



## POWERWULF CLUSTERS: COMPUTATIONAL FLUID DYNAMICS

### CASE STUDY

COMPUTING IN THE FAST LANE WITH METACOMP TECHNOLOGIES AND AMD OPTERON™ PROCESSORS.

“High performance computing is essential for designing and supporting our Computational Fluid Dynamics and other programs, and 64-bit Dual-Core AMD Opteron™ processor-based clusters help us to reduce development time and improve turnaround for support issues. AMD’s 64-bit processor technology gives us the ability to support large computational models which demand high performance, large memory addressability, and economical space, power, and cooling requirements. In addition, HyperTransport™ technology has enabled us to link two motherboards together to create a 16-core stand-alone system with 128GB of RAM for a fast and highly efficient pre-processing system.”

– SUKUMAR CHAKRAVARTHY, PRESIDENT,  
METACOMP TECHNOLOGIES

### CHALLENGE

Complex, performance-intensive computational application development and support required higher-performance 64-bit processing. Company needed the ability to scale processor cores and memory in cluster-based systems without exceeding power, space, and cooling budgets.



## POWERWULF CLUSTERS: BIOINFORMATICS



### CASE STUDY CONTINUED

#### SOLUTION

Working with system integrator PSSC Labs, Metacomp Technologies upgraded to AMD Opteron™ processor-based servers in 2004, and has continued to build new, AMD-based clusters using 64-bit, dual-core technologies.

#### IMPACT

Metacomp Technologies has cost-effectively built clusters of up to 64 cores that enable it to support even the largest and very compute-intensive customer applications with quick turnarounds, and without exceeding its power, space, and cooling capabilities.

#### ORGANIZATIONAL PROFILE

Metacomp Technologies is a leading provider of Computational Fluid Dynamics (CFD) and other analytical software tools for major aerospace, defense, and automobile manufacturers as well as other companies that require complex modeling during research and development.

Metacomp Technologies' CFD ++ product is setting the pace in the CFD marketplace with its unique combination of accuracy, reliability and performance..