Grid'5000

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Compagny : INRIA - Team : Madynes

October 18, 2016

INRIA in few words

Grid'5000 introduction

My mission

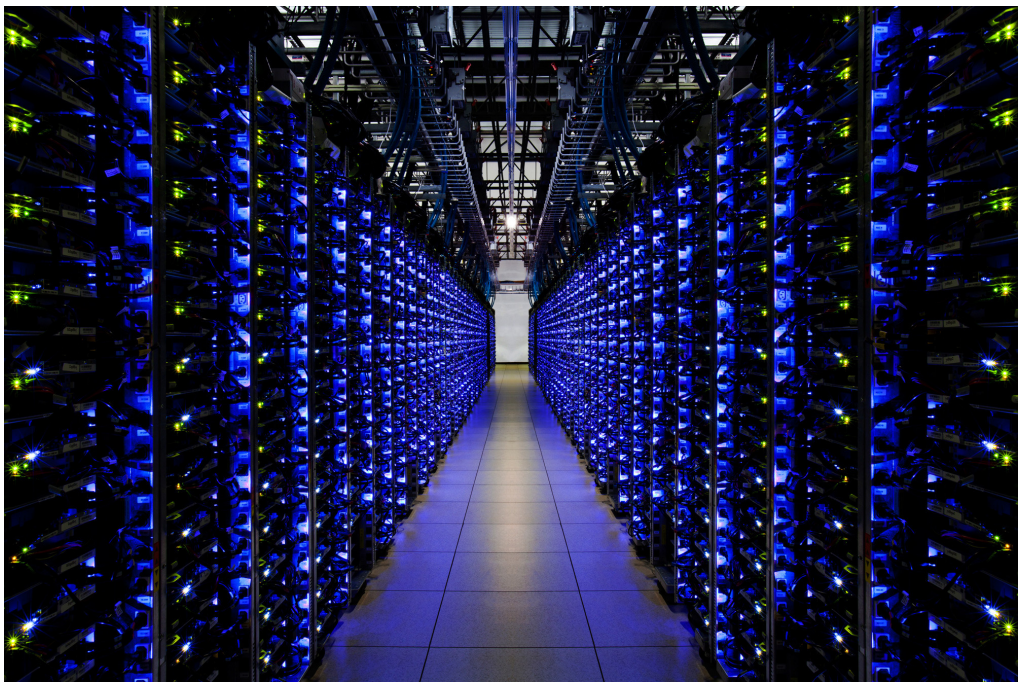
Conclusion

INRIA in few words

- « Institut National de Recherche en Informatique et en Automatique »
- Founded in 1967
- Share knowledges with everyone (French, abroad, private companies, ...)
- 8 research centers in France (Bordeaux, Grenoble, Lille, Nancy, Paris, ...)
- 2700 employees

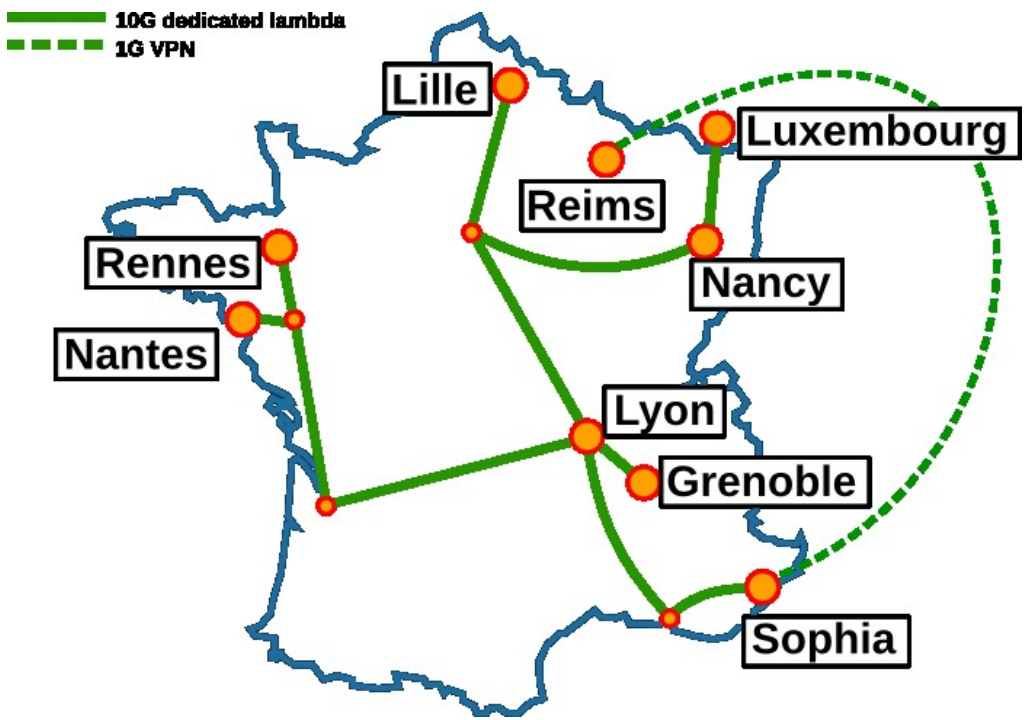
Grid'5000 introduction

- Platform like Amazon AWS, IBM Bluemix, ...



Grid'5000 introduction

- Platform like Amazon AWS, IBM Bluemix, ...
- Distributed system on 8 locations in France



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- Dedicated for research : Mainly used for experiment

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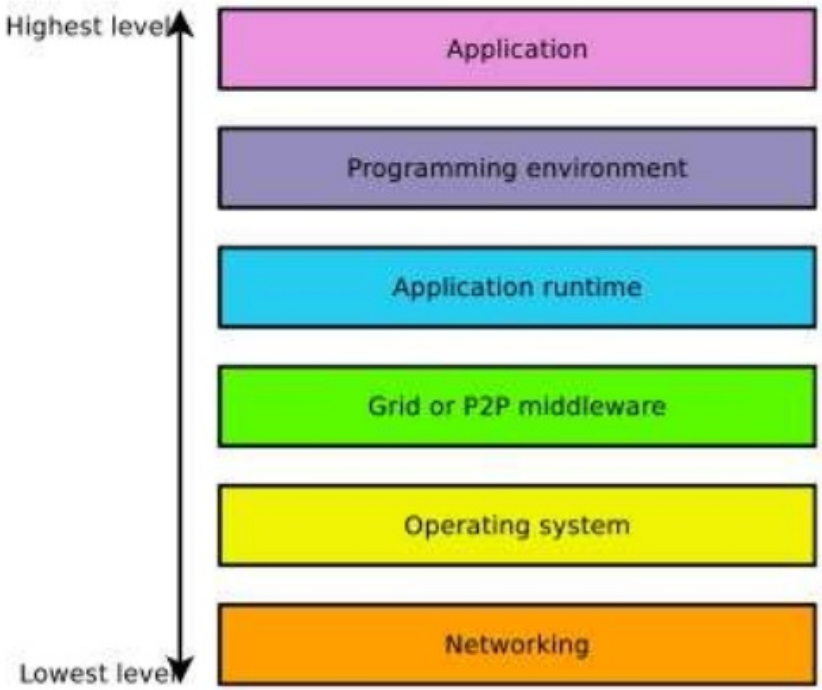
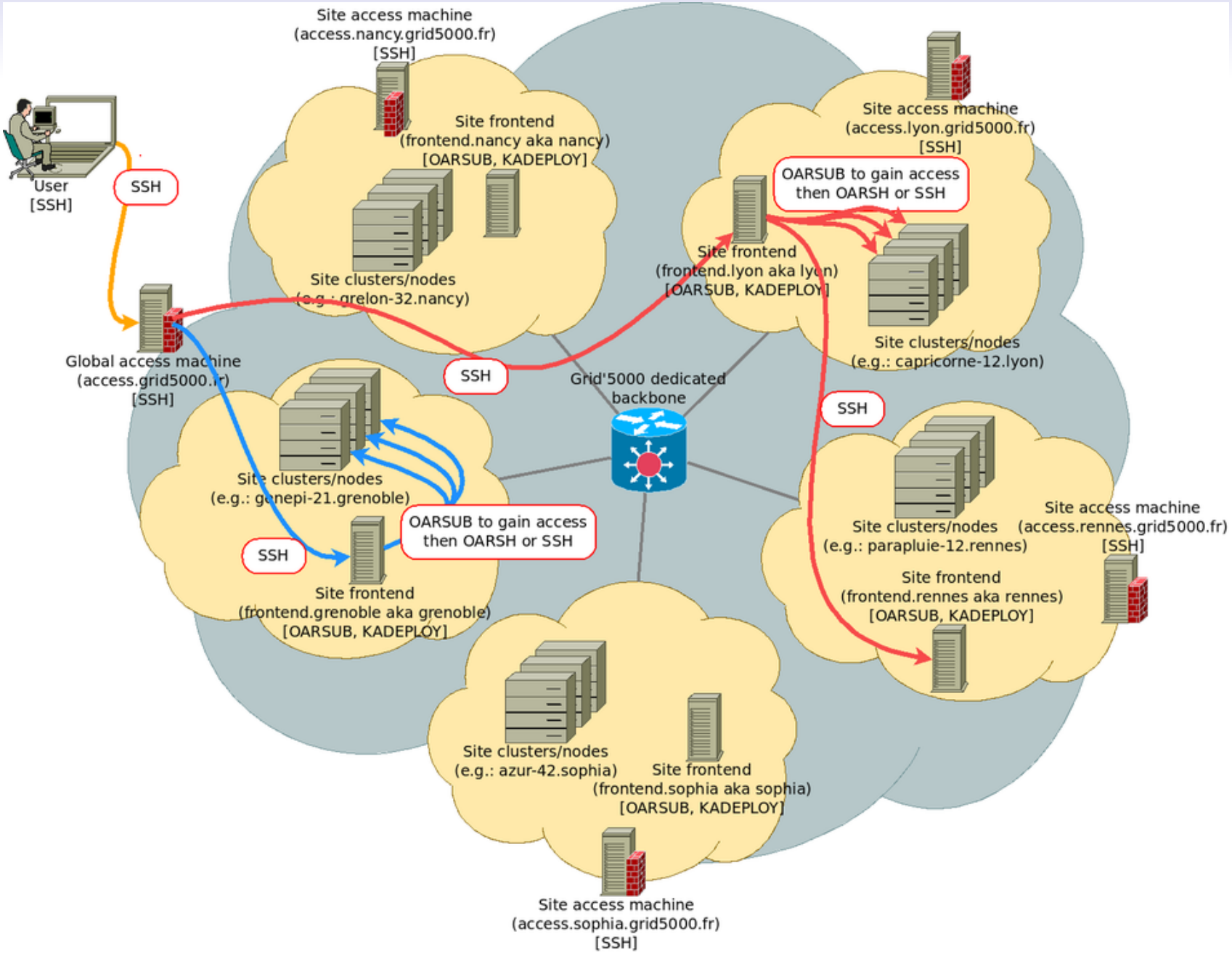
- Full access to resources




Site access machine
(access.nancy.grid5000.fr)
[SSH]
Site frontend
(frontend.nancy aka nancy)
[OARSUB, KADEPLOY]
Site clusters/nodes
(e.g.: grelon-32.nancy)
User
[SSH]
SSH
Global access machine
(access.grid5000.fr)
[SSH]
Site access machine
(access.lyon.grid5000.fr)
[SSH]
OARSUB to gain access
then OARSH or SSH
Site frontend
(frontend.lyon aka lyon)
[OARSUB, KADEPLOY]
Site clusters/nodes
(e.g.: capricorne-12.lyon)
SSH
Grid'5000 dedicated
backbone
SSH
Site clusters/nodes
(e.g.: genepi-21.grenoble)
OARSUB to gain access
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SSH
Site frontend
(frontend.grenoble aka grenoble)
[OARSUB, KADEPLOY]
Site clusters/nodes
(e.g.: parapluie-12.rennes)
Site access machine
(access.rennes.grid5000.fr)
[SSH]
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(frontend.rennes aka rennes)
[OARSUB, KADEPLOY]
Site clusters/nodes
(e.g.: azur-42.sophia)
Site frontend
(frontend.sophia aka sophia)
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[SSH]

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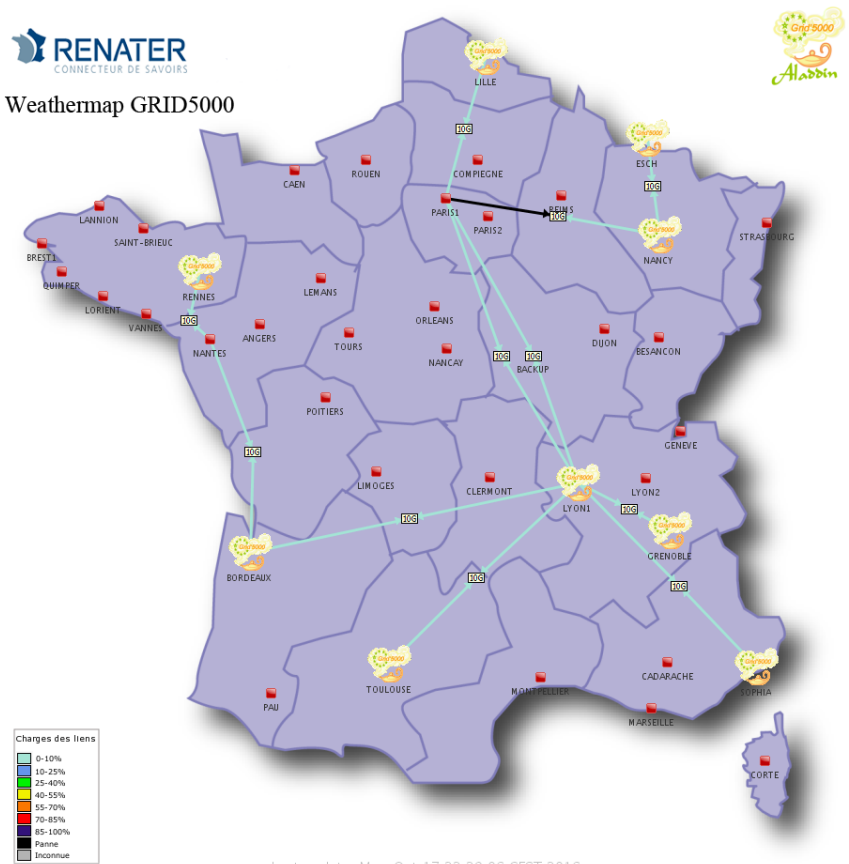

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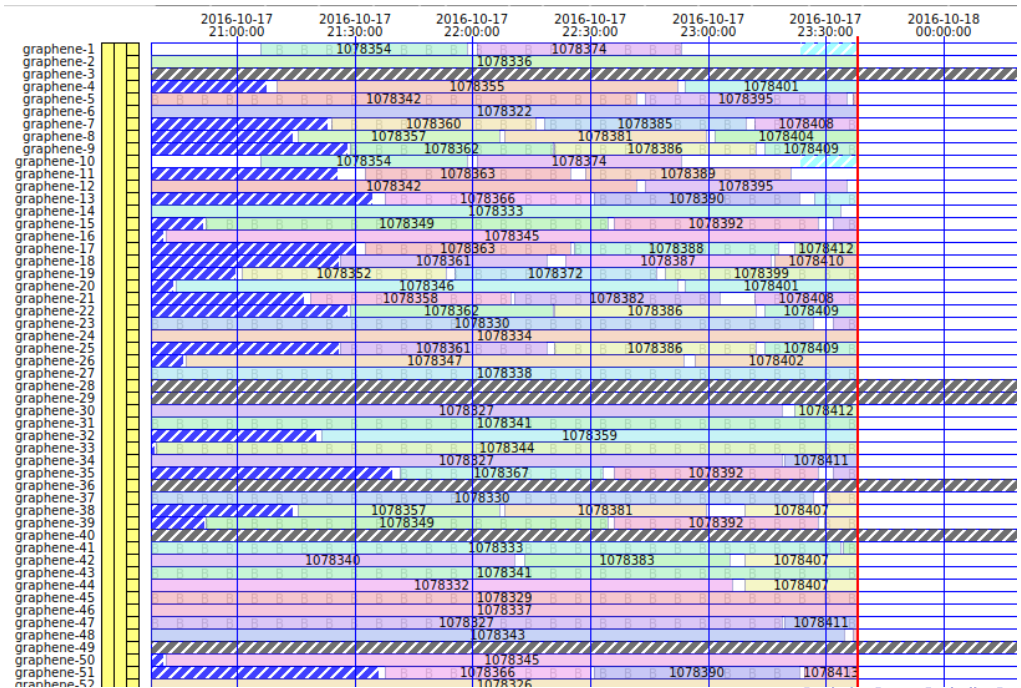
- Routed and global VLANs

Tools provided by technical team

- Scheduling of resources



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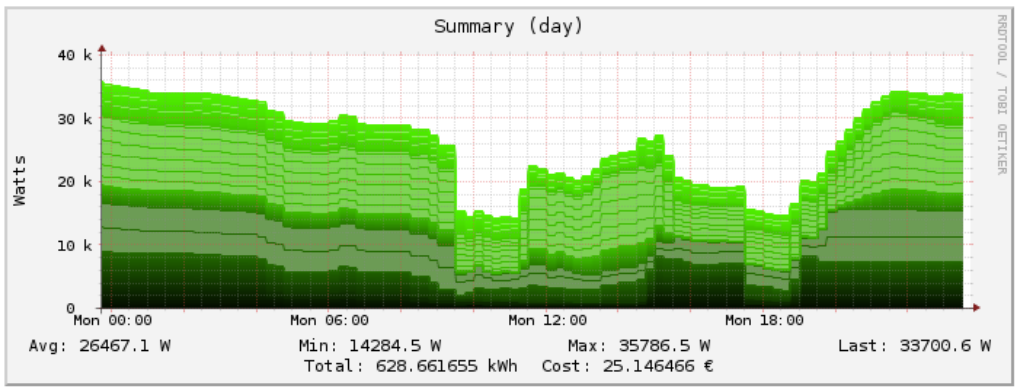
- Energy monitoring



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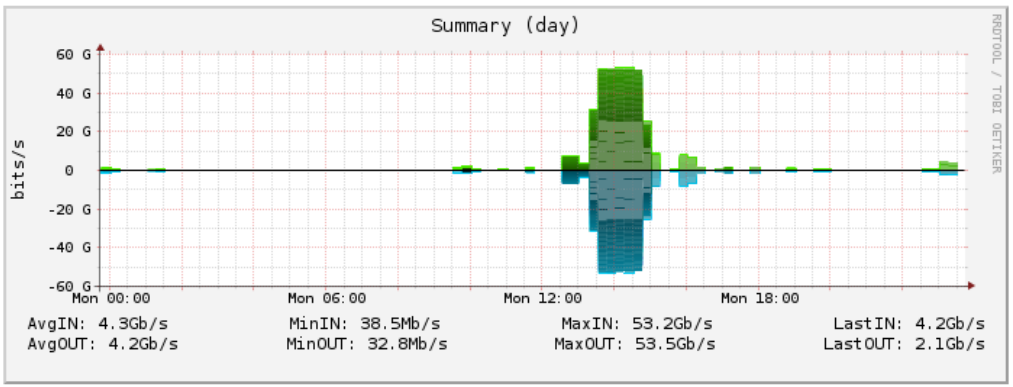

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- Scheduling of resources
- Energy monitoring
- Network monitoring
- Various environments (Debian, Ubuntu, ...)
- Global API

My mission

- 12 people team
  - 6 System Administrators
  - 6 Developers
- Deploy developed tools to the platform
- Anwser users questions
- Monitor and fix the platform

How we work

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- Configurations are managed by Puppet
- Puppet configuration is based on Git
- Action are performed on several servers and location with Capistrano

Conclusion

- No « Test location » ⇒ Require Exactness
- Lot of technologies ⇒ Require technical skills
- Need to synchronise with teammates ⇒ Require communication skill