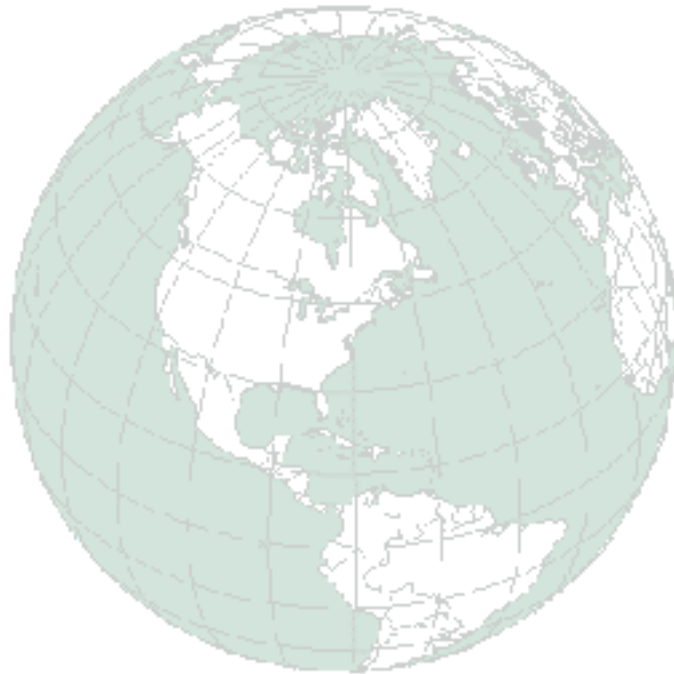# ANNUAL REPORT
FOR FISCAL YEAR 1999

THE AMERICAN REGISTRY FOR
INTERNET NUMBERS, LTD.

**The Regional Internet Registry Serving
North and South America
The Caribbean
Sub-Saharan Africa**

The American Registry for Internet Numbers, Ltd.

Annual Report for Fiscal Year 1999

Table of Contents

The American Registry for Internet Numbers
4506 Daly Drive, Suite 200
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A Letter from the President

As we approach the end of ARIN's second year of operation, I marvel at the changes that have occurred since we first opened our doors. ARIN's development could be likened to that of a baby taking its first steps, a little shaky at first but getting steadier each day. I'm pleased at how well we've kept in stride with the industry at such an emerging, and sometimes volatile, time. Through our members, ARIN has been able to fulfill its charter of providing fair and equitable management of address space, educating the public on efficient address utilization, and developing policies in an open, transparent manner. We can also turn to our staff for their efforts in helping to keep our operation as efficient as possible.

Working with the community, ARIN and the other RIRs have developed guidelines for allocating IPv6 addresses. Together, we worked towards establishing an Address Supporting Organization to advise ICANN on issues relating to IP.

ARIN has increased its transparency by holding policy meetings open to the general public and holding direct member elections for ARIN Board and Advisory Council members. Our membership grew dramatically when we extended membership to all of our subscribing ISPs. And we've improved our internal operations by taking on such projects as switching to a new operating system and bringing our in-house systems into Y2K compliance. As you'll see, many more changes have taken place over the last year which are outlined in this annual report.

The coming year will surely bring about new challenges as the industry continues to evolve. For example, two new registries are expected to begin operations in the coming months which will affect our geographic areas of responsibility. Over the past 2 years, ARIN has shown that it is resilient and responsive to our customers' needs. That's why I think the future for ARIN should be exciting.

Regards,

Kim Hubbard
President

CORPORATE PROFILE

ARIN is integral to today's system of Internet registries. In the 1960s, as the ARPANET and NSFNET merged into one interconnected network that evolved into the Internet, the need for listing, managing, and allocating IP addresses became an important factor. Dr. Jon Postel, a renowned pioneer of the global network and a friend of ARIN, began maintaining a list of host names, addresses, and RFCs. Out of his efforts came the IANA, ICANN, and the Internet registry system that is in place today.

ARIN officially opened for operation on December 22, 1997. Since that time, many changes in the industry have fostered an organization that is flexible in meeting the needs of the users in its region. ARIN remains at the forefront of the global network evolution, sometimes following, sometimes leading, and stays abreast of activities and technological advances that occur nearly every day.

ARIN and the other RIRs provide a coordinated effort worldwide. The allocation and management of IP addresses becomes increasingly more important each year as the universe of Internet users grows exponentially. Considering the fact that the pool of IP address space is finite, the RIRs help to ensure that there will be enough addresses to accommodate future users. Three Regional Internet Registries (RIRs) are currently in operation:

- ARIN serving North and South America, the Caribbean, and sub-Saharan Africa

- RIPE NCC (Réseaux IP Européens Network Coordination Centre) serving Europe, the Middle East, and parts of Africa

- APNIC (Asia Pacific Network Information Centre) serving the Asia Pacific region.
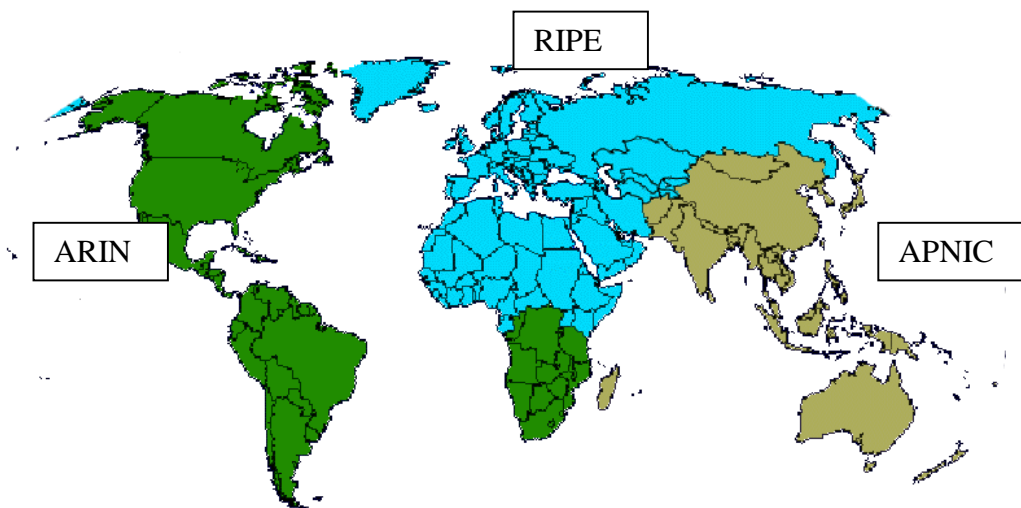
List of Countries in ARIN's Region

Angola	Dominican Republic	Peru
Anguilla	Ecuador	Puerto Rico
Antarctica	El Salvador	Rwanda
Antigua and Barbuda	Falkland Islands (Malvinas)	Saint Kitts and Nevis
Argentina	French Guiana	Saint Lucia
Aruba	Grenada	Saint Vincent and the Grenadines
Bahamas	Guadeloupe	South Africa
Barbados	Guatemala	South Georgia and the South Sandwich Islands
Belize	Guyana	St. Helena
Bermuda	Haiti	St. Pierre and Miquelon
Bolivia	Heard And Mc Donald Islands	Suriname
Botswana	Honduras	Swaziland
Bouvet Island	Jamaica	Tanzania, United Republic of
Brazil	Lesotho	Trinidad and Tobago
Burundi	Malawi	Turks and Caicos Islands
Canada	Martinique	United States
Cayman Islands	Mexico	United States Minor Outlying Islands
Chile	Mozambique	Uruguay
Colombia	Namibia	Venezuela
Congo	Netherlands Antilles	Virgin Islands (British)
Congo, The Democratic Republic of the	Nicaragua	Virgin Islands (U.S.)
Costa Rica	Panama	Zambia
Cuba	Paraguay	Zimbabwe
Dominica		

ARIN is responsible for maintaining a public trust. In promoting the efficient utilization of IP address space, ARIN maintains impartiality while determining the size of address blocks to be allocated or assigned. ARIN also supports efforts to keep the global routing tables to a manageable size to ensure continued routability of information over the network.

The historical role of ARIN in supporting the Internet is recognized and respected in the industry. It is these administration and registration efforts that contribute to the stability of the Internet and have allowed the network to grow into one of the most important tools of our time.

Among ARIN's tasks are:

- Management of IP numbers
- Registration of autonomous system numbers (ASNs)
- Management of IN-ADDR.ARPA or IP6.INT inverse mapping
- Database maintenance
- Verification of reassignment information
- Maintenance of a routing registry.

ARIN is its members. ARIN's successful support of the Internet community is no secret and is due in part to the fact that its members, who are a cross-representation of users in the community, are the heart and soul of the organization. Simply put, ARIN is its members.

During FY 1999, two biannual members meetings were successfully held, one in October 1998 in Denver, CO, and one in Atlanta, GA, in April 1999. At these meetings, the members decided upon such measures as lowering the minimum IP allocation, forming working groups, providing for micro-allocations for public exchange points, and lowering non-subscriber membership fees. It was also voted that ARIN's bylaws would be changed to allow members to vote not only for the Advisory Council, but also for the Board of Trustees.

This year saw changes significant to ARIN's operations and IP allocations worldwide. Open structures and processes are maintained in all of ARIN's daily operations to ensure that the needs of the Internet community are adequately met. This year, ARIN made its processes even more open by introducing public policy meetings, by making Board and Advisory Council meeting minutes and other information available to the general public, and by extending membership to all subscribing customer ISPs. As a result, membership increased from 216 to some 784 members, and the number of subscribers continues to grow.

A new schema designed to increase the number of available IP addresses, designated IPv6, is now in place among the three registries who are all processing requests for IPv6 space. A proposal to form the Address Supporting Organization (ASO), an organized body for developing policies and advising the ICANN, was prepared and submitted to ICANN for approval. It provided for a contractual arrangement between ICANN and the RIRs in the form of an MOU.

A routing registry, which serves as a repository for routing policy system information, was initiated and deployed. The routing registry improves ARIN's customers' ability to configure and manage their networks. Other important areas of ongoing development included an initiative to ensure that internal systems are Y2K compliant, and development of a new ARIN web site. In response to industry requests to allow for more organizations to receive address space directly from ARIN, the minimum allocation was lowered from a /19 to a /20.

ARIN's financial position is on track. Under regular review by ARIN's membership and Board, ARIN's fee structure has been sufficient to keep the registry in a suitable financial state in line with it's bylaws while providing the services required by the community in a fair manner. ARIN is well on its way to meeting its goal of saving one year's worth of expenses in reserve.

ARIN personnel are active in the user community. As part of its outreach and continuing education program this year, ARIN staff participated in international conferences held by NANOG, IETF, APRICOT, RIPE, ICANN, and the ASO. The issues discussed at these meetings provide a knowledge base that is useful in addressing the user community's needs. These interactions also help fulfill ARIN's directive to educate the public and industry.

ORGANIZATIONAL STRUCTURE

ARIN's organizational structure is designed to be responsive to the needs of the public it serves and is under the control of the users in the community. ARIN is comprised of:

- Six voting Board of Trustees members
- Fifteen Advisory Council members
- General membership
- Officers
- Operational Staff

As of June 10, at which time subscribing ISPs were extended membership, the number of members totaled 784. With an average of 50 new members added each month, the projected total number of members in 2000 is 1,384.
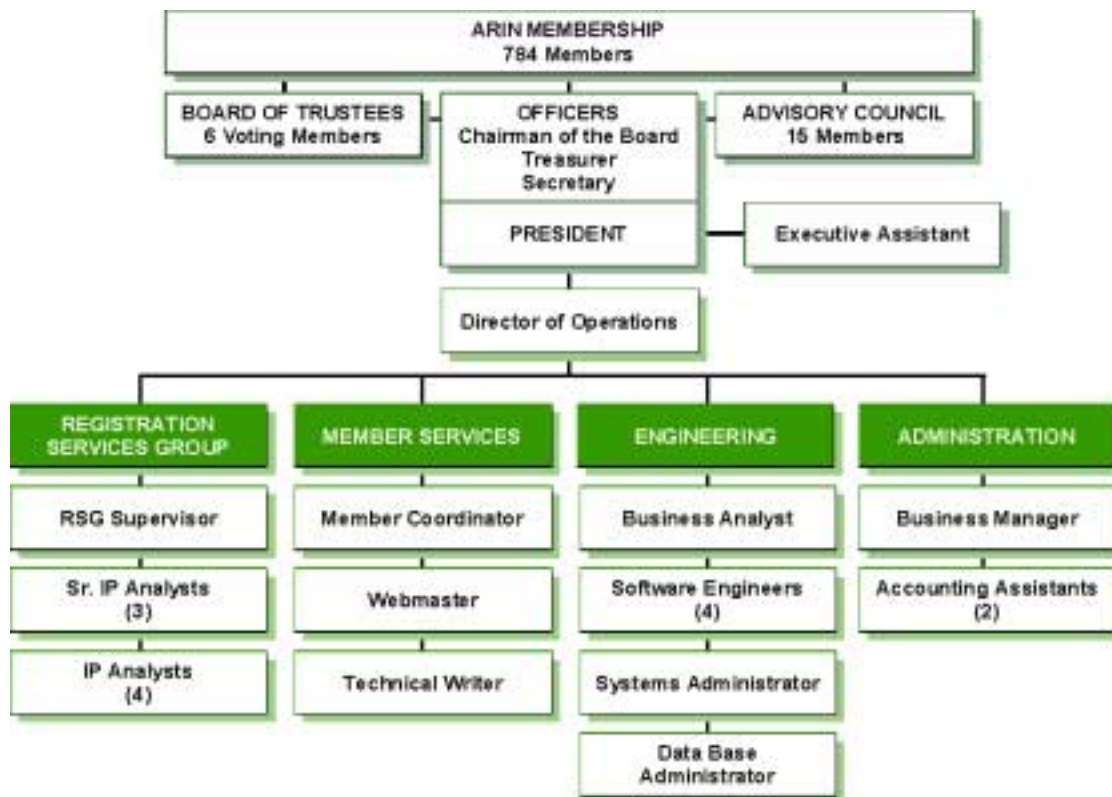
Several new staff positions were added this past year to provide the support, both internally and externally, needed to keep in step with the industry and with our constituency. ARIN's staff of 24 is comprised of professionals trained and experienced in the disciplines of IP administration, software engineering, business analysis, accounting, billing, human resources, member services, web site design, technical writing, and other office support functions. Overall, the size and structure of ARIN have proven to be appropriate for its operation.

OPERATIONS AND SERVICES REVIEW

Four departments form the company's operations. These departments interrelate to provide a synergistic system for providing responsive services to a varied customer base. A number of significant tasks were completed this year by ARIN staff in each of the divisions.

Registration Services Group

The RSG department has seen the addition of three new IP analysts to keep up with the demand for processing increasing numbers of requests for IP services. An in-house training program coupled with the expertise of the more senior members have made the group an efficient operation that has received numerous letters of commendation for their professional "help desk" support.

During the year, the number of /24s allocated by the RSG staff was 66,460, or 17,013,760 addresses (each /24 represents 256 addresses). Since January 1998, ARIN has allocated a total of 22,440,704 IP addresses (87,659 /24s). Over the reporting 12-month period, 1,213 ASNs were issued.
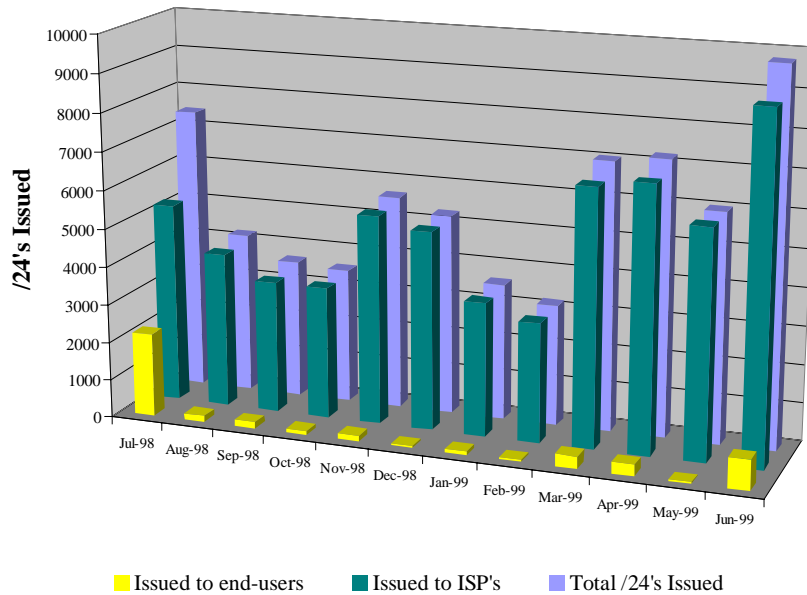
ISPs are grouped by the size of IP address block they are allocated. Over this year, there were allocations made to 444 new ISP customers, and 181 allocations were made to ISPs that had already received IP addresses. The total number of ISP subscribers for the year was 625. There were 44 registrations issued to end users.

Category	Allocation Size	Number of New Subscribers	Renewals
Small	/24 - /19	327	77
Medium	>/19 - /16	107	75
Large	>/16 - /14	9	22
X-Large	>/14	1	7
Total		**444**	**181**

Some of the more notable statistics for the group are the ones that show the large number of email messages and phone calls received on a regular basis. For the year, a total of 10,073 email messages were processed, while the staff responded to 13,167 phone calls. This represents a monthly average of 839 emails and 1,097 calls, with an average talk time of 3 minutes and 14 seconds.

Engineering

The Engineering group took under its wings a number of priority tasks. They worked closely with the RSG staff to provide a routing registry service which began in February. As of the end of the fiscal year, 38,740 routing registry WHOIS queries were received. ARIN's WHOIS program received a total of 65,119,691 WHOIS queries in FY 1999.

Significant to each of the RIRs and to the user community, is the roll-out of IPv6. The engineering staff continued its efforts (including beta testing with five other organizations) and was nearing completion to bring online the IPv6 system for its start date in July. This included developing production IPv6 SWIP and WHOIS.

ARIN and the other RIRs have been delegated responsibility for managing the reverse address mapping of each IPv6 address range distributed to them for allocation to customers. The engineering group developed a system to set up name server records in the appropriate sub-domain.

Member Services

ARIN members play a vital role in helping to solve the technological challenges facing the Internet today and tomorrow. The membership coordinator is responsible for overseeing all member functions and activities, including liaison support between the members and ARIN's president.

Member services is responsible for maintaining member and working group mailing lists; posting policy and general announcements; maintaining the member database and web site; and planning and coordinating member and public policy meetings.

To improve the services ARIN provides, several new policy guidelines with accompanying templates were created this year and posted to our web site for customer use. These included transfer requests, initial IPv6 requests, routing registry queries, and

ASN requests. Revisions to current guidelines and templates were also made. Member services coordinated the nomination and election of Advisory Council and Board of Trustees members held at the end of the calendar year and was preparing for upcoming elections in CY 1999.

Administration

The Administration group has been working with the Engineering staff and the RSG group to develop a new generation system for interfacing accounting and billing functions with registration tasks. They have also coordinated closely with Member Services to maintain an updated list of members and their status.

At year's end, the department was busy preparing the FY 1999 financial statements. The annual audit of ARIN's FY 1998 financial statements was conducted, and, in the independent auditor's opinion, presented fairly, in all material respects, the financial position of ARIN.

The watchwords of the department are speed and accuracy. It is important to ISPs that they receive IP addresses in response to their request in a timely manner. The department tries to accommodate customers with immediate IP needs by billing on demand, that is, putting the process on a fast track, and apprising RSG personnel as soon as possible when a payment has been received. Other efforts such as posting ARIN's *Registration Services Agreement* on our web site for immediate access has helped to shorten processing time.

PROJECTS UNDER DEVELOPMENT

A number of new projects and initiatives have been launched and are focused externally on making subscription customers' interface with ARIN easier and more efficient, and internally on automating in-house functions to reduce the number of time-consuming tasks currently performed manually.

External

Server configuration and cost analyses were underway to install redundant servers at RIPE and APNIC. While ARIN already stores redundant data offsite, the RIRs have coordinated to provide additional backup data support to each other.

Development of a new web site was begun with an expected launch date to be shortly after the end of the fiscal year. A new members web site will follow. An ecommerce system that will allow customers to make payments for certain transactions by credit card, has also been underway and is expected to be introduced in several phases.

Work on a new database server was progressing, including: the conversion from Ingres to Oracle to replace the old InterNIC system, migrating to a new database schema, and adding an access control structure which would allow for point of contact modifications and other database modifications in a more secure manner.

The work in developing a system to process IPv6 allocations was in its final stages as the RIRs prepared for a coordinated worldwide deployment of IPv6. Five organizations participated in Beta testing with ARIN: NIC Mexico, Cable & Wireless, Caribe Enterprises, IXC, and Celtel S.A. Honduras. The *IPv6 Assignment and Allocation Policy Document* developed by the RIRs was also near its final version. ARIN developed and made ready for publishing its *Guidelines for Requesting Initial IPv6 Address Space* and requisite IPv6 templates for processing initial requests, modifications, and SWIP reassignment information.

Internal

ARIN began a comprehensive program to address the Y2K problem in late 1998. As with many other organizations that maintain multiple operating systems and servers, this project was no small task, but was nearing production system readiness at the end of the fiscal year. This effort included legacy systems remediation; database migration to Oracle; and upgrading hardware, operating systems, and network equipment. Our customers can be assured that these systems will be fully operational moving into 2000.

A redesign of the accounting/billing and RSG systems is underway to improve the interface between IP registration software and accounting system software. The Enterprise Resource Planning (ERP) project will integrate and automate accounting, billing, and registration functions in a seamless environment which will reduce staff processing time dramatically. Also, a system for automating metrics will provide for easy compilation of IP-related statistics.

PLANNED DEVELOPMENTS

In addition to the projects already discussed, ARIN has identified several areas that will receive attention in 2000.

ARIN is planning to develop a web interface on the members' site that will be individually tailored to each member organization. This tool will provide easy access to an organization's network and billing information for review, and will be updateable where a member can securely submit network and reassignment/utilization data. Also, a tool will be added to our existing database system to authenticate SWIP requests.

A rewrite of the system software for processing IPv4 requests is expected to begin in FY 2000 to interact with ARIN's new database. It will be designed to simplify how template information is processed and will provide a more uniform system for inputting data. This software upgrade will more fully automate the processing of IPv4 requests, including the way that country codes are identified.

OUTLOOK

Among its directives, ARIN is tasked to increase and diffuse knowledge to the public, secure united action, and represent the Internet community nationally and internationally. ARIN has been and will continue to be instrumental in providing information regarding

the Internet and IP registration matters to government officials, private industry, and the Internet community.

ARIN personnel will be attending and participating in various international technical meetings throughout the year. Those scheduled thus far include:

- NANOG, October 3-5, Montreal, Quebec, Canada
- Public Policy Meetings and ARIN Member Meeting, October 18-20, Denver, Colorado
- ICANN Annual Meeting, November 2-4, Los Angeles, California
- IETF, November 7-12, Washington, DC
- IETF, March 27-31, 2000, Adelaide, Australia

Each year, two Board of Trustees seats and five Advisory Council seats become vacant at the end of the calendar year. Our members' participation in electing qualified people to fill these seats is very important to the operations of ARIN. Increased participation is expected this coming year, due to our dramatic increase in membership, and should enhance ARIN's ability to involve many organizations in its processes.

ARIN attended several national and international meetings held for the purpose of establishing and developing a structure for the Address Supporting Organization (ASO), one of three supporting organizations within ICANN designed to develop global policies and make recommendations to the ICANN Board of Directors. Participation in the ASO and election of the ASO's Address Council, a body responsible for conducting the business of the ASO, will be an important step toward forming global IP policies in the coming year.

ARIN coordinated with the other RIRs to jointly draft and submit a proposal for the formation of the ASO which was ultimately approved. The RIRs will be busy drafting a Memorandum of Understanding (MOU) in order to contract with ICANN. The RIRs will serve as members of the ASO, while provisions for open participation by other organizations were adopted. Through the Address Council the ASO will hold a general assembly at least once a year with an open invitation to all interested parties.

Two new registries are on the horizon. Consistent with the demands of the Internet, two new RIRs are expected to begin operation in the coming year: one in Latin America (LACNIC) and one in Africa (AFRINIC). These new RIRs will help to distribute the load of responsibility for providing registration services, while at the same time provide those services over large geographical regions. The creation of many RIRs, and thus many small geographical regions, could foster a competitive environment that would be inappropriate in the management of a limited public resource.

ARIN's contribution to the continued operation of the Internet is integral to the system of RIRs already in place supporting the global network. It is this stability that will launch us into the new millenium with confidence and assurance of global connectivity to the Internet for everyone.

FINANCIAL REPORT

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AMERICAN REGISTRY FOR INTERNET NUMBERS, LTD.
Statement of Financial Position
June 30, 1999

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Assets

Current assets

Cash and cash equivalents	$	1,717,954
Accounts receivable		32,775
Prepaid expenses		2,831
Total current assets		1,753,560

Investments - Note B		576,709

Fixed assets

Furniture and equipment		560,706
Leased equipment - Note C		186,795
		747,501
Less accumulated depreciation and amortization		(371,474)
		376,027
Total assets	$	2,706,296

Liabilities and Net Assets

Current liabilities

Accounts payable and accrued expenses	$	166,585
Deferred revenue		1,711,584
Capital lease obligation, current portion - Note C		70,221
Total current liabilities		1,948,390

Capital lease obligation, less current portion - Note C		25,701
Total liabilities		1,974,091
Commitments and contingencies - Note C		-
Net assets - unrestricted		732,205
Total liabilities and net assets	$	2,706,296

AMERICAN REGISTRY FOR INTERNET NUMBERS, LTD.
Statement of Activities
For the Year Ended of June 30, 1999

Revenue

Registrations	$	2,561,119
Membership dues		112,500
Dividends and interest		45,848
Other revenue		36,130
Contributions		5,420
Total revenue		2,761,017

Expense

Program services:	
Engineering	894,501
Registration services group	740,617
Member services	135,810
Total program services	1,770,928
Administration	468,779
Total expenses	2,239,707

Change in net assets		521,310
Net assets, July 1, 1998		210,895
Net assets, June 30, 1999	$	732,205

AMERICAN REGISTRY FOR INTERNET NUMBERS, LTD.
Statement of Cash Flows
For the Year Ended June 30, 1999

Cash Flows From Operating Activities		
Change in net assets	$	521,310
Adjustments to reconcile change in net assets		
to net cash provided by operating activities:		
Depreciation and amortization		243,249
Furniture and equipment contributions		-
Changes in assets and liabilities:		
Accounts receivable		6,590
Prepaid expenses		2,099
Accounts payable and accrued expense		72,010
Deferred revenue		891,429
Total adjustments		1,215,377
Net cash provided by operating activities		1,736,687
Cash Flows From Investing Activities		
Purchases of investments		(322,189)
Purchases of furniture and equipment		(22,492)
Net cash used in investing activities		(344,681)
Cash flows From Financing Activities		
Principal payments on capital lease obligation		(60,582)
Net increase in cash and cash equivalents		1,331,424
Cash and cash equivalents, July 1, 1998		386,530
Cash and cash equivalents, June 30, 1999	$	1,717,954