



**The IRTF**  
**Promoting Research for the**  
**Evolution of the Future Internet**

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**chair AAAARCH-Research Group**  
**Utrecht University**

## IRTF Mission

*To promote research of importance to the evolution of the future Internet by creating focused, long-term and small Research Groups working on topics related to Internet protocols, applications, architecture and technology!*

**Organizational position**

**ISOC**

**IETF**

**IRTF**

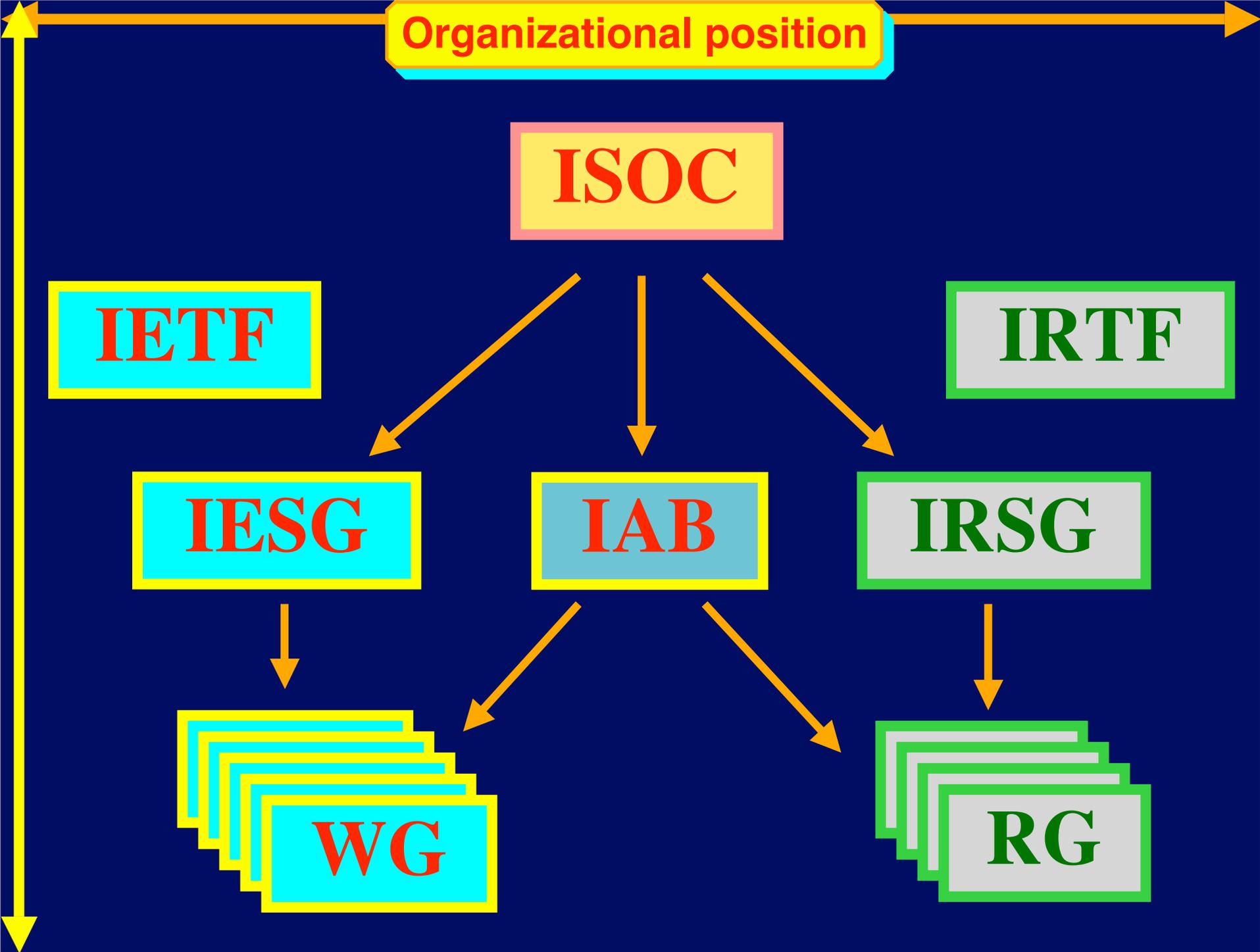
**IESG**

**IAB**

**IRSG**

**WG**

**RG**



## IRTF organization

- The IRTF Chair
  - appointed by the Internet Architecture Board (IAB)
- Research Group chairs
  - appointed as part of the formation of Research Groups
- IRSG members
  - Research Group chairs
  - chosen by the IRTF Chair in consultation with the rest of the IRSG and on approval of the IAB.

**RFC 2014**

**Network Working Group**

**Request for Comments: 2014**

**BCP: 8**

**Category: Best Current Practice**

**A. Weinrib**

**Intel Corporation**

**J. Postel**

**ISI**

**October 1996**

**IRTF Research Group Guidelines and Procedures**

## Can do and can not do

- Long lived research groups
- Open or closed memberships
- Meetings at IETF's
  - Plenary
  - Thursday evenings
- Same meeting organization rules (one month notice)
- Same note taking rules
- Informational and experimental RFC's
- RFC's:
  - At discretion of RG chairs
  - To RFC editor
  - Minimal review by/via IRTF chair
  - Experimental RFC's may go through IESG
- IRTF RG's can not do standards!!! -> IETF WG's

- Active IRTF Research Groups
  - Authentication Authorization Accounting Architecture
  - Building Differentiated Services
  - End-to-End
  - Internet Resource Discovery
  - Interplanetary Internet
  - Network Management
  - Name-Space
  - Reliable Multicast
  - Routing
  - Secure Multicast
  - Services Management
  - Digital Rights Management
- "Historical" IRTF Research Groups
  - Privacy and Security
  - Information Infrastructure Architecture

- Authentication Authorisation Accounting ARCHitecture Research Group (AAAARCH)
  - chairs: John Vollbrecht, [jrv@interlinknetworks.com](mailto:jrv@interlinknetworks.com)  
Cees de Laat C.T.A.M.deLaat@phys.uu.nl
  - This RG will work to define a next generation AAA architecture that incorporates a set of interconnected "generic" AAA servers and an application interface that allows Application Specific Modules access to AAA functions.
  - Membership Policy: open, status: active
- Building Differentiated Services Group (BuDS)
  - chairs: Victor Firoiu, [vfiroiu@nortelnetworks.com](mailto:vfiroiu@nortelnetworks.com)  
Jon Crowcroft, [J.Crowcroft@cs.ucl.ac.uk](mailto:J.Crowcroft@cs.ucl.ac.uk)
  - Identify major issues and investigate solutions for building, deploying and managing predictable, robust, intra- and inter-domain services based on various architectures and per-hop behaviors including those defined by the Differentiated Services IETF WG.
  - Membership Policy: limited, status: mailing list only spam last months

- End-to-End Research Group
  - Chair: Bob Braden, braden@isi.edu
  - The specific topics of interest to the E2E RG has changed as network research has advanced, but it is generally concerned with end-to-end services and protocols implemented in hosts, such as transport protocols and implementation architecture for high performance.
  - Membership Policy: open, status: active
- Internet Resource Discovery (IRD) Research Group
  - Chairs: Cecilia Preston, cecilia@well.com  
Clifford Lynch cliff@cni.org
  - Charter is currently being revised!
  - This IRTF research group is chartered to develop a model for resource description on the Internet.
  - Membership Policy: closed, status: unknown

## RG-Summaries - 3

- **Interplanetary Internet Research Group Charter (IPNRG)**
  - Chairs: Eric Travis, [travis@clark.net](mailto:travis@clark.net)  
Robert Rumeau, [Robert.Rumeau@cnes.fr](mailto:Robert.Rumeau@cnes.fr)
  - Purpose: The IPNRG is chartered to address the issues associated with deploying and interacting with astronomically remote, self-sustaining fragments of the Internet. These "edge Internet" fragments are generally untethered with respect to the Internet backbone and can range from single nodes with intermittent external connectivity to well populated subnetworks and internets with extremely constrained connectivity.
  - Membership Policy: limited, status: active
- **Network Management Research Group Charter (NMRG)**
  - Chairs: Juergen Schoenwaelder, [schoenw@ibr.cs.tu-bs.de](mailto:schoenw@ibr.cs.tu-bs.de)
  - The Network Management Research Group (NMRG) provides a forum for researchers to explore new technologies for the management of the Internet. In particular, the NMRG will work on solutions for problems that are not yet considered well understood enough for engineering work within the IETF.
  - Membership Policy: limited, status: active

- **NameSpace Research Group (NSRG)**

- Chairs: Steve Crocker, [steve@stevicrocker.com](mailto:steve@stevicrocker.com)  
Steve Bellovin, [smb@research.att.com](mailto:smb@research.att.com)
- The prevalence of private address space for IPv4, and the prospect of adoption of IPv6 by at least some domains of application, mean that the traditional method of uniquely identifying an Internet end-point throughout time and space by a 32-bit registry-assigned IPv4 address is no longer universally valid.
- Membership Policy: on invitation only, status: not active

- **Reliable Multicast Group Charter**

- Chairs: Allison Mankin, [mankin@east.isi.edu](mailto:mankin@east.isi.edu)  
Mark Handley, [mjh@aciri.org](mailto:mjh@aciri.org)
- The RMRG purpose is collectively to solve some hard problems about reliable multicast transport protocols.
- Membership Policy: open, status: lots of announcements, group seems not very active

- **Routing Research Group**

- Chairs: Abha Ahuja [ahuja@merit.edu](mailto:ahuja@merit.edu)  
Sean Doran [smd@ebone.net](mailto:smd@ebone.net)
- This research group is chartered to explore routing problems that are important to the development of the Internet but are not yet mature enough for engineering work within the IETF. The group will work closely with the IESG Routing Area Director to ensure the free flow of information in both directions and avoid duplication of work with the various IETF working groups.
- Membership Policy: limited, status: active

- **Secure Multicast Group Charter (SMuG)**

- Chairs: Ran Canetti, [canetti@watson.ibm.com](mailto:canetti@watson.ibm.com)  
Thomas Hardjono, [Thomas\\_Hardjono@baynetworks.com](mailto:Thomas_Hardjono@baynetworks.com)
- There are many different ways of looking at multicast security, and many different security requirements depending on the application. The wide range of views has made it difficult for the IETF community to come to consensus on how to proceed.
- Membership Policy: limited, status: active

- **Services Management Research Group Charter**
  - Chairs: Sid Nag, [thinker@monmouth.com](mailto:thinker@monmouth.com)  
Michael Eder, [michael.eder@nokia.com](mailto:michael.eder@nokia.com)
  - The Services Management research group is chartered to investigate new architectures, information models, and supporting protocols to enable this convergence. A specific goal is to encompass consistent management of the increasingly diverse resources, with correspondingly broad ranges of capabilities, that are being connected to the Internet.
  - Membership Policy: limited, status: active
- **Internet Digital Rights Management Group Charter (IDRM)**
  - Chairs: Thomas Hardjono, [thardjono@nortelnetworks.com](mailto:thardjono@nortelnetworks.com)  
Mark Baugher, [mbaugher@cisco.com](mailto:mbaugher@cisco.com)
  - The use of the Internet to distribute rights-managed digital objects will necessitate the introduction of new technologies, which will have an impact on the Internet architecture. Directories, trust, policy, transport, and security services such as key management are likely to emerge as important to IP network DRM. Content caching as well as authorization, authentication, and accounting for rights-managed content are also issues that IDRM will investigate.
  - Membership Policy: open, status: fresh

## Conclusions

- **Can work very well**
- **Low threshold to start a RG**
- **Difficult to keep speed in RG's**
- **New RG's needed:**
  - Optical networking in the long term
  - GRID architecture
  - Middleware architecture
  - Anything architectures....