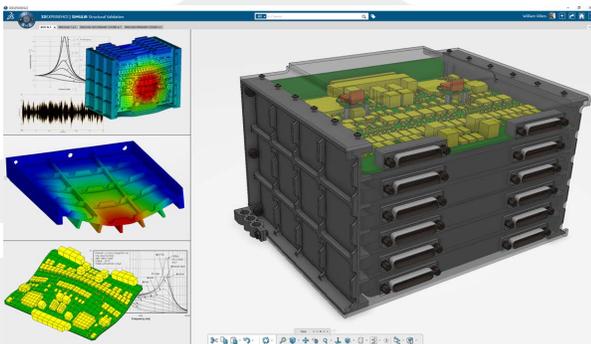
Background

TEN TECH LLC is a company making waves in the sector of mechanical engineering analyses. As a company doing ITAR level work, TEN TECH LLC frequently services the highly confidential and secure sector of military and government organizations. Using Rescale's industry-leading security environment, TEN TECH LLC utilizes the instant scalability and reliability of Rescale's cloud platform to run analyses.

Customer Challenge

Like many engineering companies today, TEN TECH LLC is constrained by the hardware capacity they have internally. Building out new workstations or clusters is costly and they are not instantly deliverable as soon as a new project comes in. This is where TEN TECH LLC leverages Rescale's highly scalable system.

The most recent challenge TEN TECH LLC faced was needing an infrastructure system large enough to run a MIL-STD-810 bench handling analysis of a defense electronics system. They needed to run large scale explicit dynamics analyses using the Abaqus solver to perform U.S. military standard, system-level simulation of an electronics system bench handling drop.

With only 24 cores internally, it would traditionally have taken TEN TECH LLC over two days to run the full simulation. However, with Rescale, engineers at TEN TECH LLC were able to immediately log in to their ScaleX Pro account and access highly secure, dynamic hardware to run their simulations.

Bench Handling Analysis with Abaqus on the 3DEXPERIENCE Platform

Benefits / Results Achieved

Using Rescale, TEN TECH LLC:

- **Leveraged 512 cores instantly** without going through a procurement period or delivery delay

- **Reduced runtime by over 90%** compared to running the model on internal HPC infrastructure

- Accessed high memory hardware configurations with **over 7TB of RAM**

- **Saved nearly $7,500 in engineering costs** while achieving higher-fidelity results significantly faster

Simulation Solution

Using Rescale, TEN TECH LLC is able to set up highly complex and confidential models using custom hardware configurations and built-in job management features:

- Latest high performance computing hardware provides crucial runtime gains

- Securely access ITAR-compliant cloud HPC platform for military and defense simulations

- In-browser file editing and accelerated file transfer drastically reduces job setup time

- Utilize hardware immediately that is too cost prohibitive and time-consuming to build on internally

- End-to-end data encryption and private, isolated clusters ensure the highest level of job security

Summary

TEN TECH LLC has been using Rescale to gain the competitive edge in a demanding military engineering field. With drastically reduced run times, projects are finished ahead of schedule and under budget. TEN TECH LLC leverages Rescale's robust ScaleX Pro platform to accelerate highly secure simulations, optimize HPC hardware, and instantly tap into the resources that aren't practical to host internally.

> **"** With the ScaleX Pro platform and Rescale support, we feel like we have an entire IT infrastructure dedicated to our HPC needs without incurring any of the high cost or IT burden that comes with having an on-premise supercomputer. Submitting an Abaqus job through ScaleX Pro is entirely transparent and completely natural to our users - it's like the cluster is in our office! -William Villers, TEN TECH LLC Director of Engineering **"**

Rescale

Rescale offers a software platform and hardware infrastructure for companies to perform scientific and engineering simulation. Rescale's mission is to provide a highly powerful simulation platform that empowers the world's engineers and scientists to develop the most innovative products and perform groundbreaking research and development.

For more information:
www.rescale.com

Dassault Systèmes

Dassault Systèmes, the 3DEXPERIENCE Company, provides businesses and people with virtual universes to imagine sustainable innovations. Its 3DEXPERIENCE Platform leverages the Company's world-leading 3D software applications to transform the way products are designed, produced, and supported, enabling businesses to craft delightful customer experiences.

For more information:
www.3ds.com

TEN TEN LLC

TEN TECH LLC is an ITAR-Registered, Certified Minority-Owned, Woman-Owned Small Business (SBA 8(m)) headquartered in Los Angeles, CA with operations in Billerica, MA, providing Mechanical Design, Analysis and Test services with emphasis on Aerospace & Defense, Hi-Tech Electronics and Renewable Energy applications.

For more information:
www.tentechllc.com