ICANN & Emerging RIRs

AfriNIC

Accra, Ghana

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Part I:
The ICANN Process

ICANN: The Basic Idea

ICANN =

An Experiment in

Technical Self-Management

by the global Internet community

What does ICANN actually do?

Coordinates policies relating to the unique assignment of:

- Internet Domain Names
- Numerical IP Addresses
- Protocol Port and Parameter Numbers

Coordinates the DNS Root Server System

- through Root Server System Advisory Committee

ICANN: The Basic Bargain

ICANN =

Internationalization
of Policy Functions for DNS and IP Addressing systems

+

Private Sector
(non-governmental) Management

Situation Before ICANN

Most Internet DNS and IP Address coordination functions performed by, or on behalf of, the US government

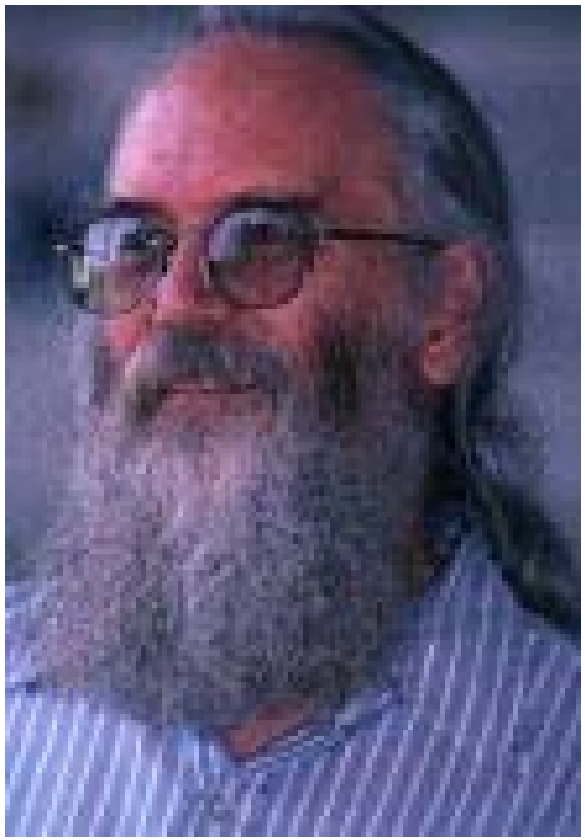
- Defense Advanced Research Projects Agency (DARPA)
  - Information Sciences Institute (ISI) of University of Southern California
  - Stanford Research Institute (SRI)
- National Science Foundation (NSF)
  - IBM, MCI, and Merit
  - AT&T, General Atomics, Network Solutions, Inc.
- National Aeronautics and Space Administration (NASA)
- US Department of Energy

… Things worked and life was good

Key Role of the IANA

- IANA acted for many years to assure proper technical coordination and function of all parts of the domain name system.
- These functions are still critical to the successful operation of Internet which is now a GLOBAL and rapidly growing medium.
- IANA has historically acted **very** conservatively, always encouraging local communities to reach consensus solutions within their communities.

IANA



Jon Postel
1943-1998

What are the IANA functions?

- Protocol parameter assignments
  - Under March 1, 2000 IETF/IAB/ICANN Memorandum of Understanding
- IP Address Allocations
- DNS root zone file management

IANA Workload - Protocols

(Yr 2000 - 2001)	Nov	Dec	Jan	Feb	Mar	Apr
User Ports	35	40	37	16	49	6
Sys Ports	0	0	0	0	0	0
Prot #s	0	0	0	0	0	0
MIME	7	1	2	1	7	0
MIBs	2	5	4	0	0	0
Pr Ent #s	363	263	353	313	~300	~300
Other	16	6	4	8	15	3

IANA Workload – Addresses

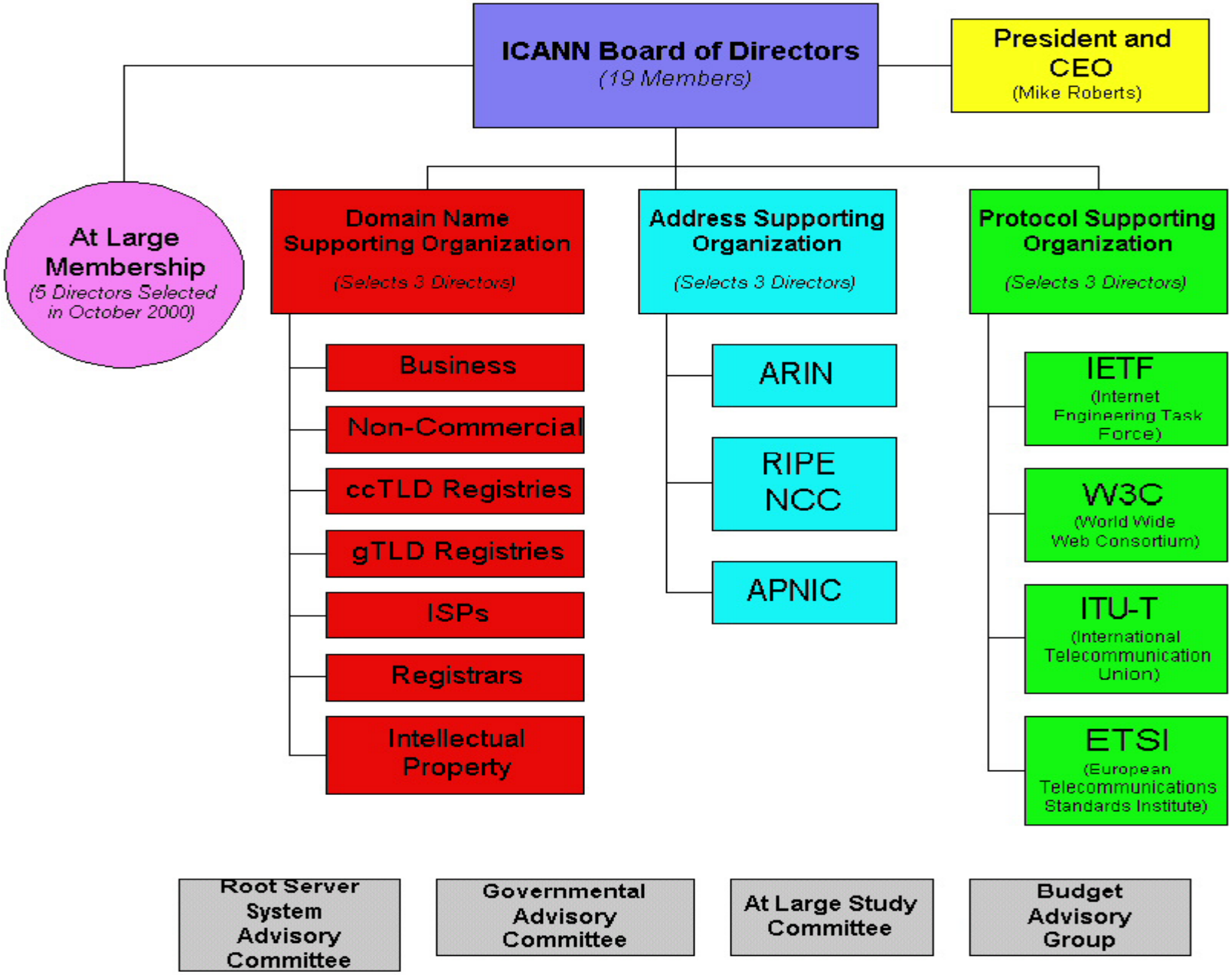
(Yr 2000 - 2001)	Nov	Dec	Jan	Feb	Mar	Apr
Multicast	0	0	2	0	0	0
Cable	1 blk	2 blk	2 blk	2 blk	2 blk	6 blk
AS #s	0	1 blk	0	1 blk	0	1 blk
RIR Alloc	0	1 /8	0	0	0	2 /8

IANA Processing Times

(in working days)

	Current Times (approx)	Goals
Ports (user & sys)	10-15 days*	10 days
Protocol #s	10-15 days*	10 days
MIME	3 days+expert	2 days+expert
MIBs	3 days	2 days
Pr Ent #s	1-2 days	2 days
Multicast	10-15 days*	10 days

ICANN Organizational Chart



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What ICANN is NOT

- Technical Standard-Setting Body
- Internet Police Force
- Consumer Protection Agency
- Competition Authority
- Legislature or Court

Part II:
New Regional Internet Registries

What? Why? How? When?

- So you want to form a new Regional Internet Registry…
  - Why?
  - How?
  - When?
- Any Guidelines or Criteria?

Current Status

- Existing RIRs have produced a document that has been endorsed by the ASO and forwarded to ICANN
  - *“Criteria for the Establishment of New Regional Internet Registries”*
  - Developed over last 2 years, with input from LACNIC and AfriNIC participants
- 10 Principles for Successful
  - Establishment
  - Operation

The 10 Principles

1) The region of coverage should meet the scale to be defined by ICANN, given the need to avoid global address fragmentation. (Approximately continental size)

2) The new RIR must demonstrate that it has the broad support of the LIRs (ISP community) in the proposed region.

3) Bottom-up self-governance structure for setting local policies.

4) Neutrality and impartiality in relation to all interested parties, and particularly the LIRs.

5) Technical expertise

6) Adherence to global policies regarding address space conservation, aggregation and registration

7) Activity plan

8) Funding model

9) Record Keeping

10) Confidentiality

The Criteria Document

<http://www.aso.icann.org/docs/other/emerging-rir-v1.html>

See: <http://www.aso.icann.org>

Click on Documents

Principle 1: Scale

The region of coverage should meet the scale to be defined by ICANN, given the need to avoid global address fragmentation.

The proposed RIR must operate internationally in a large geographical region of approximately continental size. Each region should be served by a single RIR, established under one management and in one location. The establishment of multiple RIRs in one region is likely to lead to:

- fragmentation of address space allocated to the region;
- difficulty for co-ordination and co-operation between the RIRs;
- confusion for the community within the region.

The internal administrative or membership structure of an RIR must also not be such as to cause any of these effects.

Principle 2: LIR Support

The new RIR must demonstrate that it has the broad support of the LIRs (ISP community) in the proposed region.

Clear consensus must be demonstrated within the community that a very substantial majority of the ISPs in the region are prepared to support the new RIR. The community must state that it is interested in receiving services from this new RIR and that they are convinced the new RIR can and will provide this. The community must also show that it is willing to support this new RIR vigorously, not only with their active participation in its bottom-up development but also financially.

The new RIR must show that every effort has been made to contact and convince existing LIRs in their region to gather support for the establishment of a new RIR in this region (e.g. by way of archives of public mailing lists, web sites, records of contacts with individual LIRs).

Principle 2: LIR Support (cont'd)

It must be demonstrated that when established the new RIR's membership will include a significant percentage of the existing LIRs within the new RIR's region of coverage, specifically including those LIRs already receiving IP address registration services and/or other related services from an existing RIR.

This point is critical, as it may be difficult to "force" an LIR to go to a new RIR, if they are already being served by an existing RIR. At the same time it would not be logical for some LIRs to be getting address registration services from an existing RIR and others from a new RIR. Eventually, the entire region should be served by the new RIR and the existing RIRs must be able to propose to their customers from this region to migrate existing service agreements to the new RIR.

Principle 3: Self-Governance

Bottom-up self-governance structure for setting local policies.

The new RIR needs to have and to clearly document defined procedures for the development of resource management policies which may be implemented regionally, as well as those that may be recommended to the Address Council for consideration as global policies.

These procedures must be open and transparent, be accessible to all interested parties, and ensure fair representation of all constituencies within the region.

These procedures should include holding at least one annual policy development meeting that is open and accessible to all interested parties. In addition to public meetings, the new RIR needs to maintain public archived mailing lists to discuss policy development.

Principle 4: Neutrality

Neutrality and impartiality in relation to all interested parties, and particularly the LIRs.

All organisations that receive service from the new RIR must be treated equally. The policies and guidelines proposed and implemented by the RIR need to ensure fair distribution of resources, and impartial treatment of the members/requestors.

The new RIR should be established as an independent, not-for-profit and open membership association.

Principle 5: Technical Expertise

The new RIR must be technically capable of providing the required allocation and registration services to the community in its region.

Specific technical requirements include provisioning by the RIR of:

- production grade global Internet connectivity, in order to provide access to all services offered and for exchange of registry data to and from the other RIR-whois database server(s);
- DNS servers to support Reverse DNS delegation;
- suitable internal infrastructure for operational purposes; and
- enough technically capable staff to ensure appropriate service levels to the LIRs, and to the Internet community.

Principle 6: Global Policies

Adherence to global policies regarding address space conservation, aggregation and registration

Policies of the new RIR must be established to ensure that the main goals of the registry system, in particular conservation of IP address space and aggregation of routing information, are respected. Furthermore, local policies that are developed in addition to established global policies need to be consistent with these and other global policy goals. All RIR policies need to be fully documented and publicly accessible.

Principle 7: Activity Plan

With its application for recognition, the new RIR should provide a published activity plan containing activities that are clearly within the purview of an RIR, and which is explicitly supported by the community of organisations supporting the new RIR.

Principle 7: Activity Plan (Continued)

It is recommended that new RIRs should NOT restrict activities exclusively to IP address allocations and assignments (registration services). Traditionally, the neutral and independent nature of RIRs have encouraged their use by their communities for wider support, communication, education and/or co-ordination purposes.

Activities provided by existing RIRs in addition to registration services include: technical training, public mailing list maintenance, information services, database maintenance, meeting organisation, and general liaison and co-ordination tasks.

However, any such additional activities should always be supported by the RIR's membership as consistent with both the basic operating principles of RIRs and the interests of the members.

Principle 7: Activity Plan (Cont'd cont'd)

However, it is strongly recommended that the new RIR should NOT be involved in forward domain name assignment or administration, due to the entirely different user communities, geographic boundaries, policy environments, and business models which are involved. So different are the requirements of DNS and Internet resource related functions, that where located within one organisation, they would compete destructively for resources, or else be eventually partitioned into separate independent organisations.

Principle 8: Funding Model

As mentioned, the new RIR should be established as a not-for-profit association. A budget related to the activity plan must be drawn up and published, and should demonstrate explicit support from the community of organisations supporting the new RIR.

Initial sponsorship, government grants and private grants and/or donations are perfectly acceptable, but the RIR must be demonstrably independent and autonomous in its operations. For this reason, it is seen as inevitable that a new RIR would eventually be financially independent, and financially supported entirely by its membership.

Principle 9: Record Keeping

All RIRs must maintain proper records of all registry activities, including the archiving of all information collected from LIRs in the process of making IP address space assignments. This data is needed for internal purposes (namely, the evaluation of subsequent requests from the same customers), and also to maintain the audibility of RIR operations, essential in demonstrating responsible and neutral operations.

Principle 9: Record Keeping (cont'd)

English is considered the official language of the registry system. Therefore, core registry documentation and records which may be subject to frequent review by (or exchange with) other RIRs, IANA or ICANN must be available at all times in English. In addition information which may be required for operational audit of RIR procedures must be able to be provided in English within a reasonable timeframe.

This policy document does not detail precisely which information may be classified as "core documentation" The Emerging RIR should propose in its application an auditable procedure for Registry Record Keeping in English.

Principle 10: Confidentiality

Information collected by a RIR in the registration process must be kept in strict confidence, and used for registration purposes only. It must be transmitted only to another RIR or IANA upon request, but will not be transmitted to any other party unless explicitly agreed to in writing by the LIR / ISP served.

RIRs may establish their own local standards and policies for confidentiality, providing that the basic confidentiality provisions are maintained.

Next Steps

- Work from the Emerging RIR Guidelines
- Secure active support of current LIRs (ISPs) in Africa
- Develop a detailed Activity Plan and Transition Plan with realistic milestones
  - Developed within AfriNIC
  - In cooperation with RIPE NCC and ARIN
- Plan for self-sustaining funding model

Stay In Touch!!!

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http://www.icann.org