

2013

Annual Report

addressing the Internet in the Asia Pacific





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Executive Council



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Paul Wilson, Ex-officio
Director General, APNIC



Introduction from the Director General

2013 was APNIC's 20th year, a year of continued growth of services and activities in our region.

During 2013, APNIC's membership grew 15% - from 3,511 to 4,051 Members. IPv4 resources continued to be allocated from the 'last /8' reserved pool, and the number of IPv4 market transfers also rose, from 83 to 98 transfers annually. Of course, IPv6 allocations also continued to grow, with the cumulative number of /32 allocations reaching 45,466 in 2013.

More than 230 training courses were delivered by APNIC trainers in 2013, to 3,591 participants across 22 economies. This included training more than 973 engineers on IPv6 as we continue to work hard to support IPv6 deployment across the region. At the same time, we increased our provision of direct fee-for-service engineering assistance to those who need it, on a cost-recovery basis.

APNIC continues to rely on Member feedback to improve all of our services. Members will have noticed the improvements made to our whois service and the MyAPNIC site to make the user experience faster and more intuitive. Our first APNIC Regional Meeting was successfully held in Kuala Lumpur in November, with four more planned in the coming year (supplementing our regular APNIC conferences).

In June, APNIC implemented DNSSEC in the apnic.net zone to increase security of our online services. 2013 also saw increasing contact with Law Enforcement Agencies across Asia Pacific as APNIC helps educate and cooperate with LEAs in the work that they do.

Our long held commitment to service quality was formally recognized in 2013 with ISO 9001 Quality Management System Certification, with APNIC becoming the first Regional Internet Registry (RIR) to achieve it (although we congratulate LACNIC for following soon after).

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Introduction from the Director General *continued*

While APNIC service activities continued in 2013, we also sustained our efforts to promote understanding and support of the cooperative governance processes which support Internet growth.

In October 2013, our region hosted one of the most important events on the global "Internet Governance" calendar, the Internet Governance Forum (IGF) in Bali. APNIC has long been a supporter of the IGF process, and in 2013 we played a crucial role in supporting the Indonesian hosts and community in holding a successful IGF. The event provided a great opportunity for the Asia-Pacific community to participate in global discussions about Internet management, policy development, security and other technical issues, and the multi-stakeholder model for Internet cooperation.

In participating in forums like the IGF, APNIC's focus remains squarely on our core responsibilities for IP addressing and managing critical Internet resources on behalf of the community we serve. It is more important than ever that a broader community understands these technical issues, and trusts APNIC's capacity and

expertise to play our role in keeping the Internet strong and successful in our region.

It has been a very busy, fulfilling year; however I could easily say the same about the past 20 years APNIC has been in operation. My personal highlight of 2013 was our 20th Anniversary celebrations in Xi'an, China, where we had the opportunity to look back upon our achievements of the past two decades but also thank all those who have helped build APNIC, and the Internet in Asia Pacific, into what it is today.

We look forward to continuing to serve our community for many years to come.

Paul Wilson
Director General



Message from the EC Chair

It's my great honour to provide some thoughts on behalf of the Executive Council for the APNIC 2013 Annual Report.

APNIC celebrated its 20-year anniversary in 2013. In my country, we celebrate 'coming-of-age' at the age of 20. APNIC was born on 1 September 1993 as a pilot project under the authorization of APCCIRN (now part of APNG, the Asia Pacific Networking Group), and took every crucial step to gain the capability to manage the IP number resources as well as to help nurture the community which runs the Asia Pacific part of the global Internet.

Our responsibility is no longer limited to just managing the contact list of the various networks which interconnect professional computing resources. APNIC is now one of several key organizations globally which ensure the sustainable operation of the Internet infrastructure upon which all people, businesses and governments rely. You will see in this Annual Report how APNIC strongly commits to its responsibility.

The Executive Council is proud of the accomplishments which the APNIC

Secretariat, membership and broader community have achieved together, as an 'adult' organization. I admire and appreciate the contribution by all those who have been involved in growing APNIC since its birth.

However, coming-of-age doesn't necessarily mean we have achieved perfection nor the end of our journey. It was apt that APNIC's 20th anniversary was held in Xi'an, which was, during the Han Dynasty, the starting point of the Silk Road which stretched all the way to the Mediterranean Sea. The Internet will keep on connecting people around the globe for a long time, if not forever. I think it is appropriate for us to regard the 20-year anniversary as merely the starting point of our careful stewardship of the Internet towards the future.

At the beginning of our third decade, the publication of the 'Montevideo Statement' by the Internet technical community was an important milestone. While the importance of IPv6 as a driver for future Internet accessibility should not be underestimated, among the four points the statement raised, Internet Governance and the potential globalization of ICANN and the IANA

function were hot topics in 2013 and will likely represent the most prominent areas of Internet debate in 2014.

The scheme of international cooperation underpinning the Internet has continuously evolved since its emergence. As we approach the WSIS+10 review in 2015, the time to consider further evolution is now. As the membership organization representing those who run Internet infrastructure in the Asia Pacific, it is my firm belief that APNIC should be one of the core contributors to this global debate. I very much look forward to hearing your thoughts on this during the year.

Maemura Akinori
EC Chair





APNIC Vision and Mission

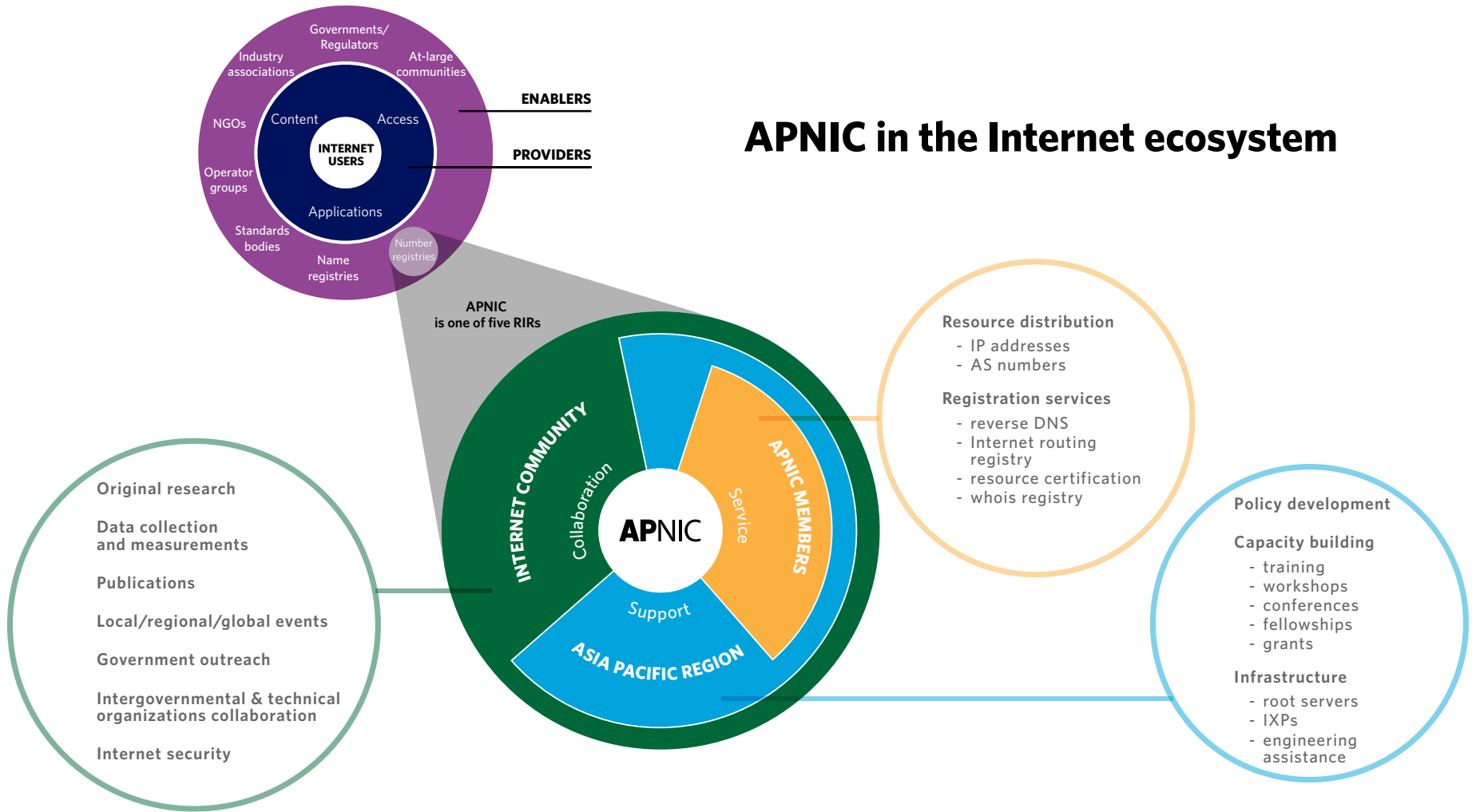
Vision

A global, open, stable and secure Internet that serves the entire Asia Pacific community.

Mission

APNIC...

- **Functions** as the Regional Internet Registry for the Asia Pacific, in the service of the community of Members and others
- **Provides** Internet registry services to the highest possible standards of trust, neutrality and accuracy
- **Provides** information, training and supporting services to assist the community in building and managing the Internet
- **Supports** critical Internet infrastructure to assist in creating and maintaining a robust Internet environment
- **Provides** leadership and advocacy in support of its vision and the community
- **Facilitates** regional Internet development as needed throughout the APNIC community



2013 Objectives



2013 Objectives

Guided by feedback from our Members and stakeholders, APNIC engaged in several key activities in support of our 2013 objectives.

Achieve certification for the ISO 9001 quality management system

APNIC has worked rigorously to establish, implement, and maintain a quality management system for its operations and in 2013 the organization achieved formal recognition with ISO 9001 certification.



ISO 9001 certification means APNIC has systems in place to ensure the quality of our services. It guarantees an ability to consistently meet customer, statutory, and regulatory requirements, and addresses customer satisfaction through the effective application of the system.

APNIC was the first RIR to achieve ISO 9001 certification.

Contribute to Internet security through awareness and capacity building for LEAs

As part of APNIC's role to support the region's development, it actively engages with Law Enforcement Agencies (LEAs) across the Asia Pacific to help educate authorities on the publicly available information which can assist in their efforts to tackle online crime and make the Internet a safer place. In 2013, training sessions were held in the Philippines, New Zealand and Sri Lanka.

APNIC also assists LEAs with specific enquiries regarding active investigations as required.

2013 Objectives



Improve engagement and service access with Members

APNIC continues to focus on improving Member engagement to ensure current Members and prospective Members are aware of our services and can access the resources they need easily. APNIC attends all major regional networking events, such as CommunicAsia, and participates in all Network Operator Groups (NOGs) throughout the Asia Pacific. APNIC's first Regional Meeting (ARM) was held in Malaysia in November with plans to hold four ARMs per year from 2014.

APNIC also introduced a Member referral program in 2013 to allow customers of Members to apply for resources directly through APNIC.

Support multistakeholder Internet governance processes

In 2013, APNIC was an active participant in Internet cooperation and governance forums across the Asia Pacific and globally. In particular, APNIC contributed significantly to the Asia Pacific regional Internet Governance Forum (APrIGF) in Seoul and played a leadership role in the coordination and staging of the 8th Internet Governance Forum in Bali in October.

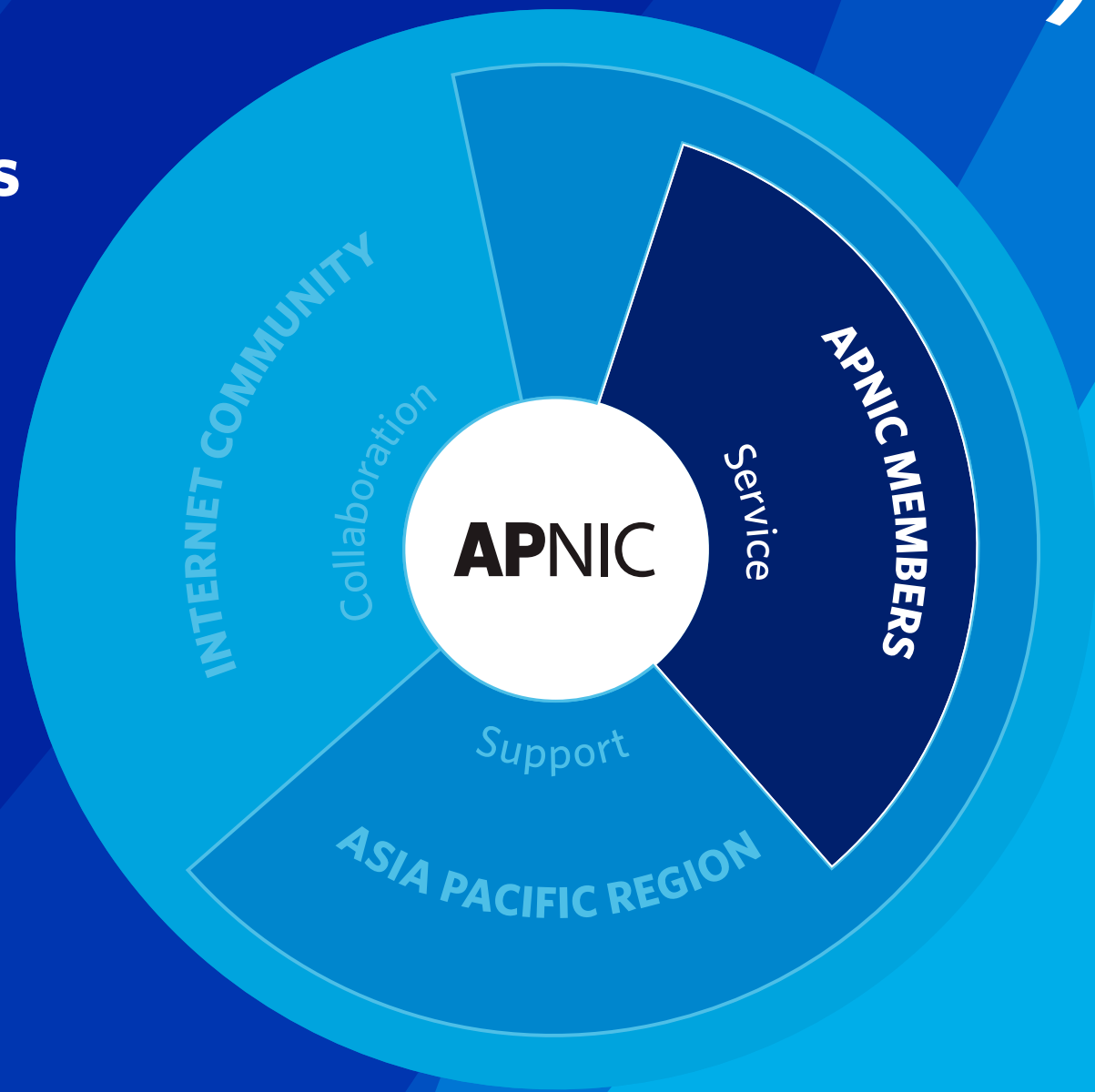
APNIC remains a strong supporter of the multistakeholder process of Internet governance and was a signatory to the global Montevideo Statement released in November, which committed to help the Internet community evolve the multistakeholder model in future.



Serving APNIC Members

The core part of APNIC's mission is service provision, which includes the essential registration services of delegating Internet number resources, maintaining a database of registration details for organizations using those resources, and providing reverse DNS registration services.

APNIC is also committed to providing complementary services such as training, conference events and discussion forums, and research and statistical data to support the technical coordination of the Internet.





Upcoming 2014 APNIC Survey

As an open, membership-based service organization, APNIC values the views of both the Members and the broader community, and takes its guidance from them. Every two years, the APNIC Executive Council (EC) commissions a survey of the membership and other stakeholders to seek the community's opinion on APNIC's services and performance.

During 2013, a project team began planning the 2014 APNIC Survey, which will be conducted during June and July 2014.

Focus groups have been arranged as a crucial part of the survey development process, and the locations of these will be increased for the 2014 survey. Complementing the focus groups is the introduction of a number of individual interviews which, along with the outcomes of the focus groups, will provide valuable input into the development of the survey.

To ensure impartiality, independent consultants will handle the focus group meetings and interviews. Similarly, a separate research organization will manage the survey instrument and undertake analysis and reporting functions once the survey has been released.



Member Services Improvements

As the first point of contact between the APNIC Secretariat and the community, the Member Services Helpdesk offers services in several languages and is available from 09:00 to 21:00 (UTC +10) to accommodate Members across all regional time zones. A key goal of the Helpdesk team is to continually improve its service provision to the regional community and achieves this through internal initiatives and the adoption of current best practices.

MyAPNIC updates

Referral application

MyAPNIC is a secure website for Members to manage their Internet resources. To improve MyAPNIC services, new functionality was introduced that allows existing APNIC Members to apply for Internet number resources on behalf of their downstream customers.

This new feature, called a 'Referral application', allows a Member to apply for resources for their customers, enabling the customers to get the resources they need (for example, their own /22 of IPv4 address space). While the Member may have the option to manage the resources on their customer's behalf, the downstream customer remains the custodian of the Internet number resources and will have their own APNIC Member account.

Bulk IRT updates

IRTs, or Incident Response Teams, are specialist teams dedicated to resolving computer security incidents. Since 2010, to facilitate faster resolution of security incidents, IRT references have been mandatory in the APNIC Whois Database when any 'inetnum', 'inet6num', or 'aut-num' objects are updated or created in the whois database.

In 2013, a bulk update feature for IRT was introduced in addition to the bulk update feature already available in MyAPNIC, and enables easier updates to multiple objects within a specified range of addresses to include an IRT object reference.

Other MyAPNIC improvements

Throughout 2013, MyAPNIC has been undergoing a variety of other improvements such as:

- Improved interface for the certificate page to better manage APNIC digital certificates.
- Improved profile page layout. The profile page has been structured into four tabs for easier navigation.
- Addition of all whois object templates to the MyAPNIC whois updates section for ease of use.

www.apnic.net/helpdesk



Member Services

Whois Updates

Earlier this year, the APNIC whois service underwent an upgrade which delivered key new features to the APNIC region. These features are based on code developed by the RIPE NCC which APNIC has adapted to suit our region's needs, with the aim to provide a more stable and reliable service to the APNIC community.

Geo-location Features

Internet number resource objects were updated with new geo-location and preferred language attributes to allow APNIC Members and their customers more precision in indicating to content providers where their users are and what languages they speak.

Historical Records

Another new feature, colloquially referred to as 'whowas', allows users to view previous versions of objects, providing a historic view of how an object has been updated or changed. Users can query previous versions of resources and the dates the objects were changed to see how a specific object was changed over time.

While these 'whowas' changes provide added detail of whois data, it does not apply to deleted objects. Privacy protection limits its application to person or role objects.



Member Services

RDAP

APNIC is continuing to contribute to the Registration Data Access Protocol (RDAP), which is a new service designed to address a number of shortcomings in existing whois services. RDAP is a suite of specifications currently under development in the IETF's Web Extensible Internet Registration Data Service (WEIRDS), and is intended to improve the global whois service in the following ways:

- Standardize query and response
- Standardize various access classes
- Provide international language support
- Make provision for different types of registries

In early 2013, APNIC and the RIPE NCC began a collaborative program to produce an RDAP server as part of the RIPE whois database server. With developers from both RIRs working together, the communities of the two regions benefit from an advanced registration data access system integrated into the existing registry databases, without duplication of effort. The RIPE database server is also now an Open Source project, allowing other registries to also benefit from the work completed by APNIC and the RIPE NCC.

APNIC hosts an RDAP pilot service on rdap.apnic.net and aims to deliver a production RDAP service once IETF specification documents are finalized, which is expected in 2014.

www.apnic.net/rdap



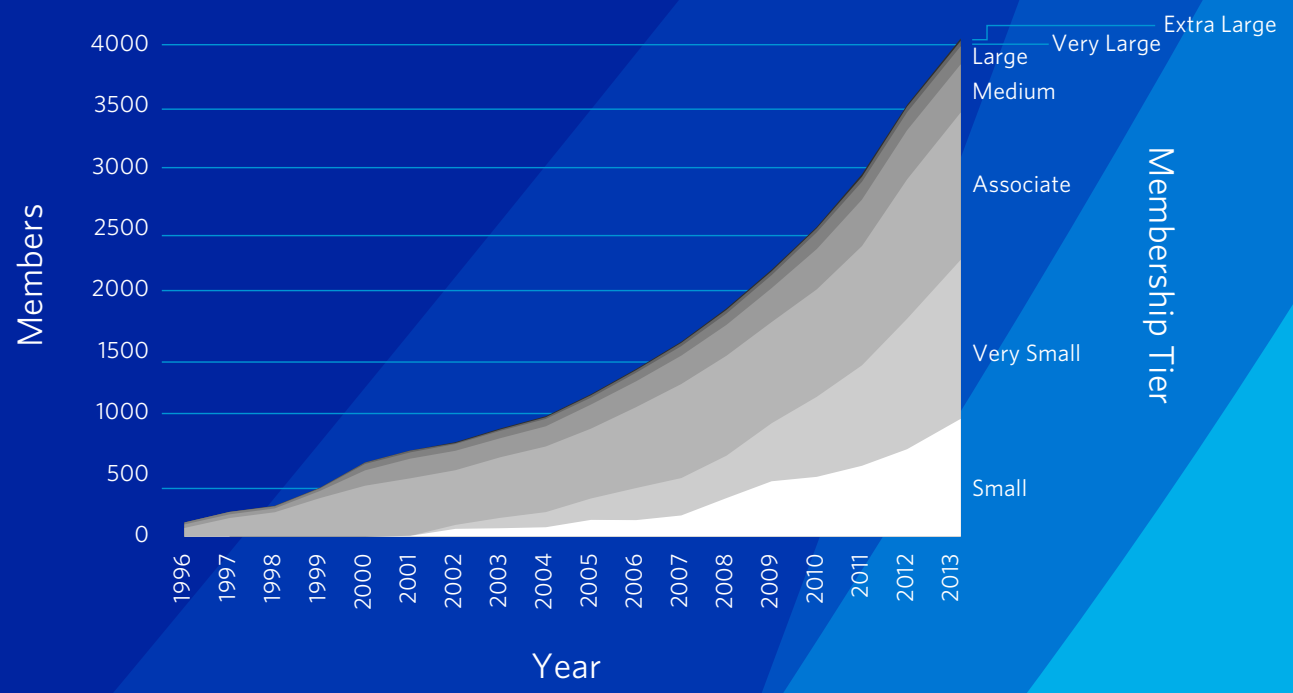
Statistics

An important part of the registry function is to provide regional statistics on resource distribution. Regional and global data is available on www.apnic.net.

These graphs represent APNIC Membership growth in 2013, as well as the year in resource distribution for IPv4, IPv6, and AS Numbers throughout the Asia Pacific region.

www.apnic.net/stats

Membership by year

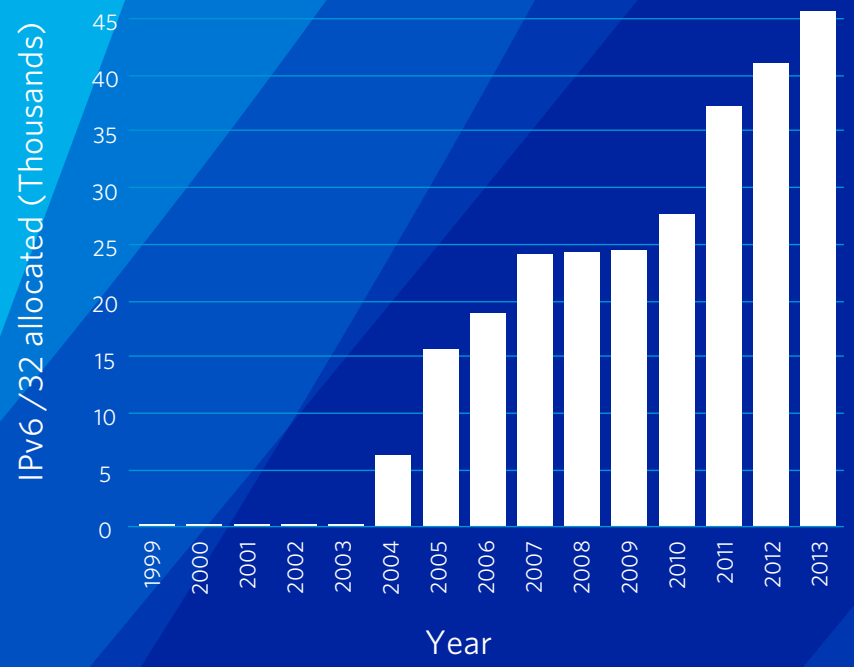


APNIC membership grew by 540 members in 2013, an increase of 13% from 2012.

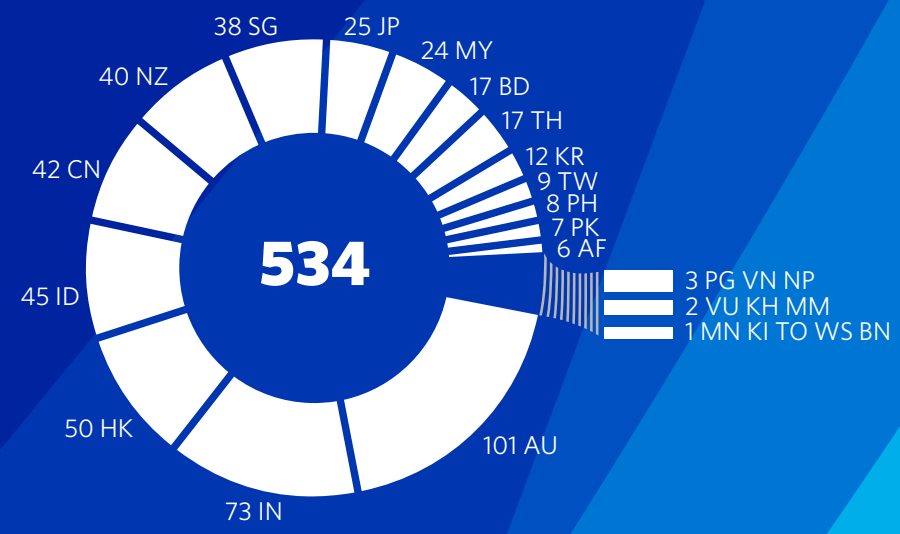
Membership tier	2012	2013
Extra Large	14	20
Very Large	46	43
Large	146	147
Medium	400	392
Small	1,134	1,198
Very Small	1,061	1,294
Associate	710	957
TOTAL	3,511	4,051
Non-member accounts	736	741



IPv6 /32 cumulative by year



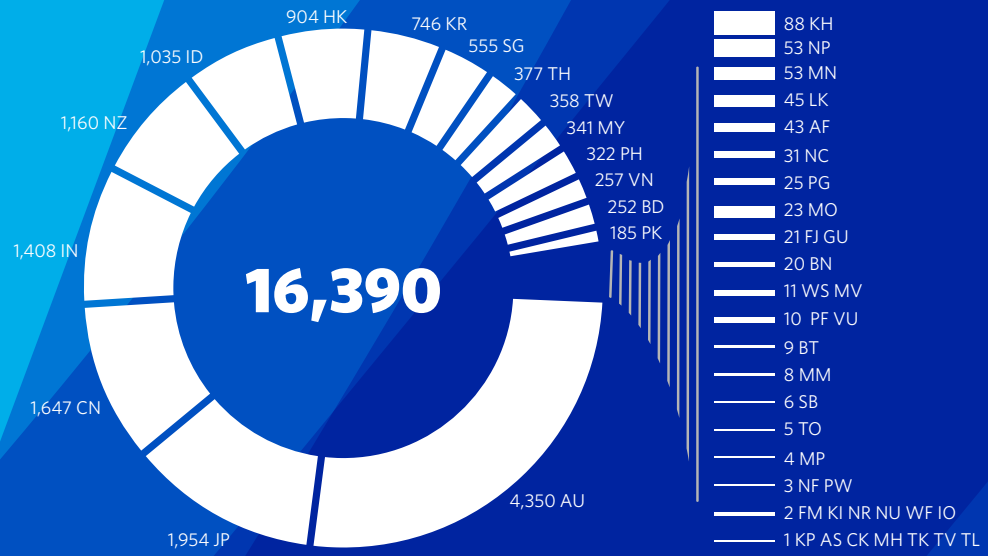
IPv6 delegations by economy



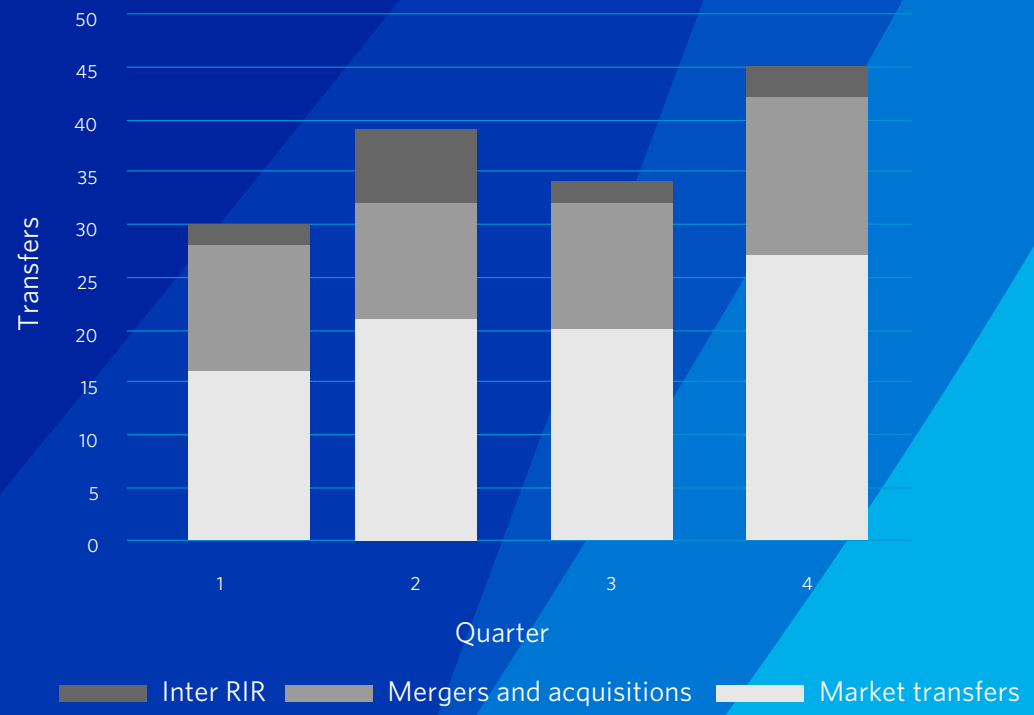
IPv6 delegations continued to increase steadily in 2013 with just over 45,000 /32 allocations now made. IPv6 uptake is increasing in many economies highlighting the growing acceptance and awareness of IPv6 as the best option for future Internet growth. View IPv6 end-user readiness at labs.apnic.net



IPv4 delegations by economy



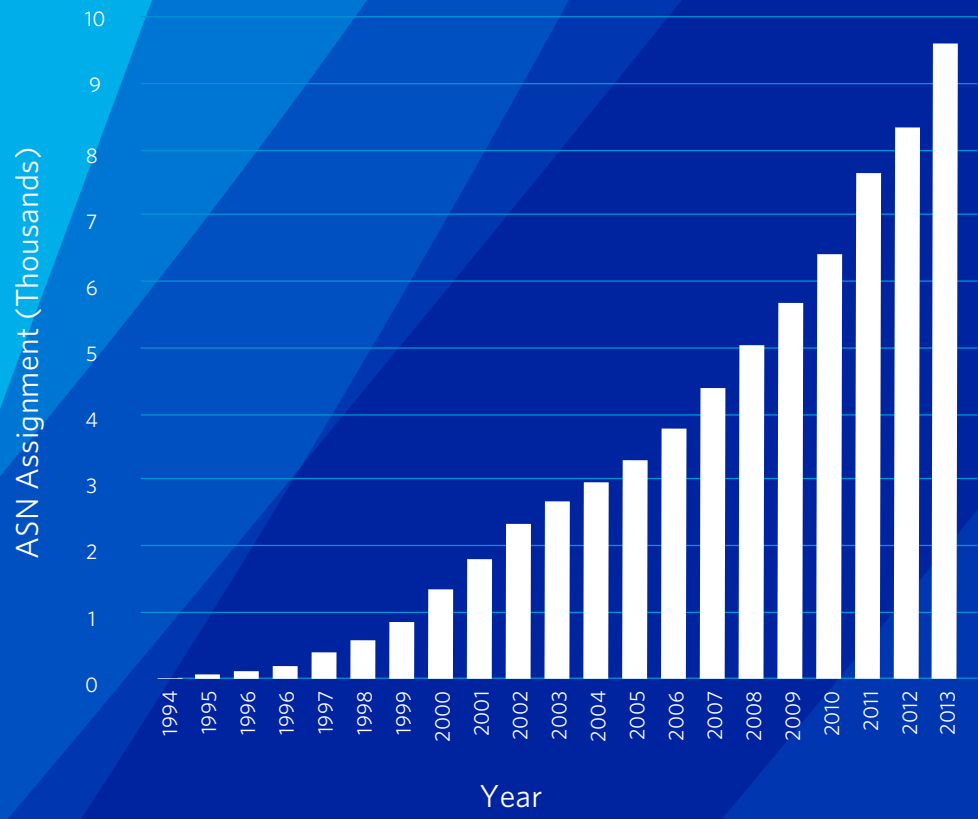
IPv4 transfers by quarter



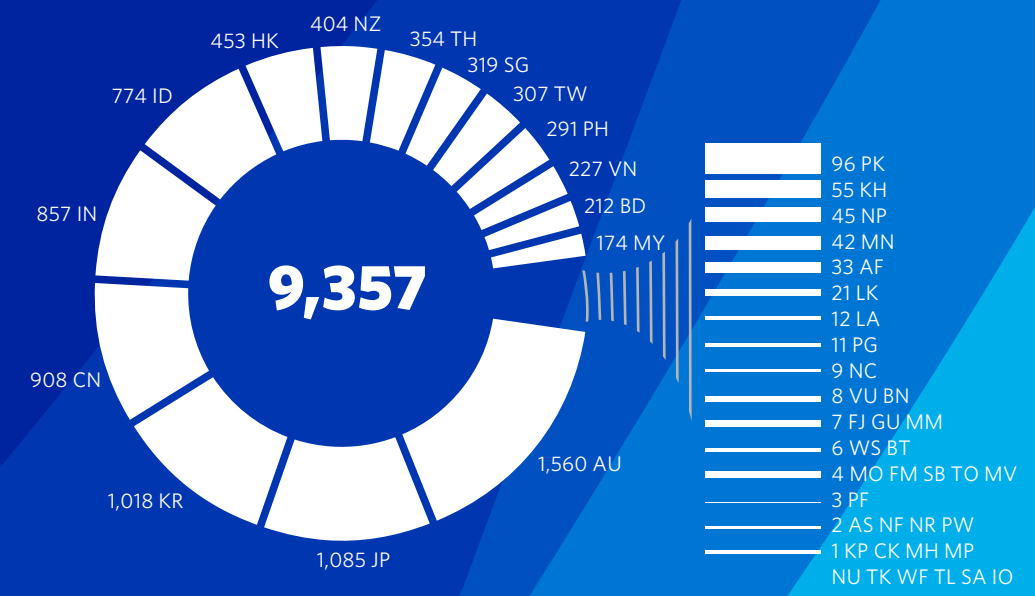
In 2013 Australia, Japan, China and Indonesia received the largest number of IPv4 delegations by economy. The number of IPv4 transfers remained steady compared to 2012, with a slight increase in market transfers conducted in the fourth quarter.



AS Numbers cumulative by year



AS Numbers by economy



Autonomous System (AS) number growth has remained steady during the past year, with APNIC assigning 9,367 AS numbers in 2013. In 2013, China and India were the largest recipients of AS numbers with 171 and 245 new AS numbers assigned to them respectively.



Service Delivery

As a membership-funded organization, APNIC works to ensure it operates efficiently and professionally with full accountability to its Members and stakeholders.

ISO 9001

In August of this year, APNIC achieved ISO 9001 Quality Management System (QMS) Certification. ISO 9001 is an internationally recognized, internal quality management system that focuses on the effectiveness of meeting customer requirements.

APNIC is certified for “The provision of services relating to the distribution and management of Internet number resources across the Asia Pacific region”.

Certification to ISO 9001 assures our Members and stakeholders that APNIC:

- Maintains stringent policies, systems, and procedures for the delivery of our services
- Has documented continual improvement systems in place
- Obtains regular feedback from our Members and uses that information to improve our services
- Demonstrates a strong commitment to customer service

Best Practice Certification independently audited and certified APNIC’s QMS in accordance with ISO 9001, commending APNIC on the high standard of its system, and of the diligence applied to training and development of staff in its systems, processes, and procedures.

APNIC has a quality policy in place and is working towards maintaining and continuously improving its QMS to maintain certification.

www.apnic.net/quality-policy



Human Resources

Staff Conference

The celebration of APNIC's 20th anniversary in 2013 was a milestone year for staff as well as the APNIC community. Some of the team have been with APNIC for more than half of this time and have seen many new faces join the Secretariat. The annual staff conference provided a chance to not only celebrate past achievements, but consider future development challenges and opportunities. The conference was themed 'One Vision', with APNIC's first Director General, David Conrad, sharing his perspective and insights with the team. The conference generated some great ideas to pursue in the interests of better serving APNIC's Members.



Structural Adjustments

To ensure APNIC's structure develops in line with its objectives, a formal organizational design review was undertaken in mid-2013. Since then, the organization has made several structural adjustments.

Among the changes, this year has seen the redefinition of a Development area, and the creation of a security advisory role in response to community needs. Our Communications function has also been redefined to meet evolving requirements.

APNIC undertook a comprehensive workplace health and safety audit in 2013 and was found to be compliant with legislation.

Employee Effectiveness Survey

APNIC commissioned an independent staff survey in late 2013 to measure employee engagement and enablement against industry benchmarks and to identify how the organization could improve employee effectiveness.

The overall results were positive. APNIC's employee engagement results exceeded the industry benchmark while employee enablement was in line with industry norms. The study also highlighted several areas to improve employee effectiveness, and initiatives are underway to address these as APNIC continues to strive towards achieving its goal of meeting global high performance employee targets.



Corporate Governance

APNIC Investment Policy

During 2013, the APNIC Executive Council (EC) approved a new Investment Policy which documents APNIC's approach to investing its financial reserves. The purpose of this policy is to formalize and improve existing procedures for the management of APNIC's capital reserves, in a considered and responsible manner.

The objectives of the policy are:

- To articulate APNIC's philosophy on investments
- To establish a governance framework that demonstrates financial prudence to APNIC's Members and stakeholders
- To specify the reserves covered by this policy and the objectives for these reserves

- To set parameters around certain types of investments and how they may be used in a portfolio
- To set policies aimed at controlling exposure to market risk, credit risk and duration risk within the investment portfolio
- To establish a process for monitoring, reviewing, rebalancing investments, and
- To confirm delegations and other relevant governance matters in relation to these investments

Credit Suisse Private Banking has been appointed to manage APNIC's reserves under the new policy.

Risk Management

During 2013 the APNIC EC approved a Risk Management Framework to ensure that APNIC's key strategic risks are formally reviewed and assessed on a regular basis. A detailed risk register,

which identifies and rates potential risks by assessing the possible impact and likelihood of each risk, was developed by the EC and Executive team.

A review of each identified strategic risk, the impact of control measures, actions plans, and changes in risk indicators will be reviewed at each EC meeting.

EC Meeting Schedule

The APNIC EC has traditionally met monthly - twice per year at face-to-face meetings and otherwise by teleconference. Starting in 2013, the EC now conducts four face-to-face meetings per year, with one-to-two days of discussion at each event. This has provided the EC with better opportunities for interaction among themselves and with staff, and for in-depth consideration of strategic issues facing the organization.



Supporting the Asia Pacific region

Equipping network engineers with the technical skills required to build and maintain network infrastructure is a crucial factor in supporting effective Internet growth. APNIC values human potential and capacity, as well as the proven power of the Internet for social and economic development in the Asia Pacific region and worldwide.





Training

In response to continued demand for APNIC Training and educational services in 2013, APNIC expanded its training curriculum for its face-to-face and web-based platforms. There was an increased focus on IPv6 deployment in the Asia Pacific region, with many courses related to IPv6, including an 'IPv6 eLearning Day' and more topics devoted to network infrastructure security.

Improvements

- APNIC upgraded its registration system for both training events and APNIC Conferences. This new system allows for an integrated and coordinated process to streamline registrations.
- There were more face-to-face sessions offered in 2013, with a 9.5% increase from 2012.
- The number of eLearning sessions increased by 45%.

Online classes

Due to the growing popularity of web-based classes, APNIC Training added an additional slot to the existing timetable to now deliver four one-hour courses to three time zones fortnightly. The courses are timed to cater to the South Asia, Southeast Asia, and the Pacific/Oceania subregions.

More courses were also offered to further increase the knowledge and capacity of the region's network operators. These include:

- BGP attributes
- Cryptography
- IPsec
- RPKI

More resources

All eLearning sessions are available for future use from the Video Library on the training.apnic.net website.



Training

New courses and new locations

In 2013, APNIC Training introduced a new LEA workshop to spread awareness to Asia Pacific LEAs of public information which may assist with criminal investigations. This workshop was delivered to the New Zealand Police, the Sri Lankan Defence Ministry, and the Philippines National Police.

A new workshop for face-to-face delivery, Multiprotocol Label Switching, or MPLS, was added to the APNIC Training curriculum as WROU04. This course was delivered during MyNOG 3 and in Nepal in 2013.

Infrastructure improvements

Physical environment

The widespread deployment of IPv6, and increased de-aggregation of IPv4 address space due to IPv4 address exhaustion, is causing rapid growth in the global routing table. An upgraded core router for the APNIC Training Lab now provides more memory and processing capability for APNIC Training sessions, improving participant experience.

In addition, the audio and video media equipment for the eLearning sessions was upgraded to enhance the streaming quality of the sessions and the recordings.

Virtual environment

Since 2012, the APNIC Training Lab has been operating through a virtual environment using Mac mini servers to support the lab's topology. The Training Lab simulates 20 router instances and all connectivity requirements, and enables the training team to hold parallel sessions without connectivity disruptions.

In 2013, an additional Mac mini was installed to provide further support to the lab and was successfully tested for the first time at the MyNOG 3 MPLS workshop in December 2013.

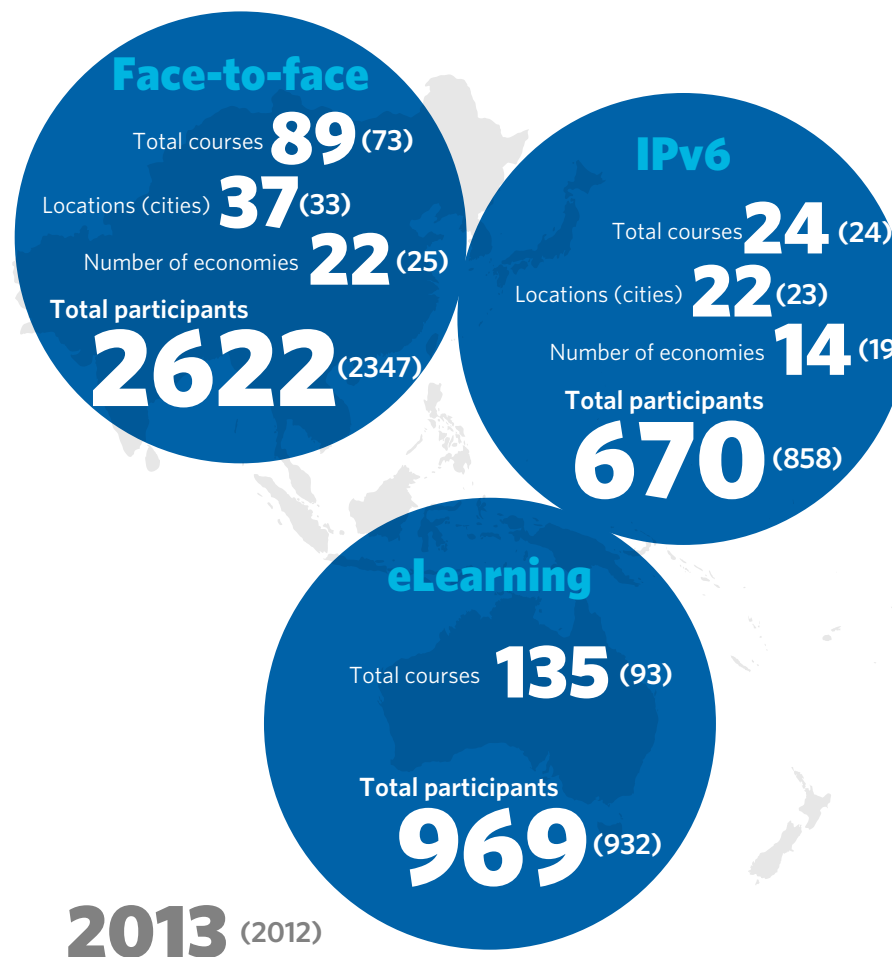


Training

Regional collaboration

The training team continued to collaborate with new and continuing partners, hosts, and sponsoring organizations throughout the region. APNIC trainers, and trainers from the Indonesian Network Information Centre (IDNIC/APJII), conducted joint technical workshops during regional events, and APNIC signed a Memorandum of Understanding with TEIN (Trans-Eurasia Information Network).

APNIC also collaborated with the ITU Pacific Centre of Excellence to deliver a four-day IPv6 Infrastructure Security workshop in July 2013. APNIC developed the course framework and invited industry experts to deliver the course content. The workshop was well received by the participants, and APNIC will hold another workshop again in 2014.





Case Study: Train-the-trainer in Indonesia



In 2013, the APNIC Training team introduced a pilot project to train local network engineers to lead local courses around the region, in response to a continuing increase in requests for APNIC Training courses. The first Train-the-Trainer pilot is an IPv6 course in Surabaya, Indonesia. The location for the pilot was chosen based on past APNIC Training outcomes and statistical data.

During the last few years APNIC Training conducted a large number of training courses in Indonesia with the support of APJII/IDNIC, covering many regions and cities. These courses tend to have high participation levels, which reflect the demand for such training in Indonesia.

The objective of the pilot was to identify a group of potential local trainers who could work with APNIC trainers and then deliver the APNIC IPv6 Workshop in Indonesia. As a diverse collection of islands, many of which are remote, Indonesia presents a challenge to APNIC Training.

The project is operating through three phases: the first phase, which was completed in November 2013, was to identify the Indonesian trainers and deliver the IPv6 Workshop to them. Before that initial workshop, APJII/IDNIC selected 15 prospective trainers representing several cities and regions in Indonesia. The workshop content was focused on IPv6 and how the selected trainers could deliver the workshop to their local communities. The initial workshop included assessments, group activities, projects and practice training delivery sessions to prepare the potential trainers.

A second selection process will identify the best candidates. During the second phase, APNIC trainers will work with those selected to deliver IPv6 training courses across Indonesia in 2014. During the assistance period, APNIC trainers will share training resources including materials and curriculum with the local trainers to make them more familiar with APNIC's style of content delivery.

During the third phase, the local trainers will work towards delivering APNIC training content alone in their respective local regions and in their local languages at a level which preserves the standards and quality of APNIC training courses. During this phase APNIC trainers will work with the local trainers on an intermittent basis.



APNIC Conferences

APNIC holds two Conferences each year; the first is held as part of APRICOT (Asia Pacific Regional Conference on Operational Technologies); and the second is a standalone event. APNIC Conferences are hosted in different locations each year to ensure the whole region benefits from easy access to these major events.

Importantly, APNIC Conferences provide a forum for the community to hold regional addressing policy discussions that are open to anyone. Most APNIC Conference sessions are available by live webcast, so anyone can participate in live discussions remotely.



The Workshop weeks for both APNIC 35 and APNIC 36 were held at capacity, with participants learning the fundamentals of:

- IPv4/IPv6 BGP Routing
- IPv6
- MPLS
- Network Management
- Network Security and DNSSEC

Similarly, several internationally respected networking experts shared their IPv6 transition experiences.

Over the years, APNIC has added other features to the Conference program, including panels of Internet networking experts on topics of interest to the regional Internet community. In response to the 2012 APNIC Survey, APNIC has provided a workshop week in addition to the regular conference week, to deliver intensive and practical networking infrastructure skills to the region's network operators, and more content devoted to IPv6 deployment (for example, full-day plenary sessions).



APNIC Conferences

IPv6 Day at APNIC 35 and 36

The IPv6 plenaries at APNIC Conferences have cast a spotlight on current and future issues facing network operators, generating not only discussion, but also greater awareness of the critical need to adopt IPv6.

APNIC 35

IPv6 Plenary - IPv6 in Mobile Networks - A look beyond the horizon

High calibre speakers including Cameron Byrne (T-Mobile USA), Jouni Korhonen (Renesas Mobile), and Soohong Daniel Park (Samsung Electronics) were invited to discuss the status of IPv6 deployment in mobile networks and handheld devices.

This session complemented the session held at APNIC 34 where speakers and participants explored the implementation of Long Term Evolution (LTE) networks, which are increasing globally as more smartphones and other mobile devices are connected to the Internet for both voice and data services. LTE networks are starting to provide inclusive IP-based services for voice, video, messaging and data, and this has inflated the

demand for IP addresses. This, in turn, will significantly increase the costs and scalability issues associated with mobile broadband network services.

IPv6 provides a long-term, scalable solution with fewer operational and maintenance issues than IPv4 networks deployed in NAT (Network Address Translation) environments. Deployment of Large Scale NAT (LSN) without having a plan for IPv6 deployment is merely extending the lifetime of the IPv4 addresses, and not solving the core issue: IPv4 address depletion.

Conference Statistics:

APNIC 35

Total number of on-site delegates:	704
Economies represented:	51
APNIC Member organizations represented:	135
APNIC Member Meeting delegates:	170
Remote participants:	118

conference.apnic.net



APNIC Conferences

APNIC 36

IPv6 Plenary - "IPv6 in Action: Implementing a Holistic Strategy"

This plenary was held over two sessions and examined the sporadic nature of actual IPv6 deployment among different Internet stakeholders.

Over the past few years, IPv6 deployment has increased robustly in core transit providers and we have started observing disparities in the IPv6 readiness of access networks among different ASNs and economies. Some are excelling, while some are still searching for the most suitable IPv6 technical solution. In other words, there are some network operators who have started providing commercial services over IPv6, but some are still relying on IPv4, with an emphasis on private IPv4 addresses.

The speakers, which included Jiang Sheng (Huawei Technologies), Lee Howard (Time Warner Cable), Mark Townsley (Cisco), Wei Zhao (CNNIC), Shinichi Yamamoto (Chubu Telecommunications), and Huiling Zhao (China Telecom), discussed these issues and the challenges and opportunities network operators face.

APIIPv6TF

APNIC continues to provide support for the Asia Pacific IPv6 Task Force (APIIPv6TF), which was established in 2003 to encourage IPv6 deployment in the Asia Pacific region and serve as a platform for knowledge exchange.

The APIIPv6TF meets regularly at APNIC Conferences to provide various updates such as IPv6 deployment in different economies, specific IPv6 transition technologies, and other industry observations.

At APNIC 35 and 36, this session attracted around 100 participants, who also shared their insights and other anecdotal stories in addition to the invited speakers.

Conference Statistics:

APNIC 36

Total number of on-site delegates:	251
Economies represented:	30
APNIC Member organizations represented:	51
Remote participants:	409

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Policy

Internet number resources distribution policies are decided by community consensus, based upon an established Policy Development Process (PDP). The APNIC Secretariat then implements these policies following official endorsement from the APNIC EC.

Anyone can submit a proposal and it is not necessary to be on site at the Open Policy Meeting held during the APNIC Conference for the proposal to be considered.

During 2013, the following proposals were implemented:

prop-104: Clarifying demonstrated needs requirement in IPv4 transfer policy

This proposal increases the demonstrated needs evaluation period for IPv4 transfer recipients from 12 months to 24 months.

prop-101: Removing multihoming requirement for IPv6 portable assignment

This is a proposal to change the 'IPv6 address allocation and assignment policy' to allow portable (that is, provider independent or PI) assignments of IPv6 address blocks to be made by APNIC to any organization with due justification. Therefore multihoming is no longer an absolute requirement.

During APNIC 35 and 36, the following proposals reached consensus:

prop-105: Distribution of returned IPv4 address blocks

IPv4 address blocks received by APNIC are added to the final /8 pool and redistributed according to the final /8 policy (prop-088). This policy proposes to define a separate distribution policy for all non-103 IPv4 address blocks in the APNIC pool, to start the distributions once 'Global policy for post exhaustion

IPv4 allocation mechanisms by the IANA' is activated.

prop-107: AS number transfer policy proposal

This policy would permit the transfer of Autonomous System Numbers (ASNs) within the APNIC region and between regions with compatible inter-regional ASN transfer policies.

The following proposal reached consensus after some modification:

prop-108: Suggested changes to the APNIC Policy Development Process

This is a proposal to optimize and/or disambiguate procedures carried out under the current APNIC PDP.



Policy

The following proposal was abandoned:

prop-106: Restricting excessive IPv4 address transfers under the final /8 block

This policy proposed restricting transfers of IPv4 addresses allocated/assigned from the final /8 block. Based on our observations of the APNIC transfer history records, some LIRs seems to collect IPv4 address blocks under the final /8 range by using multiple accounts, and transfer these blocks to a single account. The [proposers] believe this kind of behaviour is against the spirit of the final /8 policy.



The following informational presentations were discussed:

- Creation of Route Objects in APNIC Whois
- Policy Options for Encouraging Membership of an NIR
- The Role of the APNIC Secretariat in the PDP
- Questions for Clarification in the APNIC PDP
- PDP Change Discussions
- Policy Implementation Report
- Proposed changes to SIG Guidelines for discussions
- IPv4 leasing discussions

At APNIC 36, Andy Linton was reappointed for a two-year term as the Policy SIG Chair.

www.apnic.net/policy



Celebrating Our First 20 Years

2013 marked an important year for APNIC and the regional community with the commemoration of APNIC's 20th anniversary. Gerard Ross, a former staff member of APNIC, authored a history of APNIC, and provided an outline of APNIC's first twenty years, which began as an experiment and has matured into a highly professional service organization.



During APNIC 36, a special event to celebrate APNIC's 20 years was held, including a 'sand painting' demonstration on key events affecting APNIC and the regional community. There was also a 20th Anniversary Plenary Session, where a group of panellists gave their views on a number of questions such as the future relevance of APNIC, the challenges around balancing leadership with community guidance, and ensuring that APNIC remains a stable Internet leader in the future. It was noted that collaboration and information sharing, as well as continued training and capacity building for the region's network operators, would be critical to APNIC's future success.

www.apnic.net/history



ISIF Asia

Thanks to the support provided by APNIC, IDRC, Sida, the Internet Society and Dot Asia, ISIF Asia continued to develop in 2013 beyond its original scope. ISIF Asia supports the Asia Pacific community to use Internet tools to support social and economic development across the region through grants and other initiatives. The impact of projects such as those funded by or recognized by ISIF Asia is that they:

- Improve Internet access in the region by supporting infrastructure development
- Build applications and services that support the need of local communities
- Increase human technical capacity
- Preserve local languages

The 2013 ISIF Asia grant recipients began implementing their project activities from February 2013 in nine Asia Pacific economies and they submitted their progress reports to ISIF Asia later in the year.

Five ISIF Asia award winners were announced in August, all of whom received a cash prize and a travel grant to attend the 8th IGF in Bali, Indonesia.

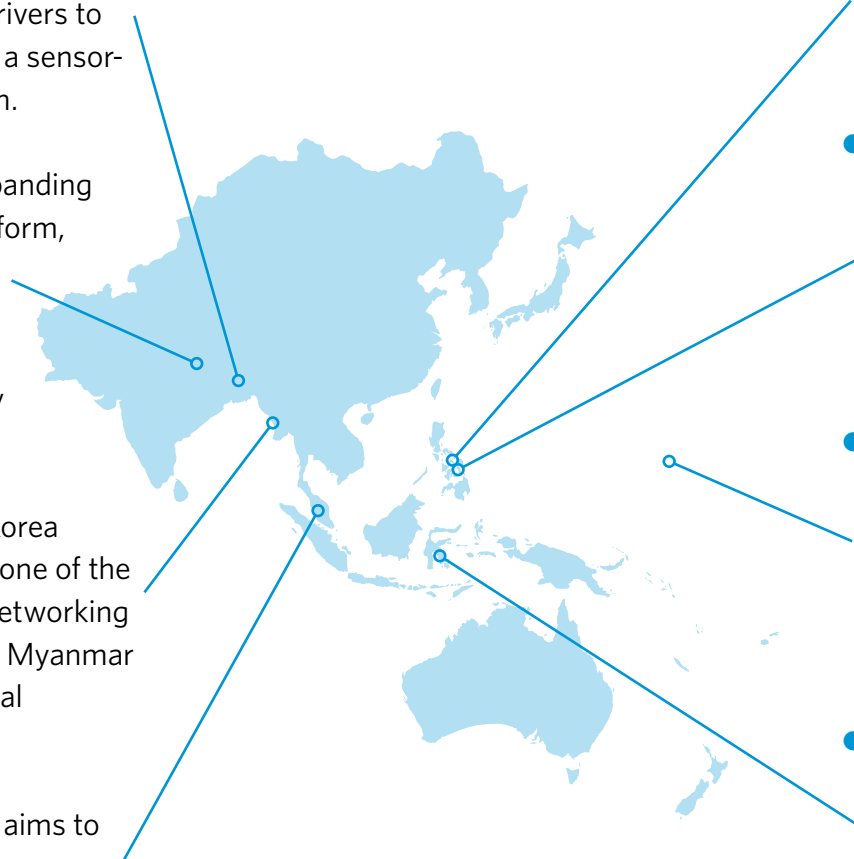
ISIF Asia conducted two calls for funding applications this year: one for awards and one for grants to be implemented in 2014.





ISIF Asia Projects

A selection of 2013 grant recipients and their project summaries are offered as examples of the kind of partnerships that ISIF encourages and supports.

- 
- **Bangladesh:** The University of Dhaka is prototyping an automobile-based system to alert distracted drivers to dangerous conditions using a sensor-based cloud network system.
 - **Nepal:** Yatigen Group is expanding its maternal healthcare platform, Amakomaya, to connect rural pregnant women with regional health posts through Female Community Health Volunteers (FCHVs).
 - **Myanmar:** First Myanmar Korea Group Co. Ltd will translate one of the leading books on wireless networking in the developing world into Myanmar and conduct trainings at local universities.
 - **Malaysia:** The Sinar Project aims to increase government transparency and accountability, while involving citizens in politics and reporting.
 - **Philippines:** ACCESS Health International is developing an integrated maternal and child healthcare delivery and training program.
 - **Philippines:** The Foundation for Media Alternatives will promote the use of ICT to advocate for issues related to electronic violence against women and allow women to report incidents via a Ushahidi-based tracking tool.
 - **Federated States of Micronesia (FSM):** The PISCES Project aims to bring both electricity and Internet connectivity to schools in FSM, in partnership with the Peace Corps and other volunteer organizations.
 - **Indonesia:** The PIPA project is a cloud-based application that allows home energy usage data to be collected and monitored by households in order to teach citizens how to improve their energy efficiency.

www.isif.asia



Infrastructure Capacity Building

In 2013, APNIC provided engineering assistance, training and equipment to help Vanuatu establish an Internet Exchange Point (IXP) in June. Following the IXP work, APNIC introduced i-root server operator, Netnod, to Vanuatu to help establish a root server instance in Port Vila in October.

APNIC held an IXP Workshop in Bangkok, Thailand, in July with a view towards the establishment of the first IXP in the country.

Outside of financial and technical assistance, APNIC's capacity building efforts also saw the establishment of bdNOG, a new Network Operators Group in Bangladesh. The creation of bdNOG is an important step in helping the Internet flourish in Bangladesh by providing a forum for local network operators to share experiences and best practice. www.bdnog.org

The APNIC root server project has assisted the installation and maintenance of root server instances across the region, in partnership with other organizations, since 2002.

Root server deployment supported by APNIC

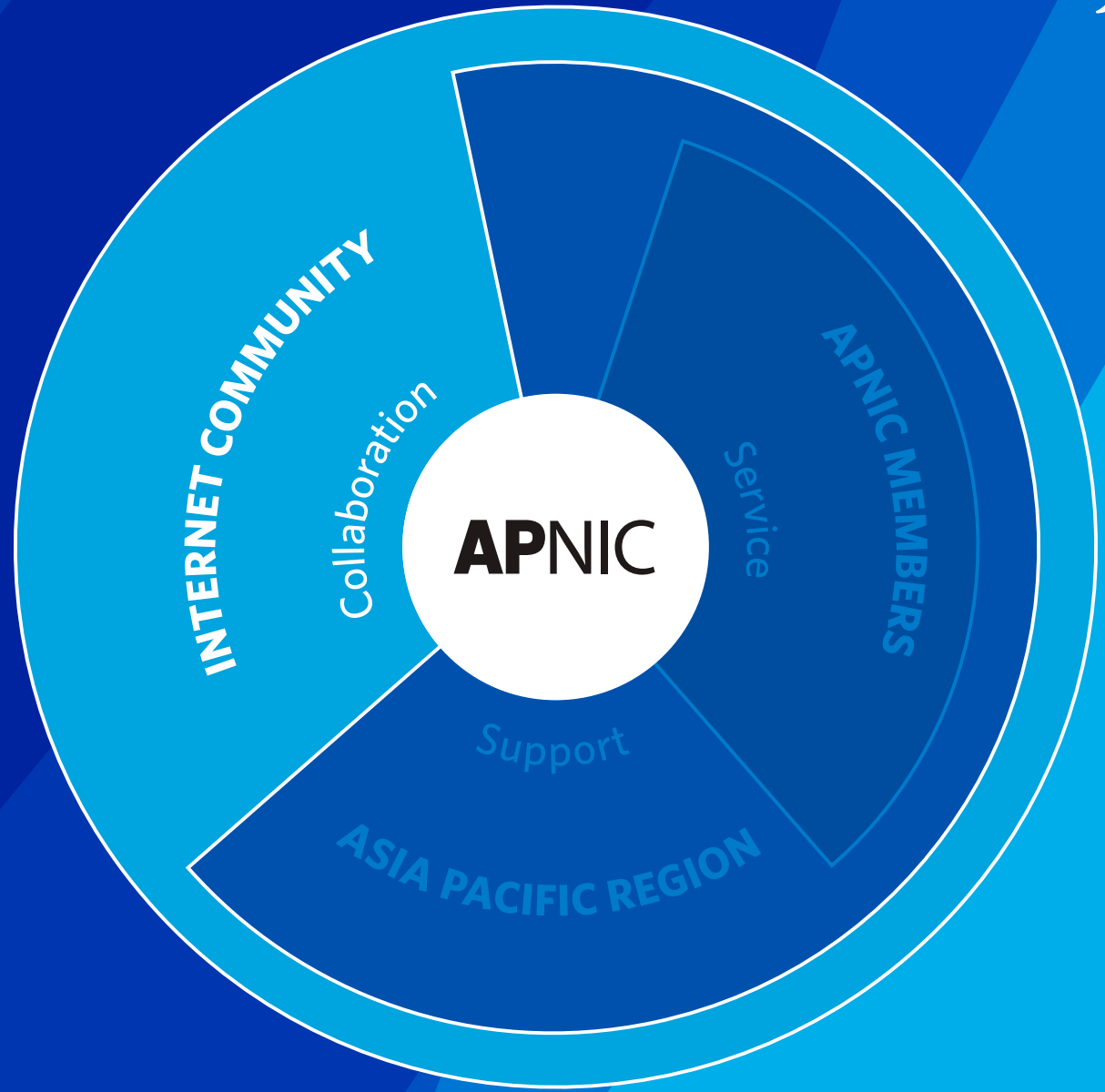
- 2013** **October:** I-Root installed in Port Vila, Vanuatu
- 2012** **June:** I-Root installed in Ulaanbaatar, Mongolia
- 2011** **September:** F-Root installed in Ulaanbaatar, Mongolia
April: I-Root installed in Thimpu, Bhutan
- 2010** **August:** F-Root installed in Phnom Penh, Cambodia
- 2009** **May:** I-Root installed in Taipei, Taiwan
- 2008** **July:** I-Root installed in Colombo, Sri Lanka
- 2007** **May:** F-Root installed in Suva, Fiji, I-Root installed in Manila, Philippines
- 2005** **December:** F-Root installed in Karachi, Pakistan and Dhaka, Bangladesh
August: F-Root installed in Chennai, India, I-Root installed in Mumbai, India, K-Root installed in Delhi, India
June: K-Root installed in Brisbane, Australia
April: K-Root installed in Tokyo, Japan
March: I-Root installed in Jakarta, Indonesia
- 2004** **September:** I-Root installed in Bangkok, Thailand
August: I-Root installed in Kuala Lumpur, Malaysia
July: F-Root installed in Jakarta, Indonesia
February: F-Root installed in Brisbane, Australia
- 2003** **December:** F-Root installed in Singapore, F-Root installed in Taipei, Taiwan
November: F-Root installed in Hong Kong
October: F-Root installed in Beijing, People's Republic of China
August: F-Root installed in Seoul, Korea
January: APNIC calls for Expressions of Interest for support of APNIC PoPs
- 2002** **November:** APNIC announces project to bring new root server sites into the Asia Pacific region



Collaborating with the Internet Community

APNIC is committed to actively participating and expanding its presence within the Asia Pacific Internet community. APNIC continued to increase engagement in regional events, with a particular focus on IPv6 deployment. Research programs led by APNIC Labs contribute significantly to global understanding on IPv6 capability.

APNIC remains committed to strengthening the open, multistakeholder model of Internet cooperation, and represents the region on a global stage with its significant contributions to Internet policy.





APNIC Labs

APNIC Labs continues its research work on IPv6 and DNS capabilities, and its support for the NRO in registry data consistency and RPKI. It also continues to analyse IPv4 address consumption and exhaustion, inter-domain routing, and the ability of current routing technology to scale across the growing Internet.

APNIC Labs is contributing to IETF standards work, including IP addressing, DNS and SIDR. Labs work in SIDR focuses on potential measures in the global RPKI validation model to improve prospects for widespread adoption and documents the risks in validation from the current operational model.

IPv6 capability

APNIC Labs' unique end user measurement technique has enabled Labs to monitor the progress of IPv6 deployment on the Internet. In 2013, APNIC Labs successfully identified significant deployments of IPv6 access services in selected networks located in the USA, Europe and parts of Asia.

This information continues to form a significant dataset contributing to the OECD's Internet Outlook, and is widely cited in high-level analyses, such as the ISOC World IPv6 activity.

During 2013, APNIC Labs provided detailed IPv6 uptake reports to regional and international communities. Regional presentations included APNIC 36 and various meetings in Taiwan, Vietnam, Singapore and Malaysia. International presentations included the IETF and APEC TEL.





APNIC Labs

DNS Security

APNIC Labs' end-user measurement was also successfully used to examine DNSSEC behaviours. To help inform the community with insights into security and DNS integrity, Labs conducted a large-scale study of global DNSSEC capability, which also explored the relationship of the end user to the DNS resolver. The study highlighted that significant risks remain in the DNS and DNSSEC is an important global deployment that Labs will continue to explore.

In addition, the study examined protocol behavioural changes as a result of added security credentials. It also assessed the extent to which the TCP failover mechanism is being used when dealing with significantly larger payloads while using DNSSEC validation with DNS queries.

APNIC Labs discussed the impact of DNSSEC on authoritative DNS name servers at the IETF and at numerous operational forums during 2013.

Inter-RIR coordination

The current converged inter-RIR statistics on address consumption continues to be a product of APNIC Labs and is in transition to an NRO-provided service. This activity has successfully reconciled the five RIR delegation reports, identified anomalies between the RIRs, and helped improve accuracy of registration data worldwide. Labs also contributed significant policy advice to the continuing NRO/IANA discussion on address registry functions.

labs.apnic.net



Leadership in the Asia Pacific and Global Internet Community

APNIC assumed several Internet leadership roles in 2013 as a result of scheduled obligations and community demands. Director General, Paul Wilson, served in the following positions on behalf of APNIC:

- Executive Council Chair of the NRO (by annual rotation), energizing RIR contributions to the ITU WTPF which succeeded in gaining high-level support from governmental policy makers to encourage IPv6 deployment and capacity building. The tenure as Chair culminated in the creation of the 'Montevideo Statement on the Future of Internet Cooperation'
- Interim chair of the APriIGF, leading the regional community towards a successful event in Seoul, Republic of Korea, and bridging national IGF initiatives across the Asia Pacific
- Member of the IGF's Multistakeholder Advisory Group (by appointment of the United Nations Secretary-General)

- Member of the APIA Board of Directors, Asia Pacific Internet Association, which is responsible for the APRICOT Conference
- Representative of APNIC in the 'I*' grouping of technical community organizations

APNIC was also a driving force supporting the second IGF to be held in the Asia Pacific region, in Bali, Indonesia. In addition to staff and logistical support, we spearheaded a fundraising initiative that helped to raise nearly USD 1m in contributions to cover local expenses.

APNIC continued to be an active participant in other regional and global forums and engaged with Members and stakeholders to advance:

- The Internet as a single, open, stable, neutral, and non-discriminatory network
- The multistakeholder model as the most conducive for the future development of the Internet and its governance

- The relevance of APNIC's specific functions and its role within the wider Internet ecosystem
- The importance of IPv6 adoption as the only viable option for future Internet growth

In 2013, APNIC staff and EC members were present at 110 events in 54 cities across 38 economies.





Leadership in the Asia Pacific

Internet Corporation for Assigned Names and Numbers (ICANN)

APNIC welcomed the opening of ICANN's first 'Hub office' in Singapore in 2013 as part of its engagement strategy with the Asia Pacific community. Several coordination workshops were initiated by APNIC to better serve a shared community and maximize our combined resources.

APNIC participated in many sessions at ICANN meetings in Beijing, Durban and Buenos Aires covering IP addressing, security and Internet governance. These were important venues for meetings with regional stakeholders including governments.

NRO

APNIC assumed the role of NRO Chair by rotation in 2013, meaning it was responsible for coordinating the NRO's various technical, policy, communications and leadership functions for one year.

The Secretariat was very active as Chair. Among many activities, the NRO:

- Produced a response to the ITU Council Working Group consultation on public policy issues concerning IPv4 address space
- Responded to the ITU's World Telecommunication Policy Forum Report with submissions on IPv6 capacity building and promoting IXPs to improve connectivity

- Hosted two workshops at IGF Bali that covered IPv4/IPv6, and regional coordination on Internet governance
- Formed a group with ICANN to cooperate on the Global RPKI Test Bed project

2013 also marked the 10th anniversary of the NRO's formation.



Leadership in the Asia Pacific

Internet Engineering Task Force (IETF)

APNIC has a regular presence at the IETF, which is held three times each year in different locations. In 2013, APNIC contributed further to testing and development of an alternative WHOIS protocol, RDAP, and Resource Public Key Infrastructure (RPKI) development. RPKI is a public key infrastructure framework designed to secure the Internet's routing infrastructure, specifically the Border Gateway Protocol.

2013 Internet Governance Forum (IGF)

APNIC strongly supports the IGF as the primary multistakeholder forum for open discussion on operational, technical, commercial, and administrative aspects of managing Internet growth. These discussions are generally categorized by topics of access, diversity, security, and openness.

The 2013 IGF took place in the Asia Pacific region in Bali. Despite some initial financial and organizational challenges, APNIC worked closely with the Indonesian Government, the IGF organizing committee and the local organizers, APJII, to stage a successful and productive event.

APNIC had a significant presence at the event, holding two workshops in collaboration with the NRO and contributing to various panel sessions.

Asia Pacific Regional IGF (APrIGF)

As a founding supporter of the Asia Pacific Regional IGF (APrIGF), APNIC again lent a high level of support to the 2013 event, which was held in Seoul, in September. APNIC was also involved in the planning stages of the event, to help align the program with the themes of the global IGF, which took place about one month after the regional event.



Leadership in the Asia Pacific

Asia Pacific Telecommunity (APT)

APNIC continued to engage with the Asia Pacific Telecommunity (APT), by providing expert advice on key relevant topics. APNIC also participated at the 6th APT Policy and Regulatory Forum, giving an overview of IP addressing policies, with an emphasis on the need to encourage IPv6 adoption.

APT is an intergovernmental organization in the Asia Pacific region. It is a focal point for the Asia Pacific preparatory processes of ITU meetings and conferences. In September 2013, APNIC became an Affiliate Member of the APT.

ITU

As a member of the International Telecommunications Union's (ITU) Informal Experts Group, APNIC participated at the fifth WTPF and preparatory meetings leading up to it. At the forum, APNIC shared information about IPv4 exhaustion and IPv6 deployment with Member States and other participants. This information served as the basis for producing two of the six Opinions that emerged from the forum, both on IPv6 capacity building and post-IPv4 exhaustion.

In 2014, APNIC and the ITU will conduct a two-year capacity-building project designed to foster the implementation of IPv6 and assist in the further deployment of IP networks in the Asia Pacific region. APNIC has been a member of the ITU Development sector (ITU-D) since 2003.



Leadership in the Asia Pacific

From Internet Governance to Internet Cooperation

2013 saw a sharpening focus on the future of Internet governance issues across governments, civil society, and the Internet community.



Montevideo Statement on the Future of Internet Cooperation

In October 2013, the organizations responsible for coordination of the Internet technical infrastructure globally released a joint public statement regarding the current state of Internet technical coordination, cooperation, and governance.

The statement conveyed in particular an agreement on “the need for ongoing effort to address Internet governance challenges”, and a commitment to “catalyze community-wide efforts towards the evolution of global multistakeholder Internet cooperation”.

For more information, read the Montevideo Statement here:

www.apnic.net/news/montevideo-statement

/1net

During the 2013 IGF, ICANN proposed the creation of a group called ‘/1net’ to act as a coalition of Internet community interests to advance discussions on Internet cooperation issues at a proposed special meeting in Brazil in 2014.

/1net is currently developing as a multistakeholder community-led initiative and APNIC plans to participate and support active engagement by the Asia Pacific region in 2014.

www.1net.org

Financials

Statement of Financial Position

Notes: The statement of financial position, statement of income, and cash flow statement are the consolidation of APNIC Pty Ltd accounts being recorded in AUD.

For a better understanding of APNIC Pty Ltd's financial position and performance, as represented by the results of its operations for the financial year ended 31 December 2013, the statement of financial position, and statement of income, should be read in conjunction with the annual statutory financial report and the audit report contained therein.

	2013 (AUD)	2012 (AUD)	% change from 2012
Assets			
Current assets			
Cash	943,980	614,385	54%
Short-term deposits	3,814,795	12,978,745	-71%
Restricted cash	1,243,756	903,650	38%
Receivables	935,741	933,777	0%
Others	538,735	585,159	-8%
Total current assets	7,477,007	16,015,716	-53%
Non-current assets			
Available-for-sale financial assets	13,736,690	1,150,123	1094%
Deferred tax assets	127,006	128,071	-1%
Property, plant and equipment	8,000,431	8,012,422	0%
Total non-current assets	21,864,127	9,290,616	135%
Total assets	29,341,134	25,306,332	16%
Liabilities			
Current liabilities			
Payables	2,084,629	1,456,080	43%
Provisions	1,202,792	1,157,245	4%
Unearned revenue	7,880,508	7,652,440	3%
Total current liabilities	11,167,929	10,265,765	9%
Non-current liabilities			
Deferred tax liabilities	81,187	49,579	64%
Provisions	265,723	182,231	46%
Total non-current liabilities	346,910	231,810	50%
Total liabilities	11,514,839	10,497,575	10%
Net Assets	17,826,296	14,808,757	20%
Equity			
Share capital	1	1	0%
Reserves	141,571	107,535	32%
Retained earnings	17,684,724	14,701,221	20%
Total equity	17,826,296	14,808,757	20%

Financials

Statement of Income

	2012 (AUD)	2011 (AUD)	% change from 2011
Revenue			
IP resource application fees	1,420,625	2,232,250	-36%
Investment income	585,522	595,634	-2%
Membership fees	15,074,781	14,361,213	5%
Non-member fees	240,224	227,966	5%
Reactivation fees	37,050	43,200	-14%
Realisation of available-for-sale financial assets	376,729	0	0%
Sundry income	210,439	194,168	8%
Total revenue	17,945,370	17,654,431	2%
Expenses			
Communication expenses	490,600	440,762	11%
Computer expenses	548,748	551,362	0%
Depreciation expense	753,032	816,998	-8%
ICANN contract fees	136,732	321,655	-57%
Meeting and training expenses	332,820	191,561	74%
Office operating expenses	300,757	249,930	20%
Professional fees	1,246,373	939,882	33%
Salaries and personnel expenses	8,298,111	8,145,433	2%
Sponsorship/ publicity expenses	319,623	270,696	18%
Travel expenses	1,937,230	1,822,239	6%
Other operating expenses	694,007	671,180	3%
Total expenses	15,058,033	14,421,698	4%
Operating surplus			
Operating surplus before income tax	2,887,337	3,232,733	-11%
Income tax benefit	96,166	17,506	449%
Operating surplus after income tax	2,983,503	3,250,239	-8%

Financials

Cash flow statement

For the year ended 31 December

	2013 (AUD)	2012 (AUD)	% change from 2012
Cash flows from operating activities			
Receipts from members and customers	19,039,340	18,378,131	4%
Grants received	1,031,673	988,683	4%
Payments to suppliers, employees and grantees	(16,871,025)	(15,051,949)	12%
Interest received	643,500	560,701	15%
Income tax received	118,422	64,006	85%
Net cash inflow from operating activities	3,961,910	4,939,572	-20%
Cash flows from investing activities			
Redemption (placements) of short-term deposits	9,163,950	(4,607,522)	-299%
Payments for property, plant and equipment	(751,006)	(398,143)	89%
Proceeds from disposal of property, plant and equipment	2,982	2,434	23%
Redemption of available-for-sale financial assets	1,427,249	0	0%
Purchase of available-for-sale financial assets	(13,500,000)	0	0%
Net cash outflow from investing activities	(3,656,825)	(5,003,231)	-27%
Net increase (decrease) in cash and cash equivalents:	305,085	(171,168)	-63%
Cash and cash equivalents at the beginning of year	614,385	677,044	-9%
Effects of exchange rate changes on cash and cash equivalents	24,510	1,000	2351%
Cash at the end of year	943,980	614,385	54%



Supporters

APNIC acknowledges and thanks the following organizations for their generous support during 2013.

Conference Supporters (In alphabetical order)

- Beijing Internet Institute (Bii) (China)
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- China Telecom (China)
- China Unicom (China)
- Google (USA)
- Internet Society (USA)
- IPTP Networks (Hong Kong Special Administrative Region of China)
- Japanese Network Information Centre (JPNIC) (Japan)
- Korean Internet Security Agency (KISA) (Republic of Korea)
- National Internet Exchange of India (NIXI) (India)
- Network Startup Resource Center (NSRC) (USA)
- PHCOLO (Philippines)
- Taiwan Network Information Center (TWNIC) (Taiwan)

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- Indonesia Network Information Centre (IDNIC) (Indonesia)
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- Internet Society Bangladesh Dhaka Chapter (Bangladesh)
- ITI PNG Centre for Advancement of Internet Technology INC (Papua New Guinea)
- Lao Network Information Center (LANIC) (Laos)
- Malaysian Research and Education Network (MYREN) (Malaysia)
- Maximum Business Information Technology (MaxBIT) (USA)
- MekongNet (Cambodia)
- MobiCom Corporation (Mongolia)
- Mobinet LLC (USA)

- .MN Domain Registry (Mongolia)
- Myanmar Computer Professionals Association (MCPA) Mandalay (Myanmar)
- Myanmar Computer Professionals Association (MCPA) Yangon (Myanmar)
- Nepal Research and Education Network (Nepal) (NREN)
- National University of Lao (NUOL) (Laos)
- RedLink Communications (Myanmar)
- Sri Lanka CERT (Sri Lanka)
- THNIC Foundation (Thailand)
- Thit Sar Yar Zar Training and Development Center Mandalay (Myanmar)
- University of Cordillera (Philippines)
- UP System Information Technology Foundation (UPSITF) (Philippines)
- Vanuatu Exchange Point (VIX) (Vanuatu)
- Yadanarpon Teleport (Myanmar)



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