

Internet Infrastructure and Governing Bodies: An International Perspectives

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Abstract - Information Infrastructure is refers to the foundations and associations and concept responsible for the designing and development of information systems. The technologies have played an important role for information infrastructure and related affairs. Among the technologies, internet is most valuable. To control, manage, oversee 'internet'—there are many foundations and associations working internationally and among these few important are ICANN, Internet Engineering Task Force, Internet Governance Forum, Internet Society, Regional Internet Registry. These organizations have valuable role for the development of the internet and similar systems. This paper is a kind of theoretical review highlighted many aspects of these organizations including their current and future roles. Paper describes the aspects in brief manner with current challenges.

Keywords: Internet, Information Infrastructure, Governing Bodies, Internet Bodies, International Organizations, Information Systems

I. INTRODUCTION

Internet is a kind of global system which is responsible and connected with the number of computers; more clearly computer of computers. Internet is most valuable and important matter these days for almost all kind of sectors such as health, government, education, business and commerce, administration and so on. It is a fact that Internet has no centralize governance whether in technologies or policies. Normally in Internet world each constituent network sets its own policies. Many of such foundations either profit making organization or computer or foundation established by the Governmental Department or Ministries. However importantly, Doman Name Systems (DNS) and Internet protocol address.

II. OBJECTIVES

The core agenda and aim of this paper is includes but not limited to the –

- To know basic about the Internet systems and similar systems.
- To learn about the Internet systems governing bodies, organizations, associations and foundations etc.
- To know about the aim and agenda of the respective associations, foundations, and agencies.

- To learn about the main challenges and issues to these organizations in brief.
- To know about the function of some international foundations such as ICANN, Regional Internet Registry, Internet Engineering Task Force, Internet Society, Internet Governance Forum etc in brief manner.

III. INTERNET AND RELATED FOUNDATIONS, ASSOCIATIONS, AND INSTITUTIONS

Internet is the most important agent for the development for the societies and also for the development. And the following foundations are responsible for the development of the Internet for more healthy and betterment (*See Fig: 1 for more clarification and role of these organizations at a glance*).

- Internet Corporation for Assigned Names and Numbers.
- Regional Internet Registry.
- Internet Engineering Task Force.
- National Telecommunication and Information Administration.
- Internet Society.

While among the research group and policy making group, few important are

- Internet Architecture Board.
- Internet Engineering Steering Group.
- Internet Research Task Force.
- Internet Research Steering Group.
- Internet Governance Team.

Internet is global computer network and comprises with the million of computers. It is in other words, Network of Networks. Importantly, the Internet is a voluntary interconnected autonomous networks and it does not have any centralize governing body. Here several associations, foundations, and institutes are also responsible for different activities and their activities are different but very much related. Here the brief summary of each association; foundations.

IV.INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS

The Internet Corporation for Assigned Names and Numbers is located in United States which control and manage the centralized Internet Address Pools and DNS Root. Doing the activities of the DNS with implementing policy and modernizing the overall internet system especially the Internet protocol is also very much important such as IPv4, IPv6, introducing the new generation top level domains. It has many governing bodies and associations such as Governmental Advisory Committee (GAC), At-Large Advisory Committee (ALAC), and Regional At-Large Organizations (RALO) etc.

V.REGIONAL INTERNET REGISTRY

The RIR stands for Regional Internet Registry which is dedicated to the managing, allocation, and registration of the Internet numbers ranges in a specific region of the world. The core assignment includes the IP Admin and Autonomous Systems Number. The RIR basically comprises with the Internet Number Registry System and the IANA (Internet Assigned Numbers Authority) mainly dedicated the internet registration to the Regional Internet Registry. In the NRO, the RIR is basically constituent and act as a body to respect their internet, joint assignments, and activities.

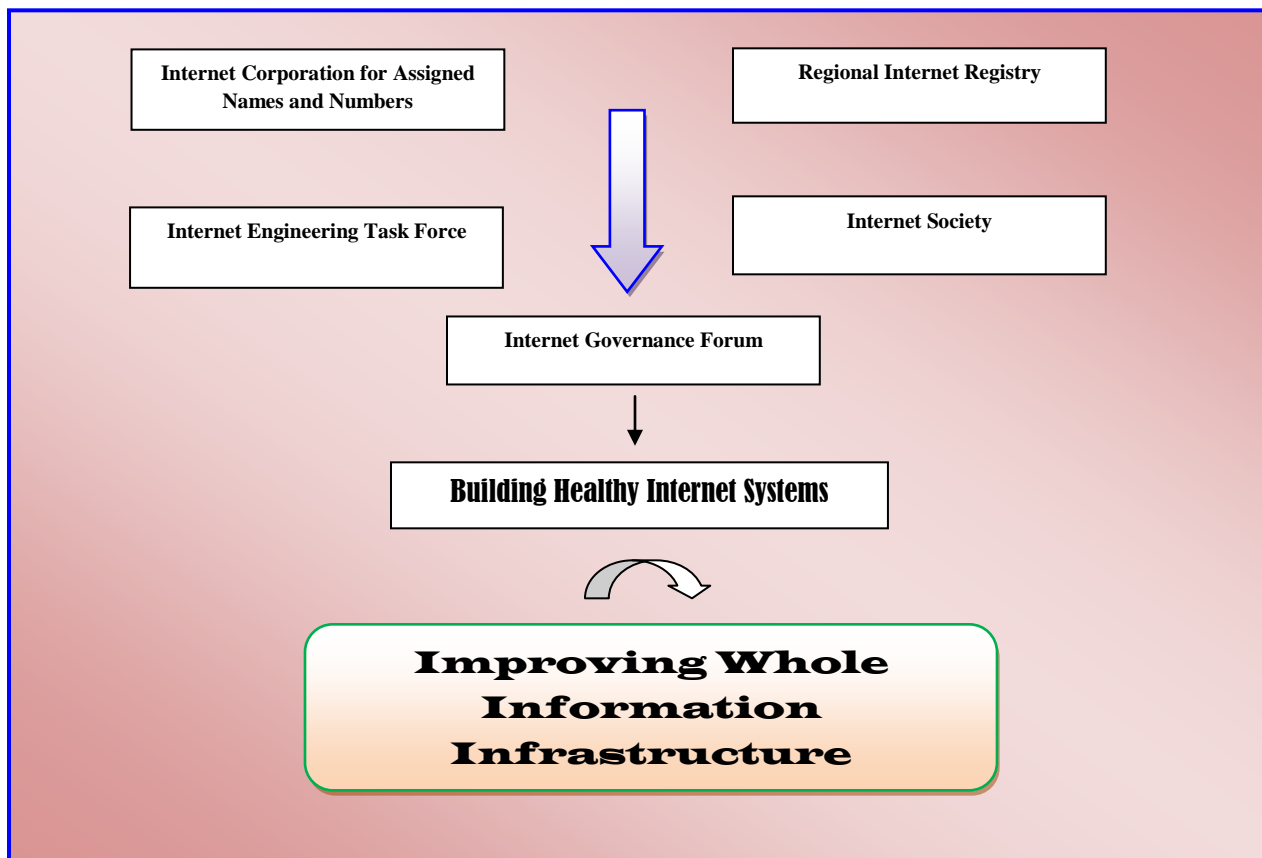


Fig.1 organizations responsible for healthy internet and information infrastructure building

The RIR is also uses the automated strategy with the NRO (Number Resource Organization), this is become an entity since 2003. The joint memorandum of four Regional RIR mainly was responsible for the birth of the NRO. The core aim and agenda of NRO is includes but not limited to practicing and also allocating the IP Numbers Resource Pool, Promoting the bottom-up policy of the internet and doing all the activities for acting a focal point for internet community input. The RIR basically compromised with the Five Regional Systems which includes

- a. African Network Information Centre; for the Africa.
- b. American Registry for Internet Numbers; for the United States, Canada, Caribbean Regions, Antarctica.
- c. Asia Pacific Network Information Centre (APNIC) which is for the Asia, Australia, New Zealand and other Countries.
- d. Latin America and Caribbean Network Information Centre (LACNIC) for the part of Latin America and also many parts of the Caribbean Islands etc.
- e. Reseaux IP Networks Coordination Centre (RIPENCC) which is responsible for the each of Europe, Russia, Middle East, and also for the Central Asia.

VI. INTERNET ENGINEERING TASK FORCE

The Internet Engineering Task Force, in short IETF is dedicated to the promoting the internet standards in voluntary manners. Internet Engineering Task Force is a kind of open standard established 30years ago on 1986 and located in United States. The Internet Engineering Task Force comprised with a number of working groups and also informal discussion groups. It is directed by the Area Directors and working closely with the Internet Engineering Steering Group. It is oversee by the IAB in many cases. Improving the usability and improving the standard is the main agenda for the Internet Engineering Task Force. The parent organization of the Internet Engineering Task Force is Internet Society. It is normally taking the activities by the meetings, operations etc.

VII. ISOC (INTERNET SOCIETY)

The Internet Society is an international society and foundations established in Switzerland and mainly established for doing several related standard, education, access, and also policy. It is founded in 1992 with the main aged of providing the cooperative structure for improving the internet standards and similar activities. Internet Society basically supports and promotes the foundations and associations such as IETF, IAB, Internet Engineering Steering Group, Internet Research Task Force. The foundation is mainly dedicated to the doing the activities for

the internet model and helps in decision making process. Internet Society is many ways responsible for the assignment of promoting the internet governance and healthy improvement world summit on the Information Society and Public Internet Registry. The Broad of Trustee is basically managed governing body. The Internet Society normally has the membership of 140 organizations and having membership of 80000+ individuals around the world. The Internet Society normally engaged in the internet activities but it is also do the activities of other areas such as www, internet systems, public internet systems and so on.

VIII. IGF (INTERNET GOVERNANCE FORUM)

Internet Governance Forum (IGF) is a kind of association for the internet governance. It is normally bring the government, private sectors, academia and technical community for the betterment in internet governance by providing suggestions, guidelines, and views and so on. The initial reason for the development of Internet Governance Forum was the World Summit of Information Society mainly the WSIS Phase I, WSIS Phase II and WGIG. The Multi stakeholders Advisory Group and the secretariat are the main stakeholder of this foundation. Conducting workshop-seminars, Dynamic Coalition Meetings are also two important task of the Internet Governance Forum. Some of the activities of the Dynamic Coalition Meetings of the Internet Governance Forum are as follows (*Table: 1 and Table: 2*)

TABLE 1 IGF AND ITS ACTIVE DYNAMIC COALITIONS

Active Dynamic Coalitions
<p>Accessibility and Disability Child Online Safety Core Internet Values Freedom of Expression and Freedom of the Media on the Internet (FOEonline) Gender and Internet Governance Internet and Climate Change Internet of Things Internet Rights and Principles / Internet Bill of Rights Network Neutrality Platform Responsibility Public Access in Libraries Youth Coalition on Internet Governance</p>

TABLE 2 IGF AND ITS INACTIVE DYNAMIC COALITIONS

Inactive Dynamic Coalitions
<p>Access and Connectivity for Remote, Rural and Dispersed Communities Access 2 Knowledge (A2K@IGF) Framework of Principles for the Internet Global Localization Platform Linguistic Diversity Online Collaboration Online Education Open Standards Privacy Social Media and Legal Issues Stop Spam Alliance</p>

IX. FINDINGS

- a. The most of the associations, foundations and organizations are interested for the internet and overall information infrastructure development.
- b. Governments of the most countries have to follow on these associations for framing internet and ICT Policies and so on.
- c. The digital divide, internet divides and for their removing too; these organizations are important and valuable.

X. SUGGESTION

- a. The more joint collection is required for more betterment in complete information infrastructure development includes DNS, HTTP, Internet Protocols, Internet Exchange Points, ISPs, IP Address, SMTP, and so on.
- b. Proper funding and financial allocations are also required for a solid cooperative information infrastructure building.
- c. The governmental interface needs to remove for become less as much as possible.

XI. CONCLUSION

Information is a power. Today we are living by using several technologies and among these few important are blogs, emails, file transfer and sharing, instant messaging, shopping, VoIP, online search and so on. The Internet Corporation for Assigned Names and Numbers, National Telecommunication and Information Administration, Information Society, Internet Engineering Task Force etc playing a lead and valuable role for healthy IT and Information Engineering policies and thus implementation a proper communication with the leading other IT organizations like ACM, IEEE etc with these organization will result a healthy information systems.

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