

# SUCCESS STORY IN HPC ARCHITECTURE DESIGN

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**Provider:**  
 IT Open Access Research Center  
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*- a current member of NCC Lithuania*

## THE PROBLEM

To design the architecture of the supercomputer for solving time-limited hydrometeorological problems for a large country/ land area

## THE SOLUTION

Hydrometeorological calculations with the provided data have determined the required size of the HPC system in order to obtain the results in the desired time

## THE HPC PROBLEM DOMAIN

Design and testing of HPC system parameters (compute nodes, storage, network bandwidth, redundant capacity) that ensure efficiency and suitability for the specific application domain

## THE BENEFITS

Accurate calculation results allowed the customer to safely plan the required capacity of equipment without a large margin, and thus save money

### SUCCESS STORY DETAILS

IT Open Access Research Center @ VU MIF  
 Lithuania

[Acknowledgment](#)

# SUCCESS STORY IN HPC ARCHITECTURE DESIGN

## THE PROBLEM

The design of another supercomputer for solving the problems of hydrometeorology in one of the 10 largest countries in the world was required.

## THE HPC PROBLEM DOMAIN

An individual HPC infrastructure (computing nodes, storage, network bandwidth, etc.) was sought that would be capable of solving specific hydrometeorological / climate change challenges in a given time. Thus, the parameters for the system design based on real and simulated hardware benchmarking runs were needed.

## THE SOLUTION

Hydrometeorological calculations with the provided data have determined the required size of the HPC system in order to obtain the results in the desired time. Results from calculations in a real-world HPC environment and using real-world computing power (rather than assumptions) were obtained.

## THE BENEFITS

Accurate calculation results allowed the customer to safely plan the required capacity of equipment without a large margin, ensuring that a completed system will be both computationally and financially efficient.