

Thornton Tomasetti



“By consolidating the infrastructure into one solution, we realized quickly that the sum of the parts were indeed a lot greater than the whole.

We now have a single cluster that not only takes the load off the 3 legacy platforms but builds upon it”

Lance Brophy
IT Director
Thornton Tomasetti

THORNTON TOMASETTI IS A GLOBAL TECHNICAL SERVICES FIRM THAT APPLIES SCIENTIFIC AND ENGINEERING PRINCIPLES TO SOLVE ITS CUSTOMER’S CHALLENGES ALL OVER THE WORLD. FOCUSING ON DESIGN, CONSTRUCTION AND PERFORMANCE, THORNTON TOMASETTI PROVIDES EXPERT ANALYSIS TO HELP INFORM DECISIONS ABOUT PHYSICAL IMPROVEMENTS, ADAPTATION, MITIGATION AND RESILIENCE STRATEGIES TO SUPPORT THE DESIGN, DEVELOPMENT, AND ANALYSIS AND REPAIR OF BUILDINGS AND OTHER STRUCTURES.

The team’s skillsets include some incredible feats of engineering, including a protective design process called blast analysis, which involves the use of cutting-edge analysis and modelling tools to predict the effects of an explosive attack (for example, from a natural disaster or terrorist activity) on structures of every type, and then design effective protective measures without sacrificing architectural vision, or functional and budgetary requirements.

Some of the analytical applications are developed in-house by the Thornton Tomasetti team and sometimes in conjunction with government or other agencies. These applications are highly dependent on HPC infrastructure. For the most part, the work is simulation-lead and employs techniques such as computational fluid dynamics (CFD) analysis, finite-element analysis and 3D modelling techniques.

LIMITATIONS OF A LEGACY SYSTEM

The legacy infrastructure at Thornton Tomasetti consisted of three several smaller, ageing compute clus-

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ters across the USA that were isolated and accessible by a number of small regional teams. Some of the issues included the high administrative overhead for managing multiple sites, as well as difficulties when it came to collaboration between various engineering teams.

THE SOLUTION

To remove limitations imposed by the old infrastructure, Define Tech deployed a single, secure managed cluster to replace the three legacy systems, that would support the needs for all of the engineering teams that utilize Thornton Tomasetti's applications across the country.

With a single point of management, high resiliency and security – this new cluster's benefits include reduced administrative overhead and software licensing costs. Thornton Tomasetti has gone from having a dedicated support team per cluster site, to a single core team that takes care of the entire infrastructure for the whole country.

Looking forward, Thornton is considering an extension of the new cluster to match its growing engineering team and their respective requirements, with the aim to continue to solve their partners' most difficult problems.

If you are interested in simplified IT management, scalable HPC resources, accelerated workloads and faster time to insight, talk to us about JedAI today.

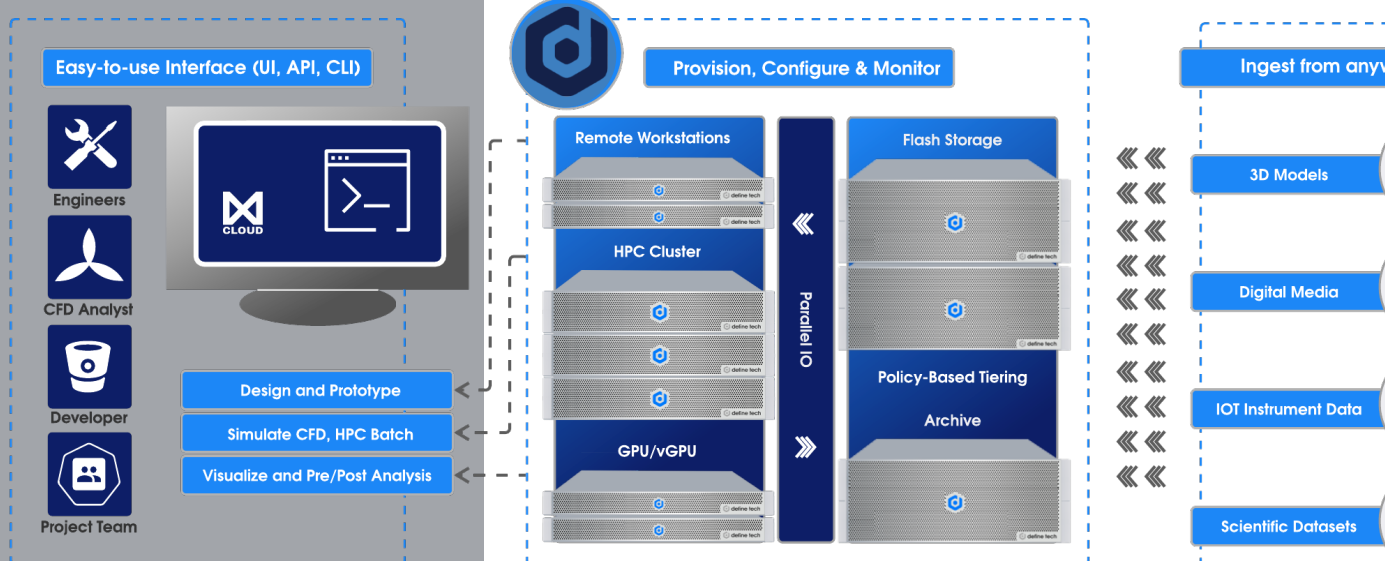


Fig 1. JedAI Stack for CFD Workloads