Baby steps towards...
Collaborations without Boundaries

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Rationale

- Science is becoming increasingly digital, needs to deal with increasing amounts of data and computational needs
- Simulations get ever more detailed
  - Nanotechnology – design of new materials from the molecular scale
  - Modelling and predicting complex systems
  - Decoding the human genome
- Experimental Science uses ever more sophisticated sensors to make precise measurements
  - Need high statistics
  - Huge amounts of data
  - Serves user communities around the world

Source: EGEE
Collaboration
Resource Level

Resource Composition
Collaboration
Service Level

Federative, modular and open

App 1  App 2
Teams
Users
Circle of Pain?

Users

Access

Relationships

Resources & Services

Authorizations

Virtual Organization Institutions
How to get access?

- User needs to present credentials to get access to these resources
- Resource providers are interested in credentials expressing membership affiliation to a community or virtual organization they have contracts with
- It is up the user to present the credentials in a secure, trusted, and efficient manner during the resource discovery phase
- Access policies are applied accordingly
- Access control might be done in multiple phases, i.e. during reservation phase and during the light-path actuation and provisioning phase
Ways to reserve resources

- Chain Reservation Sequence

- Polling Sequence

- Brokered Sequence
When do babies start walking?

- Start-off from the bottom with federated access control and multi-domain Lightpath services in 2010
- Work our way up to create a unified resource composition platform (cloud resources, instruments, etc.) in 2011, and make sure this gets standardized
- Continue our way up towards Collaborative Infrastructures and Workflow environments, in 2012
- Work with the research community to tap into new ideas of usage and technical contributions
Our Collective

Builds upon

BiG Grid
the dutch e-science grid

Partners

TU Delft
UNIVERSITY OF TWENTE.

OpenGridForum
INTERNET
ESnet
North Carolina State University
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