#### **Mission Statement**

Applying the principles of stewardship, ARIN, a nonprofit corporation, allocates Internet Protocol resources; develops consensus-based policies; and facilitates the advancement of the Internet through information and educational outreach.

# today

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# Quartei 2004

# American Registry for Internet Numbers 3635 Concorde Parkway Suite 200 Chantilly, VA 20151

# **ARIN XIV Report**

There was no place like home for ARIN XIV, held October 20-22, 2004, in Reston, Virginia. Once again held back-to-back with NANOG, the ARIN meeting had 175 registrants, including 73 first-time attendees and 95 people who participated in both the ARIN and NANOG 32 meetings. The highlight of ARIN XIV was the signing of the Address Supporting Organization (ASO) Memorandum of Understanding (MoU) between the Number Resource Organization (NRO) and ICANN (see below).

ARIN thanks both the meeting sponsors, America Online and Time Warner Cable, and the meeting participants for helping to create such a lively and informative meeting.

#### **ARIN XIV Overview**

ARIN's activities for the meeting started on Sunday, October 17, with a tutorial during NANOG 32 on Internet Number Resource Management and Administration. On the following night, interaction with NANOG participants continued in the form of a Birds-of-a-Feather(BoF) session titled "Optimizing Operational Input to ARIN: What Is Needed and How Do We Get It?" The input provided in these sessions by the network operator community was very valuable and ARIN thanks all those who took part.

To kick off ARIN XIV, two sessions took place on the night of October 19: a tutorial on cryptographic authentication at ARIN, and an ARIN policy proposal discussion BoF.

The first day of the ARIN XIV Public Policy Meeting included an Internet number resource status report, updates from the other Regional Internet Registries (RIRs), including the emerging RIR AfriNIC, and reports from the ASO Address Council (AC) and ICANN. ARIN staff presented information on the election of a representative to the ASO AC from the ARIN region (see 2004 Election Report on page 8).

This was followed by discussion of policy proposals, IPv6, and the World Summit on the Information Society (WSIS) and the Working Group on Internet Governance (WGIG).

The meeting minutes for ARIN XIV, including presentations, discussion summaries, a photo gallery, and video webcast archives are available at:

http://www.arin.net/library/minutes/ARIN\_XIV/.

An update on the status of policy proposals discussed at the meeting is provided on page 4.

#### **NRO Signs ASO MoU with ICANN**

From NRO press release. Additional NRO news available at:

#### http://www.nro.net

On October 21, 2004, the Number Resource Organization (NRO) and the Internet Corporation for Assigned Names and Numbers (ICANN) signed a formal agreement that will allow those with the greatest interest in the strength and viability of the Internet to play a significant policymaking role in the global distribution of Internet numbers.

The agreement - a formal Memorandum of Understanding (MoU) - specifically concerns the Address Supporting Organization

Continued on page 5



From left to right: Ray Plzak (ARIN), Paul Twomey (ICANN), Axel Pawlik (RIPE NCC), and Raúl Echeberría (LACNIC).



### Upcoming Internet Community Meetings Calendar

NANOG 33 January 30 - February 1 Las Vegas, Nevada

SANOG V February 6 - 13 Dhaka, Bangladesh

APNIC 19/APRICOT 2005 February 16 - 25 Kyoto, Japan

62nd IETF March 6 - 11 Minneapolis, Minnesota

ICANN April 4 - 8 Mar del Plata, Argentina

ARIN XV/North American IPv6 Task Force Summit April 17-21 Orlando, Florida

Updates to this calendar can be found at: http://www.arin.net/library/internet\_info/ calendar.html.

# Internet Community Meeting Reports

NANOG 32 October 17-19, 2004 Reston, VA, US

The fall 2004 NANOG meeting was held October 17-19 in Reston, Virginia. This was the third time that NANOG was held back-to-back with an ARIN Public Policy and Members Meeting.

Tutorials began on Sunday afternoon, and covered several topics including: BGP Multi-homing; Blackhole and Discard Routing; IPv6; and an ARIN tutorial on managing number resources. The general sessions began on Monday, with BoFs and Beer N' Gear both held on Monday evening. The general session included a wide variety of topics including DNSSEC, DNS Anomalies, RPSL, BGP-The Movie, Spam, and Botnets.

http://www.nanog.org/mtg-0410/

#### LACNIC VII October 26-28, 2004 San Jose, CR

LACNIC VII was held in San Jose, Costa Rica from October 26-28, 2004 and was hosted by the ITS Learning Center. This meeting was well attended by representatives from within the LACNIC region, as well as attendees from outside of the region.

The 3-day meeting included several tutorials, the second Latin American IPv6 Forum (FLIP-6), a meeting of the IPv6 Task Force for Latin America and the Caribbean, and the Public Policy Forum. A Round Table on Spam was held with the participation of representatives from the region's ISPs, lawyers, and technicians specializing in this area.

Topics covered during the Public Policy Forum included an update on the policy development process in the other RIR regions, the feasibility of LACNIC providing RADB services, and the NRO joint statistics report. Policy proposals discussed during this session included "Recovering Allocated but Unutilized Internet Resources at LACNIC," and "Global Policy for IPv6 Block Allocation by IANA to Regional Registries."

http://lacnic.net/en/eventos/lacnicvii/

#### 61st IETF November 7-12, 2004 Washington, DC, US

Twelve ARIN staff members joined 1302 other attendees to participate in several working groups, area meetings, and the plenary of the Internet Engineering Task Force's (IETF) 61st meeting in November. The groups considered data sharing among registries, network operations, protocols, and the peer review process.

At the Internet Service Operators' Forum known as the IEPG, ARIN President and CEO Ray Plzak briefed the group on the operations, cooperative efforts, and upcoming activities of the RIRs. Ray also presented an update on the Number Resource Organization (NRO) Memorandum of Understanding (MOU) signed by the four RIRs and ICANN.

The APNIC engineering staff presented a study and visualization of IP address and AS utilization since 1983. ARIN engineers also participated in the current proposal for an Internet Registry Address Registry (areg) schema in the Cross Registry

Information Service Protocol (CRISP) Working Group. Other efforts that could use involvement by the ARIN community involve IPv6 Unique Local Addresses (ULAs), DNS resolver misbehavior, multihoming, and efforts to build common formats for multi-router traffic data sharing, and network device configuration.

Additional information is available at:

http://www.iepg.org/november2004/iepg.txt http://www.ietf.org/mail-archive/web/crisp/ current

http://ietf.org/proceedings/directory.html http://ops.ietf.org/multi6/

#### North American IPv6 Task Force Technologist Seminar November 16-17, 2004 Arlington, VA, US

ARIN participated in the North American IPv6 Task Force Technologist Seminar November 16-17, 2004, which was held at George Mason University in Arlington, Virginia. The seminar focused on education and information sharing regarding v6 deployment strategies among a diverse set of organizations including commercial, government, and military entities. Three IPv6 deployment sessions were held during the two-day event focusing on security, ISP, and transition. ARIN staff gave a presentation on issues with IPv6 address allocations for service providers during the ISP deployment session on the first day of the seminar. The following day another ARIN presentation outlined the ARIN address allocation policies in the deployment session.

#### ICANN December 1-5, 2004 Cape Town, ZA

ICANN held a meeting in Cape Town, South Africa, from December 1-5, 2004. In addition to the regular sessions of the meeting such as the Government Advisory Committee meeting, public forum and Board meeting, there was a workshop held on the subject of the World Summit on the Information Society (WSIS). NRO Chairman, Paul Wilson, participated in this workshop.

On behalf of the NRO, ARIN's President, Ray Plzak, gave an informational presentation to the Government Advisory Committee (GAC) of ICANN providing an update on recent NRO activities.

Paul Wilson provided an update to the community and ICANN Board on developments inside the NRO during the Public Forum portion of the meeting. Paul's update included information about the signing of the ASO MoU between the NRO and ICANN, the consistency of the ASO Address Council, the NRO response to Houlin Zhao's (ITU) paper, and the successes thus far in establishing AfriNIC to become the fifth Regional Internet Registry.

http://www.icann.org/meetings/capetown/

#### **WSIS/WGIG Updates**

In the past quarter, there has been much activity related to the World Summit on the Information Society and the Working Group on Internet Governance, including the publication of several documents. Listed below are the titles and links to the relevant documents:

#### ITU and Internet Governance

Draft input to the 7th meeting of the ITU Council Working Group on WSIS

http://www.itu.int/ITU-T/tsb-director/itut-wsis/files/zhao-netgov01.pdf

NRO Response to ITU Comments on the Management of Internet Protocol (IP) Addresses http://www.nro.net/documents/nro17.html

Houlin Zhao's Response to NRO Statement: "NRO Response to ITU Comments on the Management of Internet Protocol (IP) Addresses"

http://www.nro.net/documents/statements/ituresponse.html

Clarification on NRO statement: "NRO Response to ITU Comments on the Management of Internet Protocol (IP) Addresses"

http://www.nro.net/documents/statements/nro-clarification.html

NRO Comments on the WGIG Panel at ICANN WSIS Workshop in Cape Town http://www.nro.net/documents/statements/wqig-

comments.html

The WSIS PREPCOM-2 meeting will take place Feb.

17-25, 2005 in Geneva, Switzerland. Along with that

meeting, the WGIG will hold its second meeting on Feb.

14-18, with open-ended consultations with governments

and all stakeholders taking place from Feb. 15-16.

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#### **Number Resource Policy Manual**

Effective October 15, 2004, the ARIN Number Resource Policy Manual is the official ARIN policy document. According to the strategy adopted by the ARIN Board of Trustees, all of the previous versions of ARIN policies have been archived.

The Number Resource Policy Manual (NRPM) can be found at:

#### http://www.arin.net/policy/

The NRPM will be version controlled. The original version was 2004.1. A new version will be issued as policies are added, modified, or deleted. All activity will be recorded in Appendix A of the document. Previous versions of the NRPM will be archived.

The full announcement related to this is available at:

http://www.arin.net/announcements/20041015.

# Policy Proposal and Implementation Report

#### **ARIN XIV Policy Proposals**

The following are the recommendations on active policy proposals as reported by the Advisory Council during the ARIN XIV Members Meeting.

Recommend Adoption and Move to Last Call 2004-5 "Address Space for Multiple Discrete Networks"

### Work with author or within AC Working Group on modifications

2004-3 "Global Addresses for Private Network Inter-connectivity"

2004-8 "Allocation of IPv6 Address Space by the Internet Assigned Numbers Authority (IANA) Policy to Regional Internet Registries "

#### **Intends to Abandon**

2004-6 "Privacy of Reassignment Information" 2004-7 "Residential Customer Privacy Policy"

#### Current Status as of Dec. 31, 2004:

### Awaiting Post-Last Call Advisory Council Review

2004-5 "Address Space for Multiple Discrete Networks"

#### **Under Discussion**

2004-3 "Global Addresses for Private Network Inter-connectivity"

2004-8 "Allocation of IPv6 Address Space by the Internet Assigned Numbers Authority (IANA) Policy to Regional Internet Registries "

#### **Abandoned**

2004-6 "Privacy of Reassignment Information" 2004-7 "Residential Customer Privacy Policy"

Links to the specific text and histories for each proposal are available on the Policy Proposal Archive page at:

http://www.arin.net/policy/proposal archive.html.

ARIN's Internet Resource Policy Evaluation Process is available at:

http://www.arin.net/policy/ipep.html.

#### **Policy Implementations**

The following policy proposals have been adopted in the ARIN region and took effect December 16, 2004:

2003-4: IPv6 Policy Changes

2002-2: Experimental Internet Resource Allocations

As part of the implementation of these policies, version 2004.2 of the ARIN Number Resource Policy Manual (NRPM) was made effective as of December 16, 2004. This version supersedes all previous versions. See Appendix A of the NRPM for detailed information regarding changes to the manual.

In addition, for the implementation of Policy Proposal 2002-2, the ARIN Fee Schedule has been updated with an Experimental Allocations section and a new Experimental Allocation template has been created.

#### Continued from page 1

(ASO). It stipulates how the NRO will fulfill the role, responsibilities, and functions of the ASO as outlined in the ICANN Bylaws. The signing ceremony took place at ARIN XIV in Reston, Virgnia.

For the Internet community, the new ASO MoU outlines a policy process that promotes industry self-regulation of the unallocated number resource pool (IPv4, IPv6, and AS numbers). The same policy process has been in practice for years in each of the Regional Internet Registries (RIRs) that comprise the NRO.

"This is an important development for the global Internet community," said Paul Wilson, NRO Chair. "The MoU fosters RIR cooperation, providing mutual benefit for the development of global policies that affect all RIR communities, while preserving the individual policy development procedures used by the various RIR communities to make their own decisions."

The ASO was originally formed in 1999 by a MoU between the RIRs and ICANN. The purpose of the ASO is to review and develop recommendations on number resource policy and to advise the ICANN Board on these matters.

The new MoU describes a procedure for global policy development. This is a 15-step process for global policies that the RIR communities cannot ratify on their own, such as policies defining how the Internet Assigned Numbers Authority (IANA) allocates address space to the RIRs. This process ensures that global policies continue to be developed in the bottom-up, open and transparent manner common to all RIR communities. The MoU does not affect how each regional community and RIR arrives at a policy position. The regional community for each RIR will continue to determine the processes used to arrive at a policy position for their region.

Another new feature in the MoU replaces the members of ASO Address Council (AC) with the members of the NRO Number Council (NC). The voting scheme for the NRO NC is similar to the former voting scheme used for the ASO AC, where two members are selected by the regional policy forum of each of the RIRs. The only difference is that for the NRO NC, the Executive Board of each RIR also appoints one person from its respective region every third year.

As in the 1999 MoU, the ASO Address Council will provide recommendations to the Board of ICANN concerning the recognition of new RIRs as well as define procedures for selection of individuals to serve on other ICANN bodies such as the ICANN Board. As under the current system, the RIRs provide all funding for the ASO.

#### **ARIN Board Actions**

The ARIN Board of Trustees met on December 10, November 9, and October 20, 2004. The following are highlights of ARIN Board of Trustees actions and discussions from the past quarter:

- Established the fee for the one-year, nonrenewable allocation of experimental IP space at \$500.00
- Extended the current waiver of all IPv6 fees to all General Members in good standing for the period of January 1, 2005 until December 31, 2006. Also, in a separate action, the Board established a new IPv6 fee schedule to take effect after the waiver expires.
- Authorized the President to disperse to AfriNIC fifty (50) percent of the revenue derived from the registration activities in the African portion of the ARIN region from January 1, 2003 until either such time as AfriNIC receives final recognition from ICANN, or December 31, 2005, whichever comes first.
- Confirmed results of elections for Board of Trustees, Advisory Council, and a member of the Address Supporting Organization Address Council (ASO AC) from the ARIN region.
- Extended the waiver of registration fees for the transfer of Internet number resources through June 30, 2005 (See page 7 for additional details).
- Confirmed appointment of Lee Howard as interim appointee to the ASO AC (more details on page 7). In a separate action, the Board expressed its thanks to Lee Howard for his service. His term on the Board expired on December 31, 2004.
- Moved to open ARIN Members Meetings for participation by nonmembers.

The minutes for all Board of Trustees meetings are available at:

http://www.arin.net/library/minutes/bot/

An update on recent policy actions and implementations is available on page 4.

## Internet governance - a train on many tracks

#### by Scott Bradner

Not all that long ago (in real time) what too many people these days call Internet governance was something Jon Postel did in his spare time. Jon, with a little help from his friends, ran the Internet Assigned Numbers Authority (IANA). The IANA assigned protocol parameters for the IETF, assigned blocks of IP addresses to the RIRs and delegated or redelegated top-level domains for the domain name system. Jon did this for many years using funding support from the U.S. government. However, in the late 1990s Jon felt that the Internet had reached a point (and particularly the food fight over domain names had reached a point) that it was time to "institutionalize" the IANA. After far too much politics, the Internet Corporation for Assigned Names and Numbers (ICANN) was created and blessed by the U.S. government to take over the IANA tasks.

As soon as ICANN was formed (and, very sadly, after Jon died) people from all over the world, mostly people who did not know all that much about the Internet, started thinking of ICANN as something that ran, or at least was in the position to run, the Internet. They saw ICANN as an entity that could "govern" the Internet. But there was no consistent understanding of what the term "govern" meant in the context of the Internet, ICANN could, and did, create new top-level domains and created a domain name dispute-resolution process that dealt with cases where there were trademark-related disputes over the ownership of domain names. Other than that, ICANN has not done anything that I would put in the realm of Internet governance but that does not stop people, and governments, from thinking that it could do so in some way.

Meanwhile this Internet thing seems to have become somewhat of a success. With 600 or so million users and a role in a good chunk of the economic health of a major chunk of the developed world, the Internet has become very important in the eyes of governments and politicians - it is now far too important, in their mind, to trust to the geeks (i.e. the people that know what they are doing).

The Internet has thrived in an almost regulationfree environment in most of the world. But this is an anomaly in the telecommunications world where "telecommunications" and "regulation" are conjoined terms. Regulators cannot figure out how the Internet has gotten to where it has without the help of the regulators 'to protect the public interest' - there are no mandated Internet service quality levels, no agreed-to international settlements (cost sharing) procedures or standards, no reachability requirements, no government input to Internet standards, ISP peering policies, or IP address polices.

Regulators around the world would like to correct the oversight and establish numerous layers of regulations, maybe to ensure that the Internet actually becomes a success one of these days. Or maybe the regulations would actually be designed to protect the historic telecommunications industry from being decimated by VoIP and other traditional telecommunications applications run over the Internet with higher quality and advanced features and unburdened by regulatory "protection" and fees.

Governments and their regulators have real reasons to fear or resent the unregulated Internet in addition to the impact on their well-regulated traditional telecommunications companies. As a general rule, Internet connectivity is not organized along geopolitical boundaries, thus, all sorts of national-level rules can not be easily enforced -- rules ranging from controls on content to copyright terms, from taxation to regulatory jurisdictions. Governments are not used to feeling as powerless in regards to telecommunications as they have been in regards to the Internet. A good example of what confuses and angers governments is the rules on the control over country code top-level domains. Governments generally cannot understand why they do not control their own identity on the Internet - one example is the .iq TLD for Iraq - few governments can understand how a national identity could be tied up in the U.S. court system as it has been. Many governments also believe that they have not gotten a fair deal when it comes to Internet resources (e.g. IP addresses) and money (e.g. non-U.S. ISPs having to pay the full cost of Internet links to the United States).

Governments now have a forum to express their concerns and to discuss ways to fix what they see as problems with the current way the Internet is run. The World Summit on the Information Society (WSIS http://www.wsis.org/) has been debating the issues and hopes to make decisions on how to govern the Internet (note, not whether to govern the Internet) at a meeting a year from now in Tunis. A Working Group on Internet Governance (WGIG - http://www.wgig.org/) tasked to provide recommendations to WSIS has been formed under the auspices of the United Nations. They are due to report on their recommendations by next summer. A number of organizations are providing input to the WGIG, for example the ITU-T has provided a white paper (http://www.itu.int/ITU-T/tsb-director/itut-wsis /files/wg-wsis-Zhao.pdf) which suggests, among other

things, providing blocks of IPv6 addresses to national governments for local distribution.

There are many serious issues that the WGIG and WSIS are taking on, some of which may have significant impacts on the ARIN community.

When push comes to shove, there are two basic questions about Internet governance that have not yet been answered. First, who says who makes the rules? Secondly, who says who pays for what? Note, I do not mean who makes the rules; many groups make rules for many Internet-related things. And I do not mean who pays for what; there are lots of groups that want you to pay for various Internet-related things. The real question is who, for the Internet, is the authority that says 'they make the rules for IP address assignment' and 'they define the VoIP QoS standards.' That may or may not be the same authority that says 'you over here pay for international Internet links' or 'you over there pay to help bring the Internet to developing countries.'

I expect WSIS to try to answer these meta questions. Their answers, if clear, have the potential to reshape this thing we have been calling the Internet. I fear that the shape that the government representatives involved in WSIS will find most comfortable is far closer to the traditional regulated telecommunications shape than to the amorphous shape of the Internet to date.

Scott Bradner is a consultant with Harvard University's University Information Systems and has been a member of the ARIN Board of Trustees since its inception.

## Interim ASO AC Representative Appointment

On December 14, 2004, the ARIN Board of Trustees announced it had appointed Lee Howard as an interim member of the Address Supporting Organization Address Council (ASO AC) from the ARIN region. His one-year term began January 1, 2005. This action occurred at the Board's meeting conducted December 10, 2004.

This appointment is part of the transition of the Address Council to its new organization as described in the Memorandum of Understanding (MoU) between the Internet Corporation for Assigned Names and Numbers (ICANN) and the Number Resource Organization (NRO). This MoU was signed on October 21, 2004.

#### Internet Number Resource Transfer Fee Waiver Extended

At the ARIN Board of Trustees meeting on November 9, 2004, the initial registration fee charged for the transfer of Internet number resources was waived for the period of January 1 to June 30, 2005. This is an extension of the waiver that has been in place since June 5, 2002.

This waiver was initially enacted to encourage organizations to clean up their records in the ARIN database prior to the August 2002 database conversion process. After the conversion process was completed, the waiver was extended to encourage this clean-up activity and to assist organizations in protecting number resources from hijacking. Organizations with out-of-date records are strongly encouraged to take advantage of this waiver, both to assist in the management of their resources with ARIN and to protect resources from hijacking attempts.

Questions regarding resources that are eligible for transfers can be sent to hostmaster@arin. net. A process flowchart is available at: http://www.arin.net/library/training/transfer\_process/ that shows how to request a transfer and includes links to relevant policies, guidelines, templates, and other documentation.

This fee waiver only covers the initial registration fee charged for the transfer of resources. Organizations that have not received a direct allocation of IP address space from ARIN are still subject to a \$100 (USD) annual combined maintenance fee covering all transfers, end-user IP address space assignments, and Autonomous System numbers associated with each Org ID.

### **ARIN XV**

Don't forget to get ready for ARIN XV! The meeting will be held jointly with the North American IPv6 Task Force Summit from April 17-21, 2005 in Orlando, Florida. This is an exciting partnership that promises to be of great value to our attendees! Remember to check out ARIN's website for more details in February.

#### **2004 Election Report**

In October, ARIN members voted to fill two seats on the Board of Trustees and five seats on the Advisory Council that become vacant at the end of 2004.

#### **Board of Trustees**

Bill Manning and Paul Vixie were elected to the ARIN Board of Trustees. Their terms began January 1, 2005 and are for a period of three years.

### The vote count for the Board of Trustees was as follows:

Candidate	<b>Total Count</b>
Lee Howard	50
Aaron Hughes	16
David Kessens	11
Bill Manning	52
Alec Peterson	31
Barry Shein	17
Paul Vixie	52
Total Votes Cast	259

The Board thanks Lee Howard, Aaron Hughes, David Kessens, Alec Peterson, and Barry Shein for their participation as candidates in the election. The Board also extends its thanks to Lee Howard, whose 3-year term on the Board of Trustees ended on December 31, 2004.

#### **Advisory Council**

Paul Andersen, Marla Azinger, Ron da Silva, Alex Rubenstein, and Cathy Wittbrodt were elected to the ARIN Advisory Council. Their terms began January 1, 2005 and are for a period of three years.

### The vote count for the Advisory Council was as follows:

Candidate	Total Count
Paul Andersen	62

Marla Azinger	66
Ron da Silva	70
Owen DeLong	50
Alan Levin	25
Michael Loevner	30
Gregory Massel	18
Alex Rubenstein	55
Bill Sangiwa	23
Scott Shackelford	46
Cathy Wittbrodt	73
Total Votes Cast	588

The Board thanks Owen DeLong, Alan Levin, Michael Loevner, Gregory Massel, Bill Sangiwa, and Scott Shackelford for their participation as candidates in the election.

The Board also extends its thanks to Sanford George and Kevin Martin, whose terms on the Advisory Council ended on December 31, 2004.

#### **ASO Address Council**

ARIN members and all ARIN XIV and NANOG 32 meeting attendees were given the opportunity to vote to fill the vacancy on the ICANN ASO AC created by the expiration of Eric Decker's term on December 31, 2004. Sanford H. George was elected to the ICANN ASO AC from the ARIN region. His three-year term began January 1, 2005.

### The vote count for the ARIN region's seat on the ASO AC was as follows:

Candidate Name	Total Count
Sherrod DeGrippo	17
Sanford George	39
Kyle Hamilton	4
Martin Hannigan	27
Thomas Simes	6



**ARIN Today**, a quarterly newsletter, is produced for the ARIN membership and the Internet community. Articles and contributions dealing with IP address issues and technology are welcome from all sources.

Each issue is filled with news highlights, meeting descriptions, policy updates, and information about training and other services ARIN provides its members. Technology news and interesting applications are also covered.

If you have an idea about an article you'd like to submit, or something you'd like to see, please contact the editor at **webmaster@arin.net**.

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Richard Jimmerson Megan Kruse



