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IRTF Research Group Guidelines and Procedures

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Abstract

The Internet Research Task Force (IRTF) has responsibility for organizing groups to investigate research topics related to the Internet protocols, applications, and technology. IRTF activities are organized into Research Groups. This document describes the guidelines and procedures for formation and operation of IRTF Research Groups. It describes the relationship between IRTF participants, Research Groups, the Internet Research Steering Group (IRSG) and the Internet Architecture Board (IAB). The basic duties of IRTF participants, including the IRTF Chair, Research Group Chairs and IRSG members are defined.

1. INTRODUCTION

This document defines guidelines and procedures for Internet Research Task Force (IRTF) Research Groups. The IRTF focuses on longer term research issues related to the Internet while the parallel organization, the Internet Engineering Task Force (IETF), focuses on the shorter term issues of engineering and standards making.

The Internet is a loosely-organized international collaboration of autonomous, interconnected networks; it supports host-to-host communication through voluntary adherence to open protocols and procedures defined by Internet Standards, a collection of which are commonly known as "the TCP/IP protocol suite". Development and review of potential Internet Standards from all sources is conducted by the Internet Engineering Task Force (IETF). The Internet Standards Process is defined in [1].

The IRTF is a composed of a number of focused, long-term, small Research Groups. These groups work on topics related to Internet protocols, applications, architecture and technology. Research Groups are expected to have the stable long term membership needed to promote the development of research collaboration and teamwork in exploring research issues. Participation is by individual contributors, rather than by representatives of organizations.

The IRTF is managed by the IRTF Chair in consultation with the Internet Research Steering Group (IRSG). The IRSG membership includes the IRTF Chair, the chairs of the various Research Group and possibly other individuals ("members at large") from the research community.

The IRTF Chair is appointed by the IAB, the Research Group chairs are appointed as part of the formation of Research Groups (as detailed below) and the IRSG members at large are chosen by the IRTF Chair in consultation with the rest of the IRSG and on approval by the IAB.

In addition to managing the Research Groups, the IRSG may from time to time hold topical workshops focusing on research areas of importance to the evolution of the Internet, or more general workshops to, for example, discuss research priorities from an Internet perspective.

This document defines procedures and guidelines for formation and operation of Research Groups in the IRTF. The duties of the IRTF Chair, the Research Group Chairs and IRSG members are also described. Except for members at large of the IRSG, there is no general participation in the IRTF, only participation in a specific Research Group.

The document uses: "shall", "will", "must" and "is required" where it describes steps in the process that are essential, and uses: "suggested", "should" and "may" where guidelines are described that are not essential, but are strongly recommended to help smooth Research Group operation. The terms "they", "them" and "their" are used in this document as third-person singular pronouns.

1.1. IRTF approach

The reader is encouraged to study The Internet Standards Process [1] to gain a complete understanding of the philosophy, procedures and guidelines of the IETF and its approach to standards making.

The IRTF does not set standards, and thus has somewhat different and complementary philosophy and procedures. In particular, an IRTF Research Group is expected to be long-lived, producing a sequence of

"products" over time. The products of a Research Group are research results that may be disseminated by publication in scholarly journals and conferences, as white papers for the community, as Informational RFCs, and so on. In addition, it is expected that technologies developed in a Research Group will be brought to the IETF as input to IETF Working Group(s) for possible standardization. However, Research Group input carries no more weight than other community input, and goes through the same standards setting process as any other proposal.

IRTF Research Groups are formed to encourage research in areas of importance to the evolution of the Internet. Clearly, anyone may conduct such research, whether or not they are members of a Research Group. The expectation is that by sponsoring Research Groups, the IRTF can foster cross-organizational collaboration, help to create "critical mass" in important research areas, and add to the visibility and impact of the work.

IRTF Research Groups may have open or closed memberships. Limited membership may be advantageous to the formation of the long term working relationships that are critical to successful collaborative research. However, limited membership must be used with care and sensitivity to avoid unnecessary fragmentation of the work of the research community. Allowing limited membership is in stark contrast to IETF Working Groups, which are always open; this contrast reflects the different goals and environments of the two organizations- research vs. standards setting.

To ameliorate the effects of closed membership, all Research Groups are required to regularly report progress to the community, and are encouraged to hold occasional open meetings (most likely co-located with IETF meetings). In addition, the IRTF may host open plenaries at regular IETF meetings during which research results of interest to the community are presented. Finally, multiple Research Groups working in the same general area may be formed if appropriate.

Even more than the IETF, the work of the IRSG is expected to be marked by informality. The goal is to encourage and foster valuable research, not to add burdensome bureaucracy to the endeavor.

1.2. Acknowledgments

This document is based on the March 1994 RFC "IETF Working Group Guidelines and Procedures" by E. Huizer and D. Crocker [2].

2. RESEARCH GROUP FORMATION

Research Groups are the activity centers in the IRTF. A Research Group is typically created to address a research area related to Internet protocols, applications, architecture or technology area. Research Groups have the stable long term membership needed to promote the development of research collaboration and teamwork in exploring research issues. Participation is by individual contributors, rather than by representatives of organizations.

A Research Group may be established at the initiative of an individual or group of individuals. Anyone interested in creating an IRTF Research Group must submit a charter for the proposed group to the IRTF Chair along with a list of proposed founding members. The charter will be reviewed by the IRSG and then forwarded to the IAB for approval.

If approved, the charter is placed on the IRTF Web site, and published in the Internet Monthly Report (IMR).

2.1. Criteria for formation

In determining whether it is appropriate to create a Research Group, the IRTF Chair, the IRSG and the IAB will consider several issues:

- Is the research area that the Research Group plans to address clear and relevant for the Internet community?

- Will the formation of the Research 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 Research Group’s activities overlap with those of another Research Group? If so, it may still be appropriate to create the Research Group, but this question must be considered carefully since subdividing efforts often dilutes the available technical expertise.

- Is there sufficient interest and expertise in the Research Group's topic with at least several people willing to expend the effort that is likely to produce significant results over time? Research Groups require considerable effort, including management of the Research Group process, editing of Research Group documents, and contribution to the document text. IRTF experience suggests that these roles typically cannot all be handled by one person; at least four or five active participants are typically required. To help in this determination, a proposal to create a Research Group should include a list of potential charter members.

The Internet Architecture Board (IAB) will also review the charter of the proposed Research Group to determine the relationship of the proposed work to the overall architecture of the Internet Protocol Suite.

2.2. Charter

A charter is a contract between a Research Group and the IRTF to conduct research in the designated area. Charters may be renegotiated periodically to reflect changes to the current status, organization or goals of the Research Group.

The formation of a Research Group requires a charter which is initially negotiated between a prospective Research Group Chair and the IRTF Chair. When the prospective Chair and the IRTF Chair are satisfied with the charter form and content, it becomes the basis for forming a Research Group.

A IRTF Research Group charter consists of five sections:

1. Research Group Name

   A Research 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 IRTF directories, mailing lists, and general documents. The name and acronym must not conflict with any IETF names and acronyms.

2. Chair(s)

   The Research 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.

3. Mailing list(s)

Each Research Group shall have an address (possibly the Chair's) for members of the Internet community to send queries regarding the Research Group. For instance, for requests to join the group.

A Research Group, whether limited membership or open, will have an "interest" Internet mailing list open to all interested parties. 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 and the procedures to follow when subscribing, and the location of the interest mailing list archive.

It is expected that a Research Group may also have a mailing list limited to the regular meeting participants on which substantial part of the work of a Research Group is likely to be conducted via e-mail.

4. Membership Policy

The Charter must define the membership policy (whether open or limited), and the procedure to apply for membership in the group. While limited membership is permitted, it is in no way encouraged or required.

5. Description of Research Group

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 research area, basis, goal(s) and approach(es) planned for the Research Group. This paragraph will frequently be used as an overview of the Research Group's effort.

To facilitate evaluation of the intended work and to provide on-going guidance to the Research Group, the charter shall describe the proposed research and shall discuss objectives and expected impact with respect to the Internet Architecture.

3. RESEARCH GROUP OPERATION

Research Groups are autonomous and each determines most of the details of its own operation with respect to session participation, reaching closure, norms of behavior, etc. Since the products are

research results, not Internet standards, consensus of the group is not required. Rather, the measure of success is the quality and impact of the research results.

A number of procedural questions and issues will arise over time, and it is the function of the Research Group Chair to manage the group process, keeping in mind that the overall purpose of the group is to make progress towards realizing the Research Group's goals and objectives.

There are few hard and fast rules on organizing or conducting Research Group activities, but a set of guidelines and practices have evolved over time that have proven successful. These are listed here, with actual choices typically determined by the Research Group members and the Chair.

3.1. Meeting planning

For coordinated, structured Research Group interactions, the Chair must publish to the group mailing list a draft agenda well in advance of the actual meeting. The agenda needs to contain at least:

- The items for discussion;
- The estimated time necessary per item; and
- A clear indication of what documents the participants will need to read before the meeting in order to be well prepared.

A Research Group will conduct much of its business via its electronic mail distribution list(s). It is also likely to meet periodically to accomplish those things that are better achieved in more interactive meetings, such as brainstorming, heated altercations, etc. Meetings may be scheduled as telephone conference, video teleconference, or face-to-face (physical) meetings.

It is strongly encouraged that all Research Group meetings be recorded in written minutes, to keep informed members who were not present and the community at large and to document the proceedings for present and future members. These minutes should include the agenda for the meeting, an account of the high points of the discussion, and a list of attendees. Unless the Research Group chair decides otherwise, the minutes should be sent to the interest group and made available through the IRTF Web and ftp sites.

3.2. Meeting venue

Each Research Group will determine the balance of email and face-to-face meetings that is appropriate for making progress on its goals.

Electronic mail permits the easiest and most affordable participation; face-to-face meetings often permit better focus, more productive debate and enhanced working relationships.

Face-to-face meetings are encouraged to be held co-located with the regular IETF meetings to minimize travel, since IRTF members are often also active in the IETF and to encourage the cross-fertilization that occurs during hallway and after-hours interactions. Furthermore, as described above, even limited-membership Research Groups are encouraged to hold occasional open meetings; an IETF meeting would serve as an ideal venue for such an event.

3.3. Meeting management

The challenge to managing Research Group meetings is to balance the need for consideration of the various issues, opinions and approaches against the need to allow forward progress. The Research Group, as a whole, has the final responsibility for striking this balance.

4. RESEARCH GROUP TERMINATION

If, at some point, it becomes evident that a Research Group is not making progress in the research areas defined in its charter, or fails to regularly report the results of its research to the community, the IRTF Chair can, in consultation with Group, either:

1. Require that the group recharter to refocus on a different set of problems,

2. Request that the group choose new Chair(s), or

3. Disband the group.

If the Research Group disagrees with the IRTF Chair’s choice, it may appeal to the IAB.

5. STAFF ROLES

Research Groups require considerable care and feeding. In addition to general participation, successful Research Groups benefit from the efforts of participants filling specific functional roles.

5.1. IRTF Chair

The IRTF Chair is responsible for ensuring that Research Groups produce coherent, coordinated, architecturally consistent and timely output as a contribution to the overall evolution of the Internet architecture. In addition to the detailed tasks related to Research Groups outlined below, the IRTF Chair may also from time to time arrange for topical workshops attended by the IRSG and perhaps other experts in the field.

Planning

The IRTF Chair monitors the range of activities. This may include encouraging the formation of Research Groups directly, rather than waiting for proposals from IRTF participants.

Coordination of Research Groups

The IRTF Chair coordinates the work done by the various Research Groups.

Reporting

The IRTF Chair reports on IRTF progress to the to the IAB and the wider Internet community (including via the IMR).

Progress tracking

The IRTF Chair tracks and manages the progress of the various Research Groups with the aid of a regular status report on documents and accomplishments from the Research Group Chairs. The resulting reports are made available to the community at large at regular intervals.

5.2. IRSG Member

Members of the IRSG are responsible for advising the IRTF Chair on the chartering of new Research Groups and other matters relating to the smooth operation of the IRTF. In addition, most IRSG members are also Research Group chairs.

5.3. Research Group Chair

The Research Group Chair is concerned with making forward progress in the areas under investigation, and has wide discretion in the conduct of Research Group business. The Chair must ensure that a number of tasks are performed, either directly or by others assigned to the tasks. This encompasses at the very least the following:

Ensuring the Research Group process and content management

The Chair has ultimate responsibility for ensuring that a Research Group achieves forward progress. For some Research Groups, this can be accomplished by having the Chair perform all management-related activities. In other Research Groups -- particularly those with large or divisive participation -- it is helpful to allocate process and/or secretarial functions to other participants. Process management pertains strictly to the style of Research Group interaction and not to its content. The secretarial function encompasses preparation of minutes, and possibly editing of group-authored documents.

Moderate the Research Group email list

The Chair should attempt to ensure that the discussions on this list are relevant and that not devolve to "flame" attacks or rat-hole into technical trivia. The Chair should make sure that discussions on the list are summarized and that the outcome is well documented (to avoid repetition).

Organize, prepare and chair face-to-face and on-line formal meetings

The Chair should plan and announce meetings well in advance. (See section on Meeting Planning for procedures.)

Communicate results of meetings

The Chair and/or Secretary must ensure that minutes of a meeting are taken.

Distribute the work

It is expected that all Research Group participants will actively contribute to the work of the group. Research Group membership is expected to be a long term commitment by a set of motivated members of the research community. Of course, at any given time more of the work is likely to be done by a few participants with particular interests, set of skills and ideas. It is the task of the Chair to motivate enough experts to allow for a fair distribution of the workload.

Document development

Research Groups produce documents and documents need authors. However, authorship of papers related to the work of a Research Group is one of the primary reasons that researchers become members, so finding motivated authors should not be a problem.

It is up to the Research Group to decide the authorship of papers resulting from Research Group activities. In particular, authorship by the entire group is not required.

Document publication

The Chair and/or Secretary will work with the RFC Editor to ensure documents to be published as RFCs conform with RFC publication requirements and to coordinate any editorial changes suggested by the RFC Editor.

5.4. Research Group Editor/Secretary

Taking minutes and editing jointly-authored Research Group documents often is performed by a specifically-designated participant or set of participants.

6. RESEARCH GROUP DOCUMENTS

6.1. Meeting documents

All relevant documents for a meeting (including the final agenda) should be published to the group mailing list and available at least two weeks before a meeting starts.

It is strongly suggested that the Research Group Chair make sure that an anonymous FTP directory or Web site be available for the upcoming meeting. All relevant documents (including the final agenda and the minutes of the last meeting) should be placed in this directory. This has the advantage that all participants can retrieve all files in this directory and thus make sure they have all relevant documents. Also, it will be helpful to provide electronic mail-based retrieval for those documents.

6.2. Request For Comments (RFC)

The work of an IRTF Research Group usually results in publication of research papers and other documents, as well as documents as part of the Informational or Experimental Request For Comments (RFCs) series [1]. This series is the archival publication record for the Internet community. A document can be written by an individual in a Research Group, by a group as a whole with a designated Editor, or by others not involved with the IRTF. The designated author(s) need not include the group Chair(s).

NOTE: The RFC series is a publication mechanism only and publication does not determine the status of a document. Status is determined through separate, explicit status labels. In other words, the reader is reminded that all Internet Standards are published as RFCs, but NOT all RFCs specify standards.

The RFC’s authors are expected to work with the RFC Editor to meet all formatting, review and other requirements that the Editor may impose. Usually, in case of a submission intended as an Informational or Experimental RFC minimal review is necessary, although publication in the Experimental track generally requires IESG review. However, in all cases initial publication as an Internet Draft is preferred.

If the Research Group or the RFC Editor thinks that an extensive review is appropriate, the IRTF Chair may be asked to conduct one. This review may either be done by the IRTF Chair, the IRSG, or an independent reviewer selected by the IRTF Chair. Occasionally, review by the IETF or IESG may be appropriate.

7. SECURITY CONSIDERATIONS

Security issues are not discussed in this memo.

8. REFERENCES

[1] Internet Architecture Board and Internet Engineering Steering Group, "The Internet Standards Process -- Revision 2", RFC 1602, IAB, IESG, March 1994. Soon to be replaced by "The Internet Standards Process -- Revision 3", Work in Progress.

[2] Huizer, E. and D. Crocker, "IETF Working Group Guidelines and Procedures", RFC 1603, March 1994.

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