

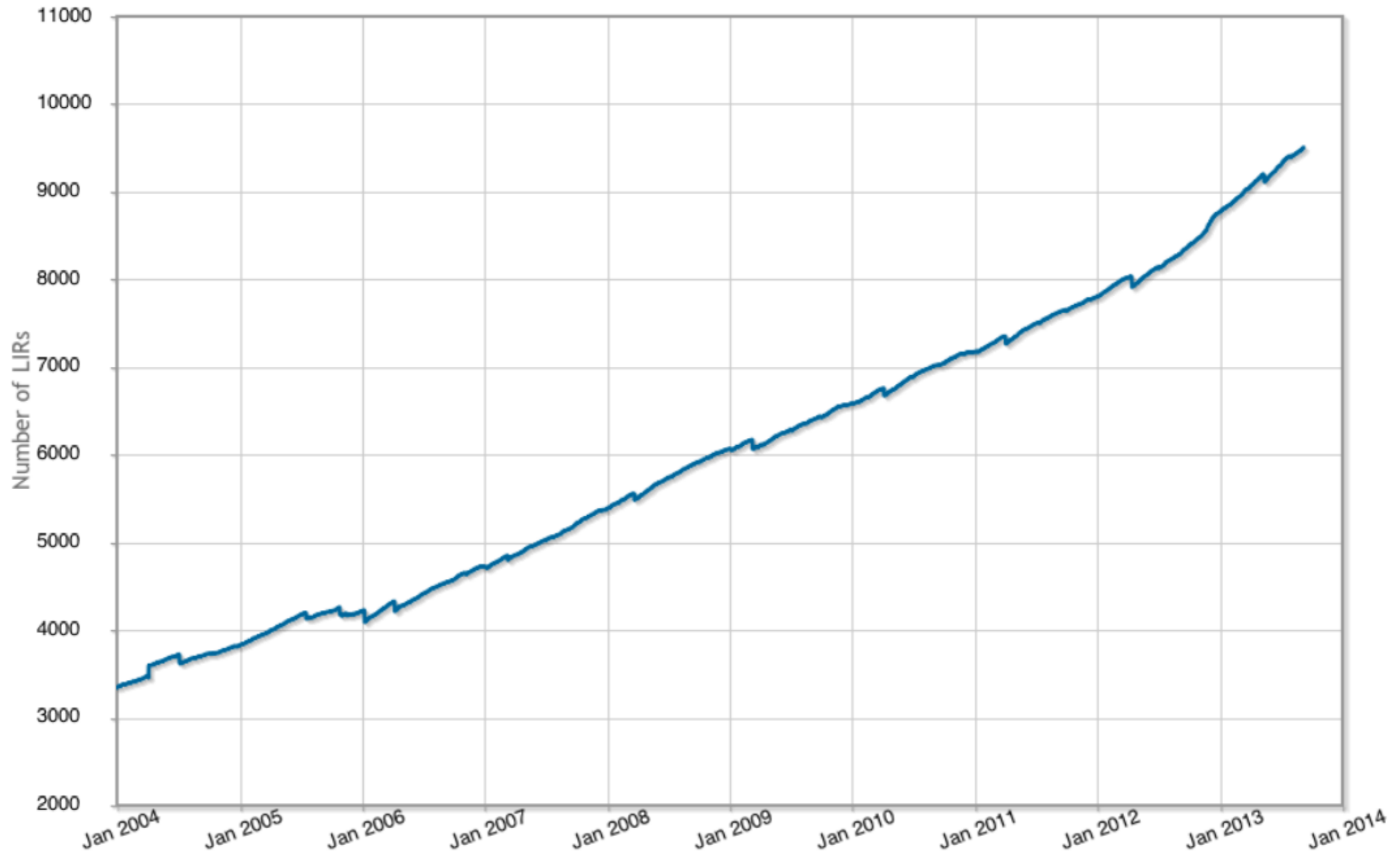
Registration Services Update

ENOG 6

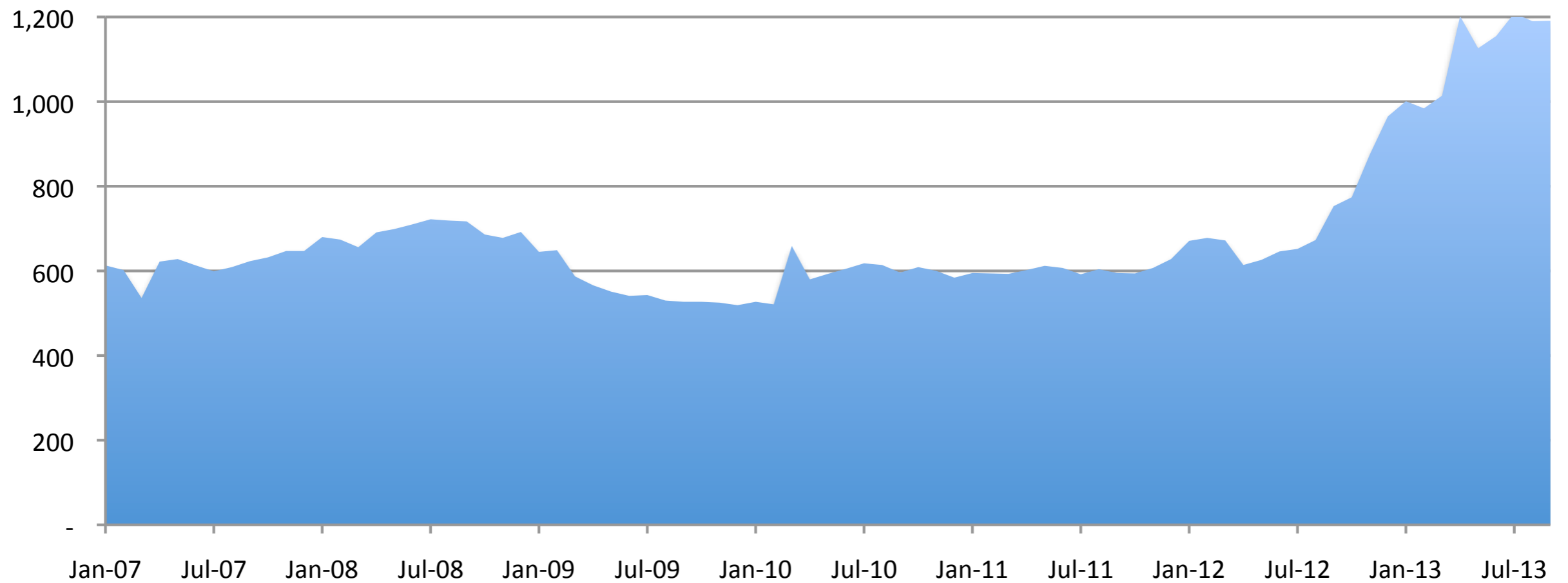
Gerardo Viviers
Registration Services
RIPE NCC



9,577 RIPE NCC Members From 76 Countries

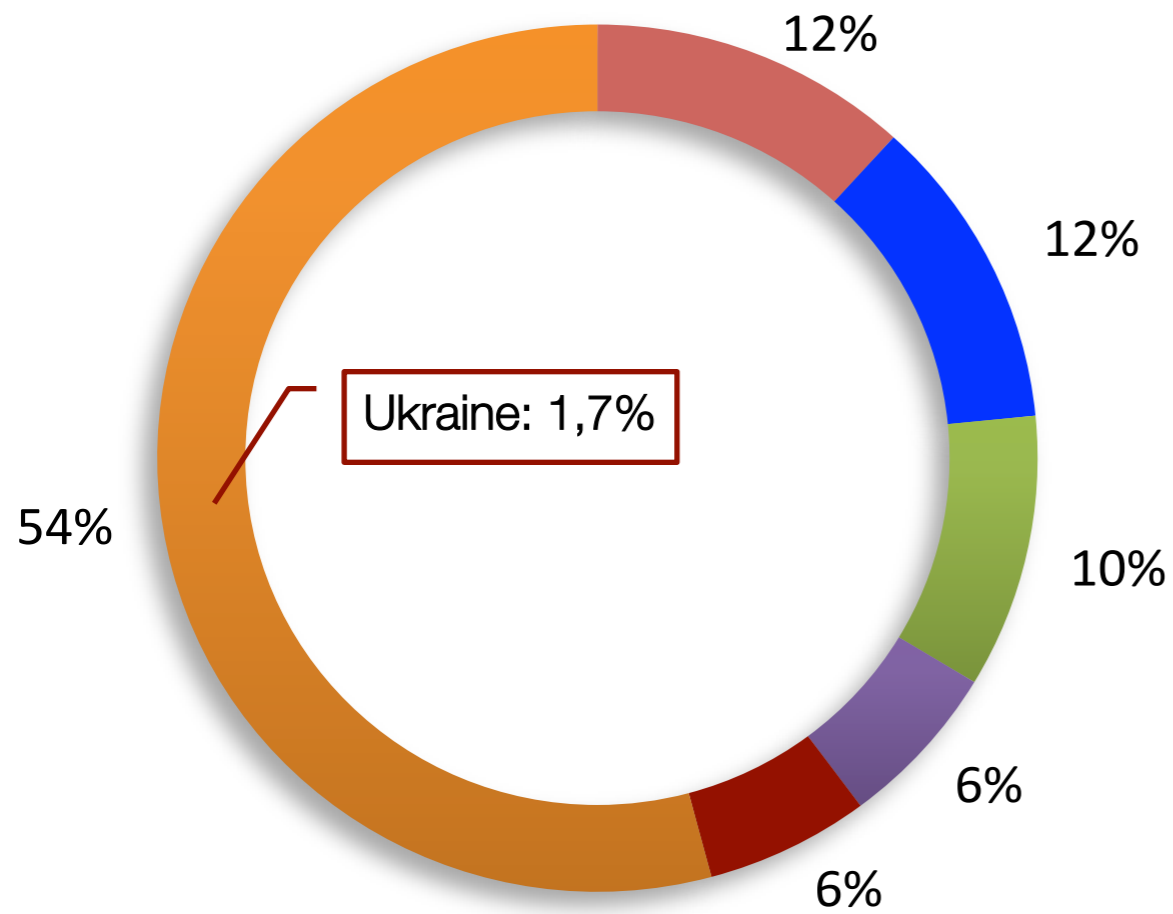


Strong Membership Growth



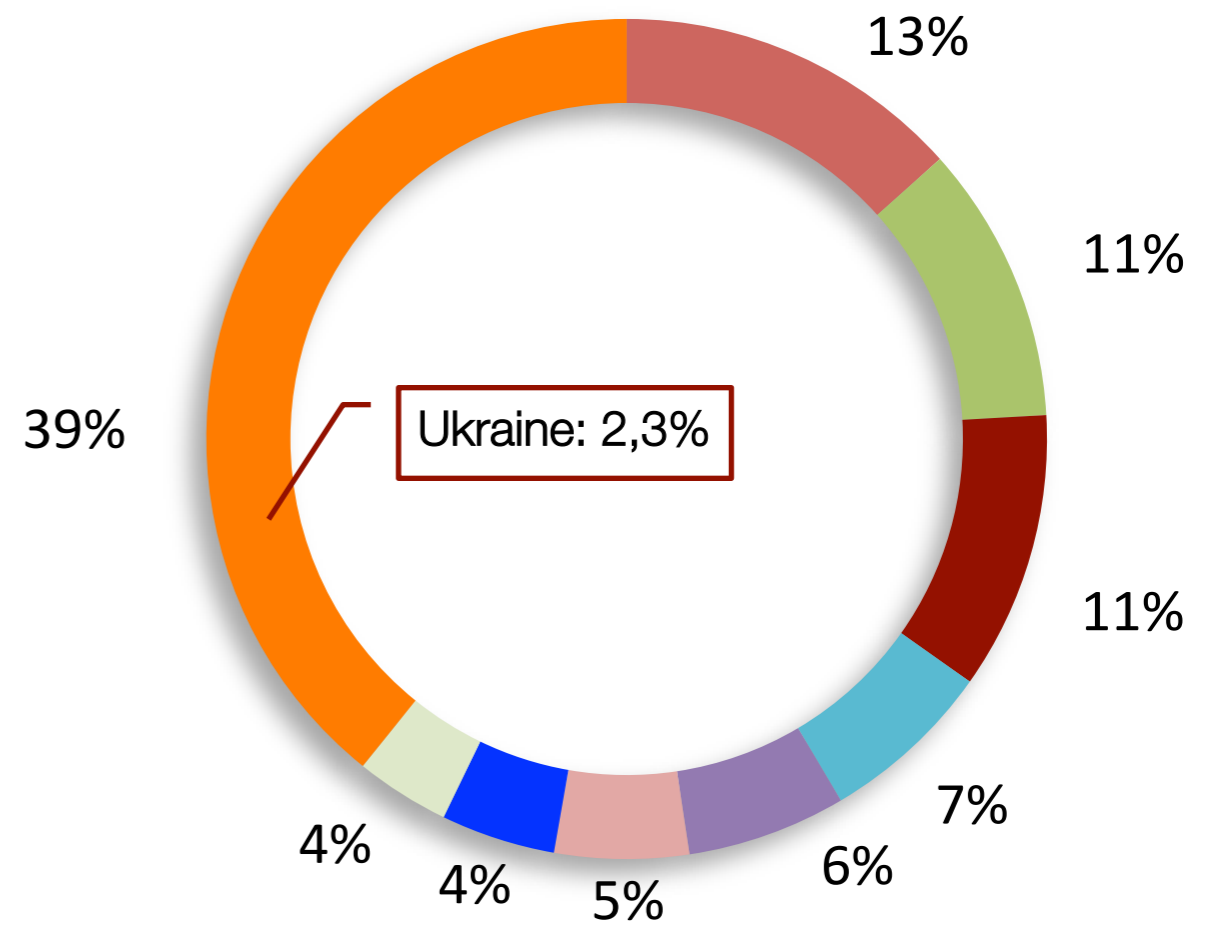
RIPE NCC Membership 2013

Total Membership by Country



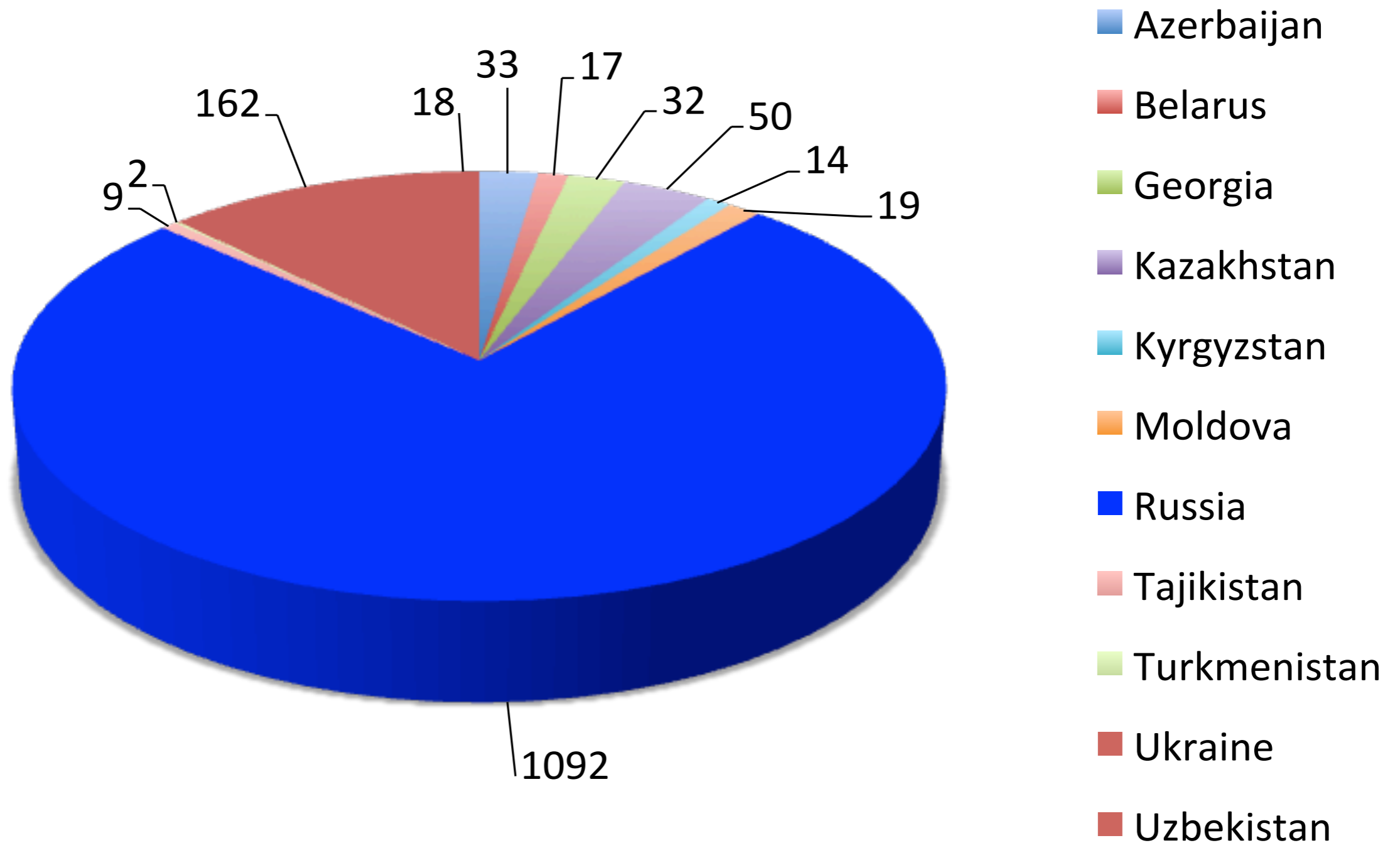
- UK
- Russia
- Germany
- Italy
- France
- Other

New Membership by Country

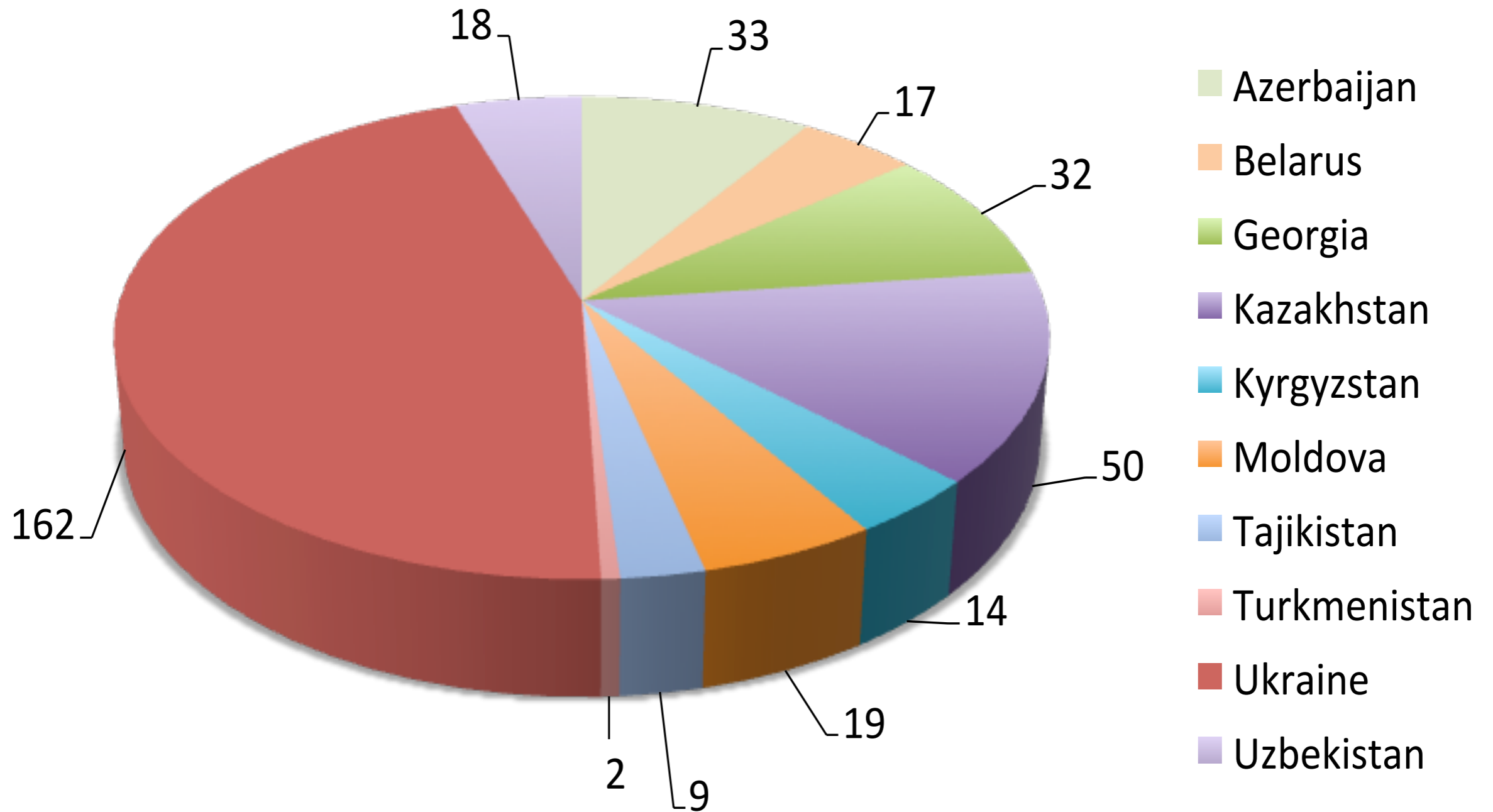


- UK
- Germany
- France
- Netherlands
- Italy
- Poland
- Russia
- Switzerland
- Other

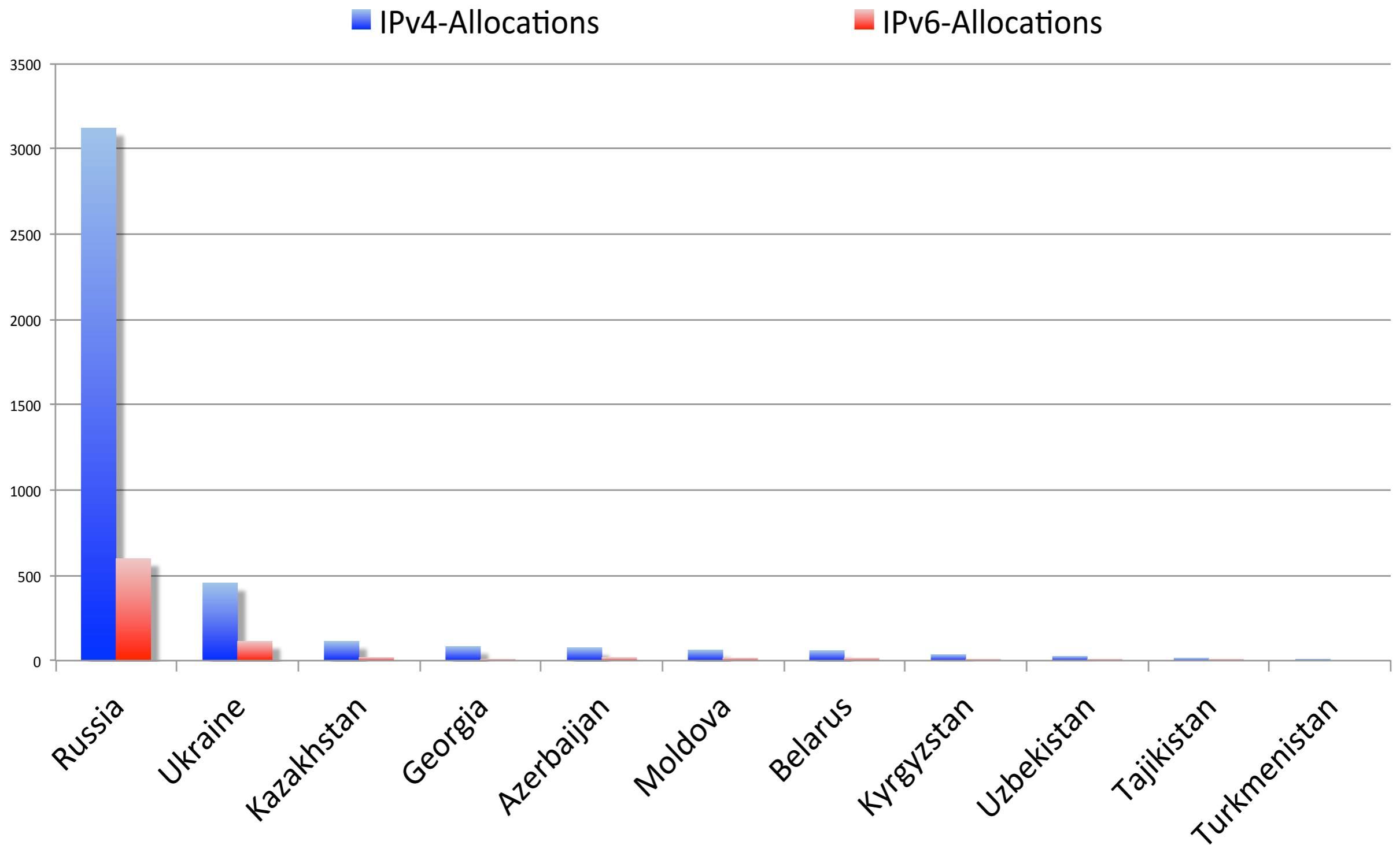
Number of LIRs in Region



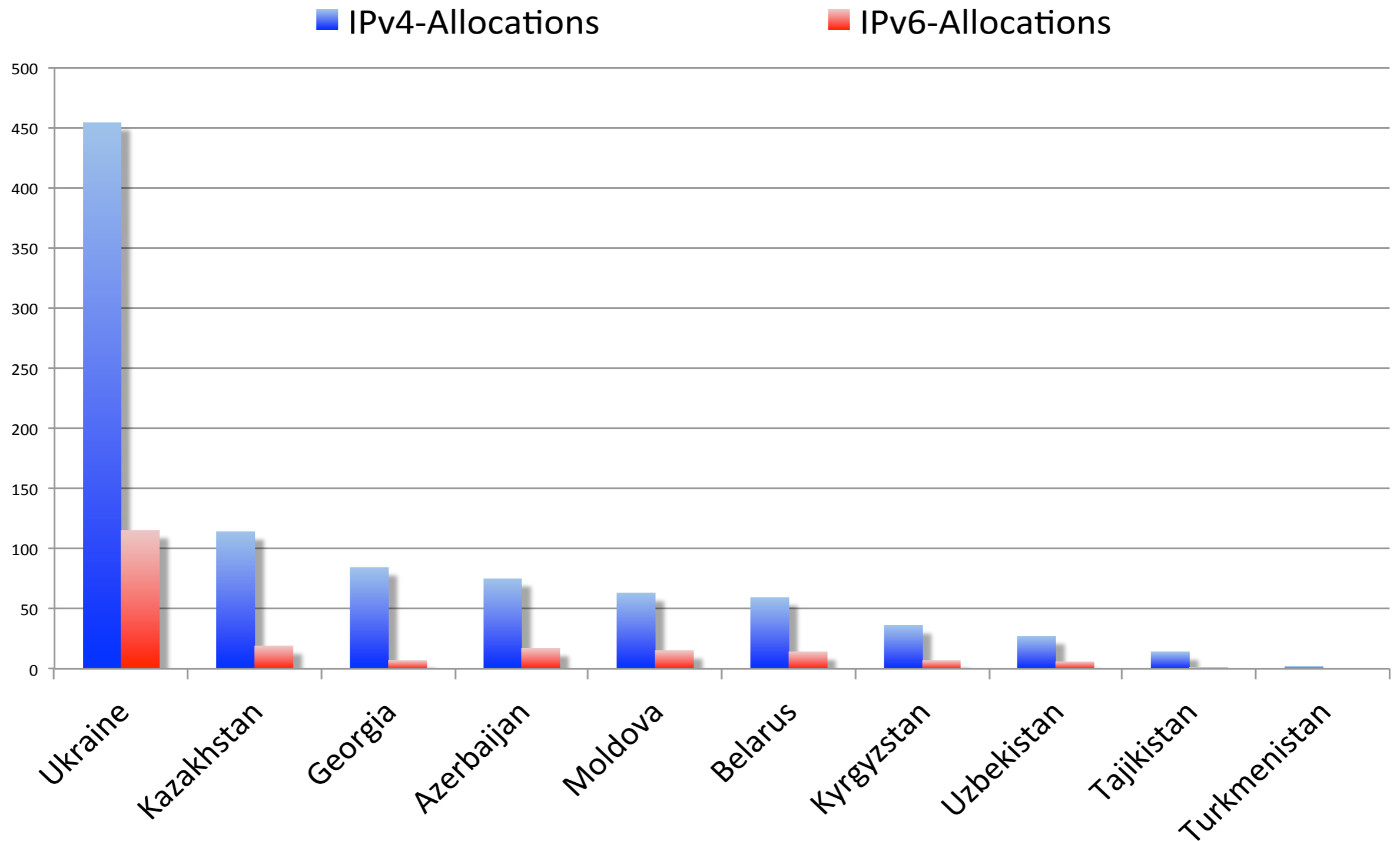
Number of LIRs in Region (Outside Russia)



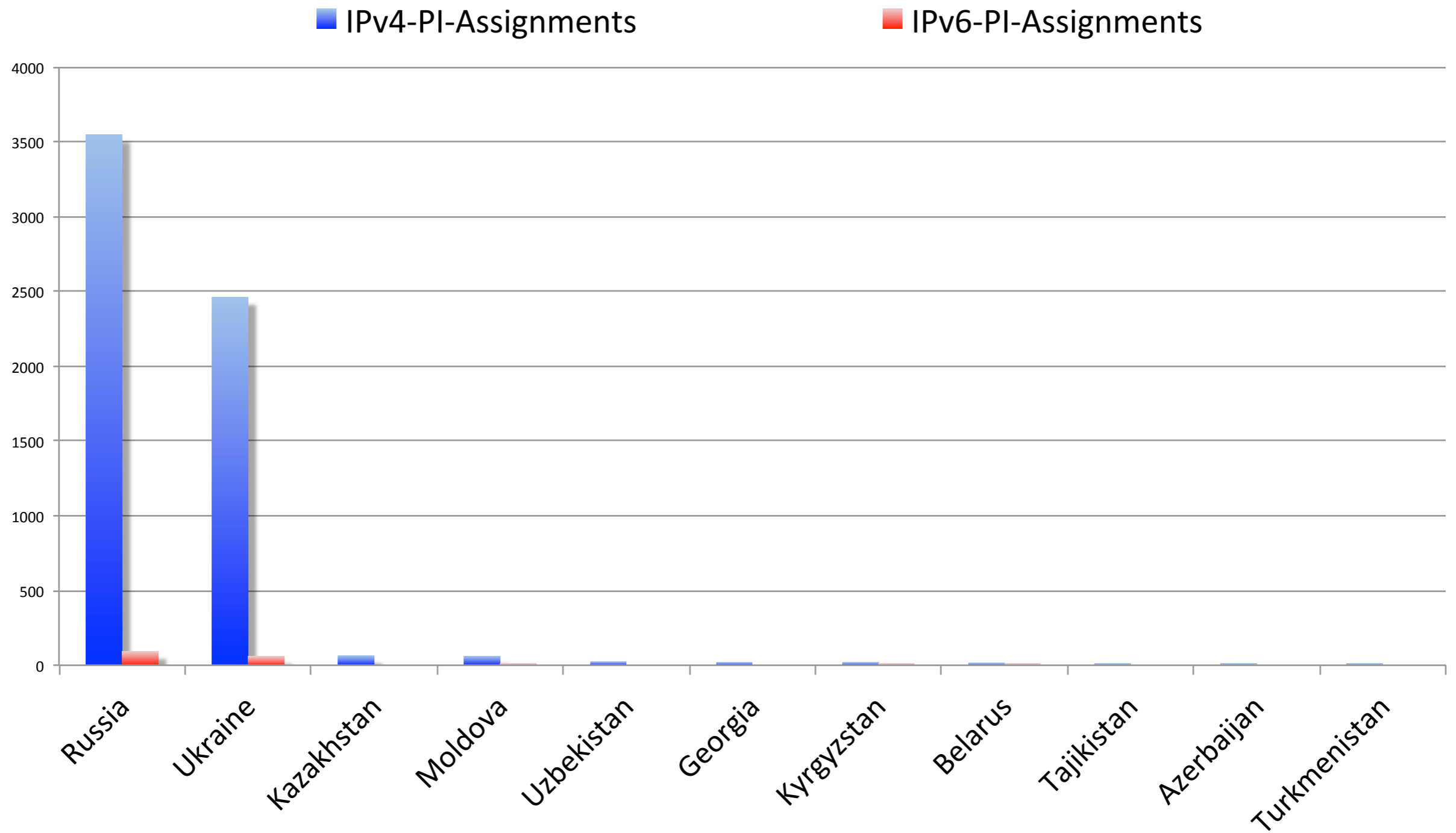
IP Address Allocations



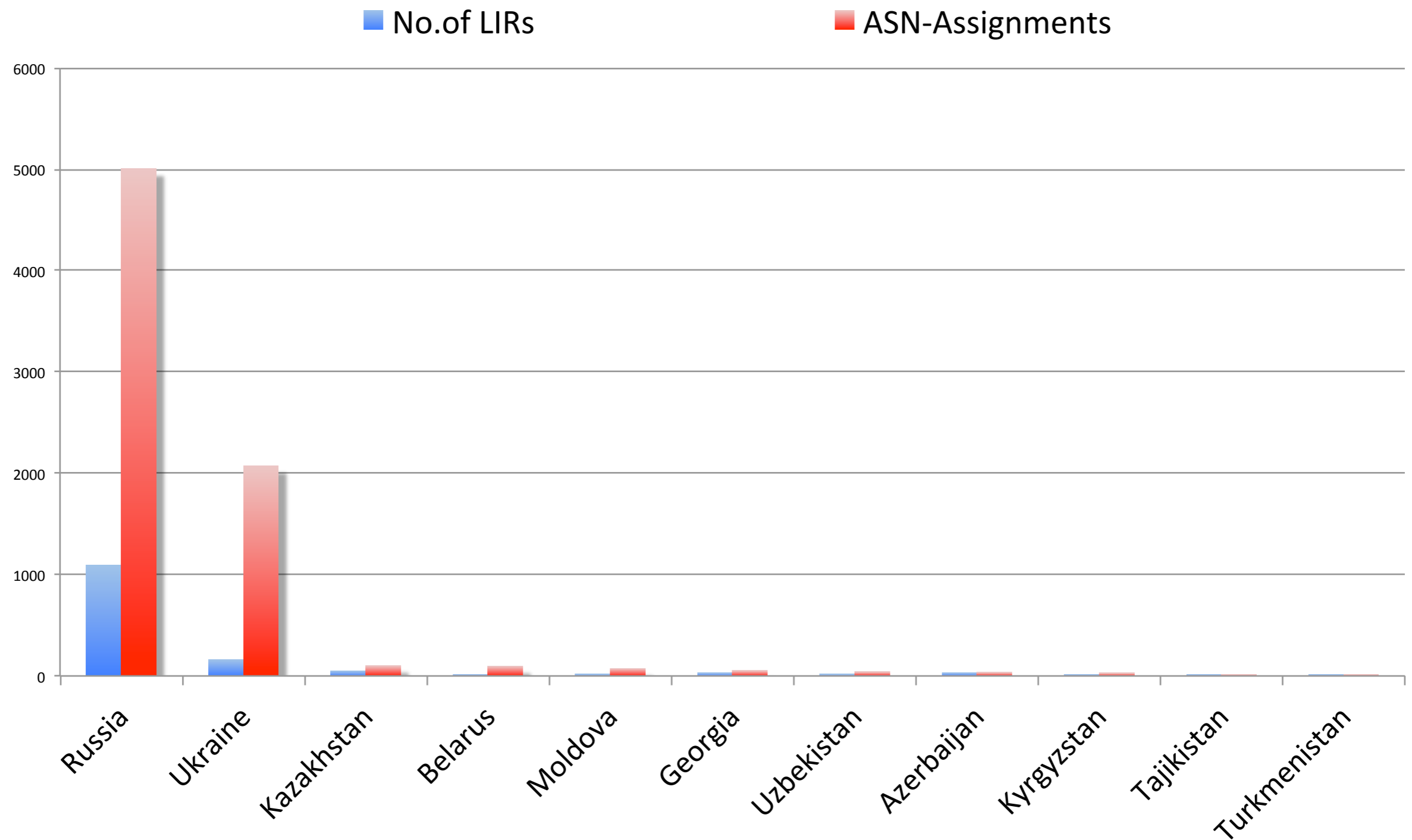
IP Address Allocations (Outside Russia)



PI Assignments



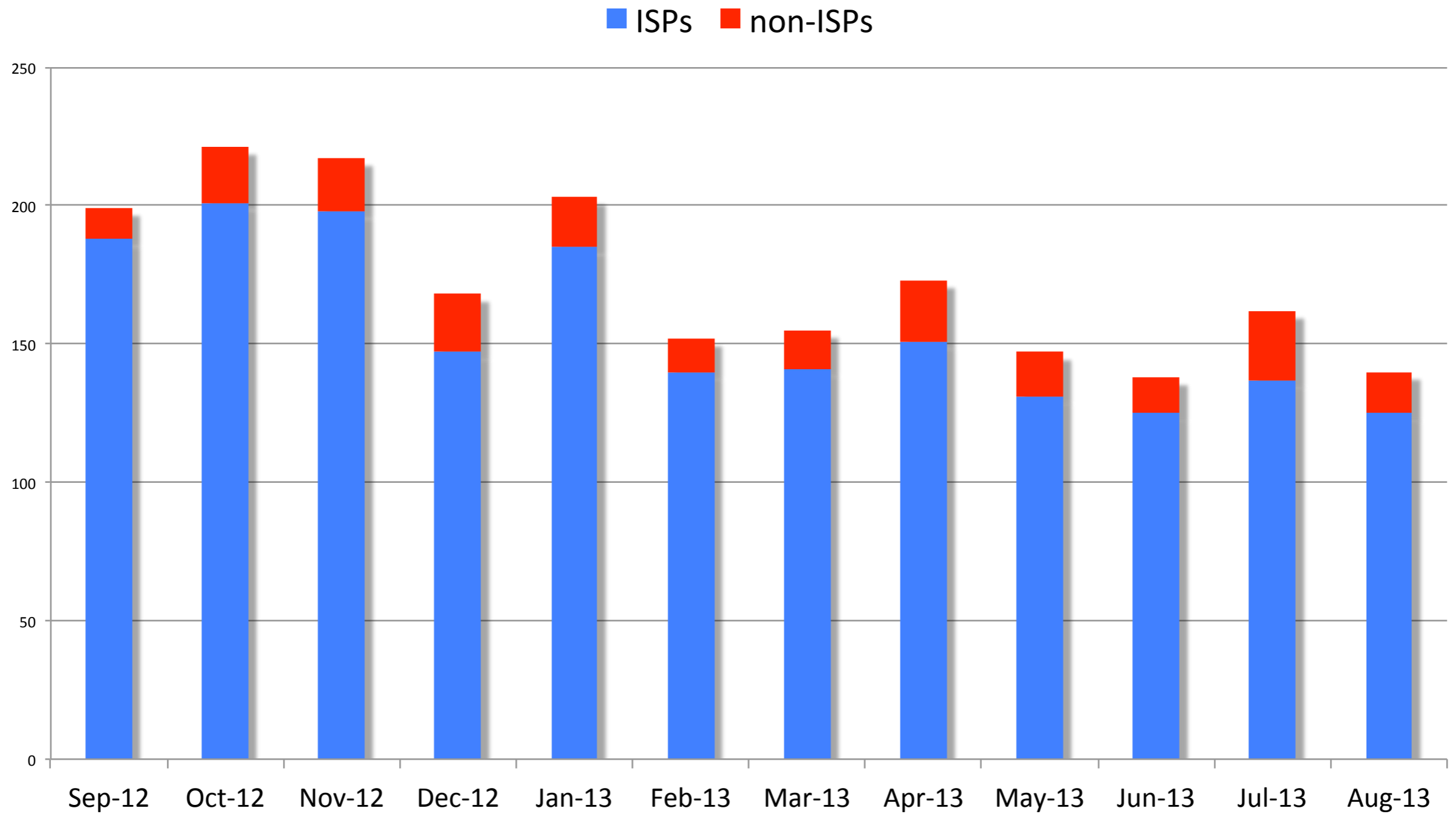
Autonomous System Number Assignments



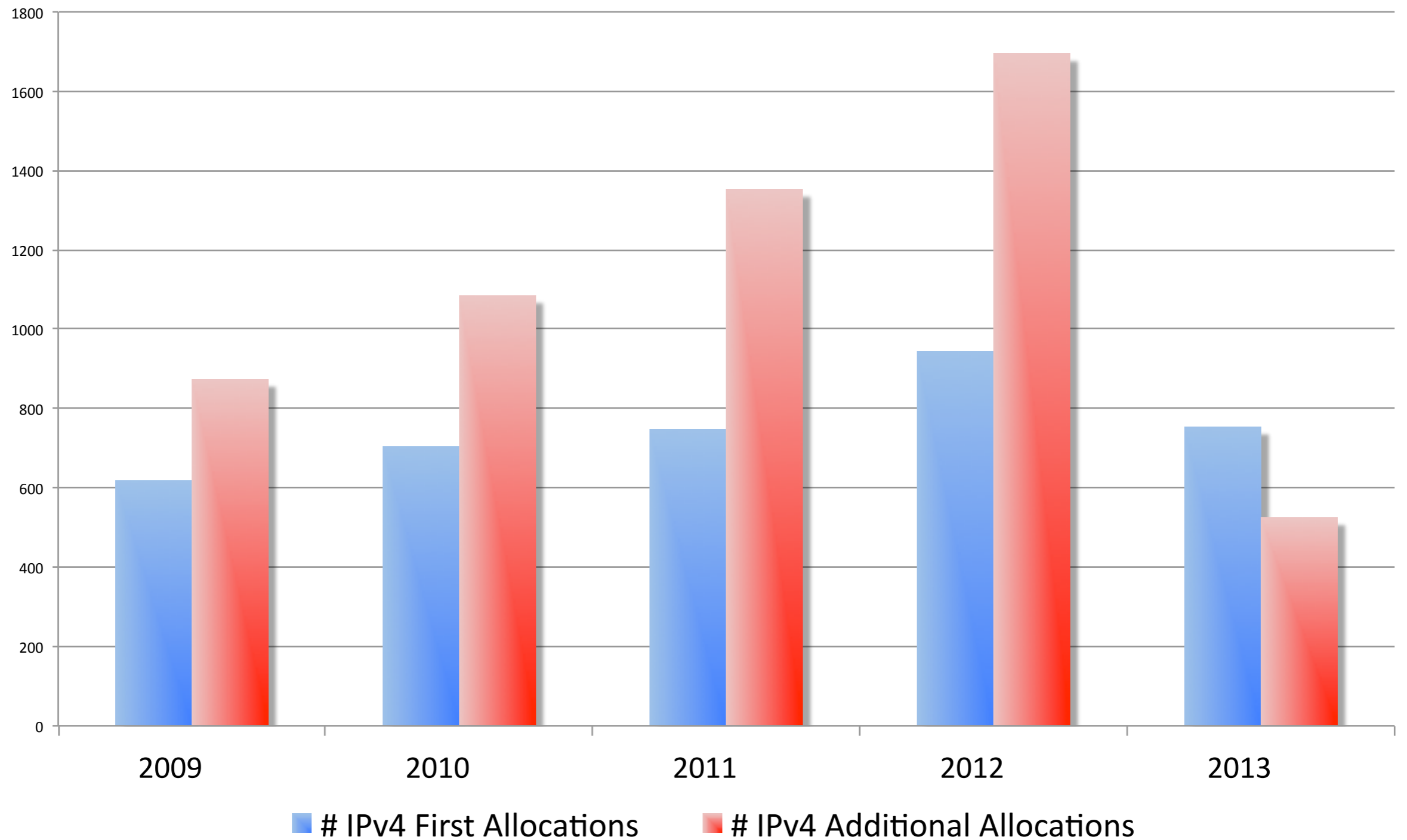
Last /8 IPv4 Allocation Policy

- The RIPE NCC reached the last /8 on 14 September 2012
- LIRs can receive one final /22 (1,024 IPv4 addresses), even if they can justify a larger allocation
 - LIRs must already have an IPv6 allocation from an upstream LIR or the RIPE NCC
 - 2082 /22s issued so far
- Additionally: 15 IXP assignments, two in Russia

Allocations From the Last /8



IPv4 Allocation Trend



Need More IPv4 Address Space?

- Three different types of intra-RIR transfers:
 - 1) Mergers and acquisitions
 - 2) Transfers of allocations using the policy
 - 3) Legacy space transfers

1) Mergers and Acquisitions

- If an organisation (or part of it) is sold, the Internet number resources in use for the network can be transferred
- Documentation required:
 - Merger/purchase agreement
 - Company registration papers for both parties
 - New “Independent Assignment Request and Maintenance Agreement” (only for Provider Independent resources)
- Based on procedural document ripe-579

2) Transfers of Allocations Using the Policy

- Policy requirements:
 - Transfers between LIRs only
 - The IP addresses transferred must not be in use
 - Receiving LIR must justify the need for the block
 - Permanent or temporary
- Documentation required:
 - Signed RIPE NCC Transfer Agreement
 - Company registration papers for both parties
 - RIPE NCC additional allocation (pre)approval for receiver
- Based on ripe-582, section 5.5

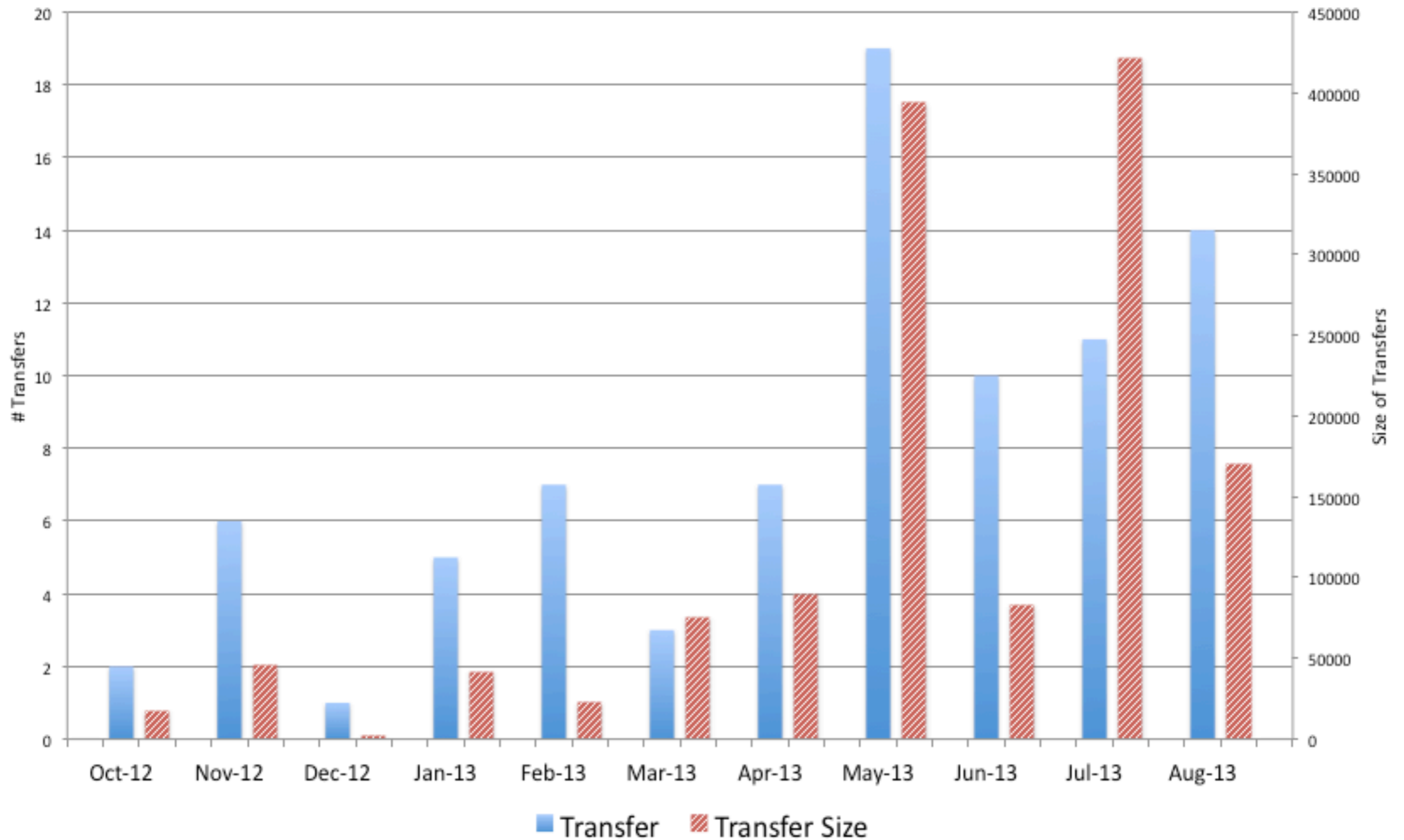
3) Legacy Space Transfers

- IPv4 address space that was distributed prior to the formation of the Regional Internet Registry (RIR) system
- The RIPE NCC is able to support transfers of legacy space when this is covered by a “Legacy Space Agreement”
- The RIPE NCC is not involved in cases where the resources are not covered by an agreement

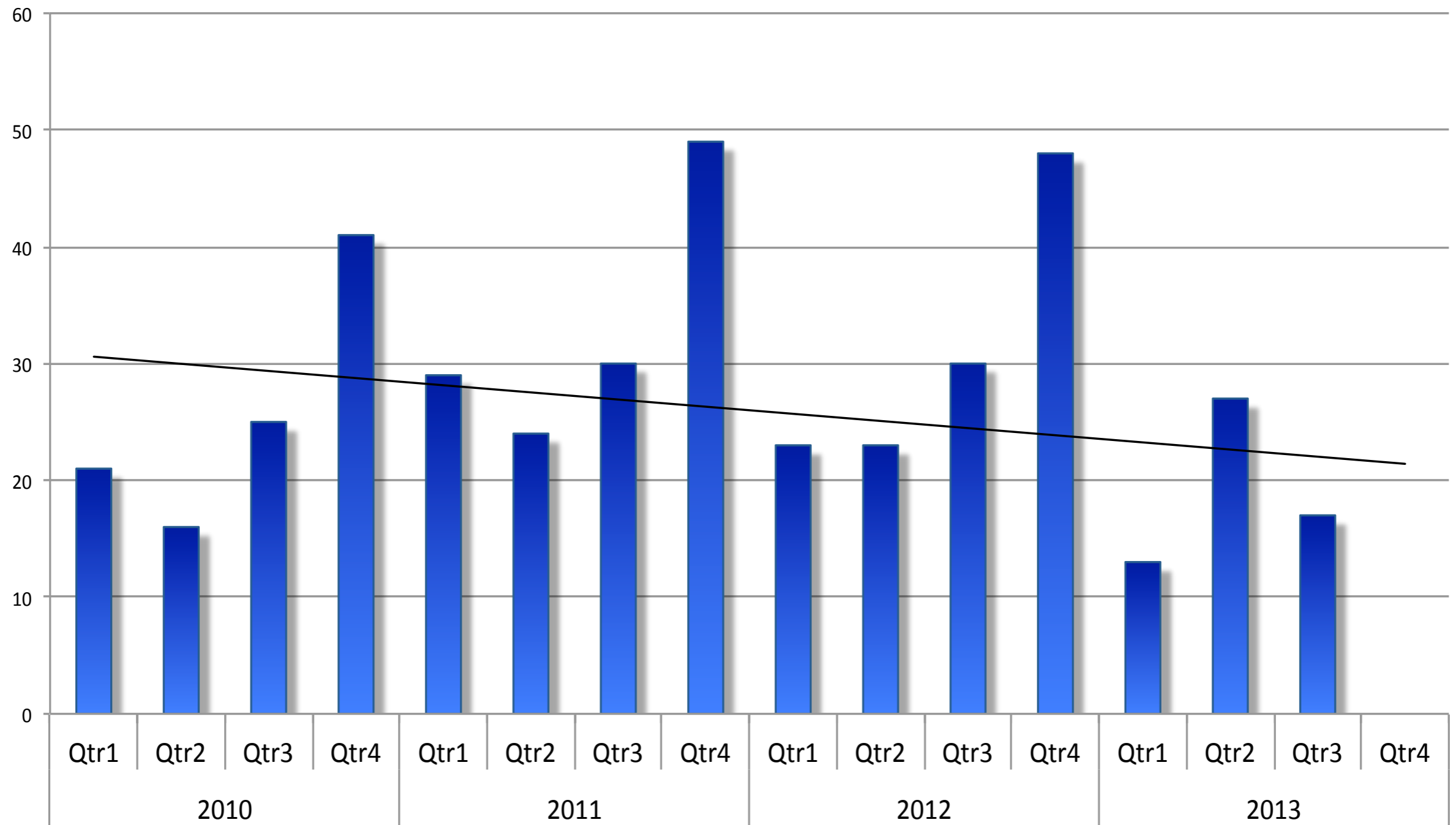
IPv4 Transfer Listing Service

- Enables LIRs looking to transfer allocations to find receiving parties
- LIRs can also request resources
- Member-only service through the LIR Portal
- The RIPE NCC has no interest in financial transactions
- Transfers must follow transfer policy in ripe-582, section 5.5
- Currently 340,992 IPs offered vs 16,492,533 requested

IPv4 Allocation Transfers



Mergers Completed



Recent Policy Changes

- “Transparency in Address Block Transfers”
 - Accepted proposal 2012-05
 - The RIPE NCC now publishes a record of all transfers conducted according to the policy:
<http://www.ripe.net/lir-services/resource-management/ipv4-transfers/table-of-transfers>
- “Revert “Run Out Fairly””
 - Accepted proposal 2012-06
 - Reverts the changes made by “Run Out Fairly”
 - Allocation/assignment period returns to 12 months (from three)
 - 50% assignment in use after 12 months

Current (Transfer) Policy Proposals (1)

- “Policy for Inter-RIR Transfers of IPv4 Address Space”
 - Policy proposal 2012-02
 - Describes how transfers of IPv4 address space between LIRs of different Regional Internet Registries will occur:
 - Section 5.5 applies
 - Need for policy compliance between RIRs:
 - Originating party complies with policy of originating RIR
 - Destination party complies with policy of destination RIR
 - RIRs must have “compatible” as well as reciprocal policies
 - Status: Review Phase – awaiting Working Group Chair decision

Current (Transfer) Policy Proposals (2)

- “No Restrictions on End User Assignments in Intra-RIR Transfers”
 - Policy proposal 2013-05
 - Removes requirement that a transferred allocation must not contain any block that is assigned to an End User
 - IP addresses in use can be re-allocated
 - End Users that later become an LIR can move their address blocks to their own account
 - Status: Discussion Phase – awaiting documentation

Current Policy Proposals (3)

- “No Need – Post-Depletion Reality Adjustment and Cleanup”
 - Policy proposal 2013-03
 - Removes needs-based requirement for IPv4 delegations
 - Status: Review Phase
- “RIPE NCC Services to Legacy Internet Resource Holders”
 - Policy proposal 2012-07
 - Status: Review Phase

Current Policy Proposals (4)

- “PA/PI Unification IPv6 Address Space”
 - Policy proposal 2013-06
 - Aims to unify the three RIPE documents ripe-589, ripe-451 and ripe-233 and to provide one document for all IPv6 address space.
 - Removes the difference between PI and PA; Sub-allocation and Assignment

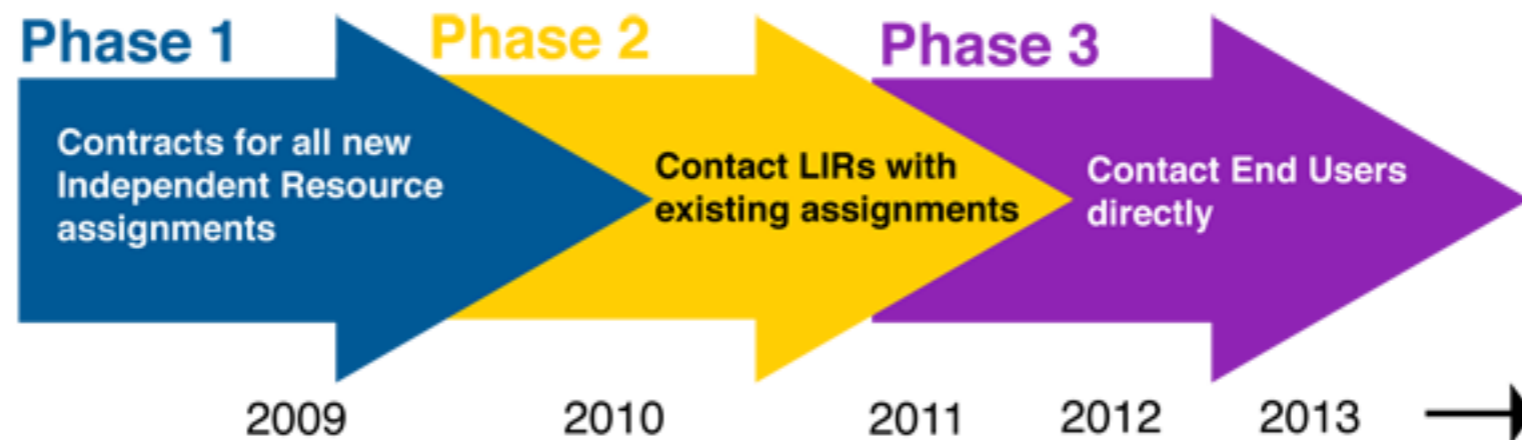
Join the Discussions

Address Policy Working Group:

<http://www.ripe.net/mailman/listinfo/address-policy-wg>

PI Resources: Contractual Policy – Update

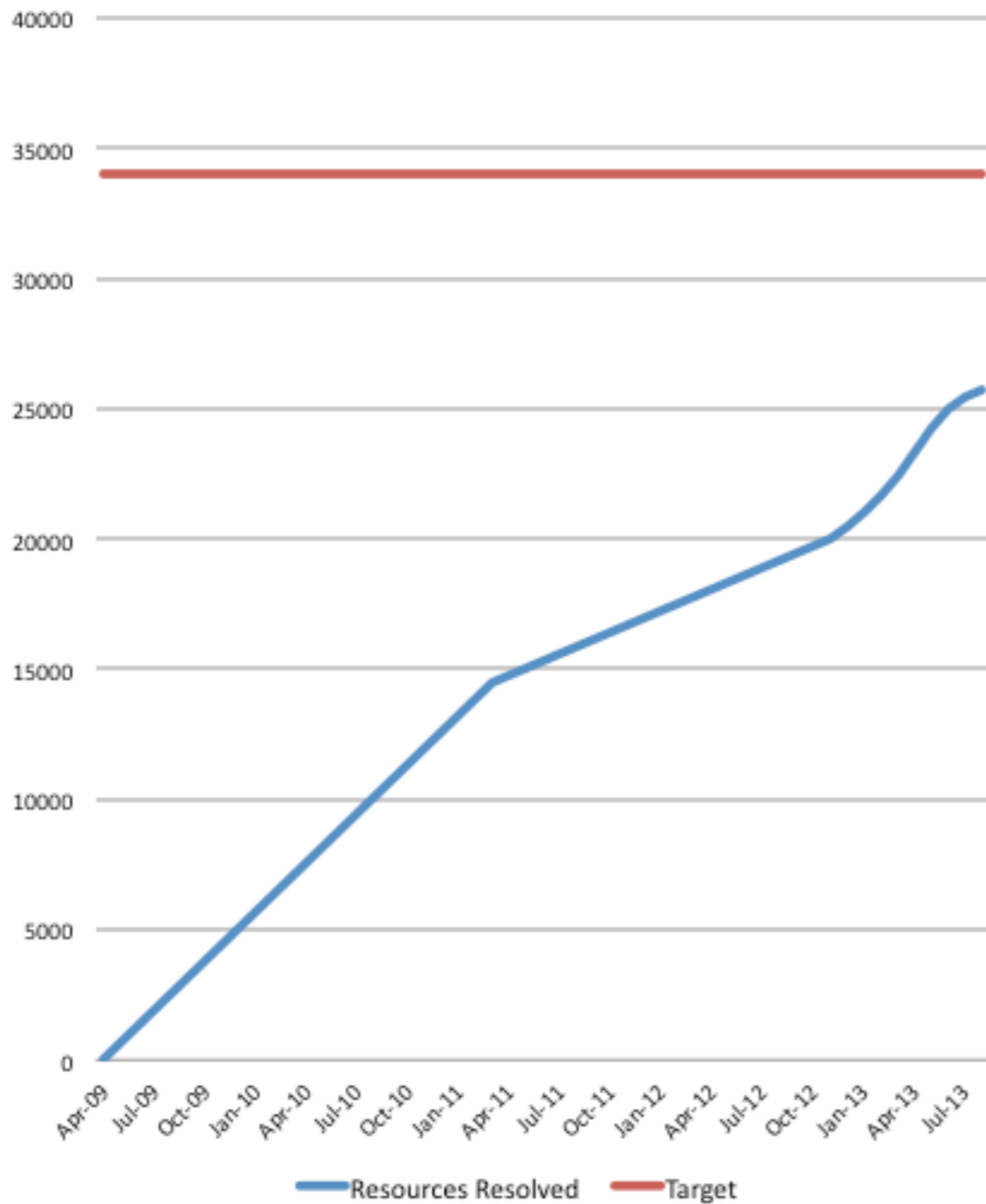
- Currently in Phase 3: Contacting End Users directly



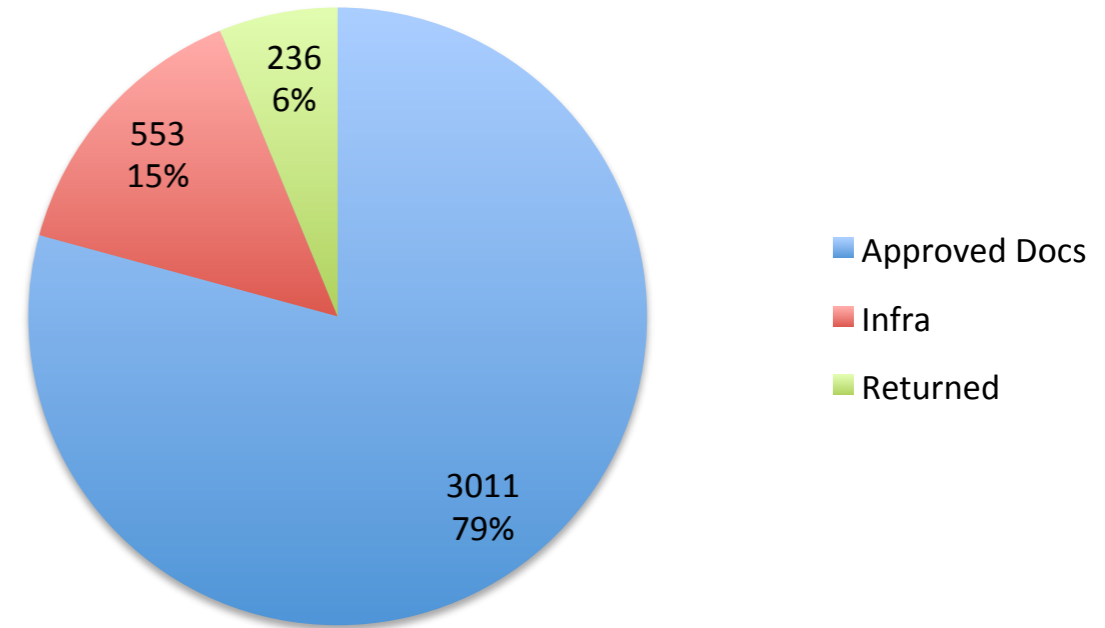
- Several challenges
 - Lack of familiarity with RIPE Policy and the RIPE NCC
 - Identifying the legitimate resource holder
 - Ensuring continuity of active networks

PI Resources: Contractual Policy – Update

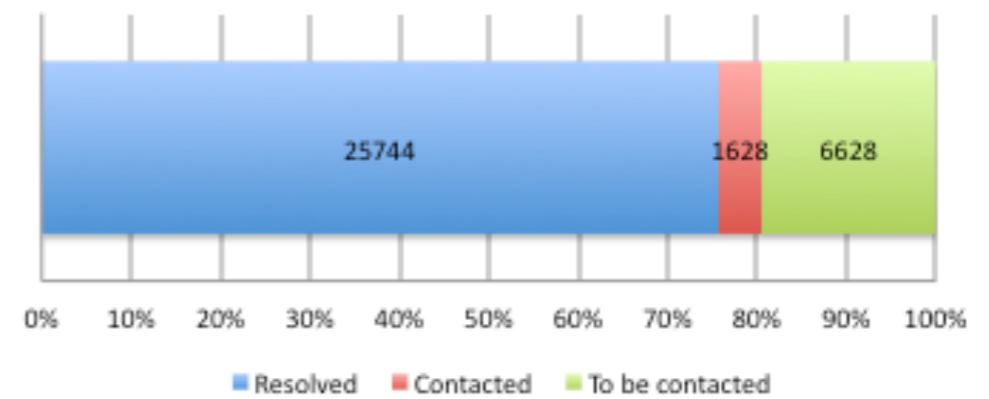
2007-01 - Phase 2 & 3



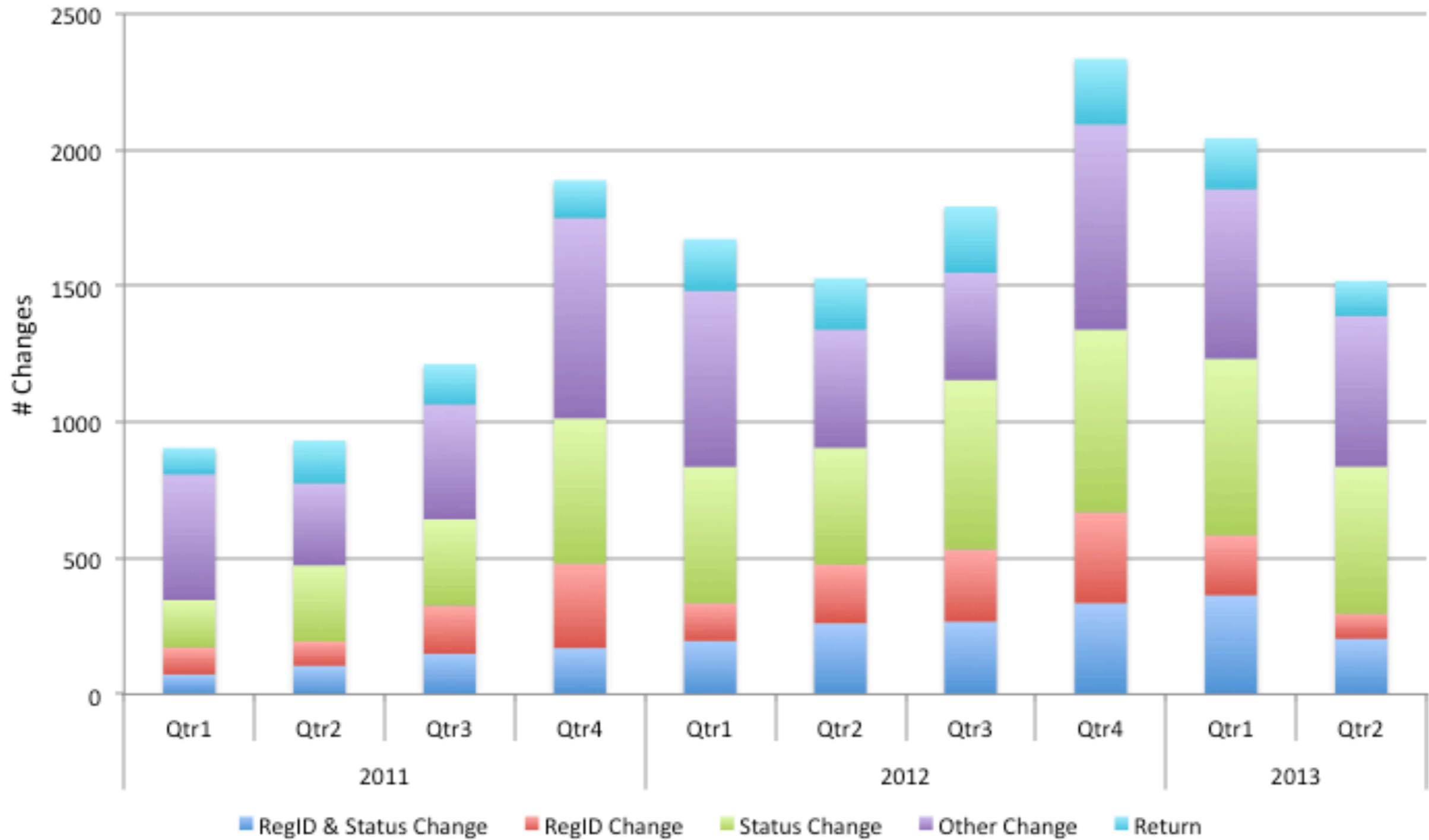
Results (previous 6 months)



Contacted Resource Holders



Independent Resources: Maintenance



Assisted Registry Check (ARC) (1)

- New name for the RIPE NCC's existing audit activities that have been improved with feedback from members and the RIPE community
- Maintain the periodic contact between LIRs and the RIPE NCC
- Reduce workload for LIRs
- The RIPE NCC provides a report highlighting our observations and recommendations
- Overview of registered information (e.g. contact details)

Assisted Registry Check (ARC) (2)

- Overview of Internet Number Resource consistency (e.g. overlapping assignments)
- Overview of rDNS and route-objects consistency (e.g. checking lame reverse delegations and routing registry vs BGP announcements)
- Assist LIRs with improving data accuracy
- An opportunity for LIRs to ask about RIPE Policies, registering objects in the RIPE Database and using RIPE NCC tools

Address Hijacking

- Due to an End User report, we discovered a number of resources that have been hijacked
- Hijackers seem to be targeting unannounced resources
- Hijackers abused long established processes
- A sophisticated approach: forged legal documents and signatures, copied websites and re-registered expired domains

Taking Steps in Response

- Updating our processes as appropriate
- Reverting unauthorised changes
- Reporting illegal activities to the authorities
- Where member involvement can be proven: closure of LIR account and de-registration of resources
- In case of a dispute:
 - Affected party can escalate the process to RIPE NCC management for a final decision
 - If not resolved, can object to decision via Arbiters Panel if members (non-members must go through sponsoring LIR)

Getting the Balance Right

- Mindful of the balance between ensuring that we are talking to the legitimate holder vs being overly bureaucratic or inflexible
- Many legitimate cases (e.g. legacy resources) where proof of holdership can be difficult to establish
- End Users might find the RIPE NCC becoming more strict in its verification requirements as a result

What You Can Do

- Protect your resources against hijacking by making sure your RIPE Database objects and contact information are up to date
- If you need help, or think your resources may have been hijacked, contact: lir-help@ripe.net

Questions?

