



High Performance Computing – University of Leeds

Project Brief

Numerous Departments around Campus have their own large computer systems which are used to run their simulations and other research computer-based activities. ISS have been running some of these systems centrally under the banner of the 'White Rose Grid' on behalf of the following Departments:

Biological Sciences, Chemistry, Computing, Earth & Environment, Food Science, Geography, Maths, Mechanical Engineering, Medicine, Physics and SPEME

The 'White Rose Grid' systems reached the end of their useful life and needed to be replaced.

The University made the decision to buy a new machine and make it available to the entire University research staff. This replaced a number of computers around Campus which also reached the end of their life.

Project Summary

The existing low density cooling technology uses higher levels of energy than high density cooling. The University wanted to reduce their energy consumption and it became apparent that a new High Density Solution would lead to

significant reductions in energy costs and house all of Leeds HPC hardware (including future purchases) in a single Data Centre. The location for the water chillers were located on the roof of the Houldsworth Building.

The chilled-water cooling system caters for the provision of an initial cooling capacity of 250-300kW and resilient against unit failure. The system is connected to 6-8 racks of computer equipment.

Problems and Solutions

Working in an occupied building.

Asbestos in live corridors/service routes/plant rooms.

The removal of existing racks without interruption to the cooling system.

Planning Permission due to roof top water chillers, with adequate screening and anti-vibration mountings.

Roof top design loadings.

Project Value

In the region of £495,000

Project Duration

6 months

Project Overview

Client

University of Leeds

Location

Leeds

Market Sector

Education

Role of Aspect 4

Project Management

