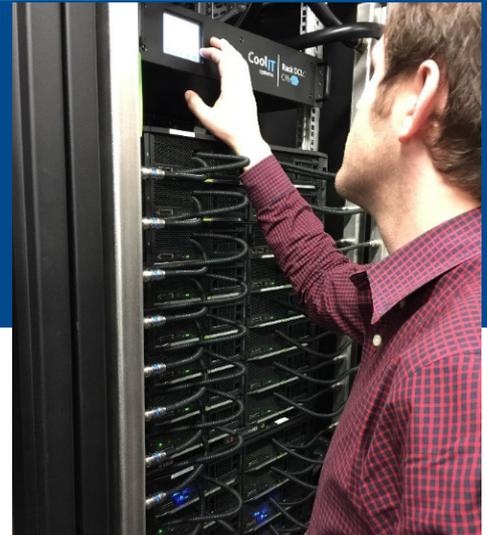# Case Study

CoolIT Deploys Rack DCLC CHx40 System to Poznan Supercomputing & Networking Center in Partnership with Huawei and Itprojekt

The Challenge

Poznan Supercomputing & Networking Center (PSNC) was looking for a safe and reliable way to increase HPC compute density while lowering overall operating costs. In addition, PSNC wanted to leverage the lower operating temperatures from liquid cooling to increase processor performance.

The Solution

The PSNC solution combines Huawei CH121 blade servers in the E9000 chassis with CoolIT's Rack DCLC CHx40 solution to manage 100% of CPU and memory thermal load. Dual left and right Manifold Modules were positioned on the front of the rack to manage the front i/o server architecture and ensure easy and quick service access to the blades. The cluster, delivered by Warsaw based systems integrator Itprojekt, is an extremely efficient solution that utilizes inlet water temperatures of 40°C and beyond.

HPC Setup

- CoolIT Systems Rack DCLC™ CHx40 (x3)
- CPU and Memory cooled by liquid
- Huawei E9000 chassis
- Huawei CH121 server
- Intel® Xeon® Processor E5-2697 v3
- Memory: DDR4 8GB
- 128 servers in 3 racks

Results

- 80% of total IT load managed by liquid cooling
- 75% fan speed reduction
- 30kW per rack
- 910 GFLOPS per node (116 TFLOPS total)
- 40°C primary fluid supply temperature
- First ever Huawei liquid cooled cluster

"Reducing energy usage and lowering operating costs are permanently on our checklist when planning for new high performance computing clusters. Liquid cooling is the most efficient way to achieve our objectives and we are seeing excellent results and reliability from the combined Huawei and CoolIT Systems cluster."

Radoslaw Januszewski, IT Specialist, PSNC