

# American Registry for Internet Numbers

# Overview

- \* Membership
- \* Organization News
- \* Hijacking
- \* Emerging RIR Activities
- \* Policy Process
- \* ARIN XI
- \* ARIN XII

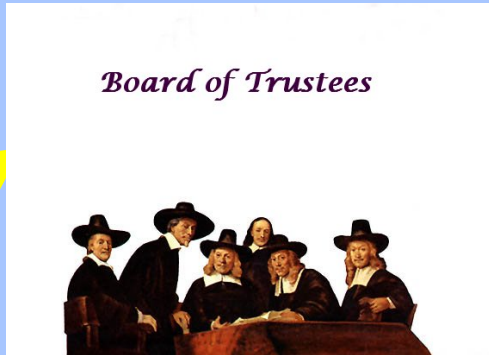


# ARIN Neighborhood









7 Members  
 Chairman  
 Secretary  
 Treasurer  
 President

Advice

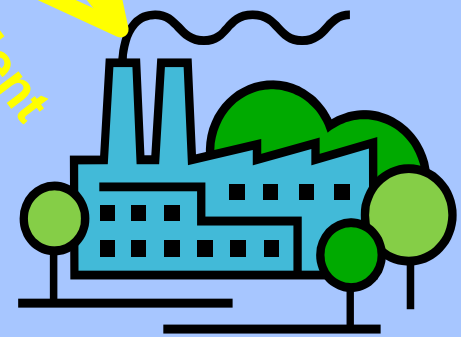


15 Members



Members

President



Staff

\* **Subscribers**

Receive IPTs directly from ARIN and automatically receive membership (2 trustees elected each year)

\* **Non-subscribers**

Complete ARIN Board of Trustees and submit a payment of annual membership fee

“allocates  
Internet Protocol  
resources”

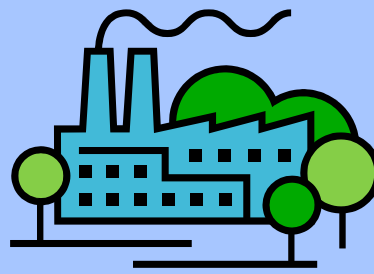
“facilitates the  
advancement  
of the Internet  
through

“Applying the principles of stewardship,  
ARIN, a nonprofit corporation,  
Statement  
and  
educational  
outreach”

“develops consensus-based policies”

“allocates  
Registry  
Operations”

Performs



ARIN Staff

Performs

“facilitates the  
adv Association  
of the  
Operations  
through

• Elections



- IP Allocation
- AS Allocation
- Domain
- IRR

Facilitates



• Training

“Policy Development Process”

- Oper
- Trans
- Docu
- Deve





Registry  
Operations

Departments

Association  
Operations

Registration  
Services

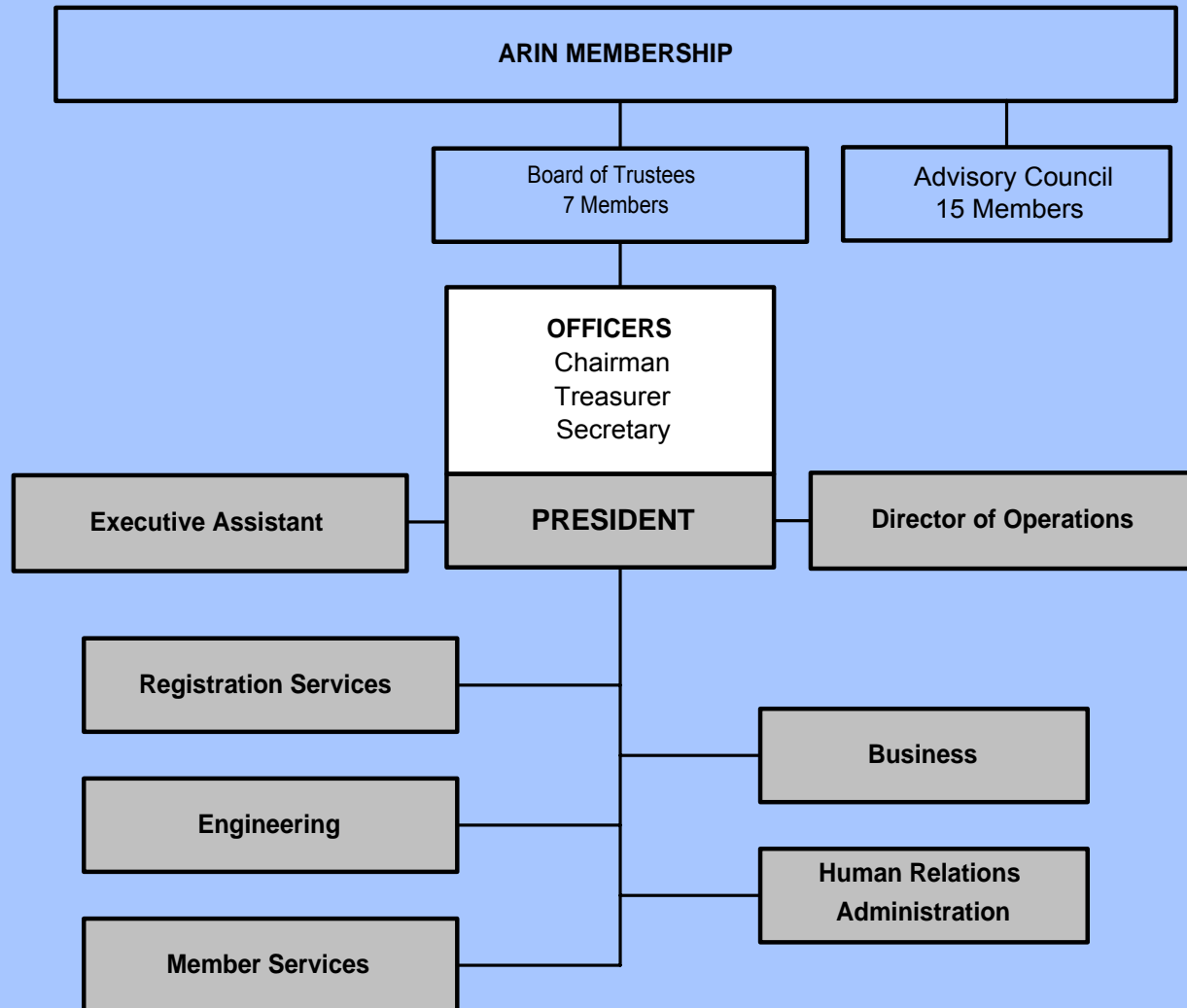
Member  
Services

Engineering

Business

Human Resources  
&  
Administration

# Organization and Staff



# Human Resources and Administration Department



Mary K. Lee, Director

# Activities

- \* RIR Staff Exchange
- \* Bureaucrat Training
  - \* In House
  - \* External
- \* Developing 2004 Training
- \* Procedures Manuals
- \* Fire & Life Safety Plan

# Educating the Bureaucracy

- \* Giving Performance Evaluations
- \* Public Key Infrastructure in the Enterprise
- \* Project Management
- \* Personnel and Human Resource Management
- \* Sales and Use Tax
- \* Effective Communication
- \* Safety Monitor



# Safety Monitors





# Business Department



Bob Stratton, Director

# OPERATIONS

- \* Continuing Work on Overdue Accounts
  - ▶ Notify overdue accounts
  - ▶ Give final notice
  - ▶ Pull space out of Database
- \* Better integrate Billing and Registration
- \* Change to Maintenance Fees

# 2002 Payment Method

* Wire	4%
* MasterCard	7%
* AMEX	9%
* Visa	10%
* Check	70%



# 2002 Revenue

Category	%
Membership	.26
Transfers	.46
IPv6	.63
Contributions	1.04
Maintenance Fees	1.63
IP End Users	3.82
AS Numbers	11.76
Initial IP Registration	12.48
IP Registration Renewal	67.88
Total	100

Category	%
Small	24.93
Medium	25.63
Large	7.20
Extra Large	10.12
Total	67.88

# Percentage of Revenue Growth Year to Year

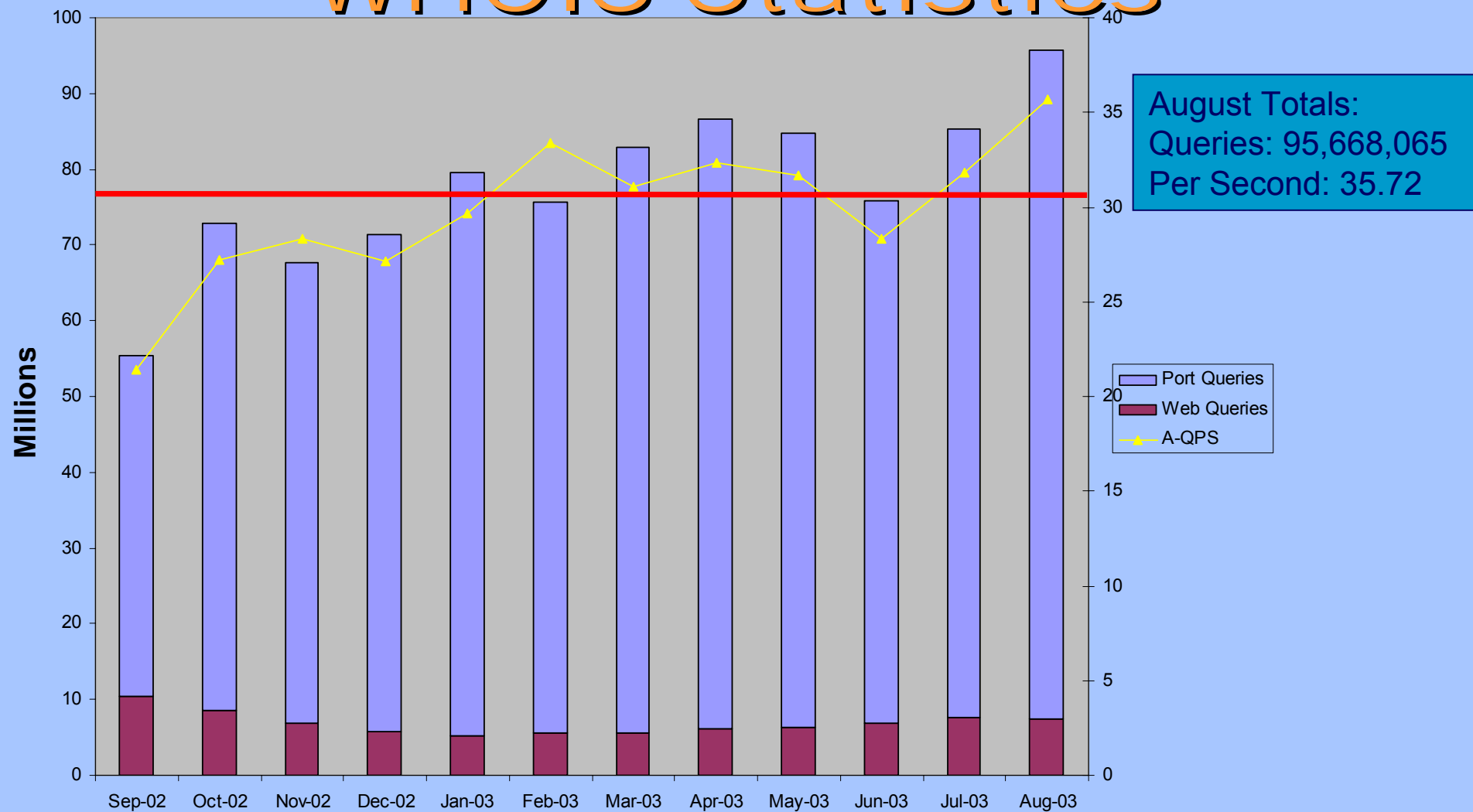
* 1999	19.23%
* 2000	45.97%
* 2001	29.38%
* 2002	15.10%
* 2003 (projected)	.03%

# Engineering Department

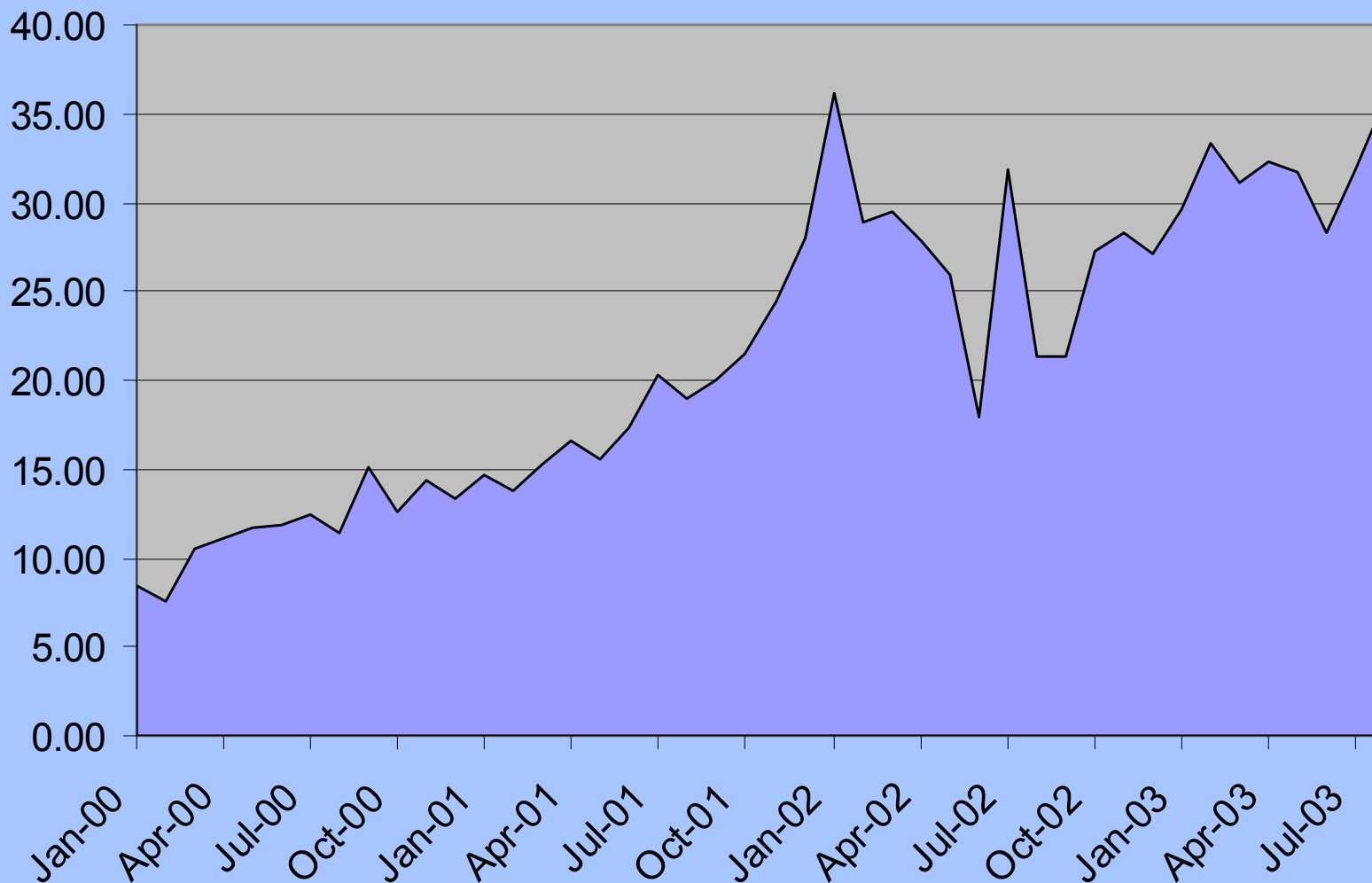


Ginny Listman, Director

# WHOIS Statistics



# Historical Queries Per Second





# What's In WHOIS?

900,571 Network Records

Category	%
Place Holder	.07
Direct Assignments	3.77
Direct Allocations	.76
Reassignments/Reallocations	95.40
Total	100.00

Reassignments/Reallocations Category	%
Simple Reassignments	61.59
Detailed Reassignment w/o in-addr	30.87
Detailed Reassignment w/ in-addr	1.28
Reallocations	1.66
Total	95.40

# Database Statistics

	October 2002	March 2003	August 2003
<b>Total Orgs</b>	<b>335,659</b>	<b>346,444</b>	<b>314,152</b>
<b>Orgs w/ POC</b>	<b>6,346 (1.9%)</b>	<b>18,708 (5.4%)</b>	<b>245,223 (78.1%)</b>
<b>Total Nets</b>	<b>819,984</b>	<b>870,699</b>	<b>900,571</b>
<b>Simple Reassignments</b>	<b>389,047 (47.4%)</b>	<b>449,658 (51.6%)</b>	<b>554,624 (61.6%)</b>
<b>Net w/o POCs</b>	<b>6,007</b>	<b>15,284</b>	<b>24,059</b>
<b>AS w/o POCs</b>	<b>451</b>	<b>781</b>	<b>1204</b>
<b>Abuse POC</b>	<b>1,556</b>	<b>5,707</b>	<b>9,348</b>
<b>NOC POC</b>	<b>514</b>	<b>1,901</b>	<b>3,137</b>

# Completed Projects

- \* History utility – provides Registration Services with full history of any registration
- \* SPAM identification and tagging
- \* Automated statistics release
- \* Automated cleanup of orphaned Orgs and POCs
- \* Referral Server attribute added to WHOIS

# Current Projects

- \* Exploring new authentication method
- \* Providing ARIN services over IPv6
- \* Converting membership data into current schema
- \* ERX
- \* Transfer utility
- \* Internal Network Restructuring Plan
- \* Migration of secondary DNS

# Member Services Department



Susan Hamlin, Director

# Membership Statistics

**TOTAL: 1983**

\* United States: 1767

\* Canada: 169

\* Africa: 26

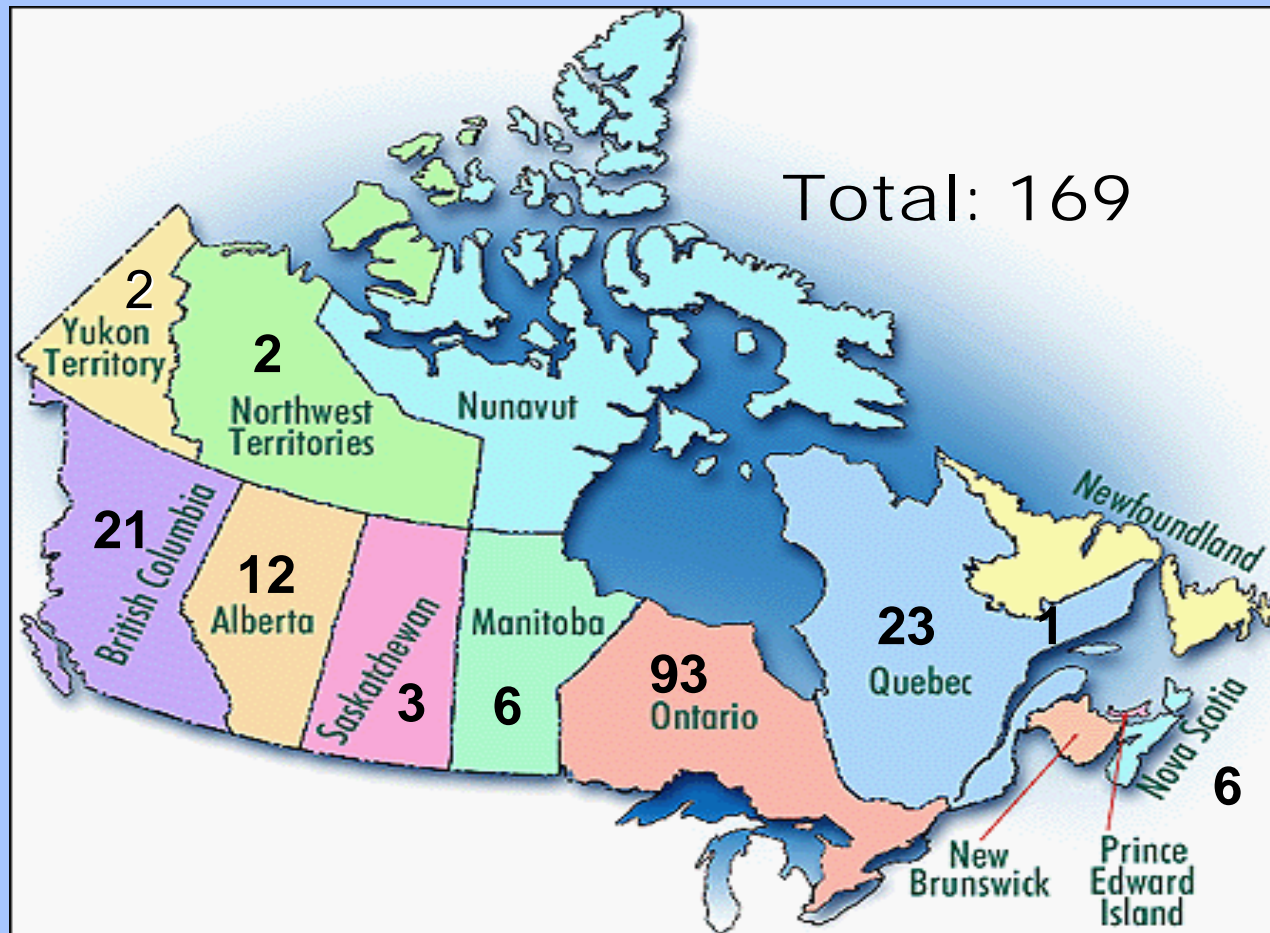
\* Caribbean: 12

- ▶ Antigua, Bahamas, Barbados, Bermuda, Puerto Rico, Virgin Islands

\* Outside ARIN Service Area: 9

- ▶ Australia, Brazil, Chile, Guam, Israel, Lithuania, Palau

## Canada



## Africa





# Member Mosaic

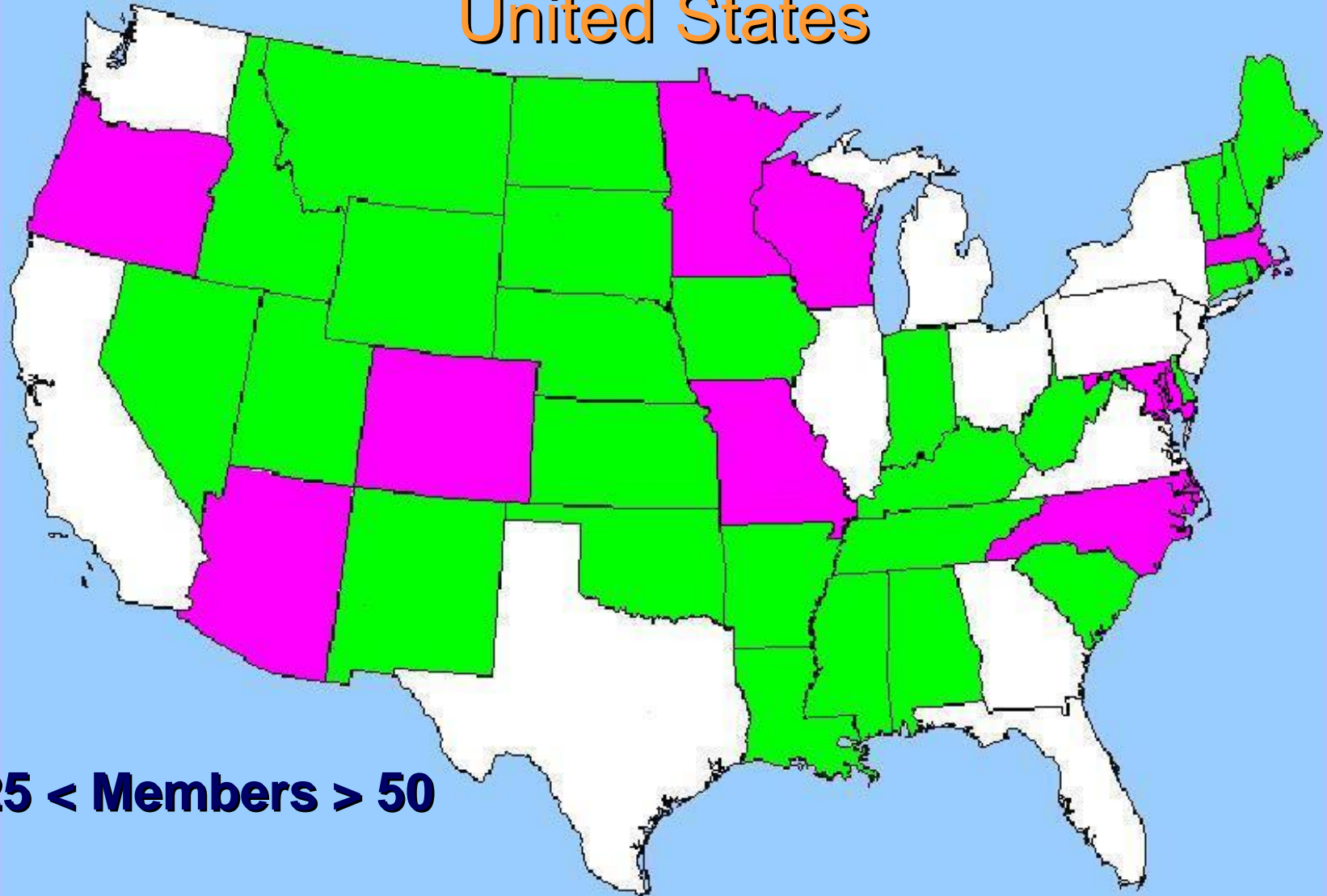
## United States





# Member Mosaic

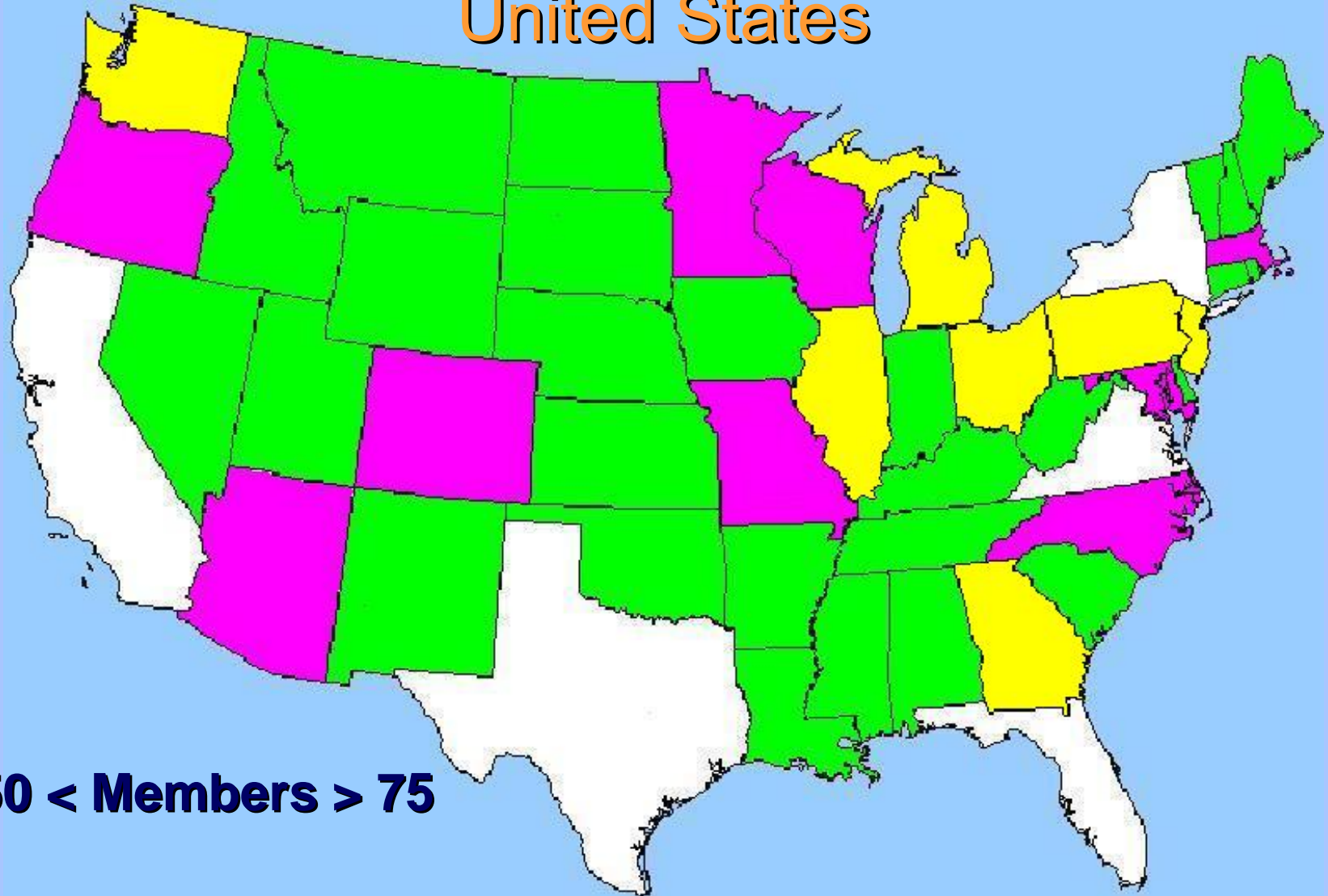
## United States



**25 < Members > 50**

# Member Mosaic

## United States



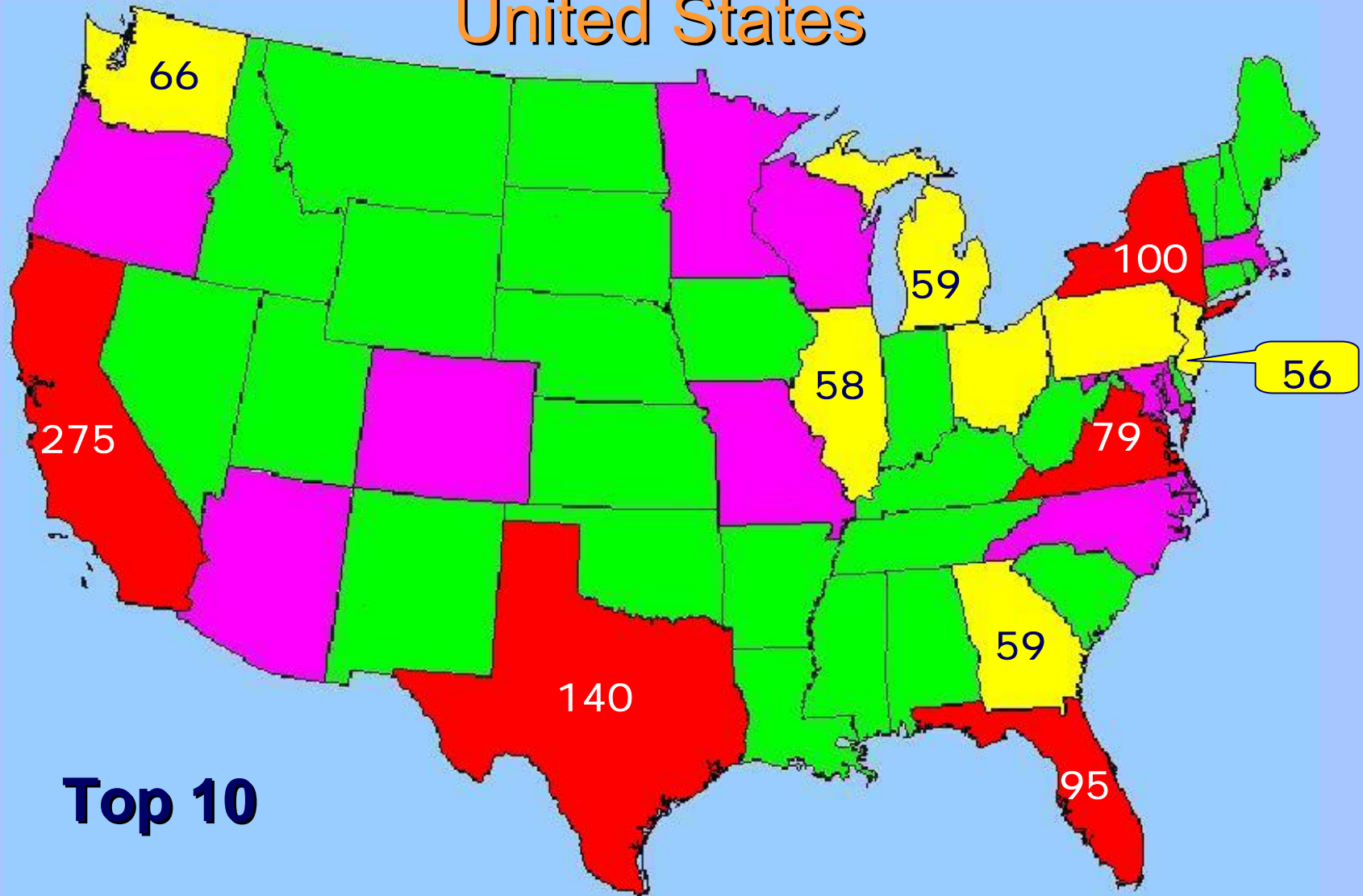
**50 < Members > 75**





# Member Mosaic

## United States



**Top 10**

# Activities and Projects



Website improvements

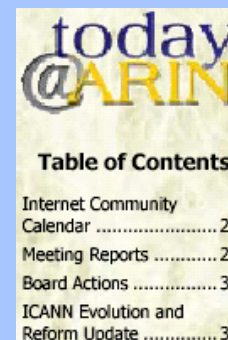


External Communications Plan



Annual Report - FY 2002

&



2nd quarter Available online

## On Demand Training

## ARIN XII

- CBT
- Interactive Flow Charts

# Outreach

## Fall Elections

- ARIN Board of Trustees
- ARIN Advisory Council
- ASO AC



# Registration Services Department

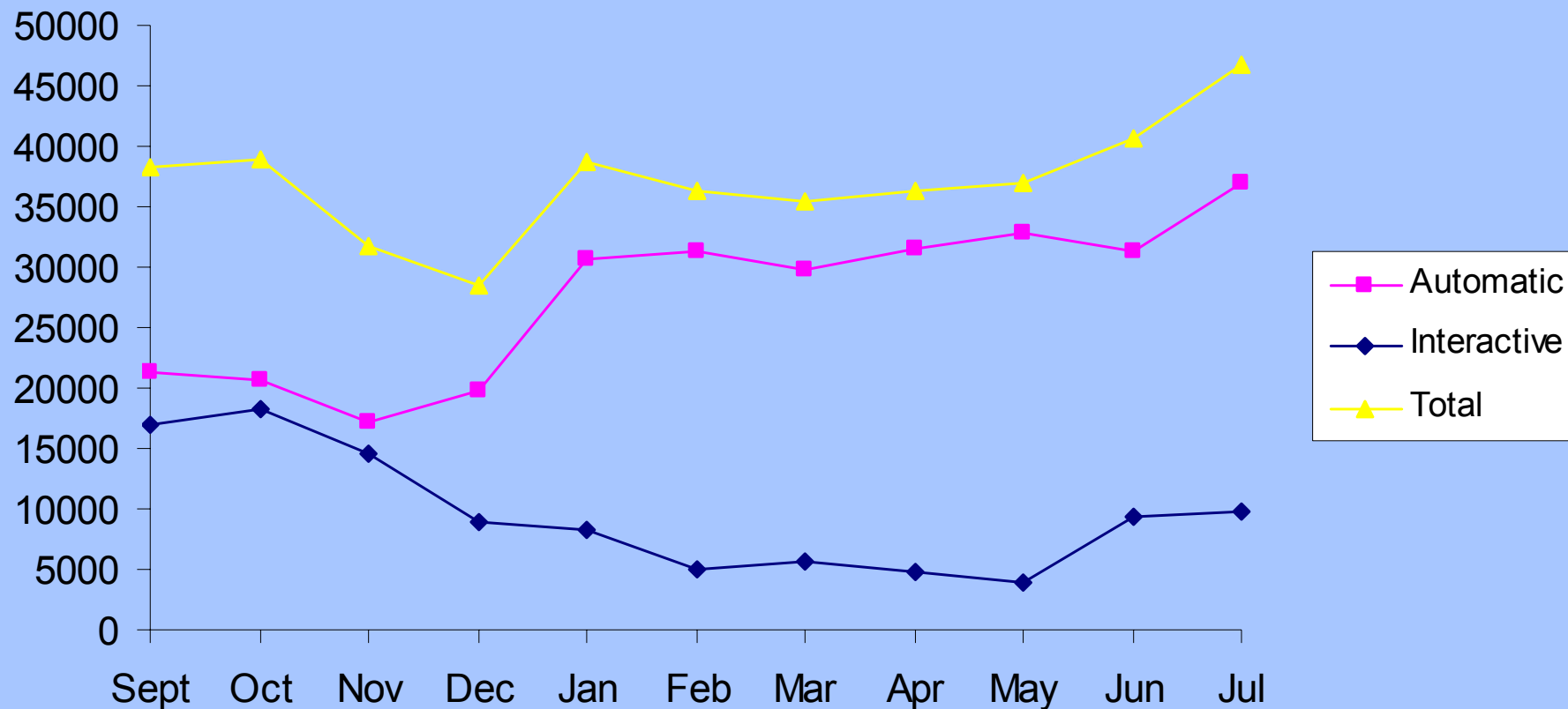


Leslie Nobile, Director

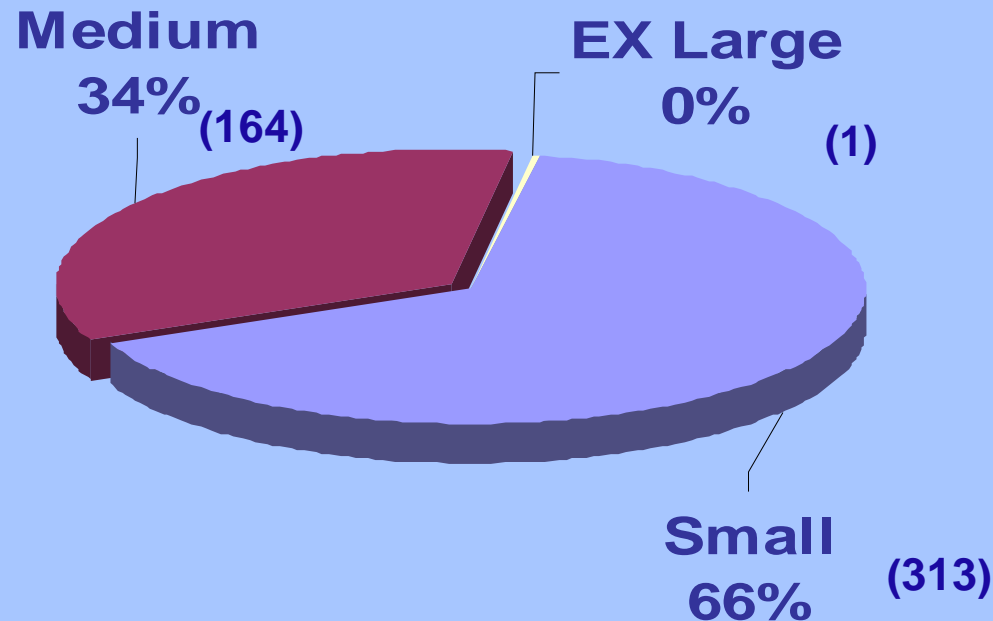
# On-Going Projects

- \* Hijacking
- \* Cryptographic Authentication
- \* Lame Delegations
- \* Database Clean Up
- \* Web Based Template Development & Testing
- \* ERX
- \* Billing Project

# Templates Processed



# New Subscription Holders by Category 2002 - 2003



\*1/2002 through 7/2003

# Response Time for First Time Customers

	JAN	FEB	MAR	APR	MAY	JUN	AVG
First Response	2.14	2.07	1.03	1.15	1.97	1.00	1.56
Days to Close	10.62	6.41	16.47	8.95	14.31	13.75	11.75
Days to Approve	10.90	8.03	25.87	21.70	19.29	14.00	16.63
Days to Deny	5.00	2.75	1.58	0	2.09	13.50	4.15

# Response Time for Repeat Customers

	JAN	FEB	MAR	APR	MAY	JUN	AVG
First Response	2.08	1.97	1.28	1.42	1.88	1.50	1.69
Days to Close	11.10	8.58	9.99	10.20	9.11	4.00	8.83
Days to Approve	10.48	8.58	10.23	10.20	9.11	4.00	8.77
Days to Deny	0	0	0	0	0	0	0

# IP Address Hijacking

## April to August 2003

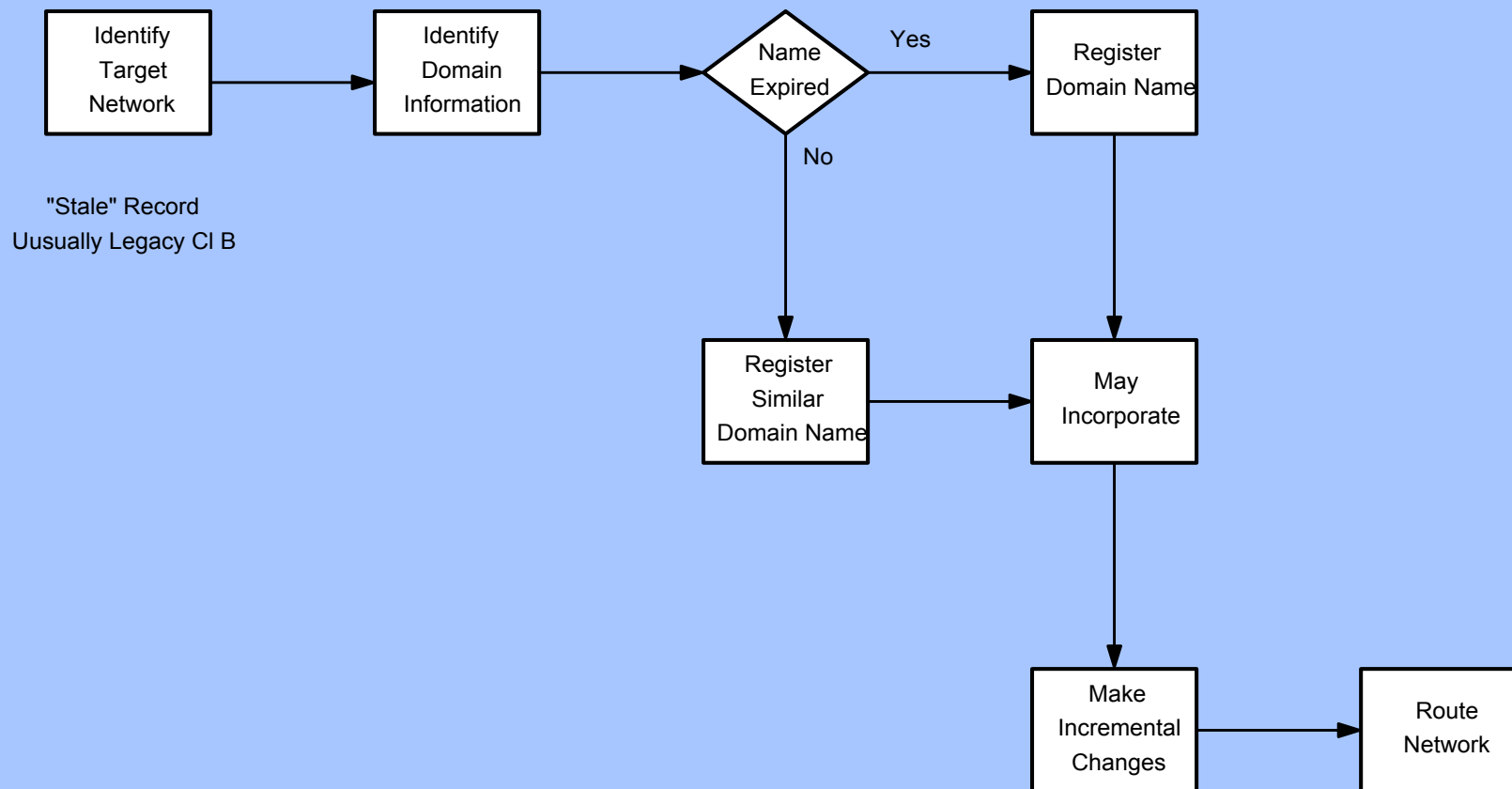
Status	Number	Comment
Opened	90	Reported to or Discovered by ARIN
Not Validated	9	No Evidence
Closed	67	Reverted to Original Information Reclaimed by ARIN Returned to ARIN by Original Registrant
Pending	14	Under Investigation



# 81 Closed or Pending

Category	Number
Legacy Class A	1
Legacy Class B	43
Legacy Class C	34
Direct Allocations	2
Reassignment	1

# Typical Hijacking Modus Operandi



# Possible Actions

- \* Processes and Procedures
- \* Data Base
- \* Legacy Records

# Possible Actions Processes and Procedures

- \* Revise existing processes and procedures to detect activity that is symptomatic of hijacking modus operandi.
- \* Develop new processes and procedures to detect activity that is symptomatic of hijacking modus operandi.
- \* Develop a tracking system for hijacking investigations.
- \* Investigate and pursue legal actions.
- \* Revise the Registration Services Agreement to include acceptable use of address space.

# Possible Actions Data Base

- \* Increase the number of organization identity elements to facilitate validation of the authenticity of the organization.
- \* Develop or procure software to facilitate validation of organization identity.
- \* Validate all WHOIS data bi-annually.
- \* Implement the use of more stringent Authentication, Authorization, and Accountability procedures.
- \* Display publicly only that WHOIS data relevant to direct allocations and assignments from ARIN to an LIR/ISP.
- \* Develop a more robust Internet Routing Registry.

# Possible Actions Legacy Records

- \* Establish “Registry of Last Resort”. Place all legacy space without validated organization data into a separate database.
- \* Determine status of legacy address space in relation to ARIN registration rules.
- \* Was there a contractual relationship between pre-RIR registries and the original registrant?
- \* What legal obligations does ARIN have in regard to records for this space?
- \* Should the ARIN be compensated for maintaining these records?
- \* What are the criteria for determining the legitimate user of the address space?

# Possible Actions Legacy Records

- \* Proactively validate the organization information for all legacy space, incorporate the legacy record into the RIR system, and either
  - ▶ Sign a maintenance agreement and begin assessing an annual maintenance fee, or
  - ▶ Sign an RSA, making the organization an ARIN member, and begin assessing an annual renewal fee.
- \* Upon receiving a request to update a legacy record, validate the organization data, incorporate the record into the ARIN data base, and either
  - ▶ Sign a maintenance agreement and begin assessing an annual maintenance fee, or
  - ▶ Sign an RSA, making the organization an ARIN member, and begin assessing an annual renewal fee.

# AFRINIC Activities

Montevideo Workshop  
AfrINIC AGM



# Policy Proposals

2003- 1: Required Performance of Abuse Contact	Deferred
2003- 2: Network Abuse	Deferred
2003- 3: Residential Customer Privacy	Deferred
2003- 4: IPv6 Policy Changes	Deferred
2003- 5: RWhois Server Use Requirements	Final Call
2003- 6: Micro-Assignments with Sponsorship	Abandoned
2003- 7: Announcement of New ARIN IPv4 Blocks	Abandoned
2003- 8: End-User to Subscriber Member Status Change	Abandoned
2003- 9: WHOIS Acceptable Use	Deferred
2002- 2: Experimental Internet Resource Allocations	Deferred
2002- 3: Micro-Assignments for Multihomed Networks	Deferred
2002- 5: Amnesty Requests	Final Call
2002- 6: Aggregation Requests	Final Call





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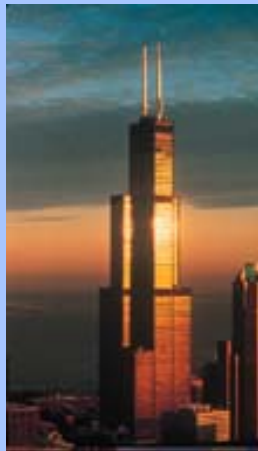
Sunday, Oct. 19 –  
Tuesday, Oct. 21



XII

Wednesday, Oct. 22–  
Friday, Oct. 24

# CHICAGO!!



Check [www.arin.net](http://www.arin.net) for Details

**THANK YOU**