Building Support Infrastructures:

Trust, coordination, communication
ISGC 2011, Taipei

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GridPP: UK Grid for Particle Physics

(1=Edinburgh, 2=RAL, 3=Glasgow)

Science & Technology Facilities Council

GridPP

UK Computing for Particle Physics

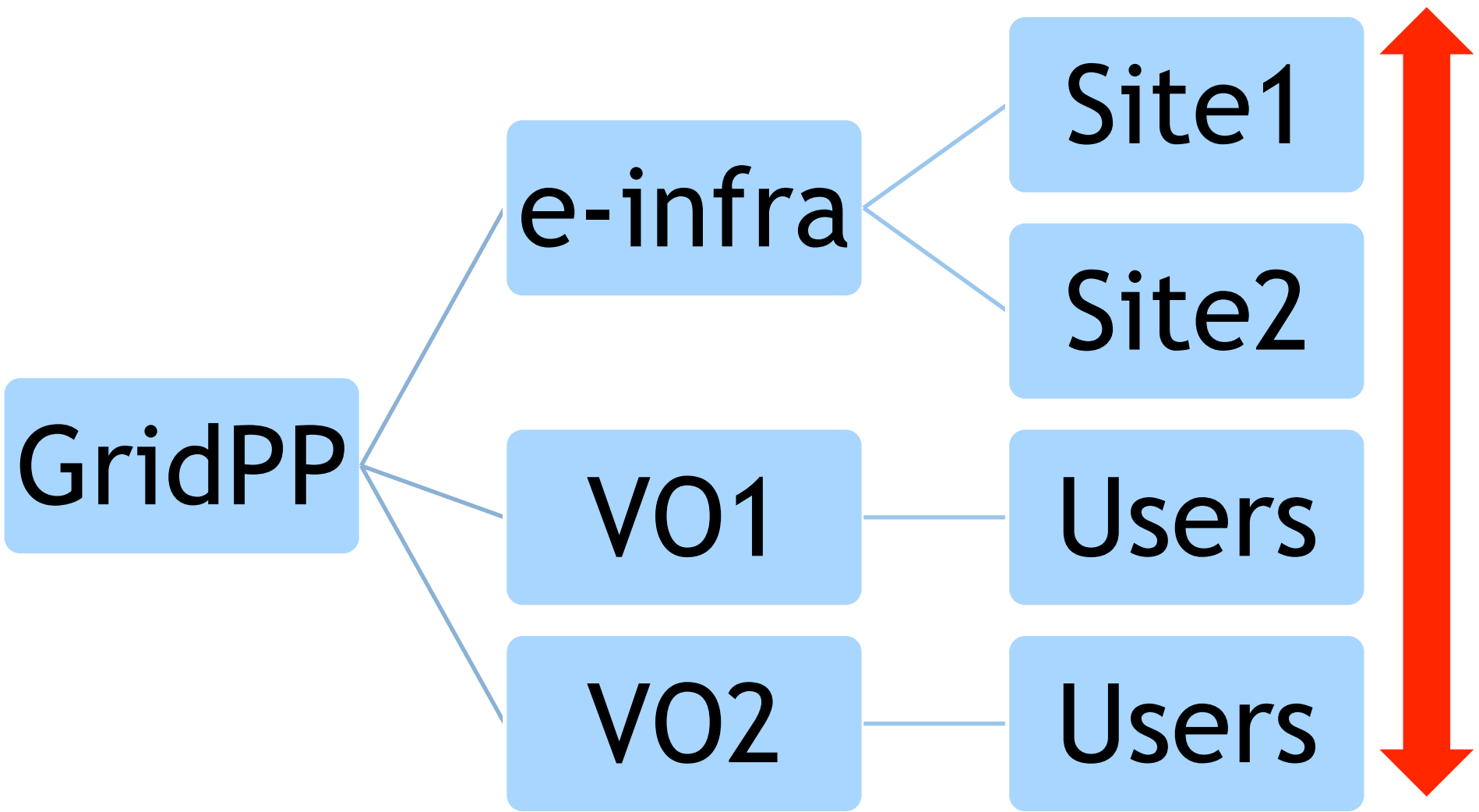
What is it?

- UK Grid for Particle Physics
  - One T1, four T2 “distributed centres” with about 19 sites
  - Main use is WLCG, but supports much academic work, also non-HEP
- Storage and Data Management Group
  - ~80 members in 10 countries, common goal

Common security policies contribute to trust building

- To manage **risks**
  - Perform a risk analysis
  - Make a Security Plan and define Controls
- **Security Policy** is one of the Controls
- **Trust** is a relationship of reliance. A trusted party is presumed to seek to fulfill policies, ethical codes, law and their previous promises. (wikipedia)
- Grid participants need to be able to **trust** that others will perform according to agreed **standards** and **processes**

Trust and Policies



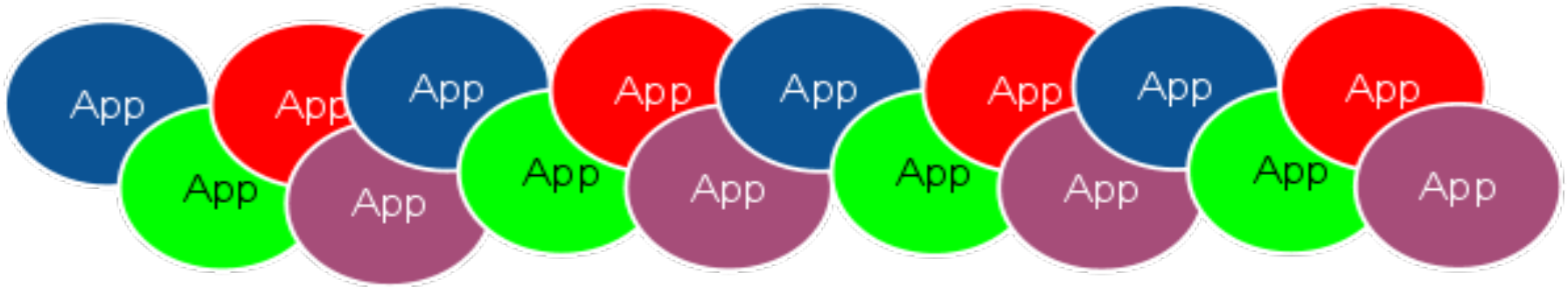
Policy Interoperability

- Policy has been defined by
  - International Grid Trust Federation (Identity Management) in OGF
  - Joint (EGEE/WLCG) Security Policy Group (JSPG) –
- **simple** and **general** policies
  - applicable to the primary stakeholders, but
  - also of use to other eInfrastructures (NGI's etc)
- Common policies ease **scaling** and **interoperation**
- Users, VOs and Sites : single registration & policy acceptance
- Other participants then know that their actions are already bound by the policies
  - No need for additional negotiation, registration or agreement

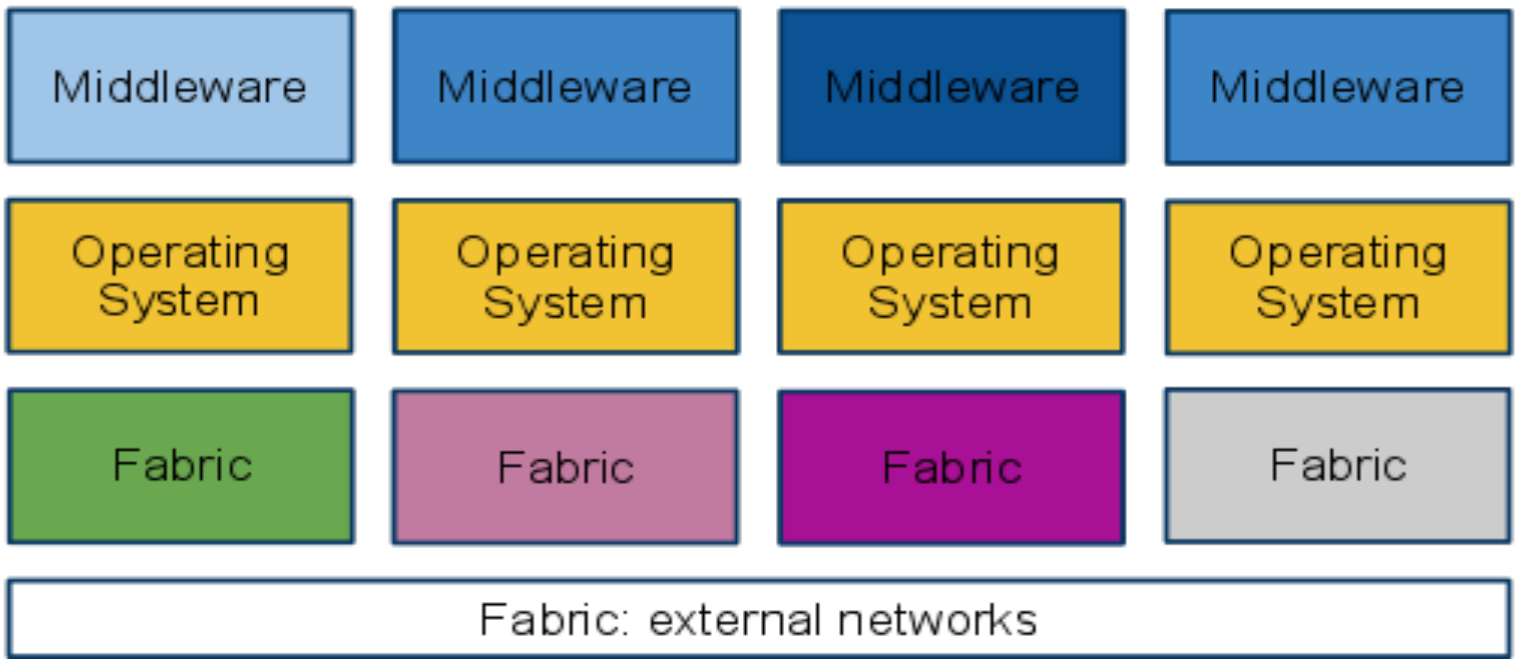
Middleware

- Group supports a range of storage middleware
  - Sites have specific requirements and preferences
    - preferring ease of configuration and built-for-purpose solutions such as DPM
    - or need to incorporate commercial solutions such as GPFS.
- Support a range of users (VOs / Experiments)
  - Differing applications: demanding and even conflicting
  - Efficient operations requires bringing together site knowledge of system and user expertise on applications.

Middleware overview



e-Infra



Homogeneous OS and m'ware (slightly different versions)

Middleware

- Group as a whole has built this expertise
  - Dedicated staff for solutions and applications but also forum for discussion and propagation of best practice.
  - Collaborative projects with developers (such as DPM) to build on areas of common interest.
- Homogeneous infrastructure (relatively)

Supporting Big VOs

"Hydra organisations"
Decision making process has increased complexity.
(Impractical for one person to know and make decisions about all issues.)
More frequent and co-ordinated interaction with both strategic planning level and day-to-day operational issues.

Greater engagement
"Customer/Collaborator " relationship blurred
Embedded Personnel

Greater knowledge of problems
Increased number of experts within VO both help and hinder problem resolution. (Requirement for site to understand requests and possible future plans.)

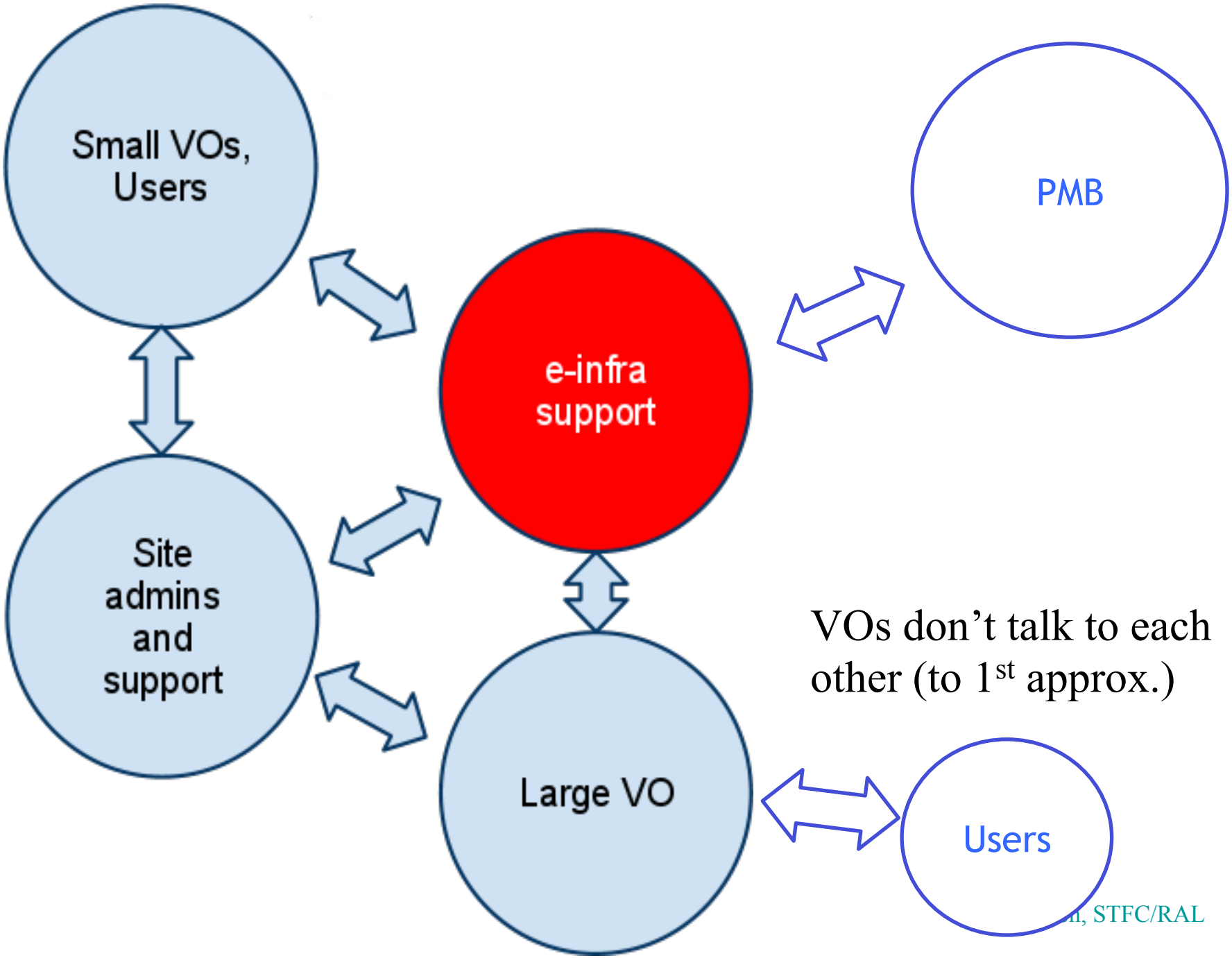
Multiple communication paths and systems (E-mail, twikis, webpages, Phone/Video conference .

Support Small VOs

- Established VOs:
  - e.g. MICE:
    - Need little support, have little data
  - T2K:
    - Help to develop local experts
    - Contacts for additional queries
      - Email lists, leverage existing community expertise
- New VOs:
  - NEISS.ORG.UK:
    - Provide expertise for infrastructure planning
    - Have no "local experts", so we're their only sources.
    - Politics at a more local level

Project Planning and Management

- Internal Communication important:
  - Occasional (annual) workshops, F2F
    - Discuss technology, present work
  - Weekly coordination meetings by EVO
  - Mailing list with archive
  - Catching up when meeting at other events
  - (Phone, chat, used if necessary.)
- The need for project planning
  - Mission, vision statement
  - Tracking deliverables
  - Liaising between people who do Real Work(tm) and overall project management



VOs don't talk to each other (to 1st approx.)

Conclusion

- Building e-Infrastructure
  - Policies: trust
- e-Infrastructure support necessary
  - Communication: ongoing, exceptional
  - Group liaises between users, sites
  - Small VOs are more like individual users
- Can be done, but takes ongoing effort