

Intel-Colfax-Altair Cluster Trial Program

Try a turnkey HPC cluster for accelerated CAE simulations

- ✓ Intel Cluster Ready-certified end-to-end solution
- ✓ Altair HyperWorks solvers and PBS Professional
- ✓ No obligation "Try Before You Buy" program



Intel
Cluster
Ready

Trial Program Testimonial: SunCoke Energy



SunCoke Energy

The Company: SunCoke Energy, Inc. is the largest independent producer of metallurgical coke in the Americas, with 50 years of experience supplying coke to the integrated steel industry. SunCoke's advanced heat recovery coke-making process produces high-quality coke for use in steelmaking, captures waste heat for derivative energy resale and meets or exceeds environmental standards. To learn more, visit www.suncoke.com.

The User: SunCoke's Analytical/Aerothermal engineer, Rajat Kapoor, works in SunCoke's technology group and is responsible for computational fluid dynamics (CFD) modeling work and projects for design, improvement and optimization of SunCoke Energy's coke-making process and equipments.

The Trial: Rajat used AcuSolve, a leading general-purpose CFD solver, to run a simulation of a typical SunCoke Energy duct layout in a

plant to understand and analyze the flow dynamics of the system under negative pressure and extreme temperatures.

"The Colfax-Altair trial was well worth doing. I would definitely recommend the trial to others as a great way to test your simulation work on a turnkey CAE cluster."

--Rajat Kapoor, SunCoke Energy

The goal of the simulation was to understand the pressure distribution within the network of coke-oven flow outlets, which are a function of the time of the coking cycle at each oven. Another goal was to ensure and maintain a sufficient negative

"My job ran 16.5 times faster on the cluster. It is a big time saver since it frees up my workstation time and resources."

--Rajat Kapoor, SunCoke Energy

draft pressure within each coke oven, in order to conform to environmental regulations and enable efficient coke-making process.

The Results: Rajat reported that the system performance was "great" – his job ran over 16 times faster than his previous method of running this type of work on a personal workstation. "Since the process of using the cluster was so easy, trying out one's CFD simulation is smooth sailing, not to mention the speed-ups achieved with the cluster."

In addition, logging in and out of the trial cluster was very straightforward, as was transferring files back and forth. The Altair software and user information was very easy to follow and use.

Overall, the trial was a success for SunCoke: they had a free and easy chance to investigate a Colfax cluster, and they learned about a more efficient way to perform their CFD simulations with Altair's AcuSolve.

Find out more: www.colfax-intl.com/ms/icr/icr.html