OGF 31 - Opening

Steven Newhouse, Chair OGF Board
OGF – Current Status

**OGF** is an open community committed to driving the rapid evolution and adoption of applied distributed computing

**Standards & Community**

Community, Research & Standards Groups
Provisional Recommendations (P-REC)

- Resource Namespace Specification
  - GFD 171: RNS Specification 1.1
  - GFD 172: RNS 1.1 OGSA WSRF Basic Profile Rendering 1.0
- Simple API for Grid Applications
  - GFD 177: SAGA API Extension: Advert API
  - GFD 178: SAGA API Extension: Message API
- GFD 174: Data Format Description Language (DFDL) v1.0 Specification
Experience Documents

- GFD 179: Smoa Computing HPC Basic Profile Adoption – Experience Report
- GFD 176: Experiences with Implementing the SAGA Core API
  - SAGA Core now a full recommendation
Informational

- GFD 170: Inter-Domain Controller (IDC) Protocol Specification
- GFD 173: Network Services Framework v1.0
- GFD 175: Translating From DCN to NDL and Back Again
- GFD 180: OGF-Production Grid Infrastructure: Use Case Collection, Version 1.0
- GFD 181: OGF-Production Grid Infrastructure: Glossary of Acronyms and Terms, Version 1.0
Mountains still to climb!
Federating Distributed Computing Infrastructures

- Trust
  - The greatest asset in this community
  - International Grid Trust Federation (IGTF)

- Technology
  - Different providers → different versions
  - Different providers → different technologies
    - Federating clouds ↔ Federating services

- Timeliness
  - Exploiting resources to meet user demand
OGF 32 – Salt Lake City, USA

• July 15-18th 2011
• With TeraGrid 2011

OGF 33 – Lyon, France
• Sept 19-23th 2011
• With EGI Technical Forum
European Grid Infrastructure

Steven Newhouse
Director EGI.eu
EGI-InSPIRE Project Director
What is EGI?

• European:
  – Focus on meeting the needs of European Researchers
  – Their key need is to collaborate internationally

• Grid:
  – Federation of shared resources, not a single technology
  – Supports a collaborative social network

• Infrastructure:
  – Established physical and organisational structures
  – Services and facilities for an economy to function
Carrying on after EGEE

- Building on strong national initiatives
  - Operating their own independent infrastructure
- Supporting European e-Infrastructure
  - Central hub to coordinate national activities
  - Provide a European focus internationally
  - EGI.eu established in Amsterdam - 21 people
- Supporting European user communities
  - In their International collaborations
Status Jan 2011 (yearly increase)

- 13800 users: +38%
- 288000 LCPUs (cores): +18.5%
- 117PB disk: +192.5%
- 91.5PB tape: +50%
- 28 million jobs/month: +86.7%
- 340 sites: +7.25%
- 56 countries: +7.7%
- 217 VOs: +24%
- 30 active VOs: constant

Scheduled = 21539
Running = 25374

Archeology
Astronomy
Astrophysics
Civil Protection
Comp. Chemistry
Earth Sciences
Finance
Fusion
Geophysics
High Energy Physics
Life Sciences
Multimedia
Material Sciences
...
Extracting Knowledge from the Data Deluge
Highlights so far….

- Completing the transition to NGIs
  - Moving from regional to national operations
- Requirements gathering process
  - Across operations & user communities
- Establishing the software pipeline
  - Technology providers: IGE, EMI, SAGA, …
  - Verification criteria & process → staged rollout
- Services for user communities…
User Communities

• Central federated helpdesk
• Services for different user communities
  – International (ESFRI and related e.g. WLCG)
  – European (EC projects & EU collaborations)
  – National
• Embedded Technical Services in NGIs & VRCs
  – Application database, training database, etc.
  – Dashboard, accounting, etc.
• Application Services
  – Ganga, Diane, workflow, etc.
Linked Challenges

• Increasing the diversity of the users
  – Provide more diverse services for more users
  – Scale out the support model

• Increasing the flexibility of the infrastructure
  – Move control back towards the users
  – Scale out the different environments

Virtualisation has a key role to play....
Federated Environment

- EGI: Collaborations of resource providers
- EGI.eu: Provides the European coordination

Standards (e.g. OGF, DMTF, SNIA, ...)
Resource Centre View

Experts

End-User

Wide Area Access Control

Management Control

VM Image Repository

Compute Resources

Storage Resources

Network Resources

VM Management Layer

GLUE 2.0

Information Services

Resource Centre

Wide Area Message Bus

SAML

OCCI

OVF

CDMI

JMX

UsageRecord

ISGC & OGF 31 Opening
What does this mean?

• No ‘big-bang’ migration
  – Gradual change transparent to the end-user
• Clearly identify the role of the expert
  – Already residing in the NGI and VRCs
• Increase the flexibility of the infrastructure
  – Allow experts to configure resources
  – Meet the immediate needs of their users
• Experts from other communities have access
  – Demonstrate resources accessible to all
A Virtualised Future?

End-User Technology Experts
(National, European & Global Collaborations)

Infrastructure Providers
(Research & Commercial – National, European & Global)
A Virtualised Ecosystem

VO Specific Operations Staff

NGIs  EIROs  VOs

VO Operations Staff

Virtual Organization

VO Managers

End Users

EMI & IGE

Service

Service

Service

Messaging Infrastructure

AAA

VM Management

VM

VM

VM

EDGI

StratusLab

VENUS-C

EGI-InSPIRE

Commercial

NGIs  EIROs  VOs

Cloud Providers

Enabling Infrastructure

Dynamic Services

Stakeholders
Moving to a new phase…
Next Steps

• EGI User Forum, Vilnius
  – Virtualisation and cloud track
  – Tutorials: StratusLab & VENUS-C

• EGI User Virtualisation Workshop
  – 12-13\textsuperscript{th} May 2011, Amsterdam
  – Cloud: how, when & where for EGI
    • http://go.egi.egi/uvw1

• EGI Technical Forum, Lyon
  – Adoption of virtualisation by EGI
  – How to provision resources at scale