



APNIC

ARIN  
American Registry for Internet Numbers





# The RIR System



**Prepared by**  
**Regional Internet Registries**  
**APNIC, ARIN, LACNIC and RIPE NCC**

# Overview

- History & Evolution
- Structure
- IP Address Management
- Internet Number Resource Management Policy Development
- IPv6 Policy
- Internet Number Resource Status

# History & Evolution



## The RIR System

# Pre 1992

RFC 1020  
1987

DDNIC

iana

RFC 1261  
1991



RFC 790  
1981



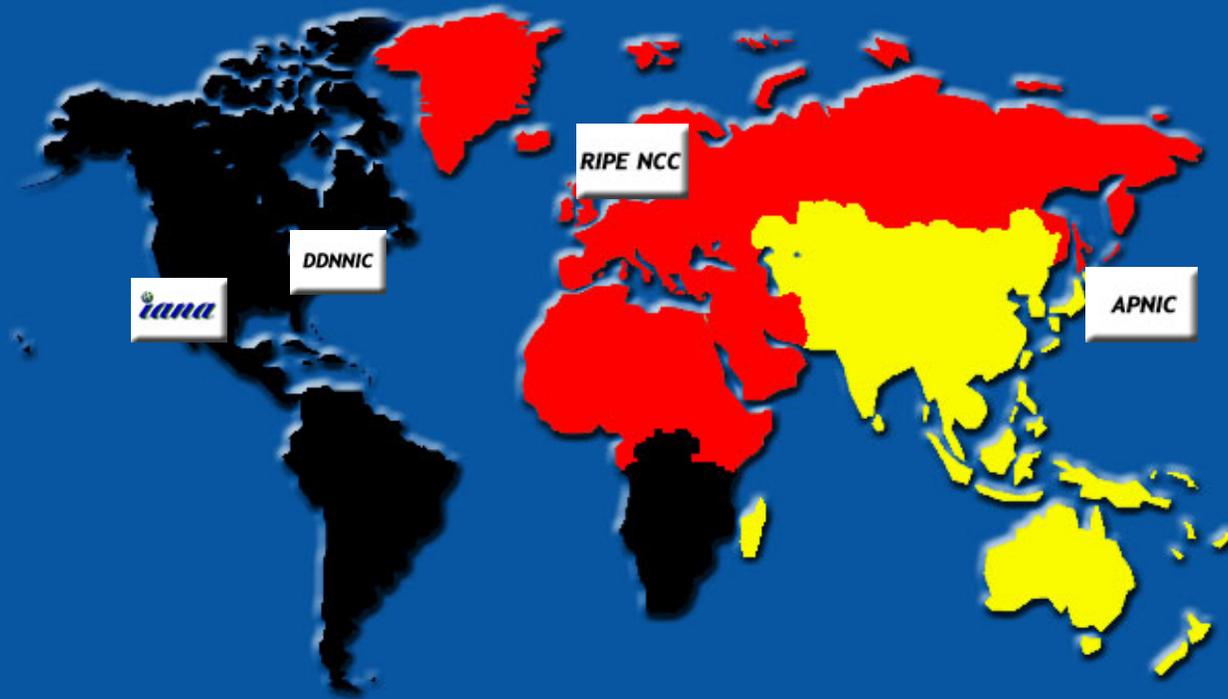
“The assignment of numbers is also handled by Jon. If you are developing a protocol or application that will require the use of a link, socket, port, protocol, or network number **please contact Jon to receive a number assignment.**”

1992

RFC 1366  
Geographic Allocations

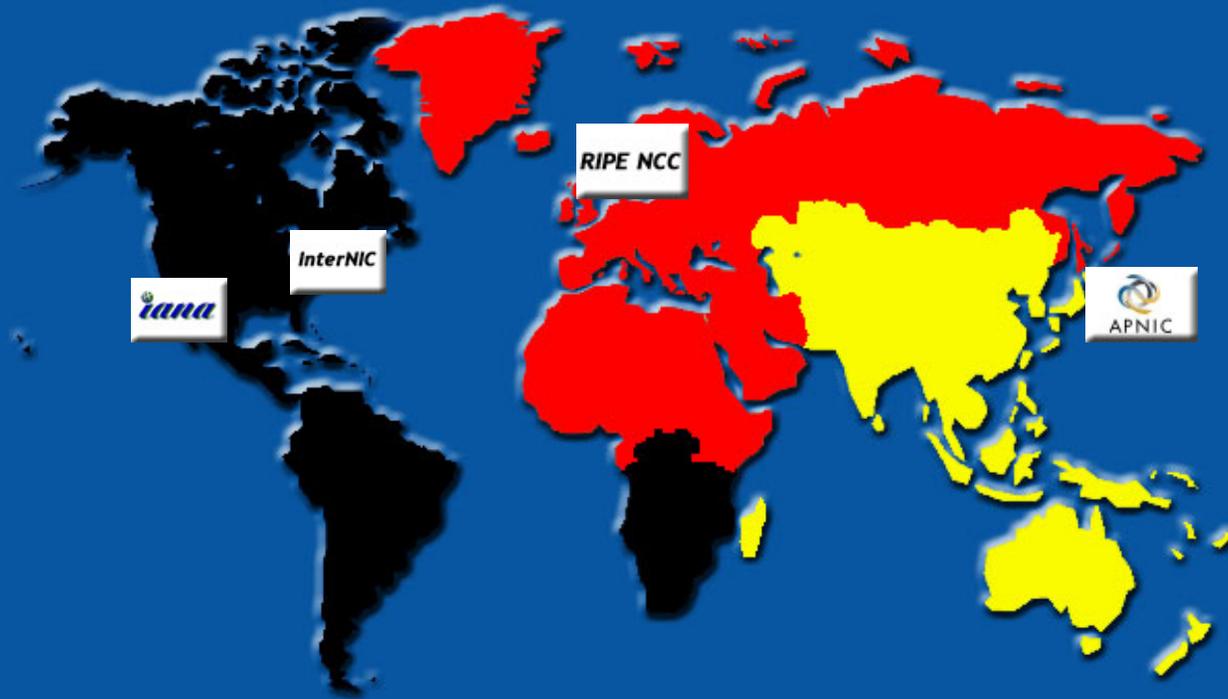


1993



RFC 1466  
1993

1996



RFC 2050  
1996

1997



1998



ICANN / ASO MoU  
GAC  
1999

2002



# Emerging RIR



# Structure



## The RIR System

## Not-For-Profit

- Fee for Services
- Open Financial Reporting

## Structure

### Membership

- Open to All Interested Parties
- Consists of Thousands
  - ISPs
  - Other Companies
  - Stakeholders

### Members

- Elect Executive Board
- Approve Activities

## Internet Number Resource Allocation

- IPv4 & IPv6
- AS Numbers
- Whois Directory
- Internet Routing Registry
- Reverse DNS
  - In-addr.arpa
  - Ip6.arpa
  - /8

## Services

### Policy Development

- Email Discussion Lists
- Public Policy Meetings
- Publication of Policy Documents

### Member

- Meetings
- Elections
- Web Site
- Information
- Training

## ASO Support

- ASO Secretariat
- ASO AC Support
- General Assembly

## Activities

### Outreach

- Meetings and Presentations
  - Government representatives
  - Industry groups
  - IPv6 Forum
- Training Programs

### Coordination

- Registration Services
- Policy
- Documentation
- Engineering
- Outreach
- Presentations

# IP Address Management



## The RIR System

# IP Addressing

- What is an IP Address?
- How is IP Address Space Managed?

# What is an IP Address?

- A Number Used for Routing
- Not Dependent on DNS
- A Finite Public Resource
- Not Owned
- IP Does Not Mean “Intellectual Property”

# How is IP Address Space Managed

- Address Space Management Objectives
- Implementation of Policy

## Conservation

- Efficient Use of Resources
- Based on Need

# Address Management Objectives

## Aggregation

- Limit Routing Table Growth
- Support Provider-Based Routing Policies

## Registration

- Ensure Uniqueness
- Trouble Shooting

## Policy Implementation [ Industry Self-Regulation ]

- RIR Staffs
  - Publish Policy Documents
  - Publish Procedure Documents
  - Implement Policy
- ISP/LIR
  - Develop Internal Procedures
  - Implement Policy

# Internet Number Resource Management Policy Development [Industry Self-Regulation]



## The RIR System

# How is IP Address Policy Developed?

- According to Policy Development Principles
- In a Cyclical Manner

## Policy Development Principles

- **Transparent**

- Mail List  
Archives

- Minutes

- Policy Fora
- RIR Boards



- **Open**

- Anyone Can Participate
- Policy Fora
- Mail Lists

- **Documented**

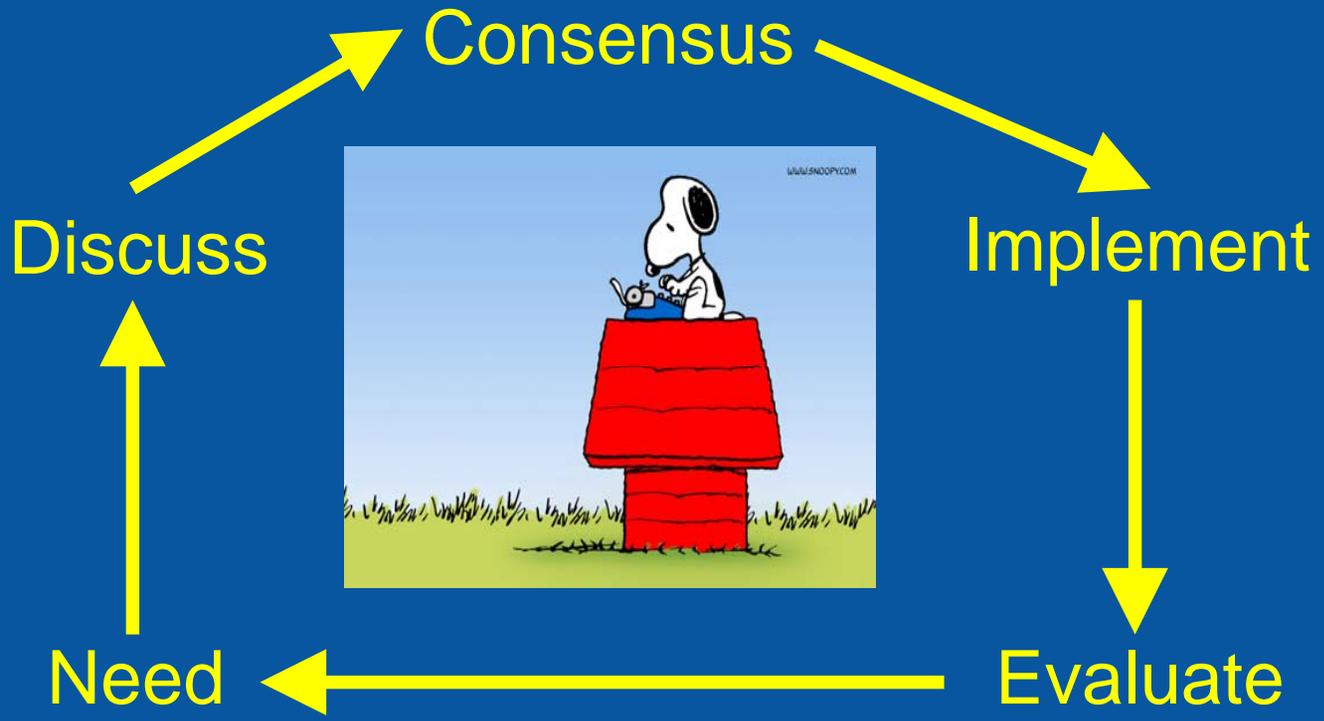
- Formal Policy Documents

- Implementation Procedures

- **Developed Bottom-Up**

- Internet Community
- Stakeholders
- Technology Changes
- IETF

# Policy Development Cycle



- Official Policy Change Process
- Open to Public Comments
- ISP/LIR

# RIR Public Policy Meetings

- APNIC – 2 per year
- ARIN – 2 per year
- LACNIC – 2 per year
- RIPE NCC – 3 per year

# THANK YOU



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