Draft Charter for ISOD-WG

(For discussion at OGF28 BoF – 15 March 2010)

Group Abbreviation:
ISOD-WG

Group Name:
On-Demand Infrastructure Services Provisioning Working Group

Area:
Infrastructure

Group Leadership:

Co-chairs:

Co-chair 1	Europe
Co-chair 2	US
Co-chair 3	World

Group Summary:

[This two-paragraphs of introduction should be compacted and/or re-written/updated]

Modern e-Science applications and high-technology industry typically deal with large volume of data that must be stored, processed and visualised and require dedicated high-speed network infrastructure, that should be provisioned on-demand to reach all potential application scenarios. Currently large Grid projects and Cloud Computing providers use their own dedicated network infrastructure that can handle the required data throughput but typically are over-provisioned. Their network and security infrastructure is commonly based on traditional VPN model that spreads worldwide, provides distributed environment for running their own services geographically distributed (like Google and Amazon), and provides localised access for users and local providers.

Most of Grid/Cloud usage scenarios for collaboration can benefit from combined Grid and network resource provisioning that besides improving performance can address such issues as application-centric manageability, consistency of the security services and (becoming currently more important) energy efficiency. The combined Grid and network-resource provisioning requires that a number of services and resource controlling systems should interoperate at different stages of the whole provisioning process. However in current practice different systems and provisioning stages are not connected into one workflow and can not keep the required provisioning and security context, what results in a lot of manual work and many decision points that require human involvement.

The On-demand Infrastructure Services Provisioning (ISOD) Working Group (WG) will propose an architectural framework to support basic use cases in on-demand infrastructure services provisioning and emerging new business models for infrastructure virtualisation. The proposed architecture and components will reflect both views – infrastructure providers and applications providers. The recommendations will define a framework for Logical Infrastructure description and Composition Layer (LICL) and the whole provisioned services lifecycle management. The ISOD WG will also propose a framework for providing consistent security services for dynamically provisioned combined network and IT/applications.

[Items to add to introduction]

- To be added
- To be added

[More text about the scope of the ISOD WG]

The scope of the ISOD WG will includes

- Defining architecture, LICL, extended UNI and ANI
- Infrastructure virtualisation issues, including “Virtualised Infrastructure” definition/model
- Provisioned services lifecycle management
- Security issues, e.g. pluggable AAA services, security context management

The WG will consider Service Level Agreement (SLA) negotiation and SLA aware services provisioning management.

Charter Focus/Purpose and Scope:

Focus/Purpose

The main purpose of the ISOD WG is to propose a consistent framework for on-demand infrastructure services provisioning. The propose framework should also support a new emerging business and operational models for virtualised infrastructure providers. The proposed framework should create a basis for existing heterogeneous services inter-operation and allow creation of the new interoperable and composable services.

It is intended that ISOD WG will provide upper layer framework for a number of currently running initiatives at OGF, such as NSI WG, NML WG and OCCI WG, and will use (or adopt for OGF user community) standardisation work done by ITU-T and TeleManagement Forum (TMF).

Goals/Deliverables

The proposed WG-ISOD in the OGF Infrastructure area will work on the basic set of documents to ensure coordination and interoperability of the research and development in the On-demand Infrastructure Services provisioning.

Where these are considered relevant and applicable, the ISOD WG will collaborate with, and make full use of work from other OGF working groups as well as external organizations such as IETF/IRTF, GLIF, ITU-T/TMF to increase the adoption of the standard specifications. Of particular relevance for ISOD is the work of the OGF NML and NSI working groups. For example, NML development will provide and basis for defining Logical Infrastructure Composition Layer (LICL) to support infrastructure abstraction and description but such development may require definition of the special ISOD profile of the NML.

The following initial set of documents/deliverables is considered:

Deliverable 1 - BCP/taxonomy in existing and on-demand network services provisioning technologies, including Bandwidth on Demand (BoD) systems

- Delivered as single deliverable.

Deliverable 2 - Requirements to On-demand Infrastructure Services provisioning

- Delivered in two deliverables as an initial requirements set and updated after first implementations

Deliverable 3 - Usecases for On-demand Infrastructure Services (combined Network + IT) provisioning

- This deliverable may be combined with the Requirements deliverable

Deliverable 4 - Security Framework for On-demand Infrastructure Services provisioning

- This deliverable will also

Deliverable 5 (TBC) - NML/NDL profile for Logical Infrastructure Composition Layer (Additionally)

Timeline

OGF 29 (June 2010):
- Official start of working group
- Outline and author list of deliverables

OGF 30 (Autumn 2010):
- First draft of Deliverable 1
- First draft of Deliverable 2

OGF 31 (Winter/Spring 2011):
- Feedback and discussion on Deliverables 1 and 2
- First draft of Deliverable 1

OGF 32 (Summer 2011):
- Submission of Deliverable 1
- Submission of Deliverable 2
- Feedback and discussion on Deliverable 3

OGF 33 (Autumn 2011)
- Submission of Deliverable 3
- First draft of Deliverable 4

Exit strategy:

The work of the ISOD-WG will be deemed complete upon the delivery of a first version of each of the deliverables listed above in the section entitled “Goals”. The preliminary schedule for the release of deliverables is provided above.

Issues for discussion

Seven Questions:

On-demand Infrastructure Services Provisioning Working Group (ISOD WG)

1. Is the scope of the proposed group sufficiently focused?

Yes.
It focuses on the definition and specification of an architecture for on-demand infrastructure services provisioning that should provide a framework for services interoperability, new services development and the whole on-demand provisioned services lifecycle management.

2. Are the topics that the group plans to address clear and relevant for the Grid research, development, industrial, implementation, and/or application user community?

Yes.
ISOD addresses an important need for the Grid community which is the common architectural framework for new emerging infrastructure services and new business models (of the virtualised infrastructure provider) in infrastructure virtualisation and provisioning, in particular with the recent move of the Cloud computing to infrastructure service.

3. Will the formation of the group foster (consensus-based) work that would not be done otherwise?

Yes.
Currently, different projects are implementing proprietary solutions, which are able to support specific network or IT/Grid/Cloud services. Such solutions are also limited on the type of service providers that are able to serve both in Grid middleware level and the type of network service providers they can inter-operate. Thus, there is a need to define a standard interoperable architectural and operational framework to ensure interoperability and new services development across heterogeneous Grid/Cloud and network infrastructures.

4. Do the group's activities overlap inappropriately with those of another OGF group or to a group active in another organization such as IETF or W3C?

No.
However, this group could benefit from some of the work has been carried out in other OGF groups or other organizations (e.g. IETF, OASIS, ITU-T, TMF) in order to define and standardise the ISOD the most appropriate way.

5. Are there sufficient interest and expertise in the group's topic, with at least several people willing to expend the effort that is likely to produce significant results over time?

Yes.
Several people have been involved in this effort. People working on deployed dynamic networks like ESnet and Internet2, Research projects like GEANT3 JRA3 Task 3 Composable services, GEYSERS, and others.

6. Does a base of interested consumers (e.g., application developers, Grid system implementers, industry partners, end-users) appear to exist for the planned work?

Yes.
Several groups have been identified as being interested in standardizing a network service interface, these are– telecommunications operators, grid operators, cloud computing operators and network equipment vendors.

7. Does the OGF have a reasonable role to play in the determination of the technology?

Yes.
OGF is the appropriate place to carry out the activities planned for this WG since it's the most relevant organisation that relates to Grid users/applications and how the ISOD would be standardised to provide interoperability with network providers. It is critical to consider the relation between end users (e.g. Grid, Cloud computing) and network services to proceed with a common interface that can be adopted on distributed heterogeneous environments.