User-Case Application Form

This form is intended to capture key information about a proposed use-case for deployment in the context of the Helix Nebula initiative. It should be completed by representatives of scientific organisations proposing the use-case and send to the Helix Nebula initiative Secretariat <HelixNebula-Secretariat@cern.ch>

Use-Case title:

Acronym for the use-case:

Scientific Organisation(s) sponsoring the use-case:

Contact person (name, affiliation, email, one per organisation):

Scientific Objective:

Summarise the scientific objectives for the use-case in laymen's terms.

State-of-art in the use of computing in the scientific field:

Position the use-case with respect to the currently most advanced use of computing in the field

Expected Impact and Benefits:

By implementing the use-case on a hybrid public-commercial cloud system what impact will the result have on the scientific field? What benefit will it bring to the scientific community? Provide details about the scientific community that will benefit from this use-case. Include an estimate of the number and distribution of users that will need access to the system.

Scientific Objective:

Existing or potential partnership:

Which partner(s) outside the user organisation, and in particular SMEs, would be participating in the use-case? How will the scientific communities described above be engaged?

Datasets:

Briefly describe the datasets that will be part of the use-case. Please include information about nature of the datasets, including their scale and how dynamically the data evolves. Where are the datasets held and what are the data archival/preservation needs. Indicate who are the data providers/owners and what access policies are associated with the datasets. Please specify if there are ethical or regularly requirements associate with the use and distribute o the datasets.

Technical Characteristics:

Describe the computing characteristics of the use-case and estimate the cloud resources required, including but not limited to the following:

Area	Requirements
CPU requirements (total CPU hours)	
Peak requirements in terms of CPU, RAM, disk storage (GHz, GB, GB)	
Data requirements (quantity of data, files/databases accessed/produced)	
Single/multiple binaries (indicate dependencies between multiple binaries)	
Peak server size required per resource (server size required in terms of the largest CPU configuration, largest RAM configuration etc.)	
Programming model (serial, parallel, shared memory, threads, data parallel etc.)	
Style of interaction with the user (interactive/batch)	
External connections (e.g. data input/output rates and access to external databases)	
Expected external connectivity volume (GB/TB per which time frame)	
Peak expected bandwidth to/from a cloud server (Mbps/Gbps)	
Security requirements (e.g. confidentiality of data, algorithms)	
Licensing aspects (e.g. does the software make use of third party packages requiring licenses)	
Operating environment (operating system and version, libraries etc.)	
Other technical requirements	

Current status of maturity:

Indicate if the use-case is under development or already in production in a different environment.

Proposer Resources:

Indicate the level of resources (manpower and funds) your organisation is willing to contribute towards the cost of implementing your use-case, over which time-period?

Proposer Motivation:

Explain which aspects (such as secure access, financial models, scalability of resources, portability between service suppliers, use of standardized interfaces etc.) you consider to be the most important to investigate in the porting and deployment of your use-case.

Proposer Long-term Objectives:

Assuming your use-case is successfully ported and deployed, what would be the long-term objectives of your organisation for the use of cloud services?