

ARIN VIII PPM Day 2



Overview

- Announcements
- Introductions
- Agenda Review

Thanks for Attending The ARIN VIII Social



ASO AC Winner

Congratulations to:

Eric Decker

Agenda Overview

- Tuesday: Public Policy Meeting Day 2
- Wednesday: ARIN Member Meeting

***** Full Agenda on Back of Name Badge *****

Public Policy Meeting Tuesday AM

- 9:00 AM Meeting Called to Order Ray Plzak
- 9:05 AM CLEW Bill Darte
- 9:30 AM RFC 2050 Working Group Mark McFadden
- 10:15 AM GSM Association Steve Ali
- 10:30 AM **Break**
- 10:45 AM Universal WHOIS Mark Kosters
- 11:00 AM RWHOIS Discussion Cathy Murphy
- 11:30 AM Policy Proposal 1 David Huberman
Reassignments (/29 to /28)
- 12:00 PM **Lunch**

Public Policy Meeting Tuesday PM

- 1:30 PM RTMA Working Group Cathy Wittbrodt
- Policy Proposal 2 - /24 Rassignment for multi... Lee Howard
- Policy Proposal 5 - Micro-assignments for multi... Bill Manning
- Policy Proposal 6 - Multiple Maintainers Andrew Dul
- 3:00 PM **Break**
- 3:15 PM DBWG Cathy Murphy
- Authorization
- Policy Proposal 7 - Copies of ARIN's WHOIS db Richard Jimmerson
- 4:00 PM Open Microphone Richard Jimmerson
- 5:00 PM **Adjourn**

CLEW

Community Learning and Education
Working Group
clew-request@arin.net

Bill Darte
Billd@cait.wustl.edu

ARIN Mission Statement

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

CLEW Charter

- CLEW was formed as an educationally focused working group to promote understanding among users of our industry about ways and means of efficient IP addressing.
- The scope of topics under CLEW are those designed to help IP address consumers better understand ARIN's instructions, forms, and processes.
- The working group is designed to create an environment for sharing and developing tools and documentation. It is not a policy making or policy advisory group.

CLEW Activities

- Proposed tutorials at ARIN meetings – three were presented here on Sunday
- Encouraged “outreach” – ARIN staff presenting tutorials at other forums – NANOG a recent example
- Documentation – The ISP Customer Document is undergoing final revision
- A list of document “priorities” has been developed
- Suggested website redesign underway
- Training has been encouraged - ARIN staff expanded to include a training developer
- Web based training planned

Examples

- FAQ
- Glossary – HD ratio
- Subnetting for end-users
- Community effort
- Simple or complex
- ARIN can anticipate certain needs
- Contributions from members and participants – URL references

RFC 2050 Working Group

Background

- Addressing policy is obviously important
- Documenting that policy is crucial
- Today's Addressing policy is complex
- But not so complex that it can't be described
- Many more people are interested than in the mid-1990's
- Situation isn't nearly the same
- CIDR, IPv6, mobile

What Was RFC 2050

- “Internet Registry IP Allocation Guidelines”
- Edited by Kim Hubbard, Mark Koster, David Conrad, Daniel Karrenberg and Jon Postel
- An IETF BCP describing the distribution of “globally unique IP addresses and registry operations”

What's In RFC 2050?

- A few major sections
 - An allocation framework
 - Describing CIDR and hierarchical allocation
 - An assignment framework
 - Describing assignment of blocks of addresses to non-registries – “end enterprises”

More of RFC 2050

- Describes needed utilization rates
 - 25% initial and 50% utilization in first year
 - Also described the documentation required
- Short section on “operational Guidelines for Registries”
- Also includes IN-ADDR.ARPA and a Right to Appeal

Is RFC 2050 Up To Date?

- Nobody seems to think so
- Disagreement about how out of date it really is
- Clearly not current in key areas
 - IPv6
 - How further policy is developed
 - Registry operations
 - Assignment windows
 - Special cases

Is There a Problem?

- Maybe not!

- Just ignore RFC 2050 and move on!

- Does anyone really care?

- Seems like the answer is yes

- Disagreement about what to do to replace RFC 2050

Should RFC 2050 be Updated?

- Landscape has been changed dramatically
 - Not just IETF and IANA anymore
 - Never really was this way
- Updating is would be difficult
 - Many more constituents
 - Other registries, ASO AC etc

Has Anything Happened?

- Active discussions in Taipei in August
- Proposal made at ICANN ASO meeting in Stockholm
- Discussion surrounds
 - What would be a replacement
 - How they would be edited
 - And by whom!
 - How they would be published

What Should be Done?

- ARIN sponsors a working group
- To discuss inside the ARIN region
- What should be done about RFC 2050
- Propose alternatives
- And come to consensus within the region

Pertinent Quote

“Did you hate your
life?”

David Conrad
RFC 2050 contributor

RFC 2050 Working Group

- The objective of the RFC 2050 Working Group is to address the issues relating to relevance of RFC 2050 to the needs of today's Internet registry system
- The group will evaluate RFC 2050 and propose a method of replacing it with a new document or documents
- Once consensus has emerged on the process that will be used to replace RFC 2050, the working group will cooperatively develop its replacement
- The working group will work in coordination with the other Regional Internet Registries who will conduct a similar review process in their respective regions

Mailing List

- As usual Working Group activity is coordinated through a mailing list
- Available in the usual way
- <http://www.arin.net/members/mailling.htm>
- Or
- Send SUBSCRIBE 2050-WG
- To majordomo@arin.net

Working Group Milestones I

- Working group formed (10 Sep 2001)
- Provide inventory of issues and policies that RFC 2050 addresses (5 October 2001)
- RFC 2050 Working Group Open Meeting in Miami (29-30 October 2001)
- NOTE: These have been completed.

Working Group Milestones II

- Draft requirements document for rewrite (25 January 2002)
- Draft process for meeting document requirements (25 January 2002)
- Begin to draft the components of the replacement (February 2002)
- Work in coordination with the other Regional Internet Registries
- Public progress report at ASO general assembly meeting (2Q 2002)

Next Step

- Answer the musical question
 - “Any document or documents that purports to replace RFC 2050 must have . . .”
- A requirements document
 - To be completed prior to RIPE meeting in Amsterdam
- January 2002

Since We Started

- RFC 2050 inventory has been published on the list
- RIPE met in Prague
 - Significant development
 - Rather than have 3 or 4 registries discussing RFC 2050 separately
 - Use a single list
 - Cooperation and coordination

What Next

- Anyone who is interested in addressing should be involved

- This means you!

- Join the mailing list

- Participate in the discussions in other settings

- Get as many other people involved as possible

- Goal: building a useful consensus

Finally

- Food for thought

- Have you ever looked at RFC 2050?

- What should be in a document that describes how addressing works in the internet?

- How should the documents look?

- Who should write them?

- What should be in them?

- And, what shouldn't be?

IP Addressing Policy for GPRS Mobile Terminals

On behalf of GSM Association

Steven Ali



ARIN - October 2001

Miami, Florida

IP Addressing Policy for GPRS Mobile Terminals

Original Presentation By:

Kim Fullbrook,
3G & GPRS Network Technical Architect,
BT Cellnet, UK

Kim.Fullbrook@btcellnet.net

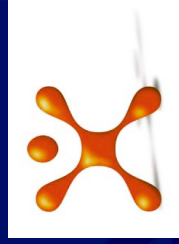
Today - Aims

- Introduce to ARIN members:
 - IP addressing guidelines for use with Mobile Terminals by mobile network operators
 - Common ‘policy’ document IR.40 for use by all Mobile network operators world-wide when requesting Public addresses
- Seek answers to some questions (*next slide*)
- Seek agreement/acceptance of guidelines by the ARIN community

What are we asking ARIN Members ?

With our proposed MT addressing policy presented in the following slides today:

- Do you have enough information to respond to address requests from mobile operators ?
- (If not, what information do you need ?)
- Any omissions, errors or ambiguities ?
- Do you agree with our proposed policy ?
- How many public addresses is it reasonable to request in one submission ?



GSM Association overview (1)

- GSM Association
 - Founded 1987
 - Responsible for development, deployment and evolution of GSM system
 - Currently (July-01):
 - Over 450 members worldwide (mobile network operators, manufactures, regulators, admin bodies)
 - Members provide service to more than 560m customers across the world
 - Europe: 150 members, serving 321m customers
 - Comprised of many subgroups, e.g. IREG
 - See www.gsmworld.com



GSM Association overview (2)

— IREG

- International Roaming Experts group
- A working sub group of the GSM-A
- Comprised of many working parties,
e.g. PacketWP

— Packet WP

- GPRS-associated Working Party of IREG
- Responsible for IR.40 IP addressing guideline document



Background

- GPRS systems being installed world-wide
- TCP/IP is at the centre of GPRS
- GPRS Operators need public IP addresses
- Restricted public IP address supply
- Operators need guidelines to request Public IP addresses
- Registries need guidelines for responding to address requests
- GSM-A IR.40 document provides guidelines on IP addressing for mobile network operators (and RIRs)



What is GPRS?

- General Packet Radio Service (GPRS)
- Enhancement of existing GSM (Digital) circuit switched voice-based network
- TCP/IP-based: allows data packets to be conveyed across the mobile network using packet switching
- “Always on” / always connected
 - After initial ‘log-on’, user is permanently connected to end service
 - Network resources only used when information ready to be exchanged



GPRS Components

- GPRS Mobile Terminal
 - e.g. GPRS WAP phone; connected to PC terminal; GPRS PDA device (e.g. Palm Pilot)
 - Requires IP Address to connect to external IP network
- GPRS network infrastructure
 - Radio Network
 - No IP addresses required
 - “Core” Network
 - e.g. Serving GPRS Support Node (SGSN), Gateway GPRS Support Node (GGSN), Border Gateway and DNS
 - All require one or more IP addresses



IR.40 Introduction

*“Guidelines for IPv4 Addressing and AS Numbering
for GPRS Network Infrastructure and
Mobile Terminals”*

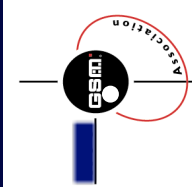
- In scope
 - IPv4
 - GPRS
 - IP Addressing guidelines for GPRS Infrastructure & Mobile Terminals
- Out of scope
 - IPv6
 - 3G/UMTS (*although same guidelines could apply*)
 - non-GSM cellular systems (“)

IR.40 Status

- Today presenting summary of updated IR.40
 - Developed with joint co-operation between RIR and GSM-A communities
- First version only covered IP addressing for GPRS network infrastructure
 - Already agreed/approved with RIRs/GSM-A
- Current (second) version includes IP addressing guidelines for mobile terminals (e.g. handsets)
- Publicly available now

Story so far.....

- 19 July '00 - Milestone. Joint GSM-A/RIPE NCC press release issued:
 - Public IPv4 addresses can be used in parts of GPRS network infrastructure
 - Existing RIR IP address allocation procedures apply:
- August '00. White Paper on Mobile addressing circulated to GSM & RIR communities
- Today. Working with all RIRs to get their similar acceptance for IP addressing guidelines for Mobile Terminals
 - APNIC meeting 27-31 Aug 2001
 - RIPE NCC meeting: 3-4 Oct 2001
 - ARIN meeting: 28th 31 Oct 2001



Why do we need an MT policy ?

- Too many MTs to assign a Public IP address to each one
- GSM-A recognises that mobile network operators must share the responsibility for conserving and efficiently using Public address space
- Operators need common guidelines on the use of Public addresses and how to request them
- RIRs requested GSM-A to produce guidelines on IP addressing for MTs: Registries need common guidelines on how to respond to address requests from operators



Proposed Guidelines in IR.40

- Use existing RIR guidelines, request policies and procedures, with GSM-A extras
- Only use Public addresses where mandatory for service or can demonstrate Private addressing is not feasible / practical
- Demonstrate conservative and efficient usage of requested address space, e.g.

— Comparison of Public addresses requested in relation to quantity of Private address used for existing/planned services

— Dynamic addressing to share Public addresses between many users



Key Points

- Public/Private address choice is based upon type of service offered
- Example network designs for different service types included in IR.40
- These help operators design and implement services in a similar way which conserves public IP addresses
- NOTE: Design examples not mandatory. Each operator responsible for:
 - Own service design/network implementation
 - Requesting/justifying own IP address requirements



Background - Mobile Devices

- Mostly small constrained pocket terminals
- Majority WAP-only
- Many will have web browsers, maybe POP email
- Can't have new applications loaded
 - No surprises
- PDA's lower volume
- Connected for long periods
- Maybe 50% of all terminals "on" at busiest time



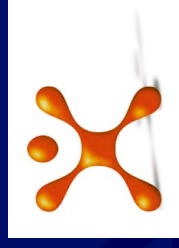
Background - Mobile Applications (1)

- Very different to fixed Internet world
- WAP is the major mobile application today
- Mobile communicates *only* with local WAP gateway
- WAP-push is compatible with private addressing
- Cannot justify public addressing just for WAP
- Web & POP email will become more important as terminals & throughput capability improve



Background - Mobile Applications (2)

- Emerging mobile applications - including Instant Messaging - all either:
 - mobile-server
 - mobile-server-server
 - mobile-server-server-mobile
- ...not mobile-mobile
- Private addressing with NAT feasible



Summary: Services vs Address type

(Not mandatory groupings: guidelines only)

No	Service	Address Type	Notes
1	Direct Corporate LAN access	Company	Use company address scheme (normally Private)
2	Internet access– WAP only	Private	"Dumb" phone, likely highest volume. No justification for public addresses.
3	Internet access– WAP with other NAT-compatible applications	Private	Probably a PDA or smartphone. Low-middling volume.
4	'Open' Internet access (*)	Public	Service is defined as open access. Probably a PC or "power" user.
5	"Internet" service APN	Public	Used only with International roaming

() includes business customers connecting to their company via the Internet, e.g. using IPsec VPN*

Processing address requests

- GPRS services requiring Public address
 - “Open Internet Access”
 - “Internet” Service APN (for roamers)

(In both the above cases, the numbers of customers expected to take up these services is expected to be relatively small compared to other services)
- Other services
 - Public addresses not normally justified for WAP-only services. Reject request unless there are exceptional circumstances that can be satisfactorily explained
 - Operator identifies efforts made to conserve Public address space,
 - Registry applies their normal assessment rules



Summary

- IR.40 produced by GSM-A in conjunction with RIRs
 - Publicly available now from www.gsmworld.com
- All operators must share responsibility to conserve and efficiently use Public address space
- Existing RIR address request policies and procedures apply, with additional guidelines proposed in IR.40:
- Only use Public addresses where mandatory or can demonstrate Private addressing not feasible / practical
- Applications which must have Public addresses:
 - “Open Access”
 - “Internet” service APN
 - Others as justified by operators



What are we asking ARIN Members ?

With our proposed MT addressing policy:

- Do you have enough information to respond to address requests from mobile operators ?
- (If not, what information do you need ?)
- Any omissions, errors or ambiguities ?
- Do you agree with our proposed policy ?
- How many public addresses is it reasonable to request in one submission ?



Close

Thank you

..... Questions?