The challenge was to study the commercial feasibility of a Computational Fluid Dynamics (CFD) consultation service to civil engineering firms for assessing snow loads on buildings employing CFD program snowFoam on the Fortissimo HPC-cloud infrastructure. For the viability of such service, it is essential that both the simulation time and the cost of the computation are acceptable within the framework of a typical CFD consultation project.

In the solution developed in this case study, the user has access to computing resources, storage and visualization facilities from a desktop environment via a secured webpage in a browser. The required computational resources needed and their costs are appropriate considering those for the overall design of a building.

The simulation of drifting snow requires significant compute resources, which can only be provided by a large HPC system. If Binkz were to buy a suitable system, its overall costs would be much greater than the use of a Cloud-based system.

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