

Global Grid Forum Structure

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1. Abstract

The initial set of GGF working groups were formed in June 1999 under the auspices of "Grid Forum," and since that time several working groups have been added. During the past two years, a number of these working groups have been functioning more like IETF "areas" than "working groups" in the sense that they have formed sub-groups to address specific issues and to develop documents. Others have been functioning more like IRTF "research groups" in that they have been focused on longer term, broader topic areas.

This memo proposes a modification of the present GGF group structure, which consists of a set of groups, with wide variation in scope and operating objectives, all called "working groups." Three types of "groups" are defined in this memo: "areas," "working groups," and "research groups" in the context of a proposed new GGF structure that is supportive of the de facto operations of the GGF. As a natural result of the GGF's stated intent to emulate groups like the IETF, we define these three terms in a manner that is consistent with their use in the Internet Standards Process.

Finally, this memo outlines the process for creating working groups and research groups and defines a new management role of "area director".

GGF Working Group Chairs and Steering Group

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2. Introduction

The Global Grid Forum (GGF) is a group formed by individuals from within the community of researchers and practitioners engaged in research, development, deployment, and support activities related to high-capability distributed software systems, or “grids.” The scope of the applications that motivate these activities is quite broad, including for example high performance processing applications, distributed collaborative environments, distributed data analysis, and remote instrument control. A defining characteristic is a perceived need for services beyond those provided by today’s commodity Internet.

The GGF working groups are investigating a range of research topics related to distributed systems, best practices for the design and interoperation of distributed systems, and the development of recommendations regarding the implementation of grid software. Some GGF working groups have evolved to function as sets of related sub-groups, each addressing a particular topic within the scope of the working group. Other GGF working groups have operated with a wider scope in terms of topic, surveying a broad range of related topics and focusing on long-term research issues. This has resulted in a different set of objectives, appropriate expectations, and operating styles across the various GGF working groups.

Recognizing the differences between the current GGF working groups, this proposal defines three new types of groups: *Areas*, *Working Groups*, and *Research Groups* to replace the current “working group” structure.

This document describes guidelines and procedures for formation and operation of these three types of groups

3. Current Initial GGF Structure and Related Issues

Since the formation of GGF in 1999 all groups within GGF have been designated as “working groups.” The operation, focus, and scope of GGF groups have varied widely, however. Some have operated as “research groups” and others have operated more along the lines of “areas,” forming sub-groups to address particular issues. The use of the single term “working group” for all of these types of groups, combined with a lack of common definition of “working group,” has thus become somewhat confusing because of the multiple styles of implementation and operation of the GGF groups caused confusion..

Further, the original GGF working groups have rather broad topical names (“performance,” “security,” etc.) where many possible focus areas exist, and thus more specific names are desired for working groups (or research groups) in order to (a) better convey the actual work of the group and (b) allow room for other, new, working groups to form within an “area.” The broader the topic of the working group, the more difficult it is to balance addressing all of the important topics on the one hand with getting real work done on the other.

GGF also has a steering group (GFSG) whose members were initially assigned to one or more working groups for the purposes of assisting working group chairs, facilitating communication among working groups, etc. As of June 2001 there were 13 working groups assigned to 9 steering group members. For more information on GGF management, see [4].

4. GGF Groups: Definitions

The GGF intends to emulate, as appropriate, the Internet Engineering Task Force (IETF, www.ietf.org) and to support and complement the Internet Standards Process as outlined in [1]. It

is therefore advantageous if GGF structure and process closely mirrors the IETF. At the same time, some GGF activities more closely resemble the work of the Internet Research Task Force (IRTF, www.irtf.org). Because GGF is composed of both IETF-like and IRTF-like activities, the overall GGF structure and process will be slightly different from IETF, however, GGF groups (i.e. research groups and working groups) should ideally function in similar fashion to groups of the same name within the Internet Standards Process.

This document summarizes three types of groups to be used within GGF: *Areas*, *Working Groups*, and *Research Groups*. The IETF/IRTF definitions and descriptions of these groups are found in [2] and [3]; this document is intended to summarize the aspects of these groups that are particularly salient to GGF.

One of the distinguishing characteristics between research groups and working groups is the type of documents that are likely to come from each group. More detail on the document process is available in [5].

4.1 Working Group

A working group generally has a finite lifespan and is focused on a particular, specific problem, technology, or opportunity for which they will deliver a document or series of documents, after which they may disband or create a revised charter for further work. The completion of a working group charter and subsequent disbanding of the group is viewed as a sign of success. Expected lifespan would be anywhere from 4-24 months, but may in some cases be longer or shorter. In general, working groups and working group process are described in [2]. Any and all types of GGF documents may come from GGF working groups. However, technical specifications and recommendations track documents will generally be the focus of working groups.

4.2 Research Group

A research group has an indefinite, longer-term lifespan, attempting to address a set of problems, technologies, or opportunities where a long term approach is appropriate or in some cases where it may be premature to develop technical specifications or recommendations track documents. In general, research groups and research group process are described in [3]. Technical specifications and recommendations track documents will not generally come from GGF research groups, however informational, experimental, or community practice documents are expected to come from GGF research groups. It is expected, but not required, that research groups will either “spawn” a working group or will provide input to existing working groups where specifications or recommendations track documents are needed.

4.3 Area

An area is a collection of related research groups and working groups. Areas exist for management purposes and to provide a structure for interactions among related groups. Thus the set of areas at any given point in time is driven by existing or timely/desired group topics rather than an overall, top-down architecture statement. Areas are expected to remain relatively consistent over time, though new areas may be formed as needed. Areas are discussed briefly in [2].

5. Proposed GGF Structure

In order to clarify the operation and focus of GGF groups, the following actions are proposed. First is the creation of “areas” within which the current GGF groups will be organized. Second is the formal designation of some groups as “research groups” and others as “working groups.”

In some GGF groups there are multiple sub-tasks that have been established to address particular problems or opportunities within the broad topic area of the group. In these cases, the group is de facto operating as an “area” with functioning working groups and/or research groups, and will be designated as such, i.e. “converted” into an area with the subgroups designated as working groups or research groups, as appropriate. The current working group chairs will work with sub-group chairs in these cases to ensure that each group has leadership and that each group has a current and up-to-date charter.

Other GGF groups have broad titles and in some cases they will be re-named to more precisely reflect the chartered work. These existing groups will become working groups or research groups within an appropriate area. Table 1 proposes designation of existing GGF working groups as either “Working Groups” or “Research Groups.” These recommendations have been proposed with input from group chairs and participants.

5.1 Designation as Working Groups and Research Groups

The particular focus and purpose of each GGF group, combined with long-term objectives, will determine which groups are “research groups” and which are “working groups.” In several cases, current groups will become multiple working groups and/or research groups. In other cases, a group will be renamed to more precisely describe its focus and work. From this point forward, the designation of research or working group should be made at the time the group is initially formed (i.e. within the charter). Existing groups are designated in this proposal either as research groups or working groups based on input from group chairs. If it becomes apparent, over time, that a group should be changed from working to research or vice versa this can be done by submitting a revised charter to the GGF Chair along with recommendations for the change. The relevant area director will approve or deny the proposed change based on input from the group chairs and the GFSG.

Current Group	Type
Accounting (ACCT)	Research
Advanced Collaborative Environments (ACE)	Research
Advanced Programming Models (APM)	Research
Applications & Testbeds (APPS)	Research
Grid Computing Environments (GCE)	Research
Grid Protocol Architecture (GPA)	Research
Grid User Services (GUS)	Research
Dictionary (DICT)	Working
Grid Performance (PERF)	Area
JINI	Working
Remote Data Access (DATA)	Area
Grid Information Services (GIS)	Area
Grid Security (SEC)	Area
Scheduling and Resource Management (SRM)	Area

Table 1: GGF Groups as of June 2001 and with proposed type designation.

5.2 GGF Areas

The Grid Information Services (GIS), Scheduling and Resource Management (SRM), and Security (SEC), and Remote Data Access (DATA) groups each have formed multiple subgroups. An area will be formed corresponding to each of these four groups and within which the existing subgroups will operate as individual working groups or research groups, as appropriate.

Additional areas proposed are Grid Performance (GP), Architectures and Frameworks (ARCH), and Applications, Programming Models, and User Environments (AUE). As noted earlier, these areas represent a reasonable mapping of current and anticipated GGF activities but are not meant to be a “taxonomy” of grid technologies. Further, as needs arise it is expected that new areas may be formed from time to time.

Table 2 shows the working groups and research groups within each of the areas.

Area	Working Groups	Research Groups
Grid Information Services (GIS)	<ul style="list-style-type: none"> • Grid Object Specification • Grid Notification Framework • Metacomputing Directory Services 	<ul style="list-style-type: none"> • Relational Database Information Services
Scheduling and Resource Management (SRM)	<ul style="list-style-type: none"> • Advanced Reservation • Scheduling Dictionary • Scheduler Attributes 	
Security (SEC)	<ul style="list-style-type: none"> • Grid Security Infrastructure • Grid Certificate Policy 	
Grid Performance (GP)	<ul style="list-style-type: none"> • Grid Performance 	
Architectures and Frameworks (ARCH)	<ul style="list-style-type: none"> • JINI 	<ul style="list-style-type: none"> • Grid Protocol Architecture • Accounting Models
Data	<ul style="list-style-type: none"> • GridFTP 	<ul style="list-style-type: none"> • Data Replication
Applications, Programming Models, and User Environments (APE)		<ul style="list-style-type: none"> • Applications & Testbeds • Grid User Services • Grid Computing Environments • Advanced Programming Models • Advanced Collaboration Environments

5.3 Management Considerations

Prior to formation of areas, each member of the GGF Steering Group (GFSG) was responsible for providing oversight to one or more working groups. With the proposed formation of areas, one or more GFSG members will be assigned responsibility for an area, and their role will be defined as “area director.” Most GFSG members will serve as area directors; however there will continue to be general GFSG members as well.

6. Formation and Management of Working Groups and Research Groups

Working Groups (WG) and Research Groups (RG) are the activity centers in the GGF. A WG is typically created to address a particular implementation, or operational area related to infrastructure necessary for building “grids,” and a RG is typically created to address topics where there may not yet be sufficient experience to develop detailed technical specifications or recommendations track documents. WGs may or may not have long-term membership; however RGs are expected to have stable, long-term membership in order to promote collaboration and teamwork. Participation in both types of group is by individual contributors, rather than by representatives of organizations.

A WG or RG may be established at the initiative of an individual or group of individuals. Anyone interested in creating a GGF WG or RG must submit a charter for the proposed group to the GGF Chair along with a list of proposed founding members. At least one BOF session must be held at

a general GGF meeting. The draft charter is not a prerequisite for holding the BOF, as indeed the BOF may be used to gauge interest or to develop a draft charter. The GGF Chair in consultation with the GGF Steering Group (GFSG) will review the charter for approval. In some cases a group will be encouraged to continue to meet as a BOF until critical mass or focus can be achieved.

If approved, a link to the group website (may be a site or a single, simple web page, see §6.2) is placed on the main GGF Web site, the Area website (if one exists), and announced via the GGF electronic newsletter.

6.1 Criteria for Formation

In determining whether it is appropriate to create a WG or RG, the GFSG will consider several issues. The GFSG may determine that a proposed WG should be formed as a RG or vice-versa.

- Are the topics that the group plans to address clear and relevant for the Grid research, development, implementation, and/or application user community?
- Will the formation of the group foster work that would not be done otherwise? For instance, membership drawn from more than a single institution, more than a single country, and so on, is to be encouraged.
- Do the group's activities overlap with those of another GGF groups or to a group active in another organization such as IETF, W3C, etc? Depending on the nature and extent of the overlap, the proposed group may still be formed or it may be recommended that the work be done within the existing GGF (or external) group.
- Is 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? To help in this determination, a proposal to create a group should include a list of potential charter members.
- Does a base of interested consumers (e.g., application developers, Grid system implementers, end-users) appear to exist for the planned work? "Consumer" interest can be measured by participation of end-users and implementers within the GGF process, as well as by less direct means.
- Does the GGF have a reasonable role to play in the determination of the technology? If there are other organizations working in similar areas the proposed group must outline how they will coordinate these other efforts.

6.2 Charter

A charter is a contract between a RG or WG and the GGF to work in the designated area. Charters may be renegotiated periodically to reflect changes to the current status, organization or goals of the Group.

The formation of a RG or WG requires a charter that is initially negotiated between the prospective Group Chair(s) and the GGF Chair in cooperation with the GFSG. When the prospective Chair(s), relevant Area Director(s), and the GGF Chair are satisfied with the charter form and content and pending approval by the GFSG, it becomes the basis for forming a WG or RG.

A GGF WG or RG charter consists of two components:

- a. Administrative: Group Name, Names and contact information for group chair(s), name and contact information for group secretary, mailing list address, website (or web page) address.
- b. Description and Objectives: Description of Group (including type- RG or WG), goals for the group, and schedule of milestones (particularly important for working groups).

6.2.1 Administrative

Group Name: A Group name should be reasonably descriptive or identifiable. Additionally, the group shall define an acronym (maximum 8 printable ASCII characters) to reference the group in the GGF directories, mailing lists, and general documents. The name and acronym must not conflict with any other GGF names and acronyms.

Chair(s): The Group may have one or two Chair(s) to perform the administrative functions of the group. The email address(es) of the Chair(s) shall be included.

Secretary: The group must have a secretary (one of the chairs may serve the role) who will ensure that minutes are made available for meetings and who will manage the group's mailing list.

Mailing List: Each group will have an Internet mailing list open to all interested parties and operating within the bounds of the GGF mailing list acceptable use policies. For short-term working groups, the Area Director(s) may recommend that the main area mailing list (if one exists) be used for discussions in order to minimize the "overhead" of creating and running the working group. This list is used for an open discussion of the issues and announcements of results as they become available. Included should be the address to which an interested party sends a subscription request for the interest list, the procedures to follow when subscribing, and the location of the interest mailing list archive. The mailing list traffic must be archived for future reference and to allow newcomers to review in preparation for joining the work.

6.2.2 Description and Objectives

Focus/Purpose: The focus and intent of the group shall be set forth briefly. By reading this section alone, an individual should be able to decide whether this group is relevant to their own work. The first paragraph must give a brief summary of the topic area, basis, goal(s) and approach(es) planned for the Group. This paragraph will frequently be used as an overview of the Group's effort. To facilitate evaluation of the intended work and to provide on-going guidance to the group, the charter must describe the problem being solved and should discuss objectives and expected impact with respect to:

- Architecture
- Deployment and Operations
- Security
- Application Development and Runtime issues
- Scalability
- Transition (where applicable)

Goals/Milestones: The Group charter must establish a timetable for specific work items. While this timetable may be renegotiated over time, the list of milestones and dates facilitates the GFSG's tracking of Group progress and status, and it is indispensable to potential participants as a means of identifying the critical moments for input. Milestones shall consist of deliverables that can be qualified as showing specific achievement; e.g., "Draft Document on Topic X finished" is

fine, but "discuss via email" is not. It is helpful to specify milestones for every 3-6 months, so that progress can be gauged easily. This milestone list is expected to be updated periodically. Research groups may have much more general milestones and longer time frames.,

Website: Each Group will maintain a website, which may be a single web page on the website associated with the relevant Area. This site or page should contain relevant information about the group, including at minimum (a) all charter items and (b) a link to the main GGF website.

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8. Acknowledgements

This document attempts to capture the recommendations of many members of the GGF steering group and working group chairs as well as the foundational work that is documented in the references.

9. Glossary

Area	A set of loosely related working groups and/or research groups, managed by one or more Area Directors.
Area Director	Member of the GGF Steering Group with management responsibility for a set of working groups and/or research groups, known as an "area."
GGF	Global Grid Forum, see www.globalgridforum.org
GGF Chair	Chair of the GFSG and general chair of GGF.
GFAC	Global Grid Forum Advisory Committee, an external advisory group.
GFSG	Global Grid Forum Steering Group, consisting of selected senior GGF participants and Area Directors, chaired by the GGF Chair.
IETF	Internet Engineering Task Force, see www.ietf.org
IRTF	Internet Research Task Force, see www.irtf.org
RG	Research Group, see §4.
WG	Working Group, see §4.

10. References

- [1] Bradner, S., "The Internet Standards Process – Revision 3", RFC 2026, October 1996.
- [2] Bradner, S., "IETF Working Group Guidelines and Procedures", RFC 2418, September 1998.
- [3] Weinrib, A. and Postel, J., "IRTF Research Group Guidelines and Procedures", RFC 2014, October 1996.
- [4] Catlett, C., Foster, I. and Johnston, W., "Global Grid Forum Management Structure and Processes," October 2001.
- [5] Catlett, C., "Global Grid Forum Documents and Recommendations: Process and Requirements." October 2001.

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