**ChETEC-INFRA Experimental Plan  
Viper HPC, University of Hull**

**Overview**

This form is designed to gather technical information about the proposed job.

Details of Viper hardware and infrastructure can be found at <https://hpc.wordpress.hull.ac.uk/chetec-infra-information-page/>

A list of applications, tools, libraries and compilers available on Viper can be found at <https://hpc.hull.ac.uk/upload/module.html>

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**Applications Details**

Primary application name / code

What are the main application or codes you will be using? Enter list of applications/codes with the following information:

* Name
* Description
* Download URL
* Required version (if not latest)
* License / Permission details

Additional software requirements (e.g. pre/post-processing, compilers, libraries, tools etc):

Please provide details of any pre/post-processings requirements, compilers, libraries, tools or software technologies that may be required, or confirm if pre/post-processing will be carried out away from Viper:

* Name
* Description
* Download URL
* Required version (if not latest)
* License / Permission details
* Details

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**Example Task**

In order to fully assess the proposed task, it is preferable to be able to run a test job on Viper.

Can you provide details of a sample job

* Workflow overview
* Estimated runtime
* Compilation flags
* Driving data
* Configuration data
* Run command / submission details
* Expected output file for deterministic task or expected/acceptable range for non-deterministic task
* Comparison details to production job (e.g. lower core count, shorter runtime, smaller dataset)

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#### **Job Details**

This section will gather further information about the job.

Previous Runs

Please provide details of any previous similar task runs

* For projects planning to make use of a single node (or less) only, please supply a description of the single node performance.
* If run on other HPC or multi-node facility, please provide a table of runtime (or performance) against number of nodes or a plot of the performance against number of nodes (a plot of runtime is not acceptable). The performance axis should be plotted on a linear scale, not a log scale.

Expected use:

Please provide details of expected use by use case:

|  |  |  |
| --- | --- | --- |
| **Use Case** | **Estimated number of jobs** | **Typical job length (hours)** |
| Interactive |  | (12 hour maximum) |
| Single core tasks  (up to 4GB RAM) |  | (120 hour default maximum per job) |
| Single node tasks  (up to 28 cores) |  | (120 hour default maximum per job) |
| Parallel small  (up to 4 nodes / 112 cores) |  | (120 hour default maximum per job) |
| Parallel medium  (up to 10 nodes / 280 cores) |  | (120 hour default maximum per job) |
| Parallel large  (up to 20 nodes / 560 cores) |  | (120 hour default maximum per job) |
| Parallel huge  (beyond 20 nodes / 560 cores) |  | (120 hour default maximum per job) |
| Large memory  (greater than 128GB, less than 1TB) |  | (120 hour default maximum per job) |
| GPU  (K40M compute capability 3.5) |  | (120 hour default maximum per job) |
| Visualisation |  | - |

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#### **Storage Details**

This section details expected data storage requirements.

Important: As Viper is not backed up you are responsible for your own data backups.

Important: You must not store personal or sensitive information on Viper.

How many files are typically produced by each job?

[Enter the estimated number of files. This does not need to be exact, order of magnitude is sufficient here. For example, 1000 files per job. You should also state how these files are organised; for example, are they all stored in one directory or is there a hierarchy of directories?]

How much data is read in by each job?

[Enter estimated total size in kB/GB/TB]

How much data is produced by each job?

[Enter estimated total size in GB/TB/PB]

What percentage of the produced data do you expect to transfer off Viper on a) each task completion and b) at end of call?

[Enter estimated percentage]

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#### **User Experience**

This section will help gather information about your previous HPC experience

* Do you have previous experience of running tasks on HPC systems?
* Do you require training relating to HPC scheduler?

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**Relation to Other Projects, Student Theses, etc.**

[If this proposal is related to a thesis project, or other external projects, please note this here. In particular if this affects the potential time line for conducting the project.]

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#### **Access Terms and conditions**

External access to Viper is through the University's VPN connection.

As Viper is not backed up you are responsible for your own data backups.

You must not store personal or sensitive information on Viper.

As a shared resource, you are requested to make fair use of this resource.

You are required to maintain appropriate standard of conduct in line with University policies.

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**Remarks:**

Typical periods for the access time corresponding to ChETEC-INFRA calls for proposals are:

* June - August for ChETEC-INFRA calls closing in February
* September - November for ChETEC-INFRA calls closing in May
* December – February for ChETEC-INFRA calls closing in August
* March - May for ChETEC-INFRA calls closing in November

Please submit this part of your proposal as “Experimental Plan” of a ChETEC-INFRA proposal in GATE. Please do **not** submit ChETEC-INFRA proposals directly to the facility.

ChETEC-INFRA Template last updated: 10.05.2022