

# Jackson Laboratory Selects Scyld ClusterWare and Moab HPC Suite for Genomics Work

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Penguin Computing, a leading provider of HPC cluster solutions and Adaptive Computing, managers of the world's largest supercomputing systems as experts in HPC workload management, announced today that The Jackson Laboratory has chosen Scyld ClusterWare and Moab HPC Suite to process its genomic sequencing data.

Computational capabilities drive the two key areas of research at The Jackson Laboratory. One is to understand how genome organization and variation determine individual susceptibility to diseases such as cancer, diabetes, heart disease and neurological diseases. The other is to identify molecular and cellular mechanisms that drive initiation and progression of these diseases. Research on these interconnected themes is based on genetic mouse models. It increasingly involves comparative, 'in silico' approaches that compare sequences obtained from a next generation genome sequencer with reference genomes. Through these comparative analyses genetic variations such as polymorphisms or copy number variations are determined. Applications such as Burrows-Wheeler, TopHat and Bowtie are used for these analyses that are the basis for further investigations of potential links of these observed anomalies to specific diseases. To process the large amounts of data generated by the initial genomic sequencing process The Jackson Laboratory currently runs a compute cluster that comprises over 500 cores. Moab HPC Suite guarantees service levels are met while maximizing job throughput. For The Jackson Laboratory the scalable, 'easy-to-use' cluster management solution Scyld ClusterWare and the robust and flexible Moab HPC Suite are key to getting the job throughput required to keep up with the generated sequencing data. "We chose Scyld and Moab for managing our HPC compute infrastructure as we were looking for a complete HPC solution that works 'out-of-the-box', takes the complexity out of cluster management and at the same time provides a powerful, scalable scheduling intelligence engine. Our Scyld-Moab cluster supports fine-grained resource control and sophisticated scheduling policies that allow for implementing QoS agreements that are aligned with each group's budgetary contribution to the shared compute resource. We are very happy with Scyld-Moab and it has become a key part of our infrastructure that we plan to extend further going forward", says Glen Beane, Senior Software Engineer at The Jackson Laboratory. "We are thrilled that we are part of The Jackson Laboratory infrastructure that

supports research on life threatening diseases that afflict millions of people. Scyld ClusterWare is the ideal platform for Life Science applications as it is designed for scalability and features a complete HPC stack including a customized pre-configured version of the Moab intelligence engine”, says Tom Coull, Vice President and General Manager of Software and Services at Penguin Computing. “Supporting life-altering research motivates us and we love helping HPC environments achieve their best results. Research work at The Jackson Laboratory makes the world a better place. We are honored to help them intelligently manage and monitor their HPC environment,” comments Rob Clyde, CEO of Adaptive Computing.