The Resource Request Document

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# Resource Request Preparation & Submission Process

|  |  |
| --- | --- |
| **2nd November** | * Request for Resources from IRIS Opened * Chair of the Resource Scrutiny and Allocation Panel emails the document Pack to those Responsible for completing and submitting the Resource Request Documents |
| **5/11 to 4/12** | * Partners prepare Resource Request Documents * This will be done with the Assistance of: - * Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk) * Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk) |
| **4/12/18** | * Partners email the Resource Requests Documents by 4pm on Tuesday 4rd December to: - * Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk) * Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk)   These should consist of   1. A completed Resource Request Document 2. A completed Resource Request Document Spreadsheet 3. A completed JSON file |
| **10 December** | * RSA Panel (Technical Scrutiny) meets to write formative recommendations to the Partners to allow changes to be made. * Recommendations are sent to the Partners to |
| **14 December at 1600 GMT** | * Deadline for the Partners to email modified Resource Request Documents to: - * Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk) * Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk) |
| **February** | * The 2019-2020 Allocations are agreed |
| **March** | * Partners informed of Allocation Decision * IRIS website populated with Information for Users for the various resources and Enabling Infrastructure * Projects given access given to the IRIS Authorisation & Accounting Infrastructure |
| **1st April** | * FY18 allocation available to Approved Projects |

# Completing the Resource Request, Spreadsheet and JSON Documents

1. Before submitting you must discuss your Resource Request Documents with
   * Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk)
   * Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk)
2. Please use the Headings Given below.
3. There is no word limit, but please be sensible.
4. The Science has already been peer reviewed, so PLEASE do NOT re-justify it again as if you were in front of a Panel, but just summarise it for information.
5. Please submit three documents by 4pm on by Tuesday 4th December 2018
   * A completed Resource Request Document
   * A completed Resource Request Document Spreadsheet
   * A completed JSON file
6. These documents should be emailed to
   * Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk)
   * Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk)

During the preparation period you MUST contact

* + Jeremy Yates, [j.a.yates@ucl.ac.uk](mailto:j.a.yates@ucl.ac.uk)
  + Daniela Bauer, [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk)

for assistance and advice on how to complete the Resource Request Documents.

The IRIS Resource Request: Please insert your project name here

# Your Project – The Administrative Details

|  |  |
| --- | --- |
| **Administrative Details** |  |
| Placement Organisation and website Address |  |
| Responsible Person who will complete and submit the Resource Request Documents. Please Provide their name and email address.  This will be used only for contact for the purposes of IRIS Resource Scrutiny and Allocation activities |  |

# Summary of Approved Science Programme

Summarise (briefly) the approved science programme and its science processing requirements over the next few years. This need not change much annually, it is simply to set context.

* *The summary from the successful grant application would suffice for instance.*
* *This should contain a list of the main Science Deliverables of the Project.*
* *This is needed so we can make sure your workflows will be delivering the peer reviewed science*

# Report on the use made of IRIS resources in the previous year

* *Report on the use made of IRIS resources in the previous year in comparison to allocation (2018).*
* *This should include a list science outputs that have already been generated by use of IRIS Resources in the last period.*
* *If no allocation was made in the previous year then please put “N/A”.*
* *For this cycle (where formal allocations were not made previously) you should report your use against to your requested need as per the document distributed with this communication*

# The Computing Model

* *Describe briefly the computing model. This need not change much annually.*
* *The purpose of this section is to assess how IRIS resources \_t in with your current setup. Please provide as much technical detail as you can as this will enable us to advise you on any adaptations you need to make in order to use IRIS resources.*
* *The first thing to say is what type of computing does your project do.*
* *Please use diagrams as appropriate.*
* *We give some guidance and basic headings below. If you don’t understand anything please let us know asap* [*j.a.yates@ucl.ac.uk*](mailto:j.a.yates@ucl.ac.uk) *and* [daniela.bauer@imperial.ac.uk](mailto:daniela.bauer@imperial.ac.uk)

## Compute

### Your compute jobs

* *Do you use CPU and/or GPUs ? If using GPUs, do you need CUDA or OpenCL ?*
* *Are your compute jobs single core, multi-core (if so, how many?), or MPI?*
* *Do you do data collection, data processing, data analysis, data model fitting, simulation of detector response etc.?*
* *How much memory/core do your jobs use?*
* *Do your applications use more than 1 thread per core/gpu? If so how many?*

### Your resources and how you access them

* *Which computing resources do you currently use (e.g. `local batch farm', `grid', `DiRAC', `my desktop’)?*
* *If you are using a local batch farm, which batch scheduler do you use?*
* *Does your workflow depend on the availability of a special batch scheduler?*
* *Do you have any experience with distributed computing? If yes, please give details,*
* *including on how you access these resources (e.g. `DIRAC', `glideinWMS', `cloud middle-ware').*
* *What do you use for authentication/authorization (e.g. `x509', `voms', ‘ssh’)?*
* *If you tried to use distributed computing resources before and it did not work, please briefly describe what the problem was.*

## Data Management

* *If you have a data management plan, please outline it here briefly and/or include a link to it.*
* *Otherwise check* [*https://stfc.ukri.org/funding/research-grants/data-management-plan/*](https://stfc.ukri.org/funding/research-grants/data-management-plan/) *for advice on how to produce a data management plan.*

### Storage and Data Handling

* *How much storage do you currently use?*
* *Do you use disk and/or tape?*
* *Do you need to archive data?*
* *How do you access it (e.g. gfal-copy, `nfs mounted', xrootd etc.)?*
* *Where does your data generated and how does it get to where you want to do the computing?*
* *Do you have any special network requirements with regards to data access?*
* *Are your compute jobs I/O limited?*
* *How much output do your jobs typically roughly produce (e.g. `negligible', `a couple of GB', `200 GB')?*
* *Where does your data (old and new) then go?*

## Software

* How do you distribute your software (e.g. cvmfs, nfs, tarball)?
* Do you use any standard software packages as part of your software (e.g. ROOT, Jupyter)?
* Which operating system and version does your software use (e.g. CentOS7)?
* Do you need access to central databases/catalogues? If so, how do you currently access them?
* Do you need to use cloud middleware, grid middleware, slurm?

# Estimate of the Resource Request

**You will need to check the List of available systems and enabling Infrastructure document before doing this.**

*Fill in the Resource Request Document Spreadsheet for each project or sub projects. There is one for those of you in think in terms of cores and one for those of you who use the HEPSPEC06 benchmark.*

*Our advice (and default) is for you to fill in the Cores spreadsheet.*

*In the Spreadsheet, please*

* *Provide a firm estimate of the Resources you already have access to in 2019. This is your current baseline.*
* *Provide a firm estimation of eInfrastructure requirements for the next year (2019)*
* *Provide a firm estimation of eInfrastructure requirements you are requesting from IRIS for the next year (2019)*
* *Provide a preliminary estimation of eInfrastructure requirements for each year from 2020-2024 and the request from IRIS*

*The eInfrastructure requirements should include*

* *Compute volume and type – CPU (in cores or kHS06 units) or GPU (in nodes units)*
* *Disk storage volume in TB*
* *Tape storage volume in TB*

*In the Resource Request Document please provide: -*

* *How much RAM do you need per core or per node in 2019 and 2020*
* *Network requirements if significant w.r.t JANET*
* *List the Applications you will be running*
* *List the Compilers and Libraries you will be using*
* ***Please include a statement that you are aware of the limitations of IRIS support as given on the website, and that your activity has the means to utilise the hardware resource allocation including any activity specific software.***

## Tips for filling in the Resource Request Document Spreadsheet

* If you work in cores, use the one with CORES in the name
* If you work in HEPSPEC06, then use the one with kHS06 in the name
* Don’t fill in the second or third worksheets
* Only fill in the worksheet labelled ‘Resource Request’
* The details of the CPU and GPUs you are currently using
* What are you currently using from your OWN Resources.
  + This is the Baseline and must be done for each year
  + Please enter the average number of cores you use over a year
  + Please enter the average number of GPU nodes you use over a year
  + Please enter the amount of disk you will use over a year
  + Please enter the amount of tape you will use over a year
* What you want to use on IRIS’ Resources
  + This should be done for each year.
  + This is an annual submission so it will change as time goes on
  + Please enter the average number of cores you will use each year
  + Please enter the average number of GPU nodes you will use each a year
  + Please enter the amount of disk you will use each year
  + Please enter the amount of tape you will use each year
  + **NOTE: We are NOT asking you to put the number of extra cores your will need each year**
  + **We want to know what your project will be using each year**
* **When you have filled in the first worksheet please open the Summary Table worksheet and copy and paste the Summary Table**

**HERE**

# The JSON File

*You should return the JSON file. This is used for automated aggregation and costing.*

*After the spreadsheet has been completed the JSON file has to be filled in.*

* *This means going into the AU from cores, or AU from HS06, worksheets in your RRD spreadsheet*
* *Transcribing the data in the from the* ***Total Sub Projects Request*** *and the* ***Baseline-what have you already got access to for Year 1 to Year 5*** *rows into the template JSON file.   An example is provided to help you with this.*
* *This is needed to quickly generate the total resource request and use for analysis and planning purposes.*

A Template JSON file is given below. You can fill this in or return the given template JSON file. An example JSON file has also been provided.

{

"IRISResourceRequest":

{

"Activity": "",

"Description" : [

"freeform description line 1",

"freeform description line 2"

],

"Request": [

{

"year": 2019,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2020,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2021,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2022,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2023,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

}

],

"Existing": [

{

"year": 2019,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2020,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2021,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2022,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

},

{

"year": 2023,

"CPU-AU": ,

"GPU-AU": ,

"Disk-TB" : ,

"Tape-TB" :

}

]

}

}

# Requested Enabling Infrastructure

*This looks at what you need to be able to access and run your workflows on IRIS hardware.*

***You will need to check the List of available systems and enabling Infrastructure document before doing this***

*This will should address the following*

* *cloud middleware*
* *grid middleware*
* *data transport applications*
* *container and VM support*
* *Authentication, Authorisation and Accounting Infrastructure*

# What will the Requested IRIS Resources be used for?

*Briefly describe: -*

1. *The workflows will you run?*
2. *What the workflow inputs and outputs will be?*
3. *What Science Deliverables will they deliver?*
4. *Why do your workflows need to use the type of resources you have requested?*
5. *How will the current IRIS Resources will deliver these outputs?*
6. *What new IRIS Resources are needed to deliver these outputs?*

# References

*Please add any references you may have used above here.*