



APNIC

“Addressing the challenge of responsible Internet resource distribution in
the Asia Pacific region”



Highlights of 2003

Training services expanded

Policy development process improved

Number Resource Organization established

Root server mirrors deployed

New features in MyAPNIC



Contents

| | | |
|--|----|-----------|
| Introduction | | 4 |
| What is APNIC? | | 5 |
| What is APNIC's role? | 5 | |
| How is APNIC structured? | 5 | |
| The Executive Council | | 5 |
| EC activities in 2003 | 6 | |
| The APNIC region | | 7 |
| Membership status | | 8 |
| Membership growth continues recovery | 8 | |
| VNNIC recognised as an NIR | 9 | |
| APNIC Secretariat status | | 9 |
| Staffing | 9 | |
| Global coordination and regional development | | 10 |
| Number Resource Organization (NRO) and ICANN reform | 10 | |
| WSIS | 10 | |
| ASO Secretariat | 11 | |
| ASO Address Council election | 11 | |
| Staff exchange – NIRs and RIRs | 11 | |
| AfrinIC workshop | 11 | |
| PAN Asia ICT R&D Grants programme | 11 | |
| APNIC's representation in global forums | 12 | |
| Training activities | 13 | |
| Outreach activities | 15 | |
| APNIC Open Policy Meetings | | 15 |
| Attendance at APNIC meetings in 2003 | 15 | |
| Meeting accessibility and reporting | 15 | |
| Next APNIC policy meetings | 17 | |
| Policy developments | | 17 |
| The policy development process | 17 | |
| Policy changes and related updates in 2003 | 17 | |
| Communication developments | | 19 |
| Documentation developments | 19 | |
| Infrastructure development and major projects | | 20 |
| APNIC PoP deployment and root servers | 20 | |
| Secretariat infrastructure and systems | 20 | |
| MyAPNIC | 20 | |
| Resource status | | 22 |
| Early registration transfer (ERX) project | 22 | |
| IPv4 address space | 22 | |
| IPv6 address space | 24 | |
| AS numbers | 25 | |
| Financial reports | | 26 |
| Consolidated statement of financial position | 26 | |
| Consolidated statement of activities | 27 | |
| Consolidated statement of cashflows | 28 | |



Introduction

Dear APNIC Member

2003 was certainly a productive, successful, and interesting year for APNIC, featuring increased service levels, many service improvements, and new projects and activities.

The year brought a modest recovery in membership growth and a continuing high demand for IPv4 address space. For the second year running, APNIC allocated more IPv4 addresses than any other RIR, reflecting ongoing growth of the Internet industry and infrastructure in this region. On the other hand, 2003 was the first year in which APNIC allocated fewer IPv6 addresses than other RIRs, which may be a cause for concern.

APNIC's financial stability continues, with every effort being made to manage member contributions responsibly, for the mutual benefit of all. Although the declining US dollar during 2003 resulted in a large increase in APNIC Secretariat expenses, it also provided business benefits to many APNIC members. Revenues for the year matched projections closely and, with careful financial management, the overall result was a balanced budget.

Demand for APNIC member services remained high in 2003, with a slight increase in hostmaster activity and a larger increase in training. Resource services continue to be streamlined through the use of more efficient internal and external systems, especially the MyAPNIC service. In the training area, APNIC conducted 24 separate events, reaching over 1,000 participants. The extended range of courses now includes advanced APNIC training and a DNS operations workshop.

APNIC technical staff worked hard throughout 2003 to extend and secure infrastructure services via a number of new PoP locations throughout the region. At five of these locations, DNS root servers were deployed as "anycast" mirrors of existing sites. These servers, which deliver an identical service to any other root server, have already provided a dramatic improvement in DNS speed and reliability to much of the region. APNIC now has agreements with several root server operators to continue supporting and extending this service.

APNIC was also closely involved with the other RIRs in the processes of the World Summit on Information Society (WSIS). This major UN conference, comprising preparatory meetings during the year and a summit in Geneva last December, raised many concerns about the benefits, impacts, and management of information and communications technology globally. Naturally, many Internet-related issues gained prominence throughout the WSIS, including the concept of Internet "governance". This term – often a misnomer for the management of IP addresses and domain names – attracts the interest of governments globally, which have many legitimate concerns about the impacts of the Internet.

The RIRs worked hard during WSIS to ensure that their roles within the Internet administrative framework are understood by governments and others alike. In particular, while IP addressing is indeed a critical administrative issue, it is also one which is managed under a responsible and sustainable model in which all interested parties are able to participate.

This model comprises the Internet's traditional open, bottom-up processes with modern industry self-regulatory structures. It is certainly successful, but it is also open to change. Indeed, it has evolved rapidly in recent years, accommodating new technologies (IPv6), new regional registries (LACNIC and AfriNIC), changing industry conditions (the Internet boom and decline), new services (APNIC's support for root server deployment), and new policy landscapes (ICANN and even the WSIS itself). Our challenge is not only to ensure that the model is understood, but to keep developing it to ensure that new demands and concerns are recognised and accommodated.

APNIC will certainly continue to meet its core responsibilities with respect to Internet resource management and to continually improve our services in this regard. With ongoing projects such as MyAPNIC, the APNIC training programme, internal systems development, improved reporting and publications, and ongoing streamlining of resource services, I have no doubt that we will continue to provide value for money in core services. At the same time, political demands on APNIC are increasing, and we must respond with increased efforts in liaison, outreach, cooperation, and education.

We at the APNIC Secretariat do look forward to these challenges, and to serving our community again in the next year.



APNIC Director General, Paul Wilson.



What is APNIC?

APNIC is one of four Regional Internet Registries (RIRs) currently providing allocation and registration services to support the operation of the Internet globally. It is a not-for-profit open membership organisation, whose members and stakeholders determine the policies and direction of the organisation through open and consensus-based processes.

What is APNIC's role?

Within the Asia Pacific region, APNIC is charged with ensuring the responsible management of IP addresses and the related numeric resources that are required for stable and reliable operation of the Internet globally. APNIC provides resource services, training and education, and open policy meetings, and represents regional community interests on the global stage.

How is APNIC structured?

APNIC's structure provides openness and transparency in all decision making processes. This structure comprises:

- Members, who vote on issues during Member Meetings and provide input through various channels throughout the year.
- APNIC Open Policy Meetings, where all interested parties may participate in knowledge sharing, networking, policy development, and training.
- An Executive Council (EC), elected by the members to represent them in policy- and decision-making between Member Meetings.
- The Secretariat, APNIC's staff, which carries out the day to day work of the organisation.

The Executive Council

The APNIC By-Laws provide for a seven-member Executive Council (EC), whose main roles are to represent members between Member Meetings and to oversee the operations of the APNIC Secretariat, including inspection of budgets and financial reports.

EC members meet monthly, generally by teleconference, but with face-to-face meetings during APNIC Open Policy Meetings. They are not paid for their services as EC members, although APNIC may fund their attendance at important meetings.

EC members are elected by the membership for two-year terms. In 2003, the following representatives served on the EC:

| EC Member | CC | Serving until |
|-------------------------|----|---------------|
| Akinori Maemura (Chair) | JP | March 2004* |
| Kuo-Wei Wu (Secretary) | TW | March 2005 |
| Yong Wan Ju (Treasurer) | KR | March 2005 |
| Che-Hoo Cheng | HK | March 2004* |
| Geoff Huston | AU | March 2004* |
| Qian Hualin | CN | March 2005 |
| Ma Yan | CN | March 2005 |

* positions open for re-election during Member Meeting, February 2004.



Executive Council Chair for 2003, Akinori Maemura.



EC activities in 2003

In 2003, the EC held two face-to-face meetings as well as its regular monthly teleconferences. The Secretariat prepares an agenda for each EC meeting, which always includes a review of the monthly financial reports and discussion of major issues for which the Secretariat seeks the oversight and guidance of the EC.

The following are some of the most significant issues which received EC attention in 2003.

Financial oversight

Every EC meeting includes a review of the monthly financial reports, which compare the financial position of the organisation to the annual budget (which is approved at the first APNIC Member Meeting each year).

The EC has a long-standing goal of ensuring that the organisation maintains a cash surplus sufficient to meet the expected operating expenses of the coming year. To achieve this goal, EC members track the Secretariat's financial progress and, if necessary, request amendments to the budget. In recent years, this has led to a necessarily cautious approach to spending.

In response to the unexpected strength of the Australian (AU) dollar in 2003, the EC suggested improvements to the way the Secretariat reported gains and losses on exchange rate fluctuations. Subsequently, the EC directed the Secretariat to revise the annual budget to reflect the effect of the higher exchange rate.

Internet governance: ICANN, the NRO, and the WSIS

Issues related to Internet "governance" were on the agenda for every EC meeting in 2003. In particular, the EC worked closely with the CEOs and boards of the other RIRs to produce several public statements on the ICANN reform process, which culminated in the founding of the Number Resource Organization (NRO) in October 2003.

The EC also closely monitored the progress of the World Summit on the Information Society (WSIS), to ensure that the role of the RIRs and their established, bottom-up policy forums, are properly represented and understood by WSIS delegates.

ICANN, the NRO, and the WSIS are discussed in more detail in "Global coordination and regional development", from page 10.

Policy development process

During APNIC 16, the community reached consensus on a proposal to refine and restructure the APNIC policy development process.

The APNIC By-Laws establish the role of the EC to act on behalf of the membership between meetings in many matters, including policy development. The new process, which is consistent with the EC's established role, requires minimum periods for proposals to be publicly discussed and reviewed before consensus is sought. The Secretariat then reports to the EC any matters that have reached consensus and requests the EC to endorse the decisions.

In December 2003, this process was applied for the first time and the EC considered consensus items which arose from APNIC 16. The full results of that process are reported in "Policy developments", page 17.

In addition to their role of endorsing consensus decisions, the EC also responded to community concerns in 2003 by issuing a note clarifying the way the Secretariat should interpret an ambiguous area of the globally coordinated IPv6 allocation policy.

Other EC activities

Other issues discussed by the EC in 2003 included the deployment of the root server mirrors, communications between the RIRs and the IETF, Address Council elections, the effect of SARS and security concerns on staff travel, and the endorsement of VNNIC's application to become an NIR.

*Minutes of EC meetings are published on the APNIC web site at:
<http://www.apnic.net/ec>*



The APNIC region

APNIC serves the Asia Pacific region, comprising the following 62 economies in Asia and Oceania.

Economies in the AP region

| | ISO 3166 code | No. of members | | ISO 3166 code | No. of members |
|----------------------------------|---------------------|-------------------|----------------------------|---------------------|-------------------|
| Afghanistan | AF | 0 | Mayotte | YT | 0 |
| American Samoa | AS | 1 | Micronesia, Fed. States of | FM | 1 |
| Australia | AU | 197 | Mongolia | MN | 7 |
| Bangladesh | BD | 25 | Myanmar | MM | 2 |
| Bhutan | BT | 1 | Nauru | NR | 1 |
| British Indian Ocean Territory | IO | 1 | Nepal | NP | 6 |
| Brunei Darussalam | BN | 2 | New Caledonia | NC | 4 |
| Cambodia | KH | 4 | New Zealand | NZ | 38 |
| China | CN | 30 | Niue | NU | 0 |
| Christmas Island | CX | 0 | Norfolk Island | NF | 0 |
| Cocos (Keeling) Islands | CC | 0 | Northern Mariana Islands | MP | 1 |
| Comoros | KM | 0 | Pakistan | PK | 33 |
| Cook Islands | CK | 1 | Palau | PW | 1 |
| East Timor | TL | 0 | Papua New Guinea | PG | 3 |
| Fiji | FJ | 2 | Philippines | PH | 49 |
| French Polynesia | PF | 1 | Pitcairn | PN | 0 |
| French Southern Territories | TF | 0 | Reunion | RE | 0 |
| Guam | GU | 5 | Samoa | WS | 1 |
| Hong Kong | HK | 110 | Seychelles | SC | 0 |
| India | IN | 104 | Singapore | SG | 46 |
| Indonesia | ID | 8 | Solomon Islands | SB | 1 |
| Japan | JP | 44 | Sri Lanka | LK | 12 |
| Kiribati | KI | 1 | Taiwan | TW | 25 |
| Korea, Dem. People's Rep. | KP | 0 | Thailand | TH | 33 |
| Korea, Republic of | KR | 4 | Tokelau | TK | 0 |
| Laos People's Dem. Rep. | LA | 3 | Tonga | TO | 1 |
| Macau | MO | 1 | Tuvalu | TV | 1 |
| Madagascar | MG | 1 | Vanuatu | VU | 1 |
| Malaysia | MY | 31 | Vietnam | VN | 2 |
| Maldives | MV | 2 | Wallis and Futuna Islands | WF | 0 |
| Marshall Islands | MH | 0 | Other | AP | 29 |
| Mauritius | MU | 2 | | | |
| Total economies: | | | | | 62 |
| Total with APNIC members: | | | | | 46 |

Notes:

- Economies recognised within the Regional Internet Registry system are defined according to the International Standards Organization's coding system (ISO 3166).
- APNIC uses the designation "AP" for organisations that operate across several economies.
- Economies shown in bold are represented by National Internet Registries (NIRs).



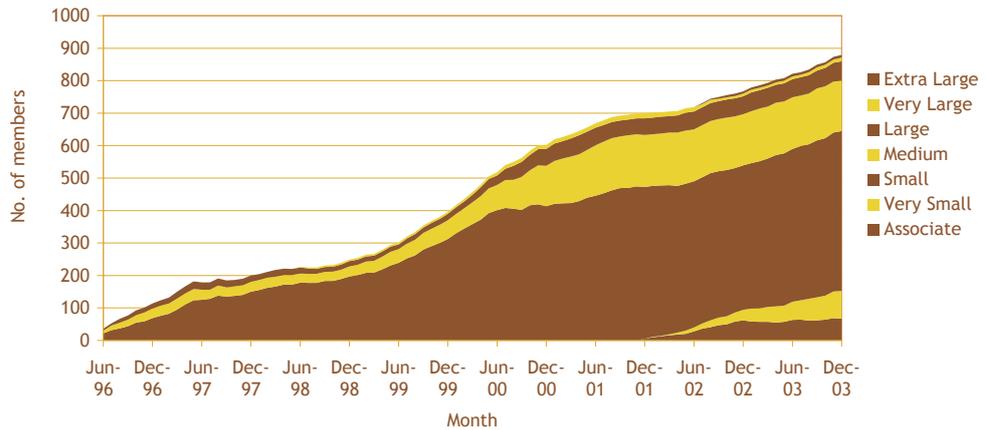
Membership status

Membership growth continues recovery

The recovery in membership growth rates that began in 2002, continued and strengthened in 2003. By the end of the year, the total APNIC membership had reached 879 – a net gain of 112 for the year.

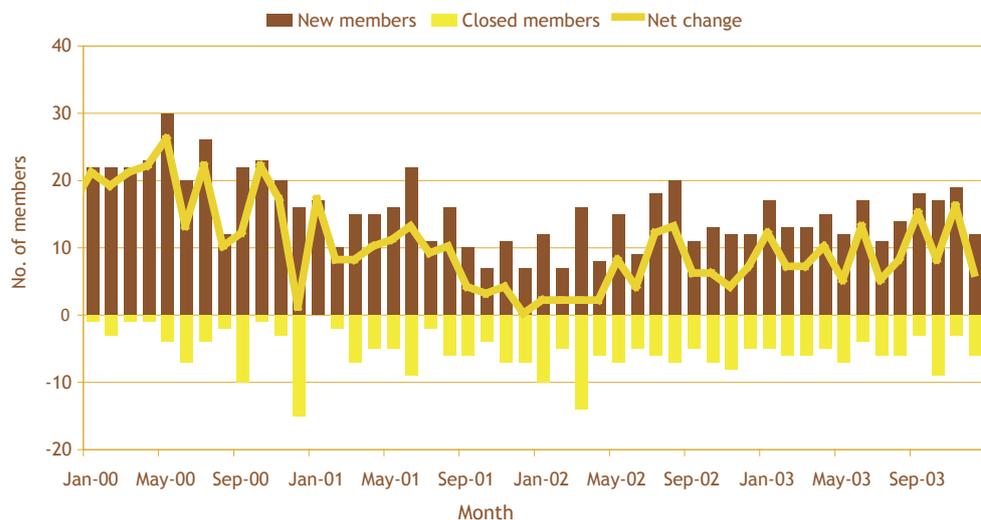
If the current membership growth trend continues, the total APNIC membership should exceed 1,000 in late 2004.

APNIC membership growth (cumulative, by category)



A closer analysis shows that APNIC gained 178 new members in 2003, but closed 66 existing memberships. Most membership closures were due to either the merger or acquisition of existing members, or businesses closing or becoming uncontactable. It should be noted that when the APNIC Secretariat closes a membership, it reclaims all applicable address resources.

APNIC membership growth (net, by month)

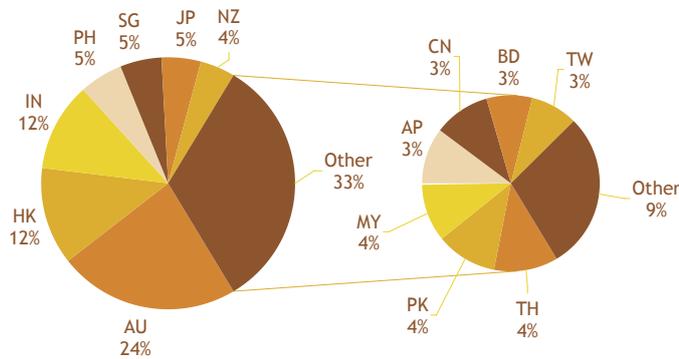


The greatest number of new members in 2003 came from Australia (47), India (21), Hong Kong (14), Japan (13), New Zealand (12), Singapore (11), and the Philippines (11). However, in India, Hong Kong, and Australia, ten or more membership closures each offset the net growth in those areas.

In total membership, Australia, Hong Kong, and India continue to lead the region. However, where NIRs exist (China, Indonesia, Japan, Korea, Taiwan, and Vietnam) the number of organisations receiving services from APNIC is significantly higher than the membership figures alone would indicate.



Geographic distribution of APNIC members



VNNIC recognised as an NIR

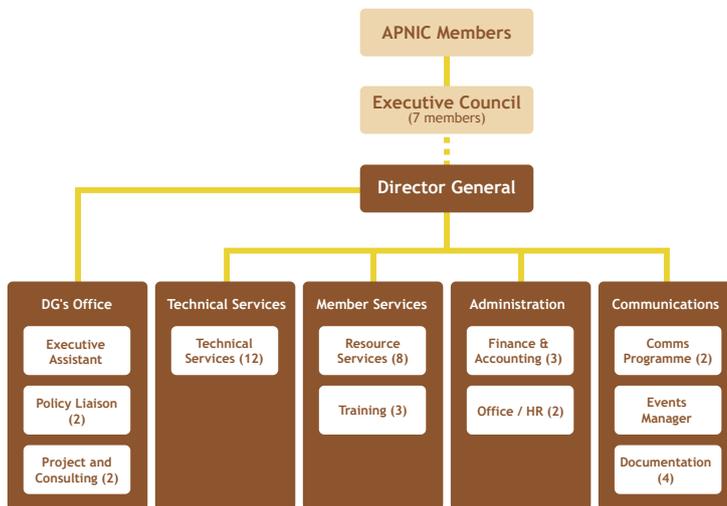
At APNIC 15, the EC approved VNNIC's application for recognition as the National Internet Registry (NIR) for Vietnam.

The current NIRs are APJII (Indonesia), CNNIC (China), JPNIC (Japan), KRNIC (Korea), TWNIC (Taiwan), and VNNIC (Vietnam).

APNIC Secretariat status

Staffing

The Secretariat staff grew by six in 2003 to support APNIC's expanded range of services and responsibilities, bring the total staff number to 40 (including 5 part-time staff). APNIC's organisational structure at the end of 2003 is as follows:



The APNIC Secretariat also performed considerable work to continue formal documentation of internal Human Resources policies to ensure compliance with local employment laws and provide an attractive workplace for employees.

The Asia Pacific region languages spoken by APNIC staff are: Bahasa Indonesian, Bangla, Cantonese, Filipino (Tagalog), French, Hindi, Japanese, Korean, Malay, Mandarin, Sinhalese, Taiwanese, Telugu, and Vietnamese.

Notices of employment opportunities at APNIC are available by subscribing to the <jobs-announce> mailing list. Details available at: <http://www.apnic.net/community/lists>



Global coordination and regional development

Number Resource Organization (NRO) and ICANN reform

From early 2002, APNIC and the other RIRs participated in the ICANN Evolution and Reform process, which continued throughout much of 2003. In a series of responses to ICANN, the RIR boards described the general principles they regarded as important to managing the Internet numbering system.

The RIRs acknowledged the benefits of the ICANN structure, which provides an open framework for coordinating a number of critical Internet administration functions. They determined that they will continue to work within this framework and support ICANN.

However, at the same time, the RIRs recognised that ICANN is a private corporate entity, whose future is not absolutely assured. If ICANN were ever to fail, there would be a risk of uncertainty in Internet addressing.

As the negotiations continued, the RIRs proposed forming a new coordinating body, the Number Resource Organization (NRO), which would serve as a unified point of contact for joint RIR communication and ensure ongoing stability of number resources. The proposal was released for public discussion by all RIR communities.

In October 2003, the heads of all RIRs jointly signed the memorandum of understanding to form the NRO, which will now host the common activities needed for many important aspects of RIR work. These include administering upper level reverse DNS domains, inter-RIR technical coordination, negotiations and agreements with external entities, and providing a convenient single point of contact with the RIR system for third parties.



10 The RIR CEOs – Axel Pawlik (RIPE NCC), Raul Echeberria (LACNIC), Ray Plzak (ARIN), and Paul Wilson (APNIC) – sign the agreement which established the NRO.

Specifically, the NRO is the body through which the RIRs will continue to negotiate with ICANN on their joint contractual relationship and the role and composition of the Address Supporting Organization (ASO).

The NRO is a lightweight body, with no staff of its own and its Secretariat functions are carried out by each RIR on a rotating annual basis. It is composed of an NRO Executive Council, a Number Council, and the Secretariat.

The CEOs of each RIR form the NRO Executive Council, which is currently chaired by Paul Wilson of APNIC. The Secretariat function for the first year of operation is being performed by RIPE NCC.

The Number Council has been proposed to fulfil the role of the existing Address Supporting Organization in the reformed ICANN structure. Therefore, one of the first decisions of the NRO Executive Council was to formally suspend the operation of the Number Council, until negotiations with ICANN over the future ASO structure are concluded.

*More information about the NRO, including a detailed FAQ, is available at:
<http://www.apnic.net/community/nro>*

WSIS

The World Summit on the Information Society (WSIS) is a major intergovernmental conference of the United Nations, intended to discuss issues of global adoption and impacts of information and communications technologies (ICTs).

While the Internet itself was not initially a specific focus of the meeting, issues of Internet coordination (or “governance”) gained increasing importance during the conference process. Representatives of all RIRs participated in WSIS-related meetings in 2003 to ensure that the nature of the RIRs and their processes are properly understood.



ASO Secretariat

The APNIC Secretariat performed the role of Address Supporting Organization (ASO) Secretariat in 2003. Duties included administering monthly Address Council teleconferences, maintaining the ASO web site and mailing lists, and supporting the ASO General Assembly (held at LACNIC IV in Santiago, Chile).

The ASO Secretariat function rotates among the RIRs annually. At the end of 2003, the APNIC Secretariat handed this task over to RIPE NCC for 2004. The schedule of ASO Secretariat duties for the coming years is:

- 2004 – RIPE NCC
- 2005 – LACNIC
- 2006 – AfriNIC
- 2007 – ARIN
- 2008 – APNIC

ASO Address Council election

At the open ASO meeting held during APNIC 16 on Friday 22 August 2003, Mr Hyun-joon Kwon was elected as the Asia Pacific region Address Council representative. The current Asia Pacific representatives on the Address Council are:

- Dr. Kenny S. Huang (TW)
- Takashi Arano (JP)
- Hyun-joon Kwon (KR)

*More details of the ASO and the Address Council are on the ASO web site at:
<http://www.aso.icann.org>*

Staff exchange - NIRs and RIRs

In 2003, the APNIC Secretariat hosted visiting staff from NIRs as part of an ongoing effort to increase consistency of practice and application of policies across the region. In 2003, Toshihiro Hosaka (JPNIC), Kien Tran (VNNIC), and David Chan (TWNIC) worked with the APNIC hostmaster team and Adi Kusuma (APJII) worked with the APNIC software development team.

A similar practice of short-term staff exchanges is also in place among the RIRs, aimed at sharing operational knowledge across the regions. In 2003, Ricardo Patara (registration services) was sent by LACNIC to the APNIC Secretariat and an APNIC staff member, George Kuo (hostmaster), visited the RIPE NCC.

AfriNIC workshop

In June 2003, LACNIC hosted a workshop in Uruguay for the benefit of the emerging RIR, AfriNIC. Representatives from APNIC, ARIN, LACNIC, and RIPE NCC attended the workshop to give operational advice on the technical and administrative aspects of an RIR.

When AfriNIC does gain recognition as an RIR, it will take over responsibility for economies from within all the existing RIR regions. The economies of the APNIC region that are expected to become part of the AfriNIC region are Comoros, Madagascar, Mauritius, Mayotte, Reunion, and Seychelles.

PAN Asia ICT R&D Grants programme

Since 2002, the APNIC Director General Paul Wilson has served as an advisor to the PAN Asia ICT Research and Development Grants programme, which funds small research and development projects related to Internet development in the Asia Pacific region. PAN is an initiative of the Canadian-funded International Development Research Centre (IDRC), which exists to help researchers and communities in the developing world find solutions to their social, economic, and environmental problems.

APNIC contributes money to the fund and has a seat on the evaluation committee, which selects the projects to be funded. There are two grant rounds each year, which APNIC also helps to promote through *Apster*, APNIC mailing lists, and meetings. APNIC is particularly interested in encouraging applications dealing with Internet infrastructure development and management, technical and administrative policy impacts on developing nations, and research into addressing or routing issues.



APNIC's representation in global forums

Each year, APNIC's regional interests are represented by its staff participating in technical and policy development meetings. APNIC staff present service and resource status reports and participate in meetings and online discussions relating to address management and related technical activities.

Meetings attended in 2003

| Month | Meeting | Location |
|-----------|---------------------------------------|---------------------------|
| January | WSIS Asia-Pacific preparatory meeting | Tokyo, Japan |
| | SANOG I/CAN IT Conference | Kathmandu, Nepal |
| | RIPE 44 | Amsterdam, Netherlands |
| February | NDDS '03 | San Diego, California |
| | NANOG 27 | Phoenix, Arizona |
| | APRICOT2003 | Taipei, Taiwan |
| | The first global IPv6 summit in AP | Taipei, Taiwan |
| March | PAN Asia ICT R&D meeting | Luang Prabang, Laos |
| | 56 th IETF | San Francisco, California |
| | ICANN Meetings | Rio de Janeiro, Brazil |
| April | Global IPv6 Summit in China 2003 | Beijing, China |
| | ARIN XI | Memphis, Tennessee |
| | PITA AGM | Suva, Fiji |
| | LACNIC IV | Santiago, Chile |
| | ASO General Assembly | Santiago, Chile |
| May | AusCERT 2003 | Gold Coast, Australia |
| | RIPE 45 | Barcelona, Spain |
| June | NANOG 28 | Salt Lake City, Utah |
| | AfriNIC Workshop | Montevideo, Uruguay |
| | ICANN Meetings | Montreal, Canada |
| July | JPNIC OPM | Tokyo, Japan |
| | 57 th IETF | Vienna, Austria |
| | WSIS meeting | Paris, France |
| | SANOG II/Networking South Asia 2003 | Colombo, Sri Lanka |
| August | SAGE Conference | Hobart, Australia |
| | APNIC 16 | Seoul, Korea |
| | APAN | Busan, Korea |
| September | RIPE 46 | Amsterdam, Netherlands |
| | AUUG Conference | Sydney, Australia |
| October | PAN R&D committee meeting | Chennai, India |
| | ITU Telecom World 2003 Forum | Geneva, Switzerland |
| | NANOG 29 | Chicago, Illinois |
| | ARIN XII | Chicago, Illinois |
| | 1st ASEAN IPv6 Summit 2003 | Kuala Lumpur, Malaysia |
| November | 58 th IETF | Minneapolis, Minnesota |
| | WSIS meeting | Geneva, Switzerland |
| | LACNIC V | Havana, Cuba |
| | APTLD Meeting | Wellington, New Zealand |
| December | RIPE NCC Regional Meeting | Dubai, U.A.E |
| | WSIS | Geneva, Switzerland |
| | Launching ceremony of intERLab | Bangkok, Thailand |

*Presentations given by APNIC staff to external organisations are archived at:
<http://www.apnic.net/community/presentations>*



Training activities

Course development

In 2003, APNIC's Training Department embarked on a major review of the training courses on offer. As many members have already participated in basic resource management courses, it was decided to develop more advanced course material.

The following one-day training courses are now available:

- Internet resource management I (IRM I) – a foundation course for those requesting and managing Internet resources; deals with APNIC policies, procedures, and responsible management practices.
- Internet resource management II (IRM II) – a follow-on from IRM I; discusses more advanced topics and technologies, such as Internet routing registries (IRRs), IPv6, and reverse DNS.
- Internet resource management essentials (IRM-E) – for those administering and managing Internet resources; deals with IP address allocation management, IPv6, reverse DNS, IRRs, and the APNIC Whois Database.



Participants in the Internet resource management I (IRM I) course held in Jakarta, Indonesia in June 2003.

Another major development in APNIC's course content is the new DNS workshop. DNS is a critical Internet infrastructure and the largest distributed Internet directory service. To guarantee the availability of Internet services, it is important for networking professionals to understand DNS concepts, configuration, and operations.

The APNIC DNS course has been developed in a phased manner, with a DNS concepts module incorporated into the IRM-I course and DNS concepts and operations modules held at the NetSA/SANOG II and APNIC 16 meetings. In 2004, the development will continue, resulting in a four-day advanced workshop expected to be available late in the year. The DNS workshop will include lab exercises and hands-on testing and will cover the following areas:

- DNS concepts
- BIND (DNS Server) and resolver (DNS Client) configurations
- DNS registries
- DNS debugging tools and troubleshooting
- Reverse DNS
- RNDC and TSIG
- DNS security
- Secured dynamic updates

APNIC's training materials are developed in a modular format, to allow courses to be customised to the needs of each event. This flexible approach helps APNIC trainers to work with other experts in the community who provide more specialised technical modules to complement the regular material. This is also useful when APNIC participates in joint training and outreach activities with other organisations, which helps to spread awareness of Internet resource management issues to a broader audience. In addition to the DNS course described above, the Training Department has also developed modules covering IRRs and IPv6 technical aspects.

Full details of the course availability and schedule for 2004 are available at:
<http://www.apnic.net/training>



Training delivery in 2003

Like many activities in this region, APNIC's training programme was disrupted in the first half of 2003 due to the SARS outbreak. However, once travel to affected areas became safe again, the Training Department worked hard to catch up on postponed events and by year's end had presented courses to 1,081 participants in 23 locations.

APNIC training events in 2003

| Date | Location | Sponsor or host |
|-----------|------------------------|---------------------|
| January | Dahka, Bangladesh | UNDP/SDNP |
| | Kathmandu, Nepal | SANOG I (host) |
| | New Delhi, India | |
| | Bangkok, Thailand | |
| February | Taipei, Taiwan | APRICOT/APNIC15 |
| March | Vientiane, Laos | PAN Asia Conference |
| | Sydney, Australia | |
| June | Jakarta, Indonesia | APJII |
| July | Auckland, New Zealand | NZNOG (host) |
| | Mumbai, India | Reliance InfoComm |
| | Colombo, Sri Lanka | NetSA/SANOG II |
| August | Hong Kong | Juniper |
| | Seoul, Korea | APNIC16 |
| September | Manila, Philippines | Meridian Telekoms |
| October | Nuku'alofa, Tonga | PITA/PICISOC |
| | Dahka, Bangladesh | UNDP/SDNP |
| | Singapore | NCS (host) |
| | Kuala Lumpur, Malaysia | Jaring |
| November | Chengdu, China | CNC |
| | Wuxi, China | ChinaNet |
| | Hangzhou, China | China Mobile |
| | Beijing, China | CNNIC |
| | Ulan Batur, Mongolia | Datacom |
| | Phnom Penh, Cambodia | NiDA |
| December | Taipei, Taiwan | TWNIC |



Official opening of the APNIC training course in Dahka, Bangladesh, October 2003.

AIT to support APNIC training in 2004

During 2003, the APNIC Secretariat entered into negotiations with the Asian Institute of Technology (AIT) on the future administration of APNIC's training programme. AIT is a respected regional education and training institution based in Thailand. In the past, APNIC and AIT have cooperated on individual events and have now agreed to formalise their joint commitment to training and development in the region.



Starting in 2004, AIT will provide logistical and administrative support for APNIC's training events. This relationship will combine APNIC's expertise in resource management with AIT's broad network of contacts and facilities throughout the region.

In November 2003, AIT's Wit Hmone worked at the APNIC Secretariat to familiarise herself with APNIC training activities and begin preparations for the joint effort in 2004.

Outreach activities

The APNIC Secretariat continued efforts to improve the reach and effectiveness of its activities throughout the region. Training courses, meeting fellowships, and communication channels such as *Apster* are all ways of meeting this goal. APNIC also participates in the activities of other technical communities in the region to meet organisations and individuals who might not otherwise have the opportunity to attend APNIC events. In particular, outreach activities are directed towards communities in developing nations.

To this end the APNIC Secretariat has established roles for Research and Liaison officers to work within specific areas of the region. In 2003, the Research and Liaison officer for the Pacific Islands worked with Pacific Islands technical communities, such as the Pacific Islands Telecommunications Association (PITA) and the Pacific Islands chapter of the Internet Society (PICISOC). Small populations and long distances can make it very difficult for members of these communities to participate in activities held in other parts of the regions, so APNIC's involvement in their events has been highly appreciated.

A Research and Liaison officer has since been recruited to work with the South Asia community and is expected to join the Secretariat in early 2004.

Many outreach activities are combined with APNIC training events and APNIC staff members represented the community at a number of seminars and courses throughout 2003, in places such as Cambodia and Laos. APNIC has also had a close involvement with SANOG and provided an entire conference track at the SANOG II meeting in Sri Lanka.

APNIC Open Policy Meetings

APNIC Open Policy Meetings are an opportunity for members of the APNIC community to come together to develop policy, share information, and network with others in the community. The first Open Policy Meeting of each year is held as a conference track of APRICOT and the second as a standalone meeting.

In 2003, APNIC 15 was held in Taipei, Taiwan and APNIC 16 was held in Seoul, Korea. The APNIC hostmasters were available throughout both meetings for individual consultations and at the APNIC Helpdesk.

Attendance at APNIC meetings in 2003

Although the SARS outbreak affected the travel plans of many people throughout the year, attendance at APNIC meetings was similar to the levels in 2002.

| Attendance at APNIC meetings in 2003 | |
|--------------------------------------|-----|
| APNIC 15 | |
| Total APRICOT attendance | 558 |
| AMM attendance | 116 |
| APNIC 16 | |
| Total attendance | 131 |
| AMM attendance | 73 |

Meeting accessibility and reporting

In 2002, APNIC introduced multicasting and simultaneous interpretation to make APNIC meetings accessible to more people. These techniques featured again in 2003 – at APNIC 15 in Taipei, selected sessions were available in Mandarin, while at APNIC 16 in Seoul, many sessions were available in Korean.

Other services were introduced in 2003 to improve meeting accessibility for all participants. These included live transcripts, native IPv6 support, newcomer assistance programmes, and an onsite web notice board.



Live transcripts

Live transcripts provided a low-bandwidth alternative for offsite participants to view meeting sessions and were also projected onto a screen for onsite attendees. The live transcripts were available on a simple web page with an embedded Java application and were also streamed using a Jabber server.

Many people reported that the transcripts made it much easier for non-native English speakers to understand the discussions. The transcripts were also published as archives on the APNIC website soon after the close of each session.

*Transcripts from APNIC 16 are available at:
<http://www.apnic.net/meetings/16/programme/transcripts>*

Native IPv6 network support

Both APNIC meetings in 2003 featured native IPv6 networks, giving attendees the choice to connect to the Internet using either IPv4 or IPv6. This is seen as an important step for the APNIC community as IPv6 gains wider use and acceptance.

Newcomer assistance

The APNIC Secretariat launched a new programme at APNIC 16 to help less experienced attendees learn how to actively participate in, and contribute to, policy development. Newcomers were invited to attend special sessions and APNIC staff members were assigned to newcomers to help guide them through their first meeting. Before the Open Policy Meeting began, a breakfast was organised for newcomers to meet SIG chairs and learn about how APNIC meetings were conducted. There was also a lunch-time workshop open to any attendees who wished to learn more about how to participate in policy discussions.

Onsite notice board

To assist meeting attendees make the most of their time at APNIC meetings, the APNIC onsite notice board was launched at APNIC 15. This web-based service has floor plans for each day's agenda, identifies multilingual APNIC staff at the meeting, provides information on connecting to the onsite network, and displays news and other meeting announcements. The main APNIC meeting site continues to provide information to both attendees and remote participants.

Helpdesk

The APNIC Helpdesk has become a regular feature of APNIC meetings, with hostmaster staff available throughout the meeting to provide specialist, multilingual advice on APNIC services.

APNIC Fellowship programme

At APNIC 16, APNIC launched a new Fellowship programme, providing financial assistance to support individuals from developing economies to attend the APNIC Open Policy Meetings.

The programme targets key staff from organisations developing or providing Internet services within the developing economies, particularly those responsible for managing Internet resources (such as IP addresses, autonomous system numbers, and routing registry data).

The programme at APNIC 16 in August supported 12 participants from Pakistan, Uganda, India, Mongolia, Bangladesh, Nepal, Kiribati, India, Indonesia, Thailand, Vanuatu, and the Philippines. Fellows were required to provide reports of their attendance at the meeting.

APNIC received funding for this activity from the World Bank Information for Development (infoDev) Program, a global grant programme which promotes the use of information and communication technologies for social and economic development, with a special emphasis on the needs of developing economies.



APNIC is very grateful to InfoDev for their valuable support of the fellowship programme.



Next APNIC policy meetings

APNIC 17 will be held as a conference track of APRICOT 2004, in Kuala Lumpur, Malaysia, from 23-27 February 2004. At the time of publication, the EC was evaluating proposals to host APNIC 18 in the third quarter of 2004.

APNIC Special Interest Groups (SIGs) in 2003

| SIG | Chair | Co-chairs |
|------------------|-----------------|--------------------------|
| Policy | Takashi Arano | Yong Wan Ju, Kenny Huang |
| Database | Xing Li | Hakikur Rahman |
| DNS operations | Joe Abley | N/A |
| IX | Philip Smith | Che Hoo Cheng |
| IPv6 (technical) | Kazu Yamamoto | Jun Murai |
| NIR | Maemura Akinori | Chia-Nan Hsieh |
| Routing | Philip Smith | Randy Bush |

All APNIC Open Policy Meeting information, including archives of past meetings, is available at:
<http://www.apnic.net/meetings>

Policy developments

The policy development process

APNIC policies have always been developed by the APNIC membership and the broader Internet community in an open process of discussion and consensus. At APNIC 16, the community accepted a proposal to improve this process by formalising the steps required to make, discuss, and accept proposals.

The new process retains the essential emphasis on community consensus, but clearly defines the stages of discussion and review. The timeline is designed to allow all members of the Internet community – not just those who attend APNIC meetings – to actively participate.

- The text of any policy proposal must now be submitted to mailing lists at least one month before an APNIC Open Policy Meeting.
- At the meeting, the proposals are discussed in the Special Interest Group (SIG) sessions and the APNIC Member Meeting (AMM). SIGs review and refine proposals through discussion and consensus-based decision making.
- The policy decisions made at SIG meetings are then taken to the Member Meeting to be endorsed.
- After the meeting, the proposal is sent to the appropriate mailing list for an additional two-month comment period before being referred to the EC for final approval.

The progress of individual policy proposals can be viewed at:
<http://www.apnic.net/docs/policy/proposals>

Policy changes and related updates in 2003

Policy process modification (prop-001-v001)

APNIC 16 reached consensus on the proposal to define a new policy development process (described above).

Document editorial policy (prop-002-v001)

At APNIC 16, a new document editorial policy was accepted in conjunction with the updated policy development process. The new policy simplifies the process for documenting policy decisions.

Clean up of lame delegations (prop-004-v001)

To reduce problems that can be caused by lame DNS delegations, the APNIC Secretariat was authorised at APNIC 16 to disable lame DNS reverse delegations in the APNIC Whois Database. The project will begin in 2004; networks with lame delegations will be notified before the project begins.



IPv6 address space management (prop-005-v001)

The RIRs jointly proposed that IANA allocate IPv6 address space to the RIRs in larger blocks, so that the RIRs may practice more efficient management techniques. The intention of the sparse allocation proposal is to improve the level of aggregation by preventing fragmentation of the address space. Within the APNIC community, there was consensus at APNIC 16 to move forward with this proposal, with further discussion required on the specific size of IANA IPv6 allocations. Unfortunately, discussions in other RIR forums have led to divergence on certain aspects of the proposal. APNIC will work with the other RIRs in 2004 to produce a coordinated outcome.

Historical resource transfers (prop-006-v001)

At APNIC 16, there was consensus to allow the transfer of historical resources to APNIC members without need for technical review or approval, on condition that transferred resources become subject to current policies.

Privacy of customer assignments (prop-007-v001)

To address privacy concerns about the registration of customer assignments in the APNIC Whois Database, there was consensus to allow APNIC members to choose whether their customer assignments and sub-allocations will be accessible by public querying of the database. Recording of customer assignments in the database remains mandatory for APNIC members, but by default those registrations will not be publicly visible.

IANA to RIR IPv4 allocations (prop-008-v001)

The size of IPv4 allocations made by IANA to RIRs have not previously been governed by established policies. In 2003, a joint RIR proposal to establish such a policy was presented to the RIR communities. The proposal included recommendations that:

- the IANA will allocate IPv4 address space to the RIRs in /8 units;
- allocations be made on an 18 month necessary space basis;
- any new RIR automatically qualifies for /8.

The EC noted that this proposal has been coordinated more effectively than the IPv6 proposal, in that there is a single agreed document that has been discussed in each RIR community. The EC endorsed the consensus of the AMM, with the intention that the proposal will be submitted to the ASO for ratification after it has been accepted by all RIR communities.

Use of NONE authentication deprecated (prop-010-v001)

As part of a continuing effort to make the APNIC Whois Database more secure, there was consensus at APNIC 16 to deprecate the use of NONE as an authentication method and to replace maintainers of objects protected by MAINT-NONE with the maintainer of the parent object. Previously, at APNIC 14, the insecure MAIL-FROM authentication was deprecated. The remaining authentication options available in the database are CRYPT-PW, MD5-PW, and PGPKEY.

Internet Exchange Point (IXP) assignments (prop-011-v001)

When the IXP assignment policy was approved at APNIC 12 in 2001, there was a condition that any IPv4 assignments made under the policy could not be routed globally. At APNIC 16, there was consensus to remove this restriction on the routing of IXP assignments. In addition, the definition of an IXP was updated to reflect current practices.

The following items do not have a proposal tracking number as they were either proposed before the new tracking system was introduced or they have only been presented as "informational" items, not yet been formally proposed as a policy change.

Database cleanup project

At APNIC 15, the APNIC Secretariat was given approval to undertake a major cleanup of the APNIC Whois Database to remove RPSL non-compliant objects, non-APNIC resource records, and objects that did not refer to APNIC delegated resources. The project began in May 2003 and was completed in November 2003. Approximately 28,000 objects were repaired or deleted during the project.



IPv6 guidelines

At APNIC 16, it was suggested that guidelines were needed to address concerns and misunderstandings related to the IPv6 policy document. In November 2003, the IPv6 Guidelines Working Group (wg-ipv6-guide) was formed to develop the guidelines document. The status of the mailing list discussion will be reported at APNIC 17 in Kuala Lumpur.

HD ratio for IPv4

Before APNIC account holders can receive additional IPv4 address allocations, the usage of current address holdings must be above 80 percent. In an effort to improve the way address usage is calculated, it was proposed to use a new method, known as the Assignment Density (AD) ratio. The AD ratio is based on the HD ratio currently used to calculate IPv6 usage. The APNIC and ARIN communities have held initial discussions of this proposal. Further coordination with all RIRs is required before this proposal can be advanced.

Communication developments

Documentation developments

Policy and request form development

Following policy decisions by the APNIC community in 2003, new policy documents were written and a number of existing policy documents were updated (as described in "Policy developments" above).

In early 2003, a new online portable assignment request form was released, combining two existing request forms – IXP and multihoming requests – with a new portable assignment category for critical Internet infrastructure. Other forms released in 2003 include a new online APNIC policy proposal form, and application forms for APNIC member and non-member accounts. Work will continue in 2004 to update all APNIC online forms to a consistent design standard.

Translation

In 2003, the APNIC Secretariat continued publishing key APNIC documents in languages of the Asia Pacific region to assist members of the community whose first language is not English. The Secretariat received valuable support from NIRs and other members in developing these translations. Selected APNIC documents are now available in the following languages: Bahasa Indonesia, Chinese (simplified), Chinese (traditional), Japanese, Korean, Thai, Vietnamese.

*Translated documents are available at:
<http://www.apnic.net/trans>*

Apster

Apster, the newsletter for APNIC members and the Internet community, was first published in 2001. In its third year of publication, Apster continued to provide informative and thought-provoking articles for the community on subjects including:

- the benefits of using a routing registry;
- the role of NIRs in the APNIC region;
- the establishment of F-Root mirror servers in the Asia Pacific region;
- the evolution of the wireless Internet;
- an exploration of the issues behind recent discussions on the status of the IPv4 address pool.

Apster is also an important vehicle for keeping members abreast of policy changes, regional events, and Secretariat news.

All APNIC members are automatically subscribed to Apster. Others may subscribe or download electronic copies from:

<http://www.apnic.net/apster>



Infrastructure development and major projects

In 2003, APNIC staff continued to develop technical infrastructure for more resilient, expanded external services and a more efficient and secure Secretariat network.

APNIC PoP deployment and root servers

The 2002 Annual Report noted that APNIC and the Internet Software Consortium (ISC) were planning a cooperative project to install new root server sites in the Asia Pacific region. In 2003, the Secretariat installed APNIC points of presence in Beijing, Hong Kong, Seoul, and Taiwan. The APNIC PoPs also mirror the F-Root server operated by ISC.

APNIC also reached an agreement in 2003 with Swedish group Autonomica, which is responsible for the I-Root server. The two organisations will cooperate to install a number of I-Root mirrors in the region over the coming year.

Root server mirrors are announced to the Internet routing system using the BGP anycast technique, which directs traffic from any location to the nearest root server site. APNIC and the root server operators select sites for the mirrors by publicly seeking expressions of interest from prospective hosts.

APNIC has become involved in root server deployments because the DNS carries several critical infrastructure services, including the reverse DNS trees, in-addr.arpa and ip6.arpa, which are important to APNIC operations. There have also been many requests by members of the community for this involvement, citing APNIC's neutrality as an important reason for it to act as a coordinating body for deployments in the region.

The advantage of root server mirrors within the region is clear, with potential time savings and improved performance for every DNS transaction and less reliance on distant carriers.

In 2004, APNIC will continue to increase its points of presence in the region.

*For the latest developments on the root server project, see:
<http://www.apnic.net/services/rootserver>*

Secretariat infrastructure and systems

APNIC's network operations staff worked hard throughout 2003 to achieve many significant improvements in internal Secretariat infrastructure, including IPv6 connectivity on the LAN and wireless networks, tightening of spam detection and filtering on APNIC managed email accounts and mailing lists, and a major upgrade of the whois database software.

MyAPNIC

MyAPNIC offers a secure way for APNIC account holders to access private information and APNIC services. The service, first launched in 2002, is under continuous development and received major upgrades in 2003.

APNIC account holders are now able use MyAPNIC to:

- view and update APNIC resources held by the organisation;
- monitor the percentage of address space assigned to customers;
- view current and past account payments;
- view the organisation's current tickets open in the APNIC email ticketing system;
- view staff attendance at APNIC training and meetings.

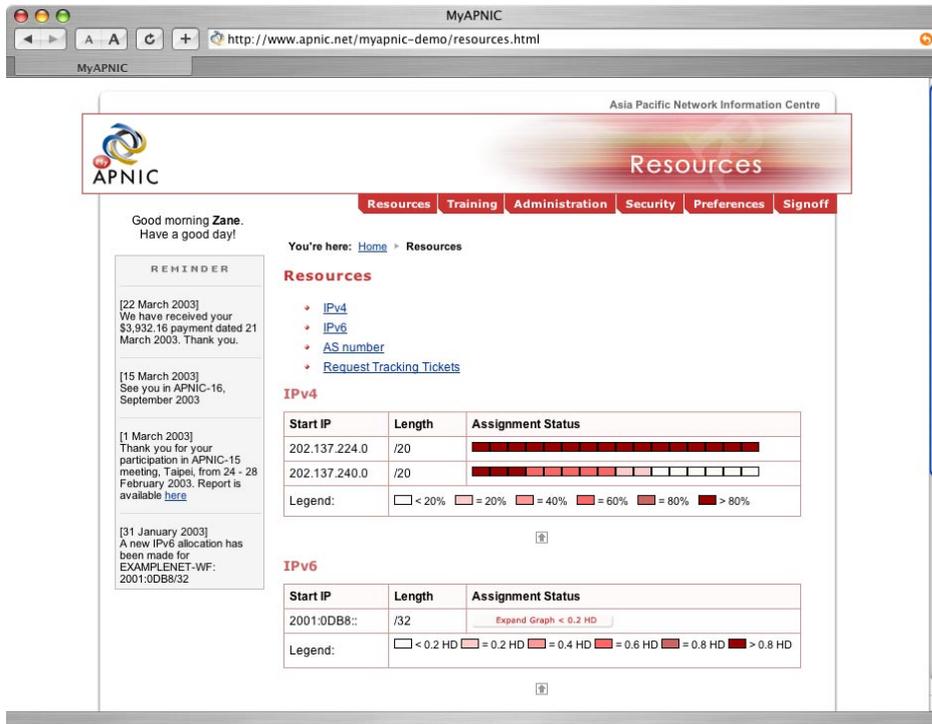
At the time of publication, plans were being developed to use MyAPNIC's online voting features in future APNIC elections.

The APNIC Secretariat introduced a new "corporate contact" category in 2003 to control administrative privileges over all areas of a MyAPNIC account. More than 70 percent of APNIC members now have corporate contacts for the MyAPNIC service.

In related work, Allocation Manager, the back end system used by the APNIC Secretariat to manage resources and member accounts also received major upgrades during 2003.



APNIC ANNUAL REPORT 2003



MyAPNIC
http://www.apnic.net/myapnic-demo/resources.html

Asia Pacific Network Information Centre

Resources

Resources Training Administration Security Preferences Signoff

Good morning Zane. Have a good day!

You're here: [Home](#) > Resources

Resources

- [IPv4](#)
- [IPv6](#)
- [AS number](#)
- [Request Tracking Tickets](#)

IPv4

| Start IP | Length | Assignment Status |
|---------------|--------|-------------------|
| 202.137.224.0 | /20 | |
| 202.137.240.0 | /20 | |

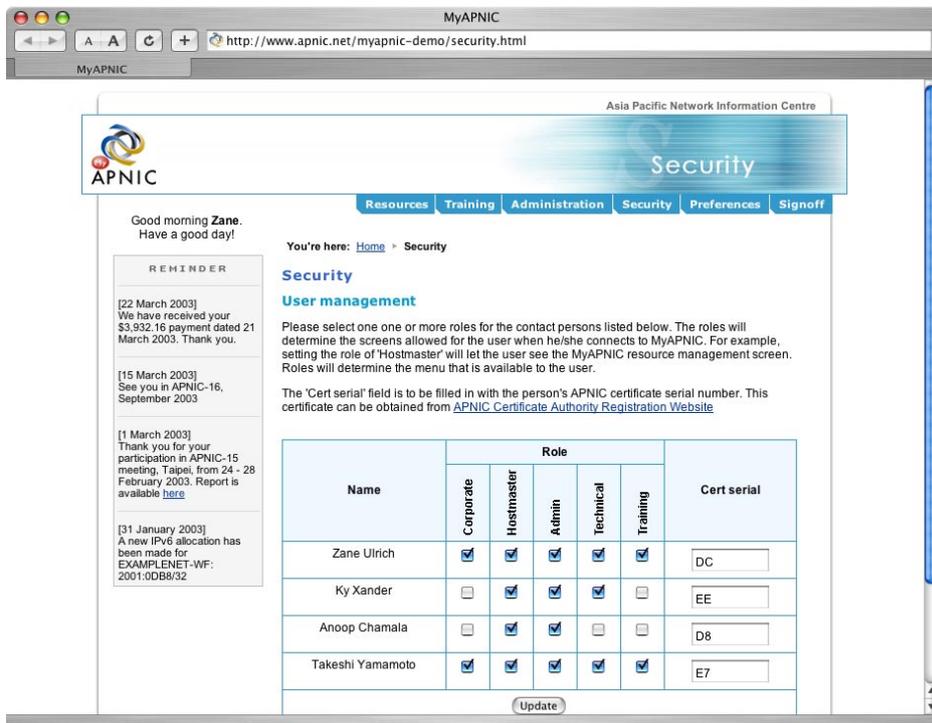
Legend: < 20% = 20% = 40% = 60% = 80% > 80%

IPv6

| Start IP | Length | Assignment Status |
|-------------|--------|-----------------------|
| 2001:0DB8:: | /32 | Expand Graph < 0.2 HD |

Legend: < 0.2 HD = 0.2 HD = 0.4 HD = 0.6 HD = 0.8 HD > 0.8 HD

MyAPNIC provides a convenient and secure way to administer account information and manage resources.



MyAPNIC
http://www.apnic.net/myapnic-demo/security.html

Asia Pacific Network Information Centre

Security

Resources Training Administration Security Preferences Signoff

Good morning Zane. Have a good day!

You're here: [Home](#) > Security

Security

User management

Please select one or more roles for the contact persons listed below. The roles will determine the screens allowed for the user when he/she connects to MyAPNIC. For example, setting the role of 'Hostmaster' will let the user see the MyAPNIC resource management screen. Roles will determine the menu that is available to the user.

The 'Cert serial' field is to be filled in with the person's APNIC certificate serial number. This certificate can be obtained from [APNIC Certificate Authority Registration Website](#)

| Name | Role | | | | | Cert serial |
|------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------|
| | Corporate | Hostmaster | Admin | Technical | Training | |
| Zane Ulrich | <input checked="" type="checkbox"/> | DC |
| Ky Xander | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | EE |
| Anoop Chamala | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | D8 |
| Takeshi Yamamoto | <input checked="" type="checkbox"/> | E7 |

More information on using MyAPNIC, including a live Flash demonstration, is available at: <http://www.apnic.net/myapnic>



Resource status

Early registration transfer (ERX) project

The project to transfer historical registration records from the ARIN Whois Database to the appropriate RIRs began in 2002, with the transfer of AS numbers. In 2003, 308 legacy Class B (/16) network registrations were transferred to the APNIC Whois Database as part of the ERX project. This project is intended to more effectively serve the interests of the holders of early registrations by allowing them to deal with the RIR in their own region.

Legacy addresses were transferred from the following /8 address ranges

| /8 range | No. of /16s | Transfer completed | /8 range | No. of /16s | Transfer completed |
|-------------|-------------|--------------------|-------------|-------------|--------------------|
| 130.0.0.0/8 | 16 | November 2003 | 155.0.0.0/8 | 9 | November 2003 |
| 132.0.0.0/8 | 5 | December 2003 | 158.0.0.0/8 | 10 | October 2003 |
| 134.0.0.0/8 | 13 | November 2003 | 159.0.0.0/8 | 12 | October 2003 |
| 138.0.0.0/8 | 19 | December 2003 | 162.0.0.0/8 | 5 | July 2003 |
| 140.0.0.0/8 | 15 | July 2003 | 163.0.0.0/8 | 44 | April 2003 |
| 141.0.0.0/8 | 8 | April 2003 | 164.0.0.0/8 | 17 | July 2003 |
| 143.0.0.0/8 | 17 | November 2003 | 165.0.0.0/8 | 28 | August 2003 |
| 147.0.0.0/8 | 17 | October 2003 | 166.0.0.0/8 | 10 | August 2003 |
| 148.0.0.0/8 | 4 | October 2003 | 167.0.0.0/8 | 11 | July 2003 |
| 149.0.0.0/8 | 6 | October 2003 | 168.0.0.0/8 | 19 | August 2003 |
| 150.0.0.0/8 | 9 | April 2003 | 169.0.0.0/8 | 3 | September 2003 |
| 151.0.0.0/8 | 5 | April 2003 | 170.0.0.0/8 | 4 | August 2003 |
| 154.0.0.0/8 | 2 | September 2003 | | | |

The ERX project is expected to be completed by the end of 2004.

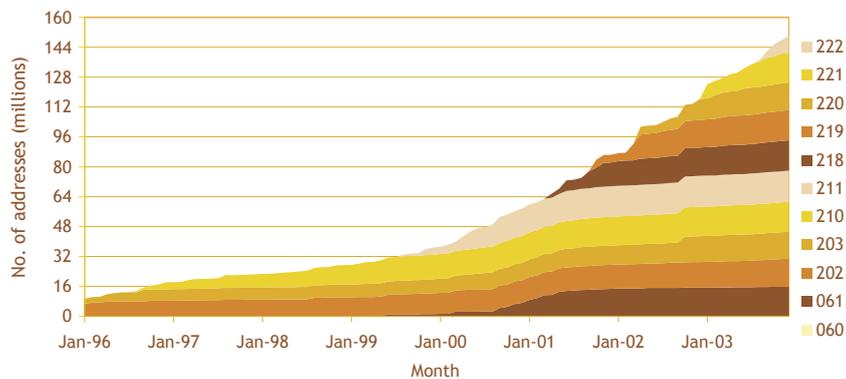
Legacy addresses from the following /8 ranges to be transferred in 2004

| | | |
|-------------|-------------|-------------|
| 128.0.0.0/8 | 142.0.0.0/8 | 157.0.0.0/8 |
| 131.0.0.0/8 | 144.0.0.0/8 | 160.0.0.0/8 |
| 135.0.0.0/8 | 146.0.0.0/8 | 161.0.0.0/8 |
| 136.0.0.0/8 | 152.0.0.0/8 | 192.0.0.0/8 |
| 137.0.0.0/8 | 153.0.0.0/8 | 196.0.0.0/8 |
| 139.0.0.0/8 | 155.0.0.0/8 | 198.0.0.0/8 |

IPv4 address space

Demand for IPv4 address space continues to grow – APNIC’s IPv4 allocation has now risen from 1.25 /8s in 2002, to 1.98 /8s allocated in 2003.

Total IPv4 allocations (cumulative, by /8 range)



IPv4 reverse delegations: APNIC holds registrations for 55,600 IPv4 in-addr.arpa domains.

APNIC received the following /8 ranges from IANA in 2003: 222/8 (February) and 60/8 (April).

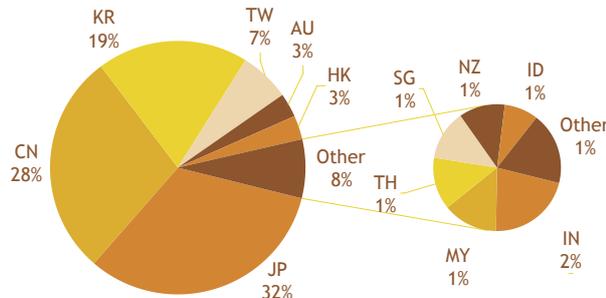


APNIC-administered IPv4 address space, allocated and available

| /8 range | Allocated | Total | % Allocated | % Available |
|----------|-----------|-----------|-------------|-------------|
| 060 | 0 | 16777216 | 0.00% | 100.00% |
| 061 | 15831040 | 16777216 | 94.36% | 5.64% |
| 202 | 15133184 | 16777216 | 90.20% | 9.80% |
| 203 | 14538496 | 16777216 | 86.66% | 13.34% |
| 210 | 15958016 | 16777216 | 95.12% | 4.88% |
| 211 | 16711680 | 16777216 | 99.61% | 0.39% |
| 218 | 16241152 | 16777216 | 96.80% | 3.20% |
| 219 | 16302080 | 16777216 | 97.17% | 2.83% |
| 220 | 14999552 | 16777216 | 89.40% | 10.60% |
| 221 | 16015360 | 16777216 | 95.46% | 4.54% |
| 222 | 9216000 | 16777216 | 54.93% | 45.07% |
| Totals | 150946560 | 184549376 | 81.79% | 18.21% |

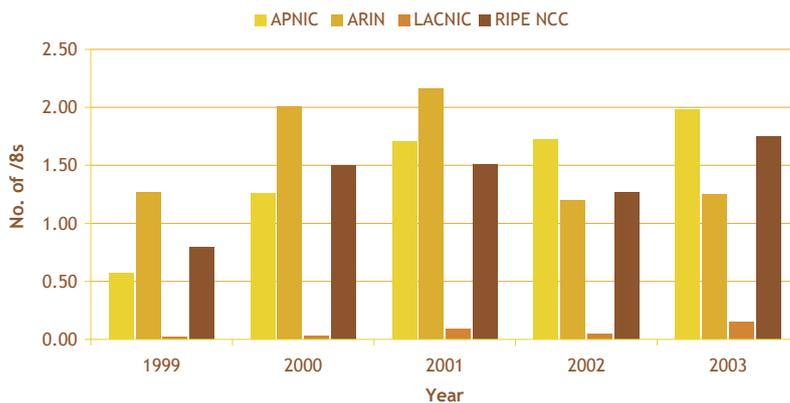
The relative distribution of IPv4 address space throughout the Asia Pacific region has remained very stable for several years now, with Japan, China, and Korea continuing to use the largest amounts.

Total distribution of IPv4 allocations (by economy)

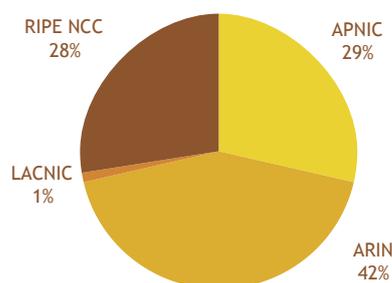


Comparison with allocation reports from the other RIRs shows that for the past two years, the Asia Pacific region has been consuming more IPv4 address space than the other regions and now holds more address space than the RIPE region.

IPv4 allocations by RIRs (yearly comparison)



Total global distribution of IPv4 allocations (by RIR)

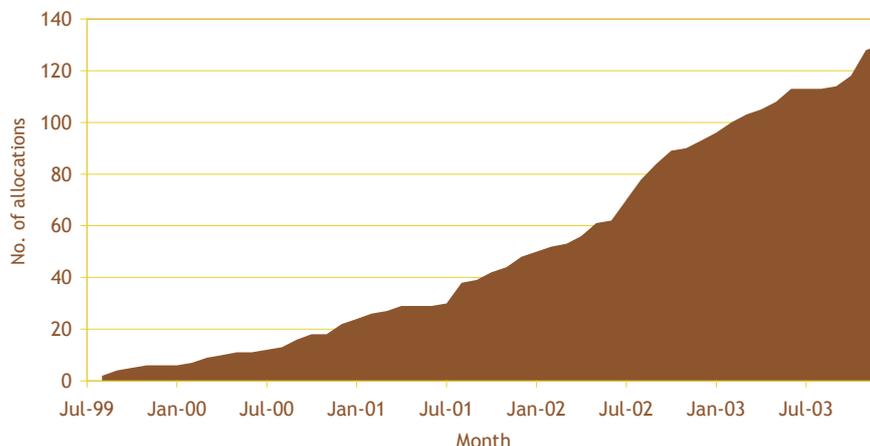




IPv6 address space

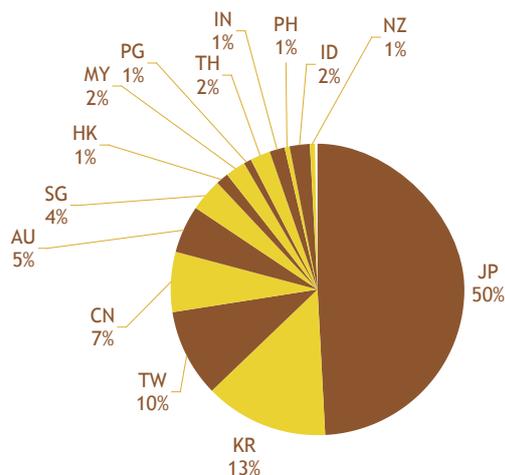
The number of IPv6 allocations fell from 45 in 2002 to 37 in 2003, bringing the total number of IPv6 allocations made by APNIC to 130.

Total IPv6 allocations (cumulative)



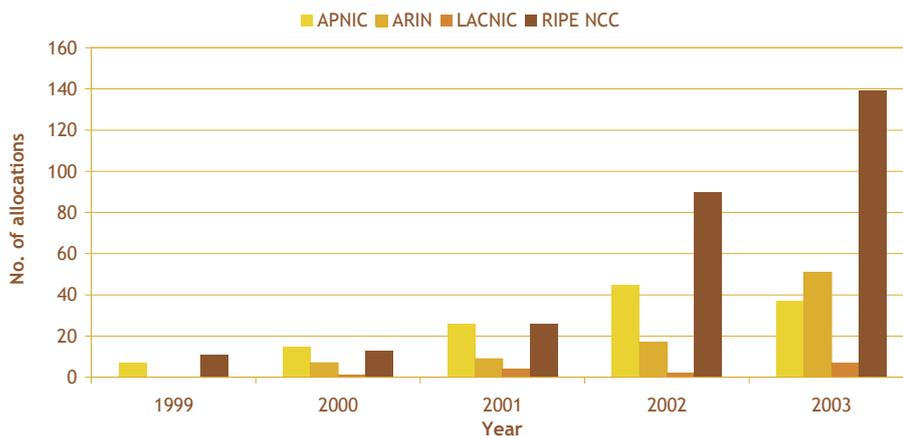
In 2003, the number of Asia Pacific economies using IPv6 allocations rose from 10 to 14. Japan continues to use the greatest amount of IPv6 address space in the region.

Total distribution of IPv6 allocations (by economy)



Globally, the Asia Pacific region expressed comparatively strong demand for IPv6 in the first three years of service availability. However, while demand in this region fell in 2003, there was increase in demand for IPv6 in all other regions, particularly the RIPE and ARIN regions.

IPv6 allocations by RIRs (yearly comparison)

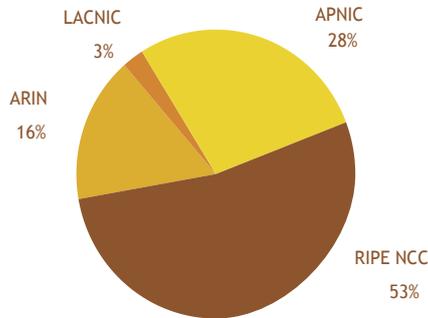


IPv6 reverse delegations:
APNIC holds registrations for
71 ip6.arpa domains and 66
ip6.int domains.



The RIPE region now holds more than half of all IPv6 allocations, while the proportion held in the Asia Pacific region has decreased from 34 percent in 2002 to the current level of 28 percent.

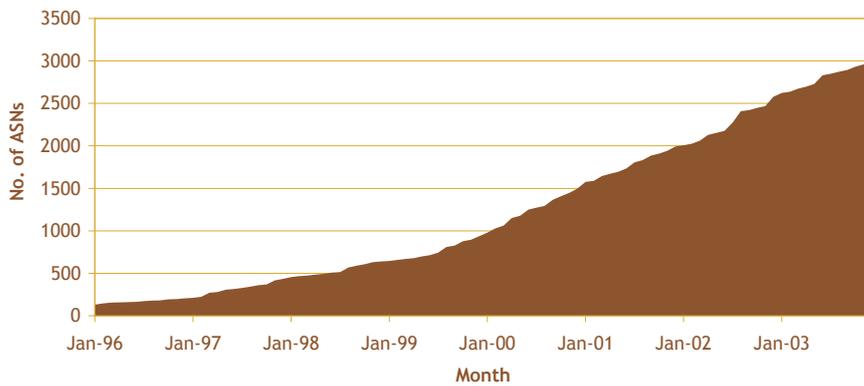
Total global distribution of IPv6 allocations (by RIR)



AS numbers

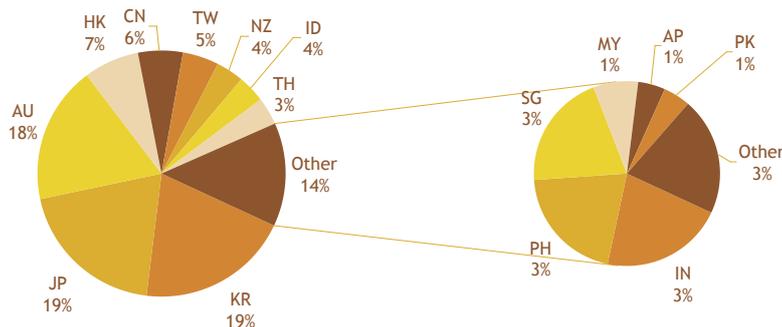
The demand for AS numbers, which had been stable in this region for several years, has now actually declined. APNIC assigned 403 ASNs in 2003, compared to 584 in the previous year.

Total ASN assignments (cumulative)



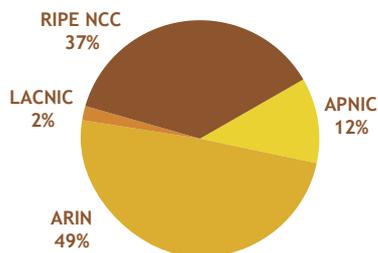
The distribution of ASNs varies slightly from that of IP address use. Korea, Japan, and Australia use the greatest number of ASNs.

Total distribution of ASNs (by economy)



The Asia Pacific region continues to use far fewer ASNs than the RIPE and ARIN regions.

Total global distribution of ASN assignments (by RIR)





Financial reports

In 2003, welcome gains in membership growth were partially offset by fluctuations in exchange rates. Although most of the organisation's income is in US dollars, most of its expenses are in Australian (AU) dollars. Normally this works in favour of APNIC. However, in 2003, the decline of the US dollar altered the balance of the APNIC budget. In May, as a better picture of the world economy was forming, the EC directed the Secretariat to revise the annual budget to reflect the effect of the higher exchange rate.

Although 2003 was a difficult year for financial management, the approach taken by the EC and Secretariat ensured a balanced budget and the overall APNIC financial position remains firm. In fact, the increase in value of APNIC's cash reserve far exceeded the budget surplus. This was achieved by a restructuring of APNIC's capital reserve to take advantage of the exchange rate fluctuations.

Consolidated statement of financial position

| | Year end 2003 (US\$) | Year end 2002 (US\$) | % change from 2002 |
|---------------------------------------|-------------------------|-------------------------|-----------------------|
| Exchange rate (*) | 0.7521 | 0.5676 | 33% |
| Current assets | | | |
| Cash | 3,716,177 | 4,107,546 | -10% |
| Investment (term deposit) | 2,256,300 | 1,135,200 | 99% |
| Receivables | 364,395 | 287,522 | 27% |
| Advance payment | 122,415 | 22,439 | 446% |
| Other | 23,193 | 118,977 | -81% |
| Total current assets | 6,482,480 | 5,671,684 | 14% |
| Non-current assets | | | |
| Other financial assets | 544,351 | 359,275 | 52% |
| Property, plant, and equipment | 1,007,453 | 703,600 | 43% |
| Investment (term deposit) | 752,100 | 0 | 100% |
| Total non-current assets | 2,303,904 | 1,062,875 | 117% |
| Total assets | 8,786,384 | 6,734,559 | 30% |
| Current liabilities | | | |
| Accrued expenses | 397,155 | 273,425 | 45% |
| GST withholding | 11,623 | 9,511 | 22% |
| Provisions | 127,877 | 106,590 | 20% |
| Unearned revenue | 1,961,779 | 1,653,192 | 19% |
| Total liabilities | 2,498,434 | 2,042,718 | 22% |
| Equity | | | |
| Share capital | 0.75 | 0.57 | 33% |
| Retained earnings | 6,287,949 | 4,691,841 | 34% |
| Total equity | 6,287,950 | 4,691,841 | 34% |
| Total liabilities & equity | 8,786,384 | 6,734,559 | 30% |

Notes:

- The consolidated statement of financial position, activities, and cashflows of APNIC Pty Ltd are translated into US\$.
- For a better understanding of APNIC Pty Ltd's financial position and performance, as represented by the results of its operations and its cashflows for the financial year ended 31 December 2003, the consolidated statement of financial position, activities, and cashflows should be read in conjunction with the annual statutory financial report and the audit report contained therein.
- The amounts in this APNIC financial report are expressed in US\$. The exchange rate used to convert AU\$ amounts to US\$ in this report (0.7521), is based on the notes spot rate as at 31 December 2003 as provided by the Australian Taxation Office.

**Consolidated statement of activities**

| | 2003 (US\$) | 2002 (US\$) | % change from 2002 |
|---|------------------|------------------|-----------------------|
| Exchange rate (*) | 0.6538 | 0.5468 | 20% |
| Revenue | | | |
| Membership fees | 3,409,078 | 2,871,723 | 19% |
| Per allocation fees | 418,275 | 422,534 | -1% |
| Non-member fees | 80,994 | 66,105 | 23% |
| IP resource application fees | 351,845 | 293,459 | 20% |
| Sundry income | 31,319 | 20,674 | 51% |
| Interest received | 195,950 | 139,992 | 40% |
| Sub-total | 4,487,461 | 3,814,487 | 18% |
| Exchange rate gain/(loss) | (573,846) | (218,710) | 162% |
| Total revenue | 3,913,615 | 3,595,777 | 9% |
| Expenditure | | | |
| ICANN contract fees | 115,622 | 123,245 | -6% |
| Donation, contribution and sponsorship | 17,110 | 41,244 | -59% |
| Communication expenses | 139,823 | 89,036 | 57% |
| Membership fees | 31,712 | 63,896 | -50% |
| Professional fees | 274,106 | 190,955 | 44% |
| Meeting and training expenses | 70,014 | 66,268 | 6% |
| Rent | 191,427 | 123,364 | 55% |
| Salaries | 1,660,573 | 1,208,400 | 37% |
| Other operating expenses | 1,106,419 | 880,899 | 26% |
| Depreciation expense | 208,676 | 114,491 | 82% |
| Total expenditure | 3,815,482 | 2,901,798 | 31% |
| Operating surplus/(loss) before income tax expense | 98,133 | 693,979 | -86% |
| Income tax expense | 36,398 | (96,052) | -138% |
| Operating surplus/(loss) after income tax expense | 61,735 | 790,031 | -92% |

Notes:

- The exchange rate used to convert AU\$ amounts to US\$ in this report (0.6538), is based on the average monthly average rate for year 2003 as provided by the Australian Taxation Office.

**Consolidated statement of cashflows**

For the year ended 31 December 2003

| | 2003 (US\$) | 2002 (US\$) |
|--|---------------------------|-------------------------|
| Cash flows from operating activities: | | |
| Receipts from members and customers | 3,620,069 | 3,583,799 |
| Payments to suppliers and employees | (3,447,970) | (2,593,543) |
| | <u>172,099</u> | <u>990,256</u> |
| Interest received | 170,938 | 124,227 |
| Income tax (paid) / received | 45,735 | (93,950) |
| Net cash inflow from operating activities | <u>388,772</u> | <u>1,020,533</u> |
| Cash flows from investing activities: | | |
| Payments for equipment/furniture/office improvement | (642,758) | (342,765) |
| Payments for investment, long term deposits | (2,058,276) | (592,390) |
| Proceeds from sale of property, plant and equipment | 0 | 867 |
| Net cash outflow from investing activities | <u>(2,701,034)</u> | <u>(934,288)</u> |
| Net increase/ (decrease) in cash held: | <u>(2,312,262)</u> | <u>86,245</u> |
| | | |
| Cash at the beginning of the financial year | 4,107,546 | 3,696,387 |
| Effects of exchange rate changes on cash | 1,920,893 | 324,914 |
| Cash reserve at the end of the financial year | <u>3,716,177</u> | <u>4,107,546</u> |

www.apnic.net