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Barcelona Supercomputing Center
Centro Nacional de Supercomputación

Autosubmit:

Getting started with Autosubmit and EC-Earth 3.2 beta (overview)

Domingo Manubens - Javier Vegas

EC-Earth meeting'16 -
Roma 2/2/2016

Introduction

What is the problem ?

PRIMAVERA

University of Reading

UNIVERSITY OF OXFORD

UNIVERSITY OF LEEDS

ECMWF

Science & Technology Facilities Council

Stockholms universitet

SMHI

predictia INTELLIGENT DATA SOLUTIONS

UCL Université catholique de Louvain

Max-Planck-Institut für Meteorologie

NATURAL ENVIRONMENT RESEARCH COUNCIL

Koninklijk Nederlands Meteorologisch Instituut Ministerie van Infrastructuur en Milieu

Met Office

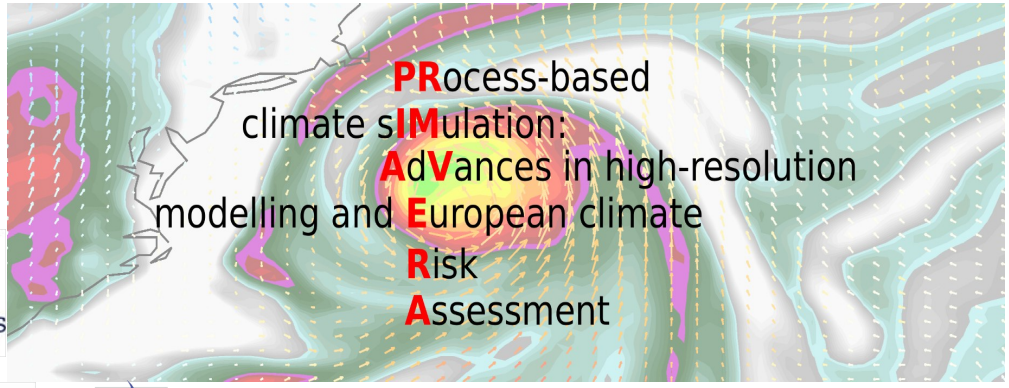
DKRZ DEUTSCHES KLIMARECHENZENTRUM

CERFACS

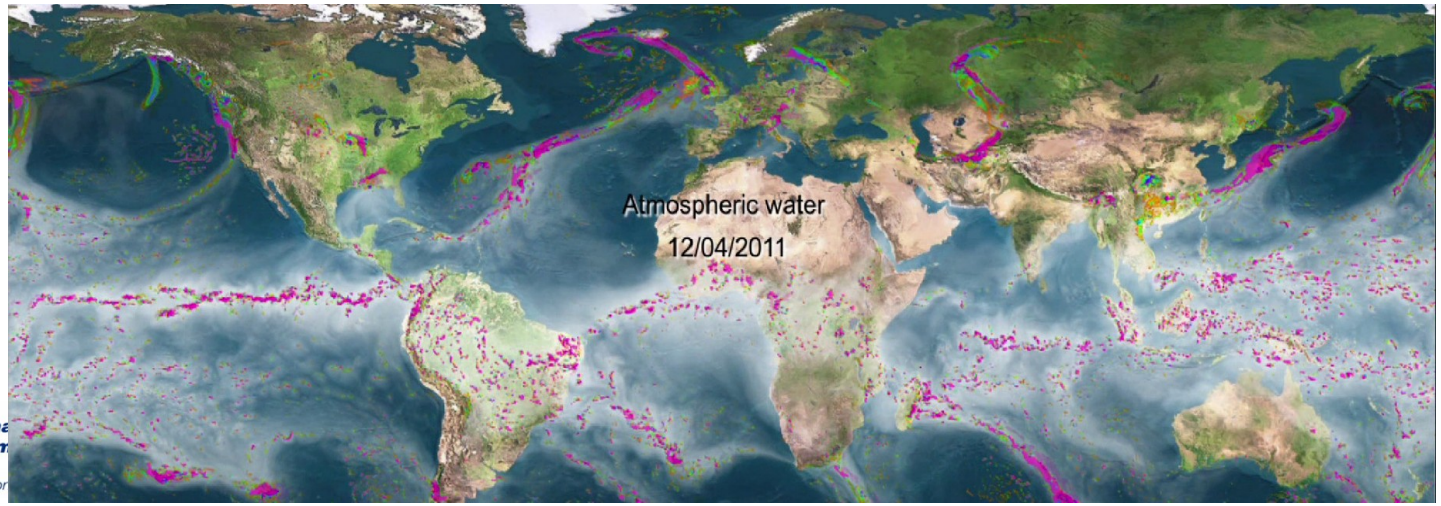
BSC Barcelona Supercomputing Center Centro Nacional de Supercomputación

cmcc Centro Euro-Mediterraneo sui Cambiamenti Climatici

AWI



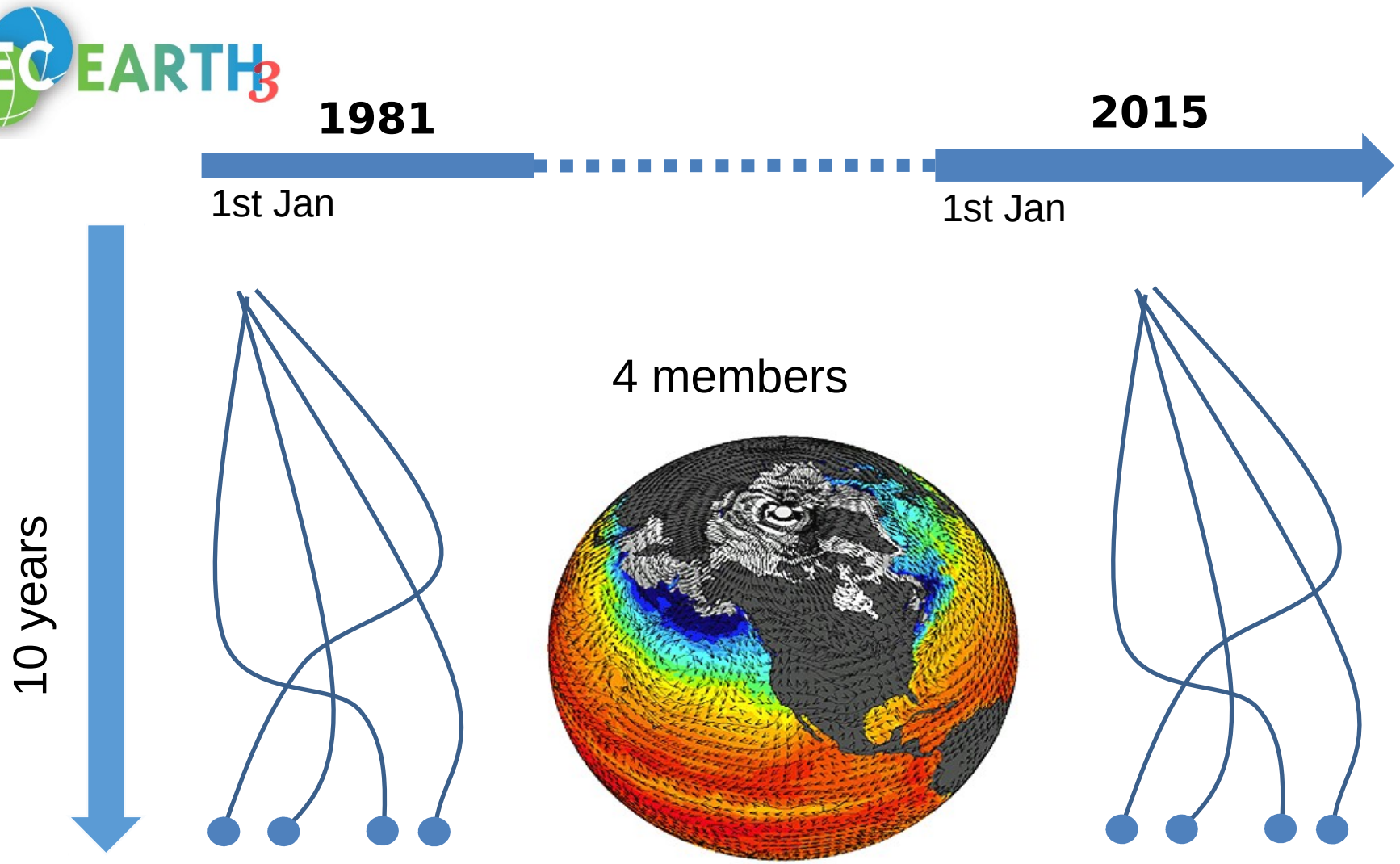
"To develop a new generation of advanced and well-evaluated high-resolution global climate models, capable of simulating and predicting regional climate with unprecedented fidelity, for the benefit of governments,



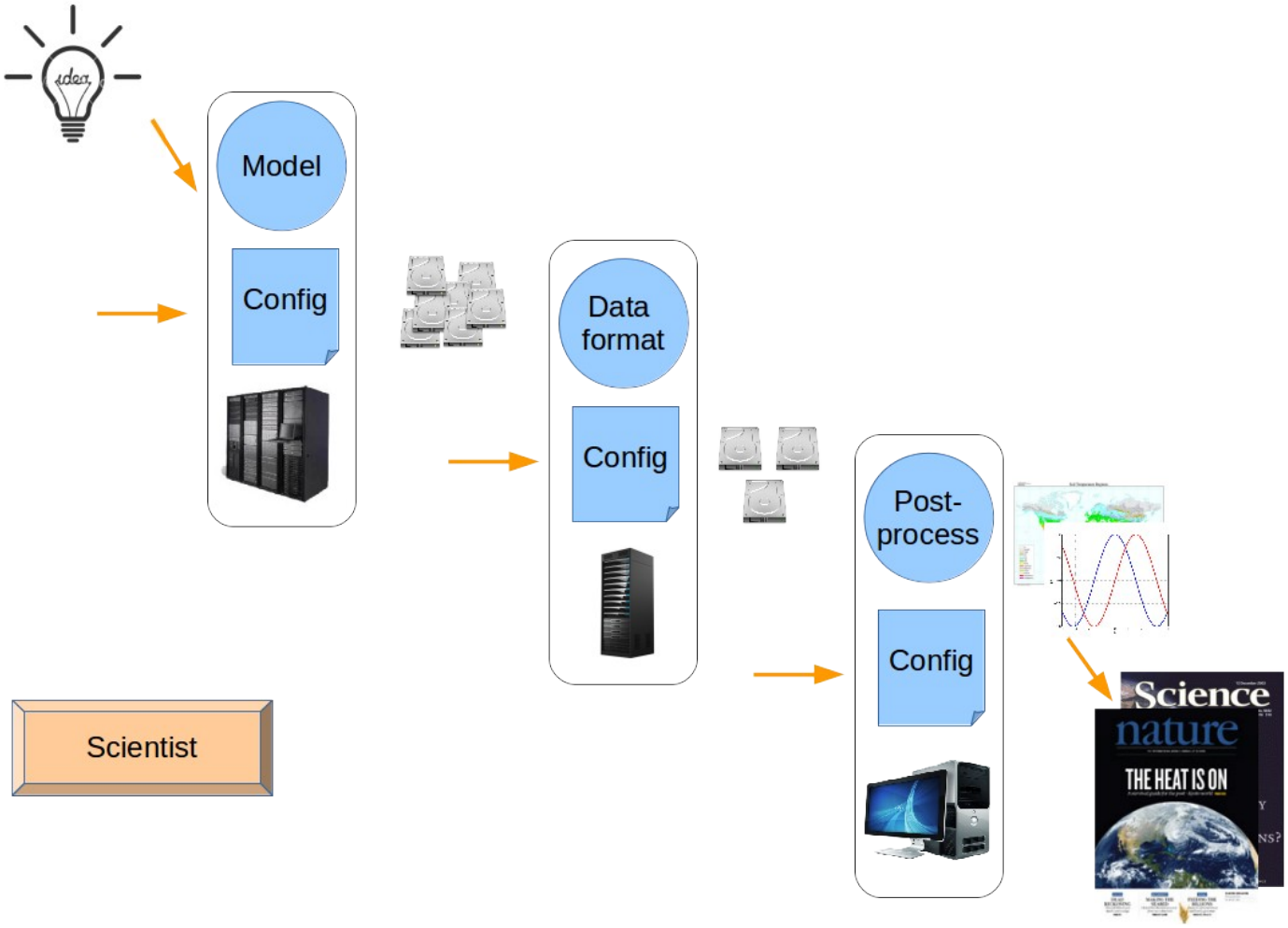
What is the problem ?

- Many HPC platforms
  - Computing resources funded by: National / EU / International projects

What is the problem ?



What is the problem ?



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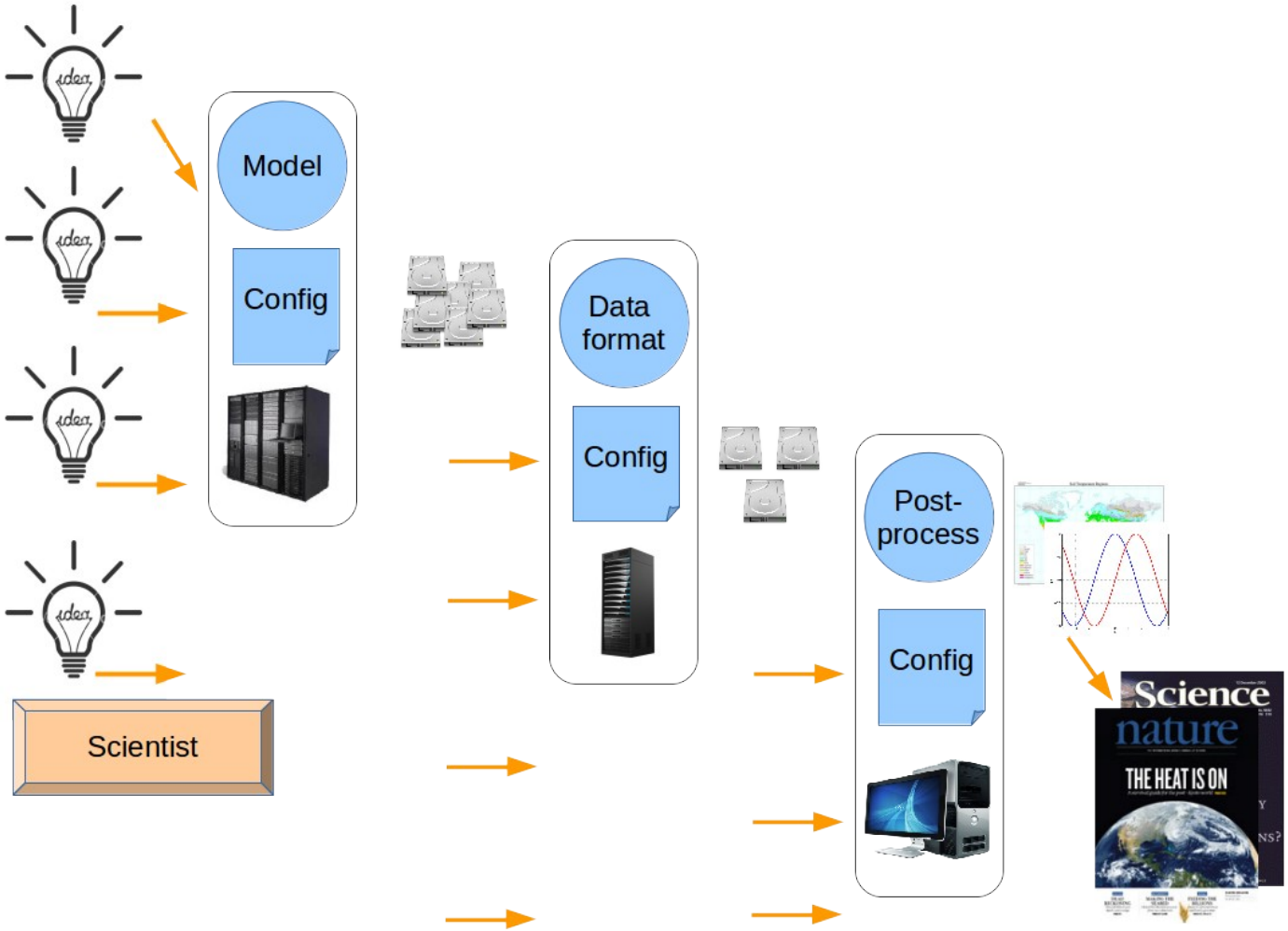

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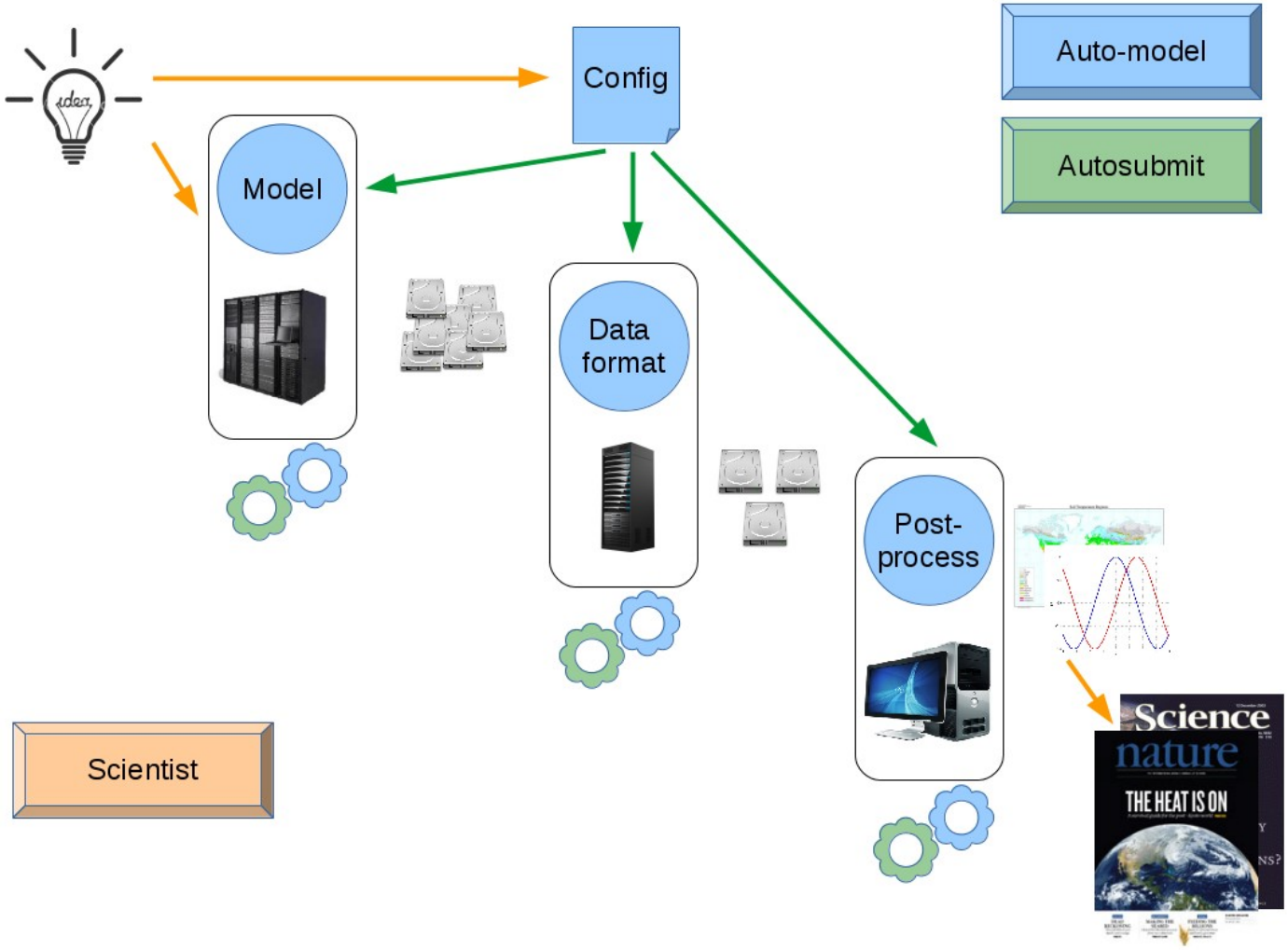


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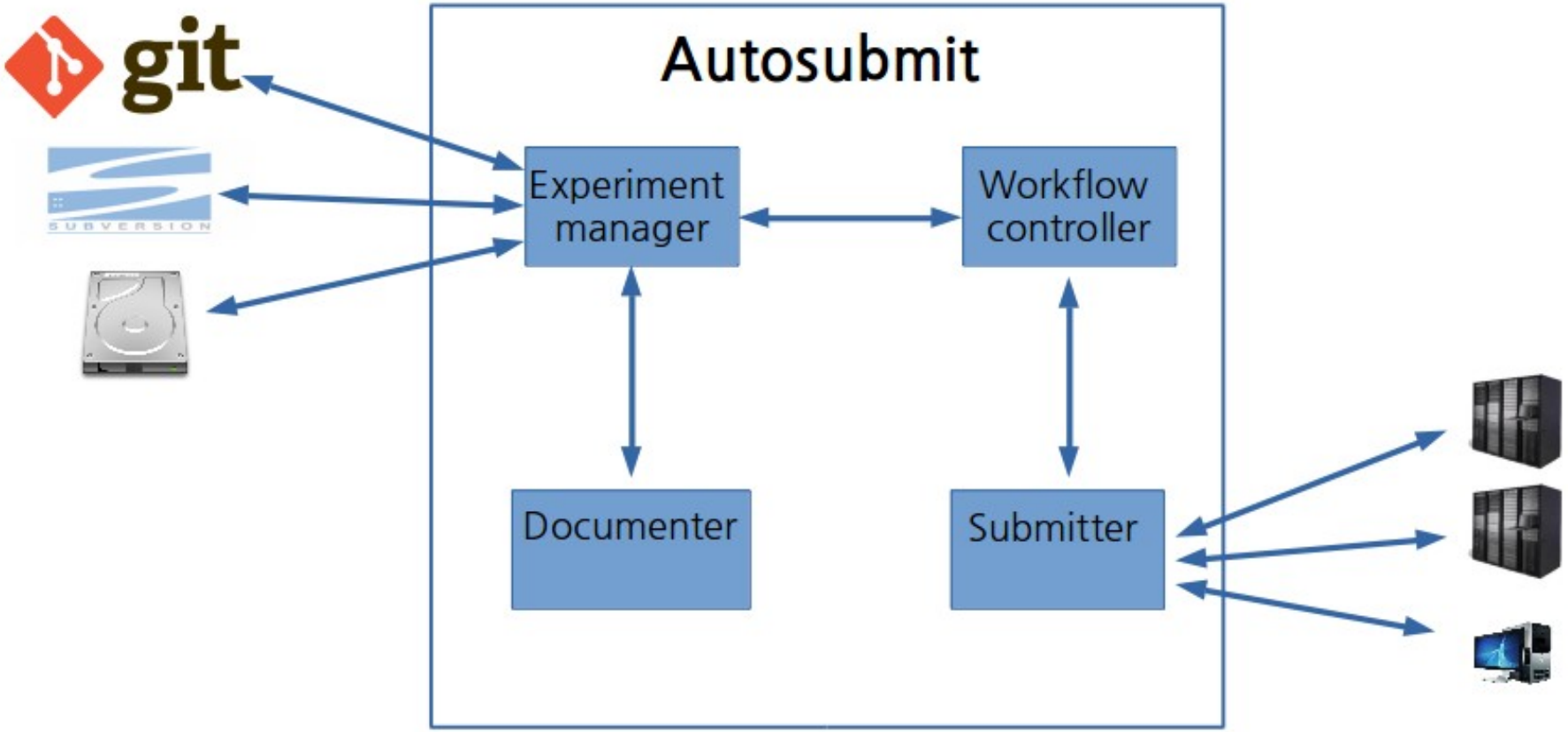
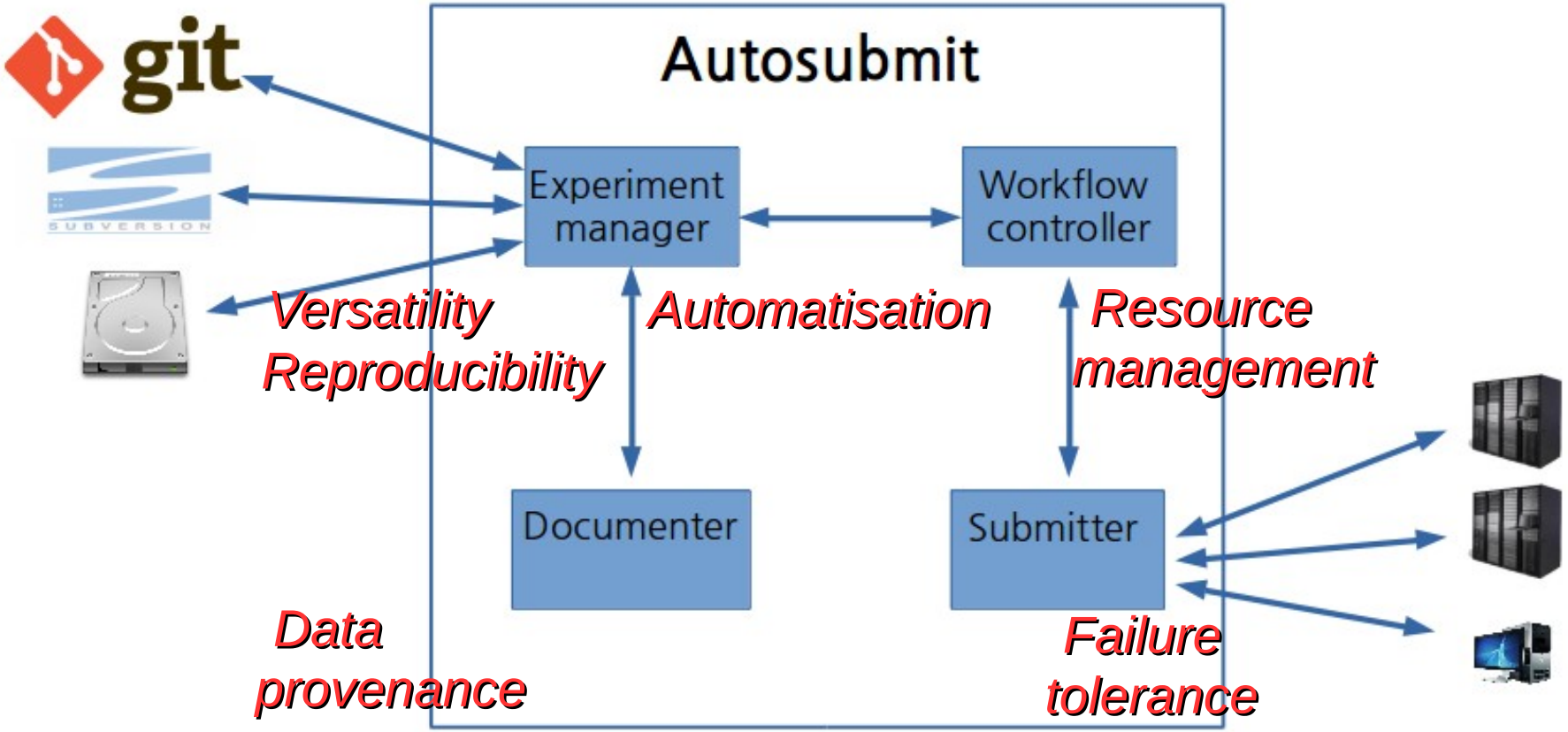
Autosubmit

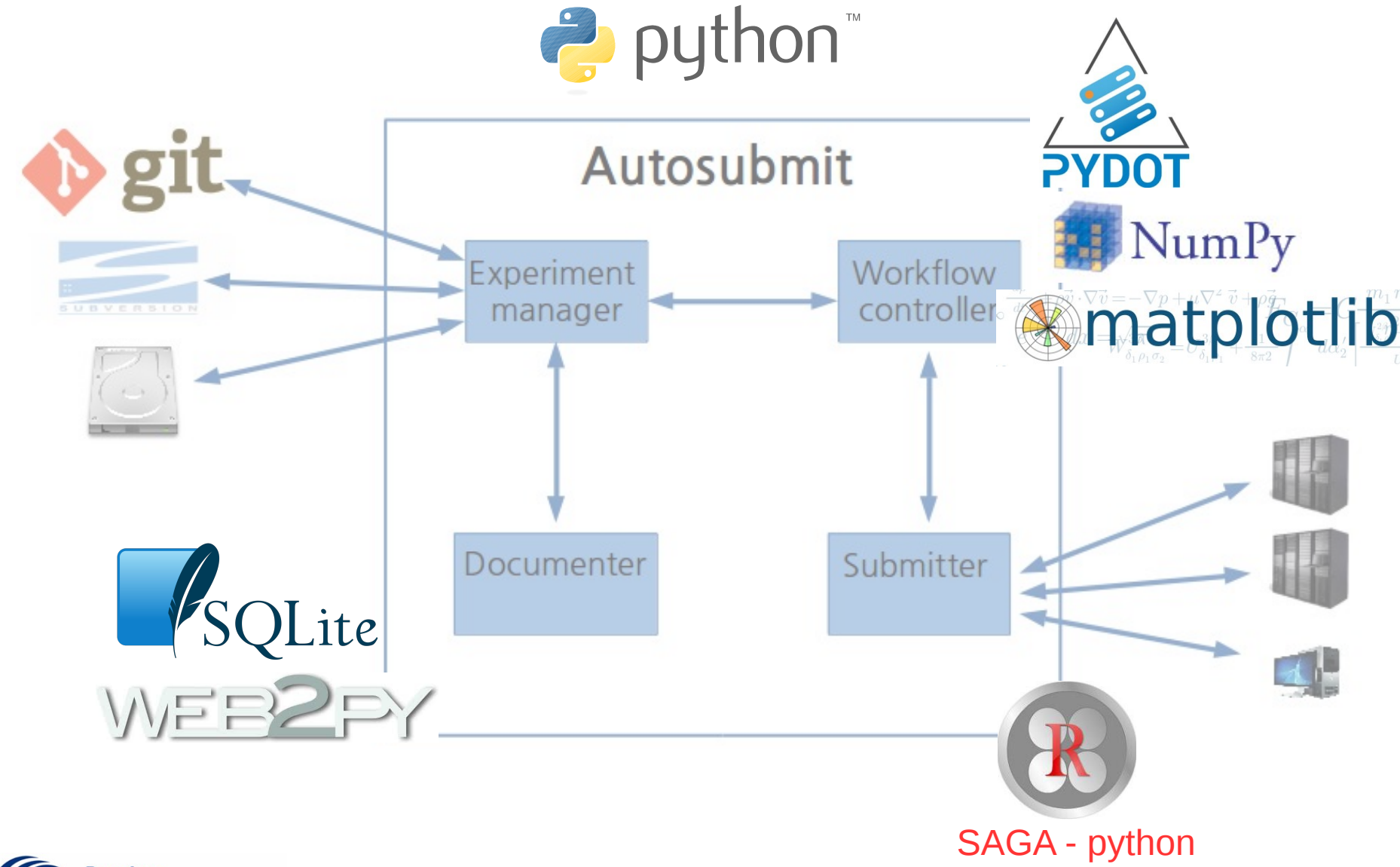
What is Autosubmit ?



Why is Autosubmit needed ?



How does Autosubmit work ?

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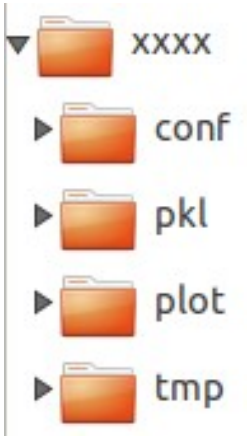
Example

Experiment creation

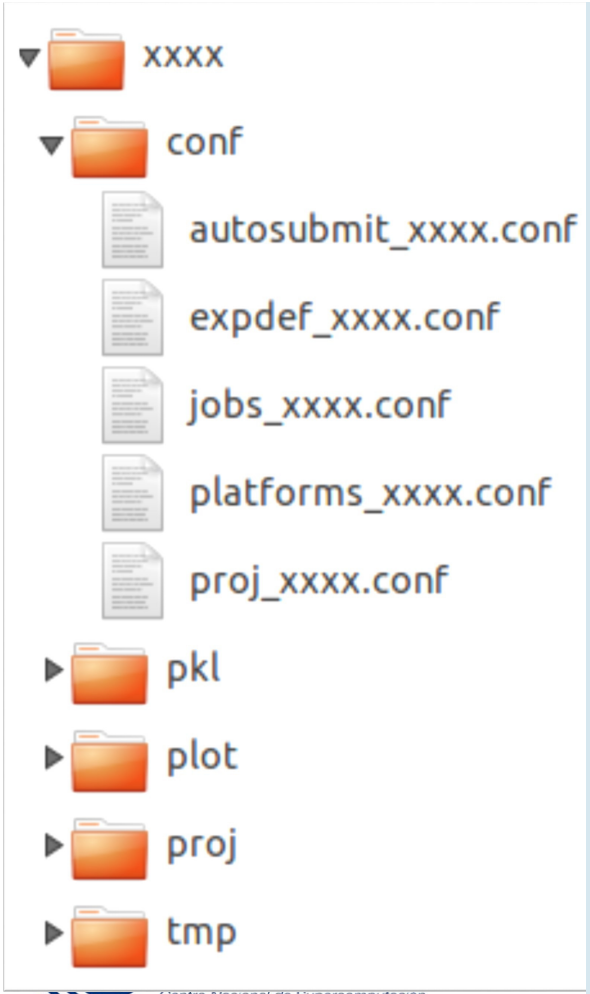
```
autosubmit expid –H HPCname
```



Experiment creation Experiment configuration

```
autosubmit expid –H HPCname
```

```
autosubmit create xxxx
```



Start dates, members and chunks (number and length).

Experiment project source: origin (version control system or path) and project configuration file path.

expdef_xxxx.conf

Workflow to be run: scripts to execute, dependencies between tasks, task requirements (processors, wallclock time...) and platform to use.

jobs_xxxx.conf

HPC, fat-nodes and supporting computers configuration.

Usually provided by technicians, users will only have to change login and accounting options for HPCs.

platforms_xxxx.conf

Project dependant experiment variables that Autosubmit will substitute in the scripts to be run.

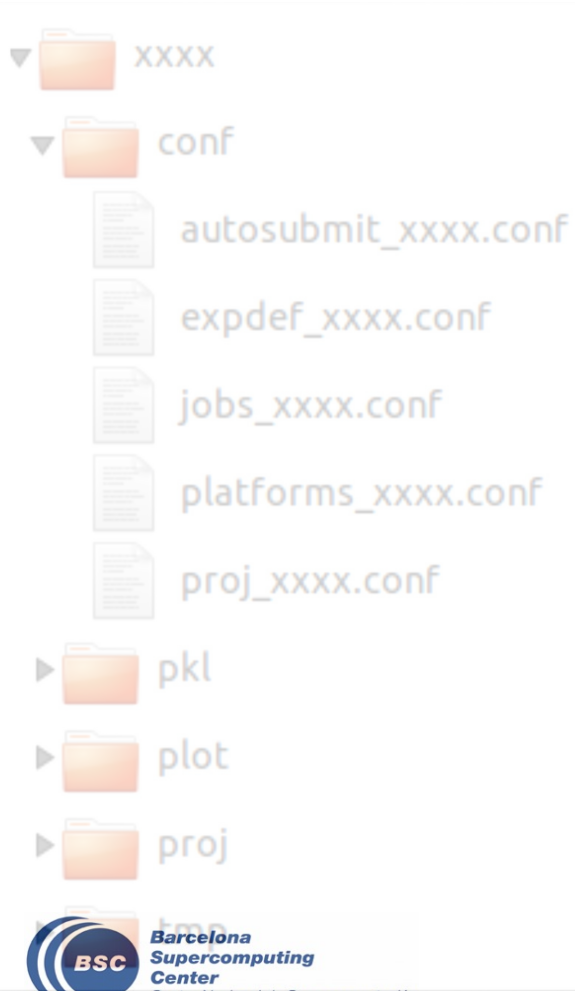
proj_xxxx.conf

Experiment creation Experiment configuration Experiment run

```
autosubmit expid –H HPCname
```

```
autosubmit create xxxx
```

```
autosubmit run xxxx
```



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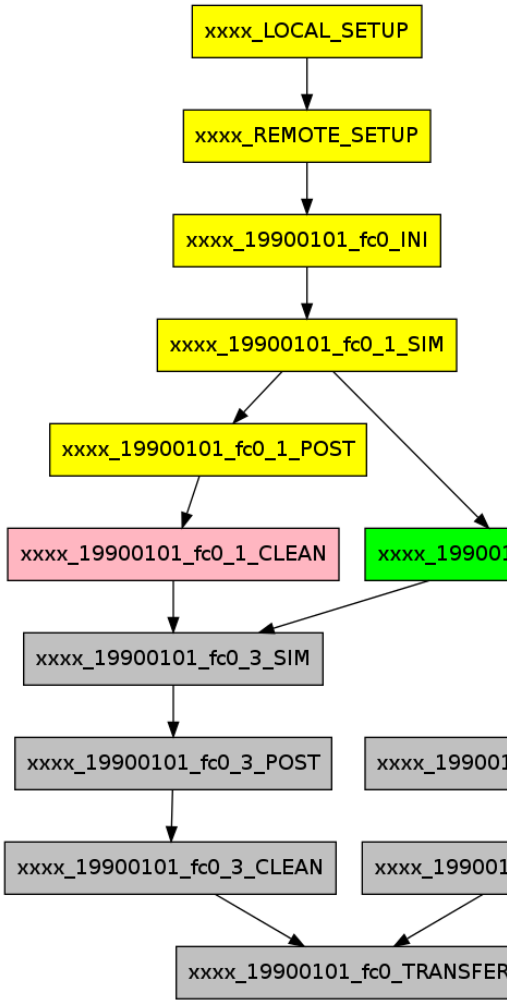
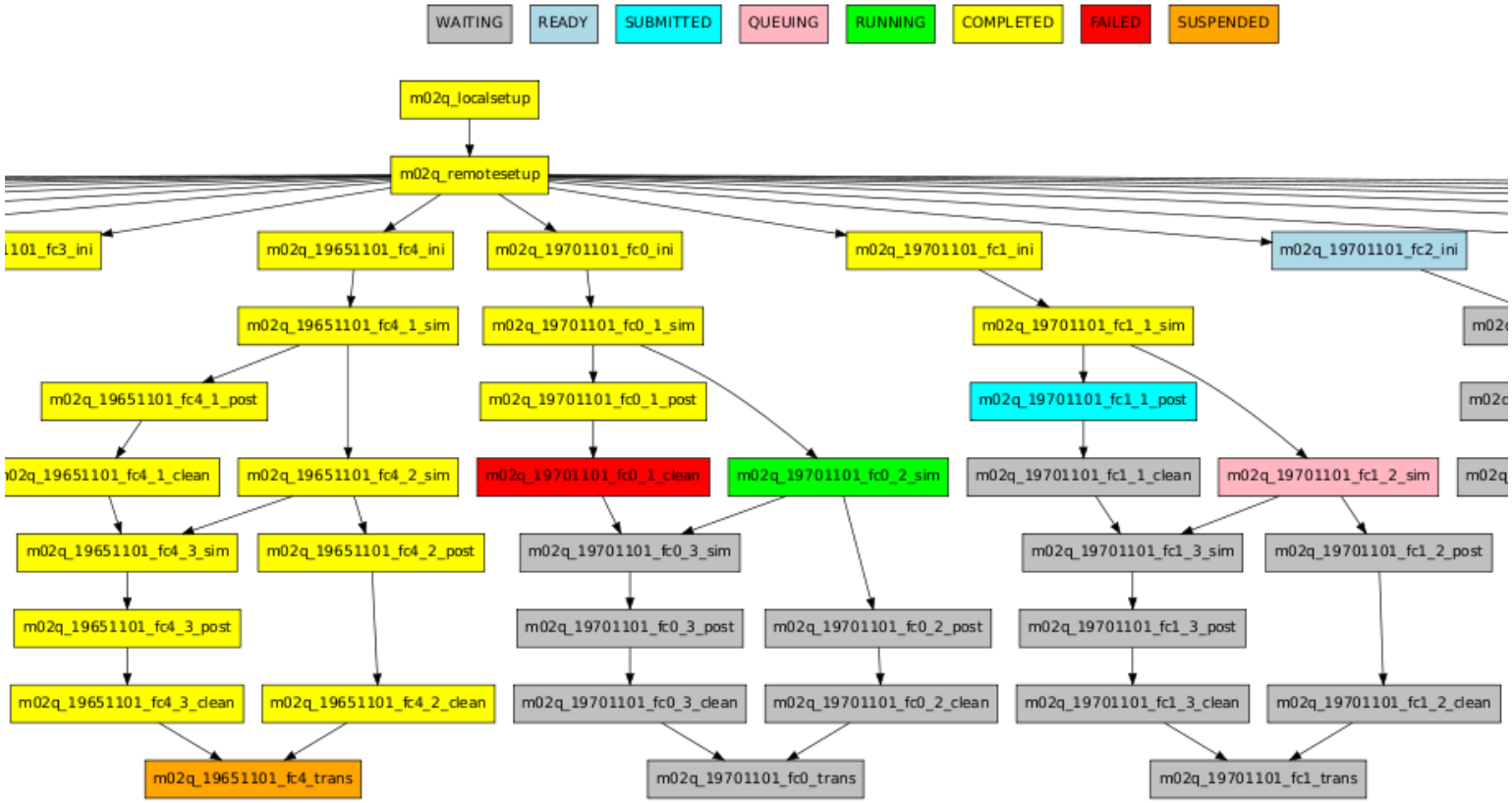
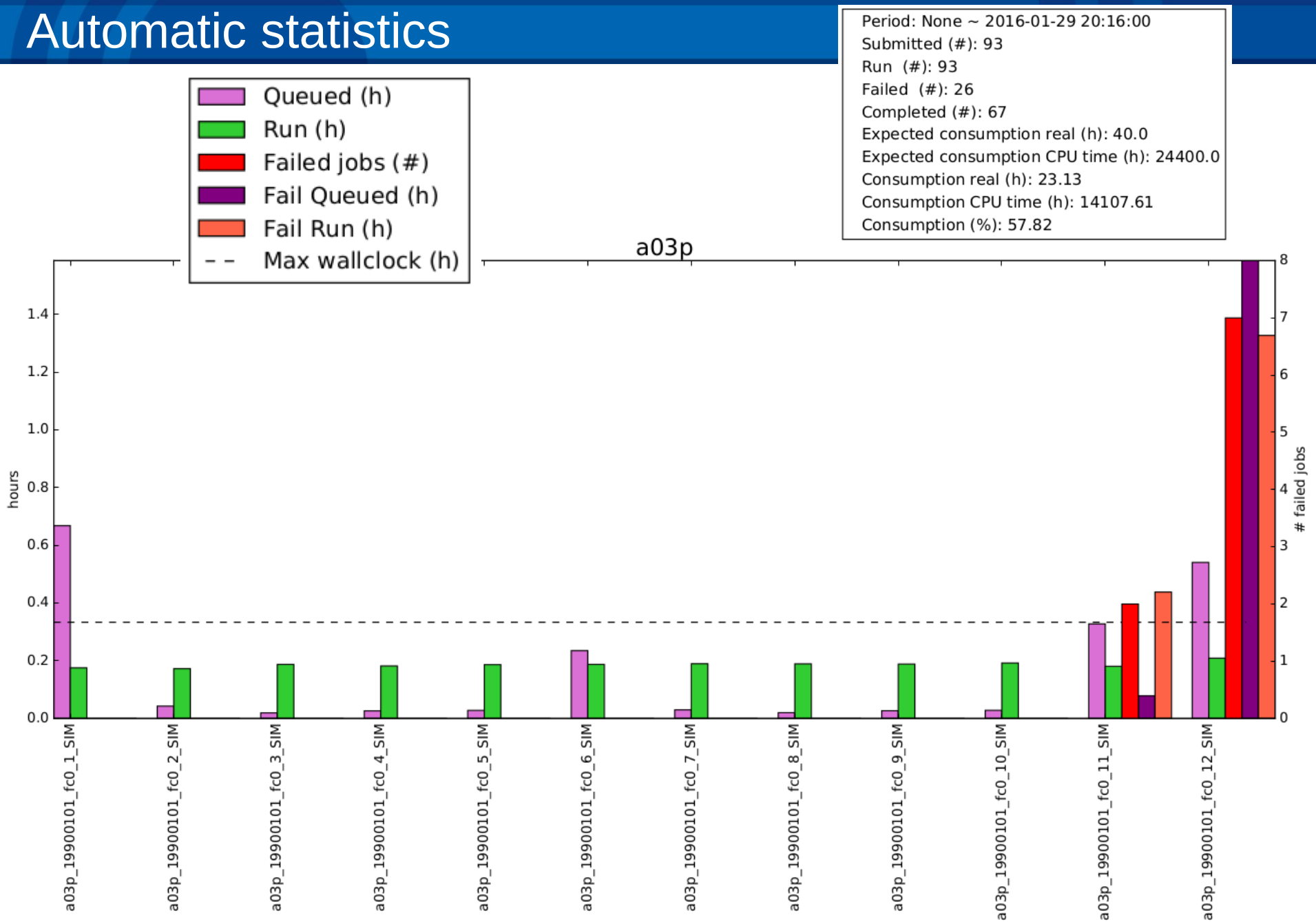


Experiment monitoring

```
autosubmit monitor xxxx
```



Automatic statistics



Tutorial EC-Earth 3.2 beta

- This afternoon in parallel to the poster session 2/2/2016 from 18:00 to 19:00

- 10 temporary accounts at MareNostrum
  - https://earth.bsc.es/wiki/doku.php?id=tools:tutorials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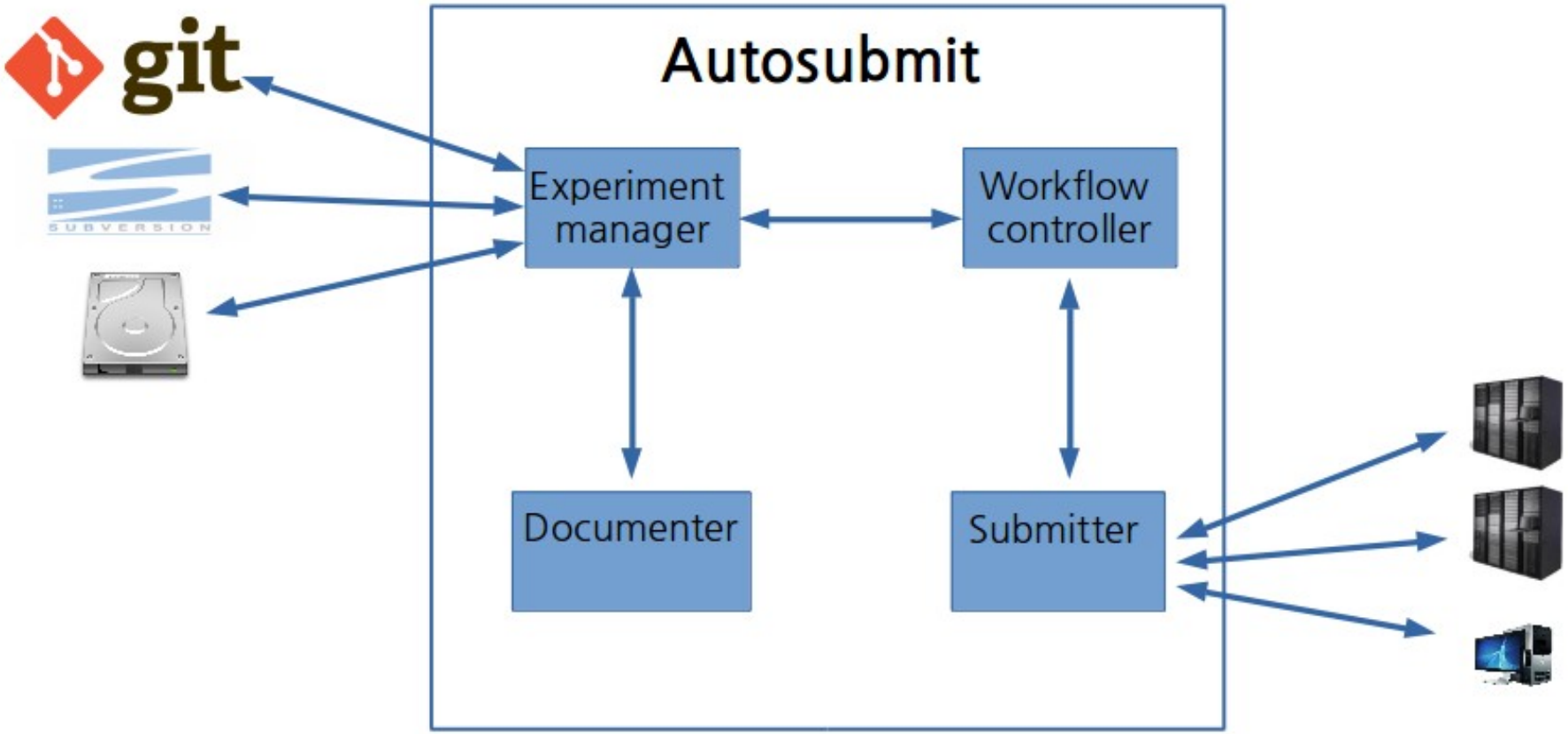
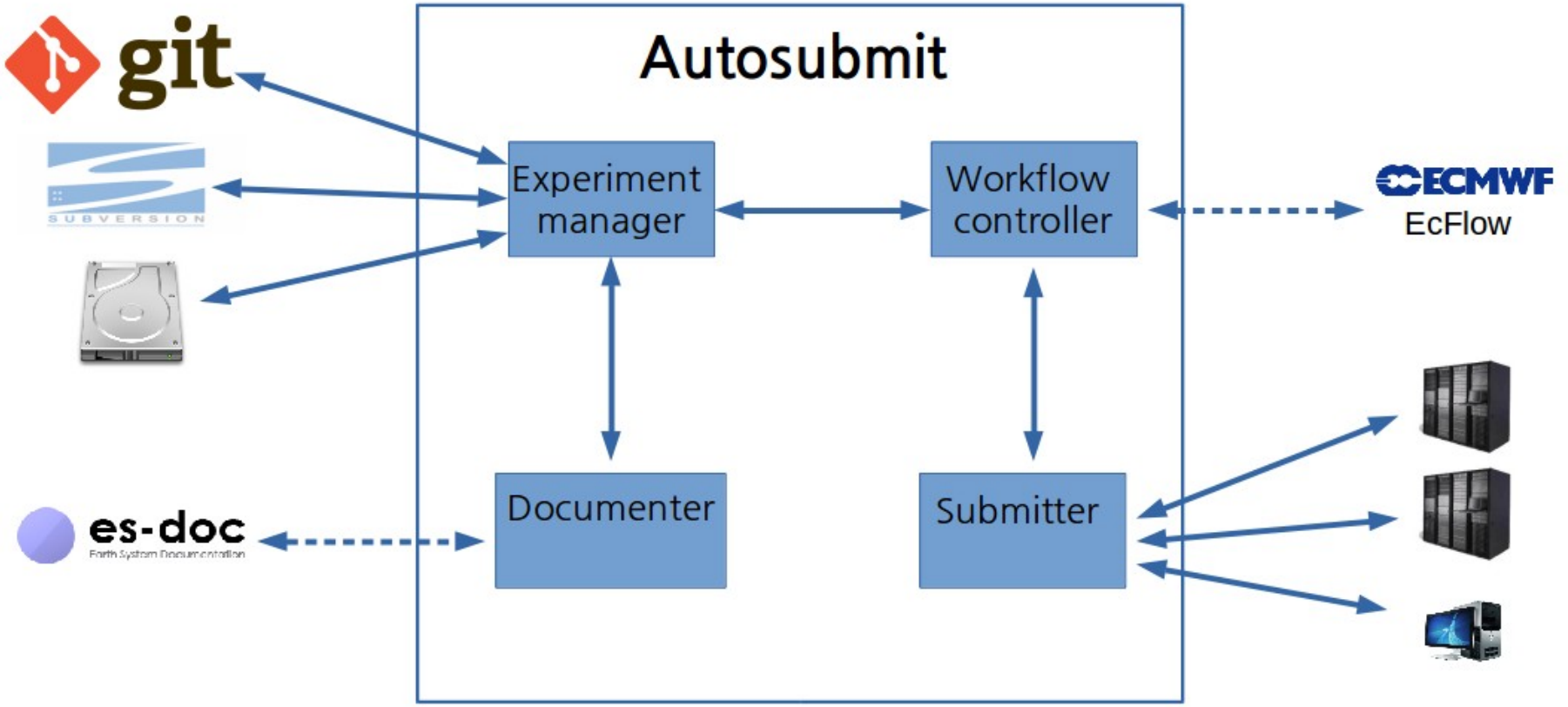
Future work

Future work


git
SUBVERSION
Autosubmit
Experiment manager
Workflow controller
Documenter
Submitter

Future work


git
SUBVERSION
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Experiment manager
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ECMWF
EcFlow
es-doc
Documenter
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Thank you !

Do not hesitate to contact us
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