Response to Solicitation Number: SA-13-01-6R-P0-016

Offered by:

Internet Corporation for Assigned Names and Numbers
4676 Admiralty Way, Suite 330
Marina del Rey, CA 90292 USA
+1-310-823-9358 (tel)
+1-310-823-8649 (fax)

With this response, ICANN specifies full agreement with all terms, conditions, and provisions included in solicitation SA-13-01-6R-P0-016.

Negotiator:

John Jeffrey
General Counsel
Internet Corporation for Assigned Names and Numbers
4676 Admiralty Way, Suite 330
Marina del Rey, CA 90292 USA
+1-310-823-9358 (tel)
+1-310-823-8649 (fax)
john.jeffrey@icann.org

Signatory:

Kurt Pritz
Vice President, Business Operations
Internet Corporation for Assigned Names and Numbers
4676 Admiralty Way, Suite 330
Marina del Rey, CA 90292 USA
+1-310-823-9358 (tel)
+1-310-823-8649 (fax)
pritz@icann.org

SOLICITATION, OFFER AND AWARD

1. This Contract is a Rated Order Under DPAS (15 CFR 700)	Rating	Page 1	of pages 39

2. Contract No.	3. Solicitation No. SA-13-01-6R-P0-016	4. Solicitation Type	5. Date Issued 06/21/2006	6. Requisition/Purchase No. NTIA912-6-0269
		☐ Sealed Bid (IFB) ☒ Negotiated (RFP)		

7. Issued By   Code sa1301

US Department of Commerce
CAS, OS Business Solutions Team
1401 Constitution Ave. NW Room 6521
Washington, DC 20230

8. Address Offer To (If other than item 7)   Code

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 4 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in Address in Block 7 until 04:30 PM (hour) local time Jun 21, 2006 (date).

CAUTION – LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation

10 For Information Call	A Name Carol Silverman	B. Telephone No. (NO COLLECT CALLS) 202-482-5543	C. E-Mail Address csilverman@doc.gov

11. TABLE OF CONTENTS

OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. Discount for Prompt Payment (See Section I, Clause No. 52.232-8)	10 Calendar Days %	20 Calendar Days %	30 Calendar Days %	_____ Calendar Days %

14. Acknowledgment of Amendments The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated.	Amendment No.	Date	Amendment No.	Date

15A Name and Address of Offeror	Code ____ Facility ____ Internet Corporation for Assigned Names and Numbers, a California Public Benefit Non-Profit Corporation 4676 Admiralty Way, Suite 330 Marina del Rey, CA 90292	16. Name and Title of Person Authorized to Sign Offer (Type or print) Kurt Pritz, Vice President, Business Operations

15B. Telephone No. (Include area code) 310.301.5809	15C. ☐ Check if Remittance Address is different from above. Enter such address in Schedule.	17. Signature	18. Offer Date REV-August 2, 2006

AWARD (To be completed by Government)

19. Accepted as to Items Numbered	20. Amount	21. Accounting and Appropriation

22. Authority for Using Other Than Full and Open Competition: ☐ 10 U.S.C. 2304 (c)( ) ☐ 41 U.S.C. 253 (c)( )	23. Submit Invoices to Address Shown in (4 copies unless otherwise specified)	Item

24. Administered By (If other than Item 7) Code	Payment Will be Made By Code

26. Name of Contracting Officer (Type or print)	27. United States of America (Signature of Contracting Officer)	28. Award Date

IMPORTANT – Award will be made on this form, or on Standard Form 26, or by other authorized official written notice.

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition is unusable

STANDARD FORM 33 (Rev. 9-97)
Prescribed by GSA – FAR (48 CFR) 52.214 (c)

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4676 Admiralty Way, Suite 330
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+1-310-823-9358 (tel)
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Kurt Pritz
Vice President, Business Operations
Internet Corporation for Assigned Names and Numbers
4676 Admiralty Way, Suite 330
Marina del Rey, CA 90292 USA
+1-310-823-9358 (tel)
+1-310-823-8649 (fax)
kurt.pritz@icann.org

Table of Contents

1 Introduction

This document represents the response by Internet Corporation for Assigned Names and Numbers (ICANN) to Solicitation SA-13-01-6R-P0-016 (Solicitation) issued by the U. S. Department of Commerce, CAS, OS Business Solutions Team on June 21, 2006. The Solicitation requests proposals for the provision of services necessary for the operation of the Internet Assigned Numbers Authority (IANA) at no cost to the U.S. Government. ICANN has, since 1998, provided IANA services to the U. S. Government and the Internet community at large and is uniquely suited to continue providing these services.

This response has six sections. Section 1 provides an introduction to this response. Section 2 responds to section C of the solicitation, describing how ICANN is uniquely suited to continue to provide IANA services. Section 3, corresponding to section C.2.3 through C.2.6 of the Solicitation, details ICANN's system and data security plans and how ICANN is evolving those plans to address the constantly changing threat environment in which IANA functions must be provided. Section 4 responds to section C.3 of the Solicitation, describing ICANN's commitment to meeting the contract's reporting and auditing requirements. Section 5 provides information on how ICANN meets the evaluation criteria as defined in sections M.3 and M.5 of the solicitation respectively. Finally, section 6 provides a summary of this response to the solicitation. Two appendices are also provided, a flowchart of the current IANA root zone management process in Appendix A, and the biographies of key IANA personnel are provided in Appendix B.

With this response, ICANN commits to meet all of the requirements of Solicitation SA-13-01-6R-P0-016. ICANN proposes to perform the Solicitation's requirements at no cost to the U.S. Government. ICANN believes it demonstrates the organization's unique competencies to continue to support the Internet community at large via the functions encompassed within IANA services and looks forward to continuing to provide those functions.

2 Meeting Statement of Work Requirements

As discussed in section C.2.2 of Solicitation SA-13-01-6R-P0-016, the organization to which the contract will be awarded must furnish the necessary personnel, material, equipment, services, and facilities to perform the IANA functions. This section details the manner in which ICANN is currently performing each of the IANA functions, which will serve as a baseline for continued performance under the new purchase order, if awarded. The requirements are as follows:

1. Coordinating the assignment of technical protocol parameters
2. Performing administrative functions associated with root management
3. Allocating Internet Numbering Resources
4. Providing other services

The point of contact that will act as the day-to-day interface with the U. S. Government is:

> David Conrad
> Internet Corporation for Assigned Names and Numbers
> 4676 Admiralty Way, Suite 330
> Marina del Rey, CA 90292 USA
> +1-310-301-3869
> +1-310-823-8649
> david.conrad@iana.org

2.1 Technical Protocol Parameters Assignment

Section C.2.2.1.1 of the Solicitation requires:

> This function involves the review and assignment of unique values to various parameters (*e.g.*, operation codes, port numbers, object identifiers, protocol numbers) used in various Internet protocols. This function also includes the dissemination of the listings of assigned parameters through various means (including on-line publication) and the review of technical documents for consistency with assigned values.

Core to ICANN's provision of this function has been:

- reviewing protocol specifications to determine parameter requirements,

- providing unique values to meet those requirements,

- maintaining publicly available registries of those values with contact information of entities responsible for the protocol, and

- publicly reporting IANA's technical protocol parameter assignment statistics to the IETF community and others.

Today, ICANN manages over 500 individual protocol parameter registries with new registries created at an average rate of approximately one per week.

2.1.1 Personnel

In the course of providing the IANA technical protocol parameter assignment function, ICANN has employed staff specifically dedicated to this task. At this time, ICANN has designated a full-time staff person as IANA IETF Liaison, a role dedicated to ensuring that IANA requirements, including technical protocol parameter assignment, are met. The IANA IETF Liaison is supported by a total of five full-time equivalent (FTE) positions reporting to the IANA Operations Manager. The organizational chart for the IANA technical parameter assignment function staff is provided in Figure 1.
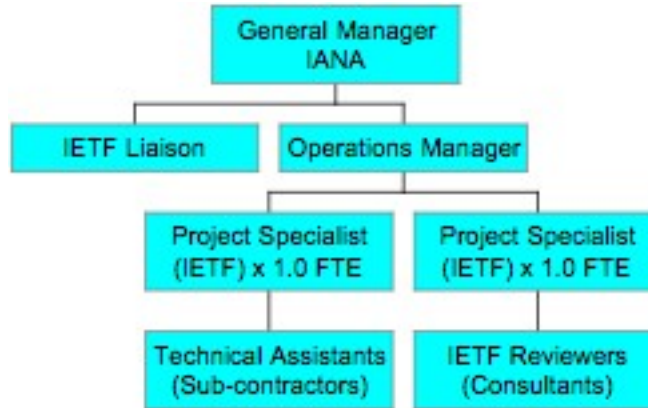
Figure 1. IANA Technical Protocol Parameter Assignment Function Staff

At this time, ICANN currently employs four half-time IETF Reviewers and two half-time Technical Assistants under contract. ICANN anticipates filling the vacant IETF Project Specialist position before the end of the third quarter 2006.

2.1.2 Material

Providing the IANA technical protocol parameter assignment function requires creating and maintaining registries that document protocol parameter values and the indicating the entities responsible for those values. These registries are created electronically; the databases used in their creation are maintained on secure ICANN computer systems. As part of ICANN's IANA data security plan documented in section 3.2, these electronic registries are archived onto physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.1.3 Equipment

The equipment used to provide the IANA technical protocol parameter assignment function consists primarily of a set of computers connected to the Internet. At this time, these systems include:

- a server used to store the protocol parameter registry databases;
- a web server used to provide web access to the registries;
- a backup server used to stage data for archival storage;
- a set of servers used to provide e-mail receipt and access
- printers for providing hard copy of the registries when necessary;
- workstations for ICANN staff enabling them to provide the IANA technical protocol parameter assignment function.

As part of its general support for ICANN's information technology requirements, ICANN's Information Technology (IT) department provides, maintains, and operates all equipment used in the provision of all IANA services including the technical protocol

parameter assignment function as well as equipment used for providing the network infrastructure used in the performance of the IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment used so that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.1.4 Services

Key to the provision of the IANA technical protocol parameter assignment function is a set of services made available to the Internet community as a whole, and Internet-related protocol developers in particular. These services, provided by ICANN since 1998, include:

- creating and maintaining registries as requested by the IETF;

- e-mail receipt and transmission;

- web forms for protocol parameter requests;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

In addition, ICANN has automated the processing of requests for several technical protocol parameter assignment services and has undertaken to greatly increase the level of automation in the near future.

2.1.5 Facilities

The facilities ICANN uses to provide the IANA technical protocol parameter assignment function consist of the computer systems mentioned in section 2.1.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the Internet.

As mentioned previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA technical protocol parameter services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities and services such as office space and equipment, payroll, accounting, and human resources services.

2.1.6 Provision of Services Under the New Purchase Order

ICANN commits to continue coordinating the assignment of technical protocol parameters, as required by section C.2.2.1.1 of the Solicitation.

2.2 Root Management

Section C.2.2.1.2 of the Solicitation requires:

> This function addresses facilitation and coordination of the root zone of the domain name system, with 24 hour-a-day/7 days-a-week coverage. It includes receiving requests for and making routine updates of the country code top level domain (ccTLD) contact (including technical and administrative contacts) and nameserver information. This function also includes receiving delegation and redelegation requests, investigating the circumstances pertinent to those requests, and making recommendations and reporting actions undertaken in connection with processing such requests. All requests, collectively referred to as IANA root management requests, must be processed promptly and efficiently, and in accordance with processing metrics set forth in Section J - Appendix A. These processing metrics will be posted prominently on Contractor's website. Contractor shall develop and implement a process no later than January 30, 2007, for consulting with the relevant governments and ccTLD managers to encourage greater efficiency and responsiveness to these entities in processing ccTLD requests, consistent with the processing metrics.

The IANA root management function has proven to be the most politically sensitive of the services provided and as such, the processes and procedures evolved by staff engaged in providing IANA root management functions include many checks and balances designed to communicate fully with the requestors of IANA services and ensure that requested changes are implemented in the root zone only following thorough review and confirmation.

The current process for root zone management can be summarized as a seven-step process consisting of:

1. Acceptance: receiving the root management request.
2. Validation: validating the request is syntactically correct.
3. Confirmation: confirming the participation of appropriate TLD operators and, through them, that the request should proceed.
4. Verification: verifying the changes are supported by appropriate confirmatory investigations.
5. Authorization: obtaining authorization that the change should be made.
6. Implementation: making the change to the root zone and "whois" databases.
7. Completion: notifying the requester and TLD operators that the change is complete.

A flow chart of the IANA root management change process is provided in Appendix A – Root Zone Change Process.

2.2.1 Personnel

ICANN has employed staff specifically dedicated to the IANA root management. At this time, IANA root management staff consists of a staff person as IANA Names Liaison, a role dedicated to ensuring root management and other domain name-related requirements are met effectively and efficiently, supported by one-and-a-half FTE reporting to the IANA Operations Manager. The organizational chart for the IANA root management function staff is provided in Figure 2.
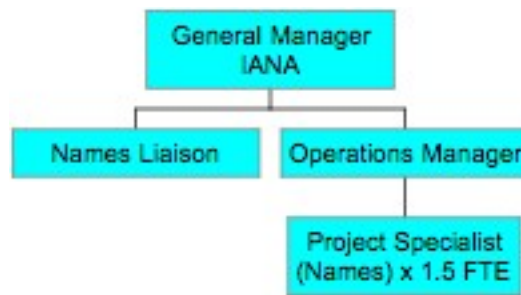

Figure 2. IANA Root Management Function Staff

While the current staffing levels have been sufficient to manage root management request loads experienced to date, ICANN anticipates that additional staffing will likely be needed as DNSSEC is implemented in the root zone and as ICANN works to educate and provide IANA services to TLD operators in developing countries. As DNSSEC moves closer to deployment and/or as workload demand increases due to other activities, ICANN will establish and fund additional FTE positions as appropriate.

2.2.2 Material

Providing the IANA root management function requires creating and maintaining electronic databases that contain DNS delegation information (DNS labels and name server names with those servers' corresponding IP addresses) and contact information (commonly known as "whois data") for all top-level domains in the Internet. As part of ICANN's IANA data security plan documented in section 3.2, this information is archived onto various physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.2.3 Equipment

The equipment used to provide the IANA root management function consists primarily of a set of computers connected to the Internet. At this time, these systems include:

- a server used to store the root zone DNS and "whois" databases;

- a server dedicated to providing secure communications with U.S. Department of Commerce and VeriSign;

- a web server used to provide web access to those databases;

- a backup server used to stage data for archival storage;

- a set of servers used to provide e-mail receipt and access;

- printers for providing hard copy of the root zone and "whois" data when necessary;

- workstations for ICANN staff enabling them to provide the IANA root management function.

As part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services including the root zone management function as well as equipment used for providing the network infrastructure used in the performance of the IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment used so that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.2.4 Services

Key to the provision of the IANA root management function is a set of services made available to the Internet community as a whole and the TLD communities (country code TLDs or ccTLDs and generic TLDs or gTLDs) in particular. These services, provided by ICANN since 1998, include:

- maintaining and editing the data from which the authoritative copy of the Internet "DNS root zone" is generated;

- maintaining and editing the "whois" contact information associated with root zone entries;

- e-mail receipt and transmission, in particular, authenticated e-mail between ICANN and the U.S. Department of Commerce and between ICANN and VeriSign Global Registry Services for the purposes of requesting Internet DNS root zone changes;

- web forms for root management requests;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

In addition, ICANN has implemented a round-the-clock call center service specifically for time-sensitive root zone management issues in order to provide 24x7x365 responsiveness convenient for requesters in all time zones.

In order to improve efficiency and reduce turn-around times for root zone management change requests, ICANN has undertaken to implement an automated root zone management system. This system, currently under development, is expected to simplify and expedite the process top-level domain name administrators must engage in to modify the information they maintain with ICANN. In order to improve operational transparency and effectiveness, portions of the development of this root zone management system has been outsourced and is being done in cooperation with the TLD (i.e., customer) community. After consultation with interested parties and approval of the U.S. Department of Commerce, ICANN anticipates beginning the production use of the automated root zone management software during the first half of 2007.

2.2.5 Facilities

The facilities ICANN uses to provide the IANA root management function consist of the server computers mentioned in 2.2.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA, with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the Internet.

As mentioned previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA root management services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities and services such as office space and equipment, payroll, accounting, and human resources services.

2.2.6 Provision of Services Under the New Purchase Order

ICANN commits to meet the requirements of section C.2.2.1.2 of the Solicitation, and, additionally to meet the specific requirement:

> Contractor shall develop and implement a process no later than January 30, 2007, for consulting with the relevant governments and ccTLD managers to encourage greater efficiency and responsiveness to these entities in processing ccTLD requests, consistent with the processing metrics.

This consultation, already underway via ICANN GAC and ccNSO, has already resulted in improvements to IANA processes and ICANN anticipates the formalization of these consultations into a process for consultation by January 30, 2007 will further improve IANA's efficiency and responsiveness.

2.3 Internet Numbering Resource Allocation

Section C.2.2.1.3 of the Solicitation requires:

> This function involves overall responsibility for allocated and unallocated IPv4 and IPv6 address space and Autonomous System Number space. It includes the responsibility for delegation of IP address blocks to regional registries for routine allocation, typically through downstream providers, to Internet end-users within the regions served by those registries. This function also includes reservation and direct allocation of space for special purposes, such as multicast addressing, addresses for private networks as described in RFC 1918, and globally specified applications.

ICANN commits to continue providing IANA Internet numbers allocation functions in accordance with the requirements of section C.2.2.1.3 of the Solicitation. The IANA Internet numbers allocation function, done in conjunction with the Regional Internet Registries (the RIRs), is critical to the operation of the Internet, but is also the least resource intensive of the primary functions ICANN performs. ICANN's primary role in Internet Number resource allocation is the maintenance of registries used to describe which blocks of addresses or Autonomous System (AS) numbers have been allocated to which RIR and when those allocations were made. ICANN also acts as the Internet Registry for IPv4 address space allocated before the advent of the Regional Internet Registry system, specifically the "legacy class A" addresses, as well as handling the rare (typically IETF-defined) "special purpose" address allocations as needs arise.

The process ICANN uses in allocating Internet number resources is:

1. Receive a request from an RIR or the Internet Engineering Steering Group (IESG).
2. Review the request to verify requirements specified in agreed upon address or AS number allocation policies have been met.
3. Allocate the requested resources.
4. Update the appropriate registries, including the reverse name delegation tree in the case of address allocations.
5. Notify the requester of the allocation.

With respect to verifying the requirements specified in agreed upon allocation policies, ICANN and the RIRs are currently working together to revise the procedures ICANN is to use. ICANN will seek U.S. Department of Commerce approval prior to the implementation of any newly agreed upon procedures.

2.3.1 Personnel

ICANN has employed (and plans to augment) staff specifically dedicated to the IANA Internet Number allocation function. At this time, ICANN has designated a staff person

as IANA Numbers Liaison, a role devoted to ensuring both RIR and IETF Internet Numbering requirements are met. The IANA Numbers Liaison will be supported by one-half an FTE reporting to the IANA Operations Manager. The organizational chart for the IANA Internet Number allocation function staff is provided in Figure 3.
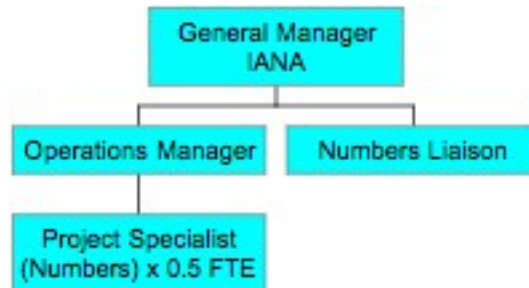

Figure 3. IANA Internet Number Allocation Function Staff

Due to the limited request load placed upon ICANN for Internet Number allocation, the current staffing level of one-half FTE has proven sufficient for operational requirements to date. ICANN anticipates filling the vacant Numbers Liaison position before the end of fourth quarter 2006. It should be noted, however, that with additional functional requirements that can be anticipated in the future for the Internet Numbering function, e.g., providing X.509 certification authority service to help in authenticating statements of address and/or rights to route announcements that additional staffing likely be necessary.

2.3.2 Material

Providing the IANA Internet Number allocation function requires creating and maintaining electronic registries documenting which entity is responsible for the resources allocated. As part of ICANN's IANA data security plan documented in section 3.2, these electronic registries are archived onto various physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.3.3 Equipment

The equipment used to provide the IANA Internet Number allocation function consists of a set of computers connected to the Internet. At this time, these computers include:

- a server used to store the address and AS number registry databases;
- a web server used to provide web access to those registries;
- a backup server used to stage data for archival storage;
- a set of servers used to provide e-mail receipt and access;
- printers for providing hard copies of the address and AS numbers registries when necessary;

- workstations for ICANN staff enabling them to provide the IANA Internet Number allocation function.

As part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services including the Internet number allocation function as well as equipment used for providing the network infrastructure used in the performance of the IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment such that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.3.4 Services

Key to the provision of the IANA Internet Number allocation function are a set of services made available to the Internet community as a whole and users of the Regional Internet Registry system in particular. These services, provided by ICANN since 1998, include:

- maintaining and editing IPv4 and IPv6 address allocation registries;

- maintaining and editing 16-bit and 32-bit AS number allocation registries;

- e-mail receipt and transmission;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

ICANN also provides round-the-clock call center services provisioned for time sensitive root zone management issues in order to provide 24x7x365 responsiveness to the RIRs should critical issues arise. In addition, ICANN plans to provide "whois" service for address blocks allocated or maintained by ICANN by the end of first quarter 2007.

ICANN is also undertaking to implement an automated reverse zone management system to facilitate the management by the RIRs and other IANA customers of the address-to-name mappings for address blocks allocated by ICANN. Currently in the requirements gathering phase, ICANN intends on providing this service by the end of second quarter 2007.

2.3.5 Facilities

The facilities ICANN uses to provide the IANA Internet Number allocation function consist of the server computers described in section 2.3.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA, with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the Internet.

As indicated previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA root management services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities such as office space and equipment, payroll, accounting, and human resources services.

2.3.6 Provision of Services Under the New Purchase Order

ICANN commits to continue allocation of Internet numbering resources as required by section C.2.2.1.3 of the Solicitation.

2.4 Other Services

Section C.2.2.1.4 of the Solicitation requires:

> The Contractor shall perform other IANA functions and implement modifications in performance of the IANA functions as needed upon mutual agreement of the parties.

To date, these other services have included:

1. .ARPA top-level domain registry and registrar services.
2. Internet infrastructure second-level domain registry and registrar services.
3. .INT top-level domain registry and registrar services.

ICANN anticipates it will continue providing these services under the terms of the new contract.

2.4.1 .ARPA TLD Registry and Registrar

The .ARPA top-level domain, one of the earliest DNS TLDs, has been re-designated as the "Addressing and Routing Parameter Area" top-level domain and is used for domain names for various protocol elements. Modification to this domain, including the addition and/or removal of second level domains, is currently coordinated by ICANN.

ICANN acts as the registry and registrar for the .ARPA top-level domain. This function entails receiving requests from the IESG or Internet Architecture Board (IAB), specifying modifications to the .ARPA zone, updating the "whois" databases as appropriate, and ensuring the zone data is published via the DNS.

The process IANA uses in handing delegation requests for .ARPA domains is:

1. Receive a request from the IESG or IAB to create a new zone within .ARPA.

2. If necessary, create the zone, configuring and/or identifying the appropriate primary and secondary name servers and ensure the zone is properly replicated.

3. Request modification of the .ARPA zone by VeriSign Global Registry Services.

4. Update the IANA "whois" database to reflect the new zone creation.

5. Notify the IESG or IAB of the completed request.

2.4.1.1 Personnel

At this time, the registry and registrar services for the .ARPA top-level domain are performed by the same ICANN staff as those dedicated to the root management function. Given the limited load posed by .ARPA TLD registry and registrar services, ICANN does not anticipate additional staffing will be necessary. However, should an unexpected level of requests be experienced at any time, additional resources are available within ICANN, specifically those staff dedicated to IETF-related technical protocol parameter assignment functions.

2.4.1.2 Material

Providing .ARPA TLD registry and registrar services requires creating and maintaining electronic databases that contain DNS delegation information (DNS labels and name server names and their corresponding addresses) for the .ARPA domains along with "whois" information for all domains in that zone. As part of ICANN's IANA data security plan documented in Section 3.2, this information is archived onto various physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.4.1.3 Equipment

The equipment used to provide the .ARPA TLD registry and registrar services consists of a set of computers connected to the Internet. At this time, these computers include:

- a server used to store the .ARPA TLD DNS and "whois" databases;

- a web server used to provide electronic access to those databases;

- a backup server used to stage data for archival storage;

- a set of servers used to provide e-mail receipt and access;

- printers for providing hard copy of the data when necessary;

- workstations for ICANN staff enabling them to provide the registry and registrar services.

As part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services including the operation of the .ARPA TLD registry and

registrar services as well as equipment used for providing the network infrastructure used in the performance of the IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment such that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.4.1.4 Services

Key to being the registry and registrar for the .ARPA TLD is providing necessary services to the Internet community. These services, provided by ICANN since 1998, include:

- maintaining the authoritative copy of the .ARPA top-level domain and associated "whois" information;

- e-mail receipt and transmission;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

2.4.1.5 Facilities

The facilities ICANN uses to provide the .ARPA TLD registry and registrar services consist of the server computers mentioned in 2.4.1.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA, with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the Internet.

As mentioned previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA root management services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities such as office space and equipment, payroll, accounting, and human resources services.

2.4.1.6 Provision of Services Under the New Purchase Order

ICANN commits to continue coordinating the management of the .ARPA TLD registry, in accordance with section C.2.2.1.4 of the Solicitation.

2.4.2 Other Internet Infrastructure Domain Registry and Registrar

In addition to being the top-level domain registry and registrar for .ARPA, ICANN is often tasked with also being the second-level domain registry and registrar for other Internet Infrastructure domains. The second-level domains in .ARPA for which IANA is currently the registry and registrar include:

- IP6.ARPA: the domain used for reverse mapping of IPv6 addresses into names defined in RFC 3596 (http://www.ietf.org/rfc/rfc3596.txt);

- IRIS.ARPA: the domain used for the Internet Registry Information Service protocol defined by the IETF "CRISP" working group defined in RFC 3981 (http://www.ietf.org/rfc/rfc3981.txt);

- URN.ARPA and URI.ARPA: the domains used for the Dynamic Delegation Discover System defined in RFC 3401 (http://www.ietf.org/rfc/rfc3401.txt).

- MCAST.NET: the domain used for mapping service names into multicast addresses, defined in RFC 1700 (http://www.ietf.org/rfc/rfc1700.txt).

This function entails receiving second-level Internet infrastructure domain requests from the appropriate requesters and verifying they conform to the requirements specified in the policy documents that define their use, modifying the zone and "whois" databases as appropriate, and ensuring the zone data is published via the DNS.

The process ICANN uses in handing delegation requests for Internet infrastructure domains is:

1. Receive a request from the IESG or IAB to create a new name or delegation within an Internet infrastructure domain.

2. Verify the request conforms to the policies defined within the RFCs or other documents that dictated the creation of the Internet infrastructure domain.

3. Create the appropriate resource records or delegations, configuring and/or identifying the appropriate primary and secondary name servers and ensuring the zone is properly replicated in the case of delegations.

4. Update the IANA whois database to reflect the new name or delegation.

5. Notify the requester of the completed request.

Verification of conformance to policies is, in many cases, done with the help of IESG.

2.4.2.1 Personnel

At this time the registry and registrar services for Internet infrastructure second-level domain requests are performed by the IANA root zone management staff. Given the limited load posed by requests for modifications to Internet infrastructure domains, ICANN does not anticipate additional staffing will be necessary, however additional resources specifically within those staff dedicated to IETF-related technical protocol

parameter assignment functions are available within ICANN should an unexpected level of requests be experienced at any time.

2.4.2.2 Material

Responding to second-level Internet infrastructure domain requests requires creating and maintaining electronic databases that contain DNS resource record and delegation information (DNS labels, resource record data as appropriate for the Internet infrastructure domain requirements, and name server names with their corresponding addresses in the case of delegations) along with "whois" data. As part of ICANN's IANA data security plan documented in section 3.2, this information is archived onto various physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.4.2.3 Equipment

The equipment used to respond to Internet infrastructure second-level domain requests consists of a set of computers connected to the Internet. At this time, these computers include:

- a server used to store the DNS and "whois" databases;

- a web server used to provide electronic access to those databases;

- a backup server used to stage data for archival storage;

- a set of servers used to provide e-mail receipt and access;

- printers for providing hard copy of the data when necessary;

- workstations for ICANN staff enabling them to provide the registry and registrar services.

As part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services including the operation of Internet infrastructure second-level domain registry and registrar services as well as equipment used for providing the network infrastructure (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment such that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.4.2.4 Services

Key to responding to Internet infrastructure second-level domain requests is providing necessary services to the Internet community. These services, provided by ICANN since 1998, include:

- maintaining the authoritative copy of the Internet infrastructure second-level domain data and associated "whois" information;

- e-mail receipt and transmission;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

2.4.2.5 Facilities

The facilities ICANN uses to respond to Internet infrastructure second-level domain requests consist of the server computers mentioned in 2.4.2.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA, with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the network.

As mentioned previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA root management services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities such as office space and equipment, payroll, accounting, and human resources services.

2.4.2.6 Provision of Services Under the New Purchase Order

ICANN commits to continue coordinating the management of second-level infrastructure domains, in accordance with section C.2.2.1.4 of the Solicitation.

2.4.3 .INT TLD Registry and Registrar

The .INT top-level domain has been designated as the top-level domain for inter-governmental organizations. As described in "Current Registration Policies and Procedures" at http://www.iana.org/int-dom/int.htm:

> In brief, the .INT domain is used for registering organizations established by international treaties between or among national governments. Only one registration is allowed for each organization. There is no fee for registering an .INT domain name.

For historical reasons, ICANN has been tasked with being the .INT top-level domain registry and registrar. This function entails reviewing .INT TLD requests from the public and verifying they conform to the requirements specified in .INT TLD "Current Registration Policies and Procedures", modifying the .INT zone and "whois" databases as appropriate, and ensuring the zone data is published via the DNS.

The process ICANN uses in handing delegation requests for .INT domains is:

1. Receive the request;

2. Verify the requester is an inter-governmental treaty organization conforming to the requirements specified in "Current Registration Policies and Procedures" at http://www.iana.org/int-dom/int.htm;

3. Create the zone;

4. Update the IANA "whois" database to reflect the new zone creation;

5. Notify the requester of the completed request.

Verification of conformance to policies is, in many cases, done with the help of outside counsel.

2.4.3.1 Personnel

At this time, the registry and registrar services for the .INT top-level domain are performed by the IANA root zone management staff. Given the limited load posed by .INT TLD registry and registrar services, ICANN does not anticipate additional staffing will be necessary, however additional resources are available within ICANN should an unexpected level of requests be experienced at any time.

2.4.3.2 Material

Providing .INT TLD registry and registrar services requires creating and maintaining electronic databases that contain DNS delegation information (DNS labels, name server names, and addresses) for the .INT domains along with "whois" information for all domains in that zone. As part of ICANN's IANA data security plan documented in section 3.2, this information is archived onto various physical media for long-term storage. ICANN provides the material resources necessary to implement this archival storage.

2.4.3.3 Equipment

The equipment used to provide the .INT TLD registry and registrar services consists of a set of computers connected to the Internet. At this time, these computers include:

- a server used to store the .INT DNS and "whois" databases;

- a web server used to provide electronic access to those databases;

- a backup server used to stage data for archival storage;

- a set of servers used to provide e-mail receipt and access;

- printers for providing hard copy of the data when necessary;

- workstations for ICANN staff enabling them to provide the registry and registrar services.

As part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services including the operation of the .INT TLD registry and registrar services as well as equipment used for providing the network infrastructure used in the performance of the IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT also maintains backup hardware for all equipment such that should any particular piece of equipment fail, replacement hardware is available with minimal downtime.

2.4.3.4 Services

Key to being the registry and registrar for .INT TLD is providing necessary services to the Internet community. These services, provided by ICANN since 1998, include:

- maintaining the authoritative copy of the .INT top-level domain and associated contact information;

- e-mail receipt and transmission;

- request (ticket) tracking;

- data distribution via web, FTP, and e-mail mailing lists;

- assignment activity reporting, both real-time and periodic.

2.4.3.5 Facilities

The facilities ICANN used to provide the .INT TLD registry and registrar services consist of the server computers mentioned in 2.4.3.3, housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, USA, with backup facilities at ICANN offices in Brussels, Belgium, and the necessary network infrastructure to connect those computers to the Internet.

As mentioned previously, ICANN IT provides the computing and networking infrastructure, granting secured access to production servers via an encrypted and authenticated Virtual Private Network (VPN). Remote access to ICANN's internal network is provided via a "bastion host" located in a firewall-protected "DMZ" network, with access to production IANA root management services provided by dedicated servers located on a network separate from ICANN's internal network.

In addition to networking and co-location facilities, ICANN also provides the necessary business facilities such as office space and equipment, payroll, accounting, and human resources services.

2.4.3.6 Provision of Services Under the New Purchase Order

ICANN commits to continue coordinating management of the .INT TLD registry, as required by section C.2.2.1.4 of the Solicitation.

3 Security

Over the years the Internet has evolved into a key component of national commerce and security infrastructures. In parallel, security threats to the commerce and security aspects of the Internet, and the security aspects thereof, have grown in significance. This section details the steps ICANN will take to continue to ensure both system and data security for the IANA function.

This section provides only an overview of the security measures ICANN has taken and/or plans to implement prior to December 1, 2006 as required in the Solicitation. Full details of ICANN Computer Security Plan will be provided by the December 1, 2006 deadline as specified in section C.2.5 of the Solicitation.

ICANN is committed to complying with all appropriate U.S. Federal Security standards in the provision of IANA functions and implementing Best Current Practices as identified by the computer security community to ensure as best as ICANN is able the continued stable and secure operation of the Internet.

3.1 System Security

ICANN has implemented a multi-layer system security plan for the computing and communication systems used to offer IANA services to its clients. While this plan adequately addresses the current environment, ICANN will continue to enhance and evolve that plan as the threats that may affect IANA services evolve.

ICANN's multi-layer system security plan can be characterized as:

- exposing only the absolute minimum of required services to the public Internet,

- making extensive use of firewalls to block externally-originated attacks,

- requiring remote access by qualified staff to be conducted through an encrypted Virtual Private Network, validated by two-factor authentication involving secure hardware tokens,

- insuring all computer systems are running with the most up-to-date patches and security fixes, with regular active reviews,

- minimizing the number of individuals with "super-user" or "administrator" access,

- having strong access controls on all physical systems and media, and

- using strong encryption (WPA) on wireless networks.

ICANN operates a dedicated Information Technology department that is able to provide ongoing maintenance of services in accordance with these principles, as well as specialized ICANN staff who work on and develop IANA specific systems.

In addition to internal auditing and procedures, ICANN regularly engages external auditors to review the appropriateness of its systems and data security procedures and policies.

ICANN recognizes the requirement to implement authenticated communications between customers when carrying out IANA related communications. Historically, ICANN has performed extensive due diligence of requests it has received to ensure their authentic character. In addition, it is actively working to move beyond resource intensive methods to deploy more technological solutions that will provide a greater level of certainty on the authenticity of requests.

Measures used to ensure authentic communication include:

- Both manual (signed or sealed documents) and electronic acceptance verification with the requesting parties, and with parties potentially impacted by requests. In the event of uncertainty, additional effort is made to contact the appropriate parties through email, telephone, post or physical contact until ICANN staff is fully satisfied of the authenticity of requests and acceptances.

- The deployment of hardware tokens, a security device given to authorized individuals, for ccTLD operators, enabling two-factor authentication in addition to customary methods.

- Increased automated interfaces, allowing modification to Internet resource records to be conducted with authentication mechanisms such as private passwords and double-blind email confirmations.

- Continue to encourage and increase the use of email signing techniques (such as PGP) to ensure the authenticity of communications that appear to originate in ICANN, and at the option of the requestor, cryptographically assert the authenticity of their communication.

Further information on Systems Security will be provided in the Computer Security Plan in accordance with section C.2.5 of the Solicitation document.

3.1.1 Provision of Services Under the New Purchase Order

In accordance with section C.2.3 of the Solicitation, ICANN commits to maintaining secure computing and communications systems, and to operating them in accordance with best business and security practices. ICANN commits to implementing authenticated communications between it and its customers when carrying out all IANA requirements.

ICANN commits to maintain appropriate documentation of these practices and configurations.

3.2 Data Security

Since ICANN maintains the top-level registries for essentially all unique Internet identifiers, it is critical that the integrity of the data maintained within those registries is secured. As with the system security plan, ICANN maintains a multi-layer strategy to ensure data security.

On one level, ICANN performs independently conducted background checks and reference verification on all staff hired. A purpose of these background checks is to verify the individuals working for ICANN can be trusted with sensitive data.

All documentation and records used by ICANN in the provision of IANA services are filed and periodically archived off-site. ICANN maintains electronic archives of all hard-copy documents provided to it in relation to IANA functions and stores that data in secure off-site locations on a daily basis.

Access to IANA data is limited to select ICANN staff members as needed and, for purposes of creating backups, selected ICANN Information Technology staff. On disk, data is encrypted where feasible. Backups are also encrypted.

Systems are deployed to ensure the accurate conveyance of data between systems. The integrity of system-to-system data transfer is conducted using both encryption where possible, and the use of cryptographic checksums to verify the full and complete transmission of data. Where relationships permit, ICANN cryptographically signs communications (a key example is the conveyance of root zone data changes to the U.S. Department of Commerce in accordance with the current purchase order).

ICANN performs additional verification of public data sources, such as the root zone master file published by VeriSign, to identify any inconsistencies that may arise outside its processes and undertake remedial action.

Further information on Data Security will be provided in the Computer Security Plan in accordance with section C.2.5 of the Solicitation document.

3.2.1 Provision of Services Under the New Purchase Order

In accordance with section C.2.4 of the Solicitation, ICANN commits to ensure the authentication, integrity, and reliability of the data in performing the IANA requirements, including the data relevant to DNS, root zone file, and IP address allocation.

3.3 Director of Security

In order for the Director of Security to be fully versed in the responsibilities, processes, and procedures in the performance of the IANA function, ICANN has initially appointed the IANA General Manager, David Conrad, as the IANA Director of Security. Contact information for David Conrad is:

> David Conrad
> Internet Corporation for Assigned Names and Numbers
> 4676 Admiralty Way, Suite 330
> Marina del Rey, CA 90292 USA
> +1-310-301-3869
> +1-310-823-8649
> security-officer@iana.org

In the event that the duties and responsibilities of the Director of Security for IANA require additional staffing, ICANN will notify the Contracting Officer's Technical Representative (COTR) of the change in personnel prior to such change taking effect.

4 Reporting and Auditability

The Solicitation specifies a requirement for a "Monthly Performance Progress Report" due no later than 15 calendar days following the end of each month as well as a "Final Report" due no later than 30 days after expiration of the purchase order. Additionally, the Solicitation requires ICANN to collect security process audit record data and maintain that data for (at least) one year as well as provide an annual audit report. This section describes how ICANN will meet these requirements.

ICANN agrees that it will immediately inform the Contracting Officer and the COTR in the event that the Chairman of ICANN's Board initiates any investigation by an independent auditor of potential corporate insolvency.

4.1 Monthly Performance Progress Report

Since "Option Period 3 (10/1/05 – 3/31/06)", ICANN has been required to provide monthly performance progress reports that contain statistical and narrative information on the performance of the IANA functions. ICANN staff has, since the inception of this monthly reporting requirement, provided these reports. In conformance to the requirements of the solicitation, ICANN will provide monthly performance progress reports in the format and timeframe the U.S. Department of Commerce has specified. Specifically, ICANN commits to meeting U.S. Department of Commerce requirements:

> All requests, collectively referred to as IANA root management requests, must be processed promptly and efficiently, and in accordance with processing metrics set forth in Section J - Appendix A. These processing metrics will be posted prominently on Contractor's website.

and

> The Contractor shall prepare and submit to the Contracting Officer and COTR a performance progress report every month (no later than 15 calendar days following the end of each month) that contains statistical and narrative information on the performance of the IANA functions (*i.e.*, assignment of technical protocol parameters; administrative functions associated with root zone management; and allocation of internet numbering resources) during the previous 30-day period.

4.2 Audit Data

Section C.3.2 of the Solicitation states:

> The Contractor shall generate and retain security process audit record data for one year and provide an annual audit report to the Contracting Officer and the COTR. Specific audit record data will be provided to the Contracting Officer and COTR upon request. All root operations shall be included in the audit, and records on modifications to the root zone file shall be retained for a period of at least one year.

At the end of 2005, ICANN staff implemented a ticketing system for all IANA functions. This ticketing system maintains detailed audit record data for all transactions associated with every request including all root zone modification requests and related transactions.

In conformance with the requirements of the Solicitation, audit data will be maintained for (at least) one year and ICANN will provide an annual audit report to the Contracting Officer and the COTR.

4.3 Final Report

Section C.3.3 of the Solicitation requires:

> The Contractor shall prepare and submit a final report on the performance of the IANA functions that documents standard operating procedures, including a description of the techniques, methods, software, and tools employed in the performance of the IANA functions. This report shall be submitted to the Contracting Officer and the COTR no later than 30 days after expiration of the purchase order.

In conformance with this requirement of the solicitation, ICANN will provide a final report that documents ICANN's performance providing IANA services, IANA operating procedures, and descriptions of techniques, methods, software, and tools employed in the performance of IANA functions within 30 days after the expiration of the purchase order.

5 Demonstration of Responsibility

5.1 Financial Resources

ICANN possesses adequate financial resources and has the continuing ability to obtain resources to perform the contract in a manner that meets the function definitions described in the sections above. In the years since the execution of the first contract to provide IANA services, ICANN has substantially increased revenues and diversified revenue sources. Each year, ICANN has devoted significantly increased resources to the IANA function. As a result, performance has markedly improved as evidenced by reduced processing times, implementation of automation and other tools, and improved reporting. ICANN's budgeted revenues are shown in Table 1.

Fiscal Year	Budgeted Revenue
2001-02	$5.8MM
2002-03	$6.9MM
2003-04	$8.3MM
2004-05	$14.0MM
2005-06	$23.5MM
2006-07	$34.2MM

Table 1. Yearly ICANN Budgeted Revenue

In addition to these increases, ICANN has diversified it sources of revenue. For example, in 2004-05, the budget indicated that generic top-level domain (gTLD) registrars were to contribute 87% of ICANN revenue while gTLD registries contributed 9%. The 2006-07 ICANN budget, approved by the ICANN Board of Directors reduces the gTLD registrars' contribution to 55% and increases the gTLD registry contributions to 38%.

The recently negotiated gTLD registry agreements also provide revenue stability. According to the existing ICANN Registrar Accreditation Agreement, fees paid by registrars to ICANN must be approved by a vote of registrars (two-thirds majority vote weighted by fees paid). Since gTLD registries now pay a greater percentage of ICANN fees and those fees are not subject to a vote, ICANN revenues will be more stable. Just as importantly, the new registry agreements modify somewhat the manner in which ICANN can collect registrar fees through registries in the event that registrars do not approve their fees by the required super-majority. As a result of this last change, if the registrars do not approve their fess, ICANN revenues will be reduced, but not to an extent that would materially affect operations and, in no event would IANA operations or financial support be affected.

ICANN has devoted correspondingly increased resources into the IANA function as evidenced by the capabilities described above: staff numbers and skill sets, and investment in infrastructure. In fact, in recent years, ICANN has prioritized investment in improving performance of the IANA function whenever there have been increases in revenue.

Regarding future revenues, ICANN financial planning indicates continued growth in stable sources of revenue that are sufficient to sustain operations of ICANN's performance of the IANA function. Growth in revenue will come from several areas:

- growth in the number of gTLD transactions that will result in greater fees paid to ICANN by gTLD registrars and registries; actual growth during the past two years has exceeded ICANN's budget projections, firming up future projections,
- renegotiation of gTLD registry agreements resulting in increased fees paid to ICANN and more uniform distribution of fees among gTLD contributors; new agreements (proposed and executed) with alternative fee arrangements are posted on the ICANN web page (www.icann.org; .biz, .com, info, .net, .org),
- introduction of new gTLD registries; six new registries have been designated and one proposed agreement as a result of the most recent sTLD round are posted on the ICANN web page (www.icann.org; .asia, .cat, .jobs, .mobi, .tel, .travel) and the GNSO is developing a policy for guiding the designation of new gTLDs,
- execution of agreements ("frameworks of accountability") between ICANN and ccTLD operators that set an expectation of fees to be paid by ccTLDs; ICANN has executed ten new such agreements during the past year (in addition to existing agreements),
- alternative sources of revenue are being discussed between ICANN and key constituency groups in the stakeholder community; in the event that alternative sources will be one-time receipts, that revenue may be dedicated toward establishing cash reserves.

It is planned that ICANN maintain revenues at approximately $50MM in constant dollars in future years. As a result of these increases and the plan to even out revenues paid by various sources, ICANN has forecast the following revenue levels:

Fiscal Year	Forecasted Revenue
2006-07	$34.2MM
2007-08	$40.0MM
2008-09	$45.0MM
2009-10	$47.0MM
2010-11	$50.0MM

Table 2. Yearly ICANN Forecast Revenue

A portion of these revenues will be dedicated to establishing adequate cash reserves equal to one year's operating expenses. The planned revenues and the cash reserve will serve to ensure that ICANN can adequately perform the IANA function over the complete period of performance.

5.2 Delivery and Performance Schedule

ICANN commits to timely delivery in accordance with the terms of the New Purchase Order.

5.3 Integrity and Business Ethics

ICANN has adopted and ICANN senior management and its board of directors oversee compliance with policies designed to ensure ICANN staff adhere to the highest standard of ethical business conduct, and exercise professional integrity in the fulfillment of their responsibilities. ICANN's policies require its staff to at all times act with honesty and integrity, avoiding actual or apparent conflicts between his or her personal, private interests and the interests of the organization, including avoidance of any improper personal benefits as a result of his or her position. Each ICANN staff member is required to perform his or her responsibilities with a view to ensuring prompt and accurate conveyance of information to third parties as relevant, and that each party with which ICANN deals is treated fairly, and given equivalent time and attention to its matters. ICANN staff at all times respects the confidentiality of, and takes all necessary steps to ensure the security of, information acquired in the course of the performance of his or her responsibilities except when authorized or otherwise legally obligated to disclose.

5.4 Skills and Controls

ICANN has developed and implemented the necessary organization, experience, and technical skills for the IANA functions in order to adequately perform the requirements defined in this Solicitation. In addition ICANN has built, around the IANA functions, the organization required to provide the support necessary so that ICANN staff can operate effectively. These support functions include accounting, finance controls, human resources management, information technology and project management support. ICANN self-manages its performance and quality by publishing performance statistics (described above) against goals that have been jointly set by ICANN and its stakeholders, clients, and customers. These statistics are reviewed by ICANN senior management and corrective actions, if required, are recommended by the IANA General Manger. If inadequate performance continues over time, appropriate involvement by senior management will work to provide appropriate resources to correct any performance issues.

During the past three years, ICANN has consistently improved and augmented the staff skill set of the IANA function. Uniquely talented individuals (see the Organization chart above) have joined the ICANN staff. Presently, IANA work is accomplished by seven full-time staff members and six part-time consultants (whose unique skills lead to the conclusion that hiring them rather than full-time staff would result in more efficient and higher quality execution of the IANA functions). These efforts are augmented by several consultants with unique talents and skills whose participation is vital but not required on a full-time basis. This model of a mix of full-time and part-time staff enables ICANN to retain the correct mix of talents and skills necessary to perform the IANA functions in a high-quality, timely and efficient manner.

In addition, ICANN has employed revenue increases to augment the management controls that support the IANA functions. Improvements in these operations include:

- recently deployed accounting software has improved detailed operations and project cost reporting;

- an on-line, one-on-one employee performance review system, providing monthly reviews of performance against goals;

- improvements to the planning calendar and project management methodologies so that projects that will directly benefit IANA performance can be identified, funded and launched; and these projects can be effectively monitored for performance.

ICANN has been able to effectively use increases in revenue to staff the IANA function and staff support functions and provide controls to adequately manage the provision of IANA services in a manner that has aimed to meet a high level of customer satisfaction and meets the requirements set out in the solicitation.

5.5 Equipment and Facilities

As described in the Equipment and Facilities sub-sections of section 2, ICANN provides various servers, workstations, and other equipment and the facilities that house that equipment to enable ICANN staff to perform the tasks related to each of IANA's functions. This section summarizes the equipment and facilities used to meet the requirements of this solicitation.

5.5.1 Equipment

At this time, ICANN staff utilizes the following equipment in order to meet the requirements of the existing contract between ICANN and U.S. Department of Commerce:

Equipment Description	Count
Workstations (laptop or desktop computers)	11
Test Servers (servers used for non-production service development and testing)	3
Production Servers (servers used for production services)	9
Printers	2
Routers	6
Switches	3
Firewalls	3

Table 3. Current IANA Equipment Summary

It should be noted that several of the production servers and most of the routers are not dedicated exclusively to the provision of IANA services; rather they are part of the general ICANN service provision infrastructure. ICANN anticipates increased capital equipment requirements as more staff is brought on board, with the following projections regarding equipment used in relation to providing IANA services over the proposed term of the contract:

Equipment Description	Count
Workstations (laptop or desktop computers)	18
Test Servers (servers used for non-production service development and testing)	5
Production Servers (servers used for production services)	12
Printers	3
Routers	8
Switches	4
Firewalls	4

Table 4. Projected IANA Equipment Requirements

As discussed previously, as part of its general support for ICANN's information technology requirements, ICANN's IT department provides, maintains, and operates all equipment used in the provision of all IANA services as well as equipment used for providing the network infrastructure used in the performance of IANA functions (e.g., routers, switches, firewalls, wiring). ICANN IT will also maintain backup hardware for all equipment such that should any particular piece of equipment fail, replacement hardware would be available with minimal downtime. Additionally, in accordance with the revenue discussion above, ICANN will be able to fund the acquisition of this hardware.

5.5.2 Facilities

As mentioned in previous sections, the facilities ICANN uses to provide IANA functions consist of the various systems mentioned in 5.5.1. Production servers are housed in a co-location facility located at 4676 Admiralty Way, Marina del Rey, CA, with additional systems located at the ICANN offices in Brussels, Belgium to ensure geographical and network topological separation of ICANN hardware resources.

6 Summary

ICANN expresses its appreciation for the opportunity to continue to provide this vital set of Internet services. One goal of the response to this solicitation was to demonstrate the competence that ICANN brings to this task through its past performance and future plans.

Specifically, the response describing past performance in intended to indicate continual improvement in the quality, timeliness, predictability and transparency of services provided. In addition, ICANN has made increased investments in staff, automation, infrastructure and other tools that enable performance improvements. Those improvements and investments have resulted in, by ICANN's measures, increased levels of customer satisfaction.

Finally, ICANN staff has worked throughout the period of performance to establish a constructive, open relationship with the U.S. Department of Commerce. With the retention of key management level employees in many ICANN functions, ICANN believes those professional relationships are positive and work toward the efficient

accomplishment of ICANN's work as defined by the current agreement. Underlying the text of the response above, is the understanding that selection of ICANN to continue will build economically on these existing relationships and the methods of working together to accomplish the IANA tasks.

As indicated by the forward-looking sections of the solicitation, ICANN's future plans call for increased use of automation tools, retention of limited additional staff to accomplish specialized requirements, and continued reduction in processing time. These will result in continued improvements in customer satisfaction levels. Clients will have increased access to performance statistics and each client will be able to view the status of the client's request through secure means. As a side benefit, continued improvements in service levels will be seamless to clients and requestors as they continued to work with the same systems and the interpersonal relationships developed in the client/provider relationship remain consistent with the past. ICANN will continue to improve security methods in order to address future threats and the anticipated environment.

Finally, this response is intended to convey the passion and enthusiasm that the ICANN brings to the set of IANA services. The responsibilities assign under the IANA agreement are important. There is a clear understanding at ICANN of the need to provide timely and secure service and the importance of performing these tasks well. ICANN looks forward to its continued relationship with the Department of Commerce and providing IANA services to the global Internet community.

Appendix A – Root Zone Change Process
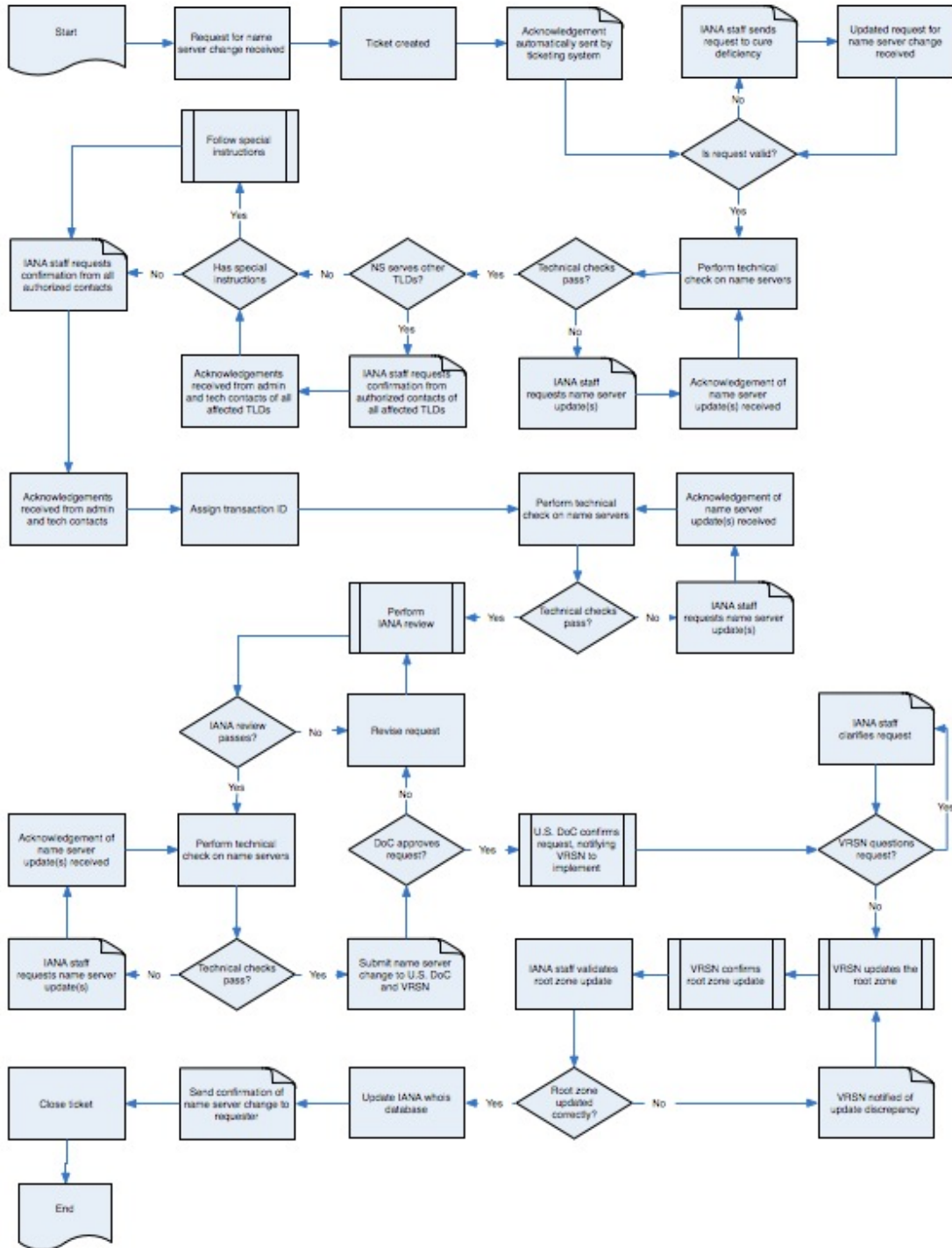
Appendix B – Key Personnel Biographies

David Conrad, General Manager

David Conrad was appointed as the IANA General Manager in November, 2005.

Before joining ICANN, David Conrad was Founder and Chief Technology Officer of Nominum, Inc., a venture capital funded Silicon Valley startup focused on domain name and IP address management technologies.

Prior to Nominum, David Conrad served as the Executive Director of the Internet Software Consortium (ISC), and oversaw the development of Berkeley Internet Name Domain (BIND) version 9. David was also President and Chief Executive Officer of Internet Engines, Incorporated, a provider of software development, support and training for open-source DNS, Dynamic Host Configuration Protocol (DHCP) and Network News Transfer Protocol (NNTP) implementations. David founded and was the first Director General of APNIC, one of three (at the time) regional Internet registries responsible for the allocation of Internet Protocol (IP) addresses. He was also employee number seven at Internet Initiative Japan (IIJ), one of the first commercial Internet service providers in Japan. Before IIJ, David helped establish the first regional Internet connectivity in the Pacific while working as a staff researcher with the Pacific Communications Network project at the University of Hawaii, Manoa. Prior to PACCOM, David was team leader of a University of Maryland/IBM joint venture that developed one of the first commercial TCP/IP packages for IBM's suite of personal computers.

David was an ARIN Board of Trustees member between 2000 and 2005 and was co-founder of the Asia Pacific Rim Internet Conference on Operational Technologies (APRICOT), chairing the program committee for APRICOT 1996, 1997, and 1998. He holds a BS in Computer Science from the University of Maryland and has done some graduate work in Computer Science at the University of Hawaii, Manoa.

Kim Davies, IANA Names Liaison

Kim Davies has a strong background in Internet and DNS Management issues. He is a founder of auDA, the administrator of .AU, and served on its board for its first six years. He also setup and ran Australia's largest Internet Exchange WAIX. Prior to his appointment with ICANN, he represented European ccTLD operators as a member of the secretariat of CENTR, as well as various roles in one of Australia's largest ISPs.

Michelle Cotton, IANA IETF Liaison

Before coming to ICANN Michelle worked in the business world in marketing research. Michelle Cotton joined ICANN in January 2000 and has significantly contributed in several areas of the organization. In 2001 her focus shifted to ICANN's IANA function, where she has been instrumental in the formation of the systems that enable the IANA department to do its day-to-day work. She has worked with all of relevant stakeholder groups, with five years of experience directly with the RFC editors and the IESG concerning the Internet draft process.

She holds a Bachelor's degree in Business with a specialization in marketing from San Diego State University.

Barbara Roseman, IANA Operations Manager

Barbara Roseman has worked with software, network, and telecommunications companies since 1996. Her association with ICANN dates from the year 2000, when as a manager for Global Crossing, she became a member of the ISP Constituency and of the Address Supporting organization (ASO) council. Barbara acted as Chair of the Address Council in 2002 and has also served as a member of the American Registry of Internet Numbers (ARIN) Advisory Council.

Barbara has served ICANN in full and part time consultancy roles providing staff support for the GNSO Council and Task Forces. She was appointed IANA Operations Manager in March 2005.

Barbara has a BA degree from Mills College.

Yoshiko Chong, IANA Project Specialist

Yoshiko Chong possesses extensive experience in Internet resources management and registry operations at the local and regional levels, and has solid knowledge on Internet protocols. Prior to joining ICANN/IANA, she worked in different capacities in various Internet entities, as the first Hostmaster at APNIC, Chief Assistant Manager of the IP address division at JPNIC, Assistant Manager of the Corporate Strategy department at a mobile ISP, and Research Assistant for the Internet Architecture group at a national laboratory (NICT).

Yoshiko holds a BS degree in Computer Science from the University of New Mexico and joined the ICANN team in 2006. Yoshiko is fluent in English and Japanese.

Pearl Liang, IANA Project Specialist

Pearl Liang's experience includes an extensive background in registry and registrar operations, including both ccTLD and gTLD registries. Prior to joining ICANN, she was part of the original members at TLDs LLC dba SRSplus, a subsidiary of Network Solutions. Pearl assisted wholesale partners to integrate the Shared Registry System, and wholesale API program, as well as maintained business operation during the transition from VeriSign. Pearl also worked at the .TV Corporation since the beginning of the .TV registrar. She had provided a broad range of support related to the .TV ccTLD domain name registration services and TLD wholesale partners in both English and Chinese. Pearl Liang joined the ICANN staff in November 2004.

Naela Sarras, IANA Project Specialist

Prior to joining IANA, Naela worked at a computer software company for 8 years. Naela held a variety of positions at Hertzler including Customer Support Engineer, Software Requirements Manager and Software Testing Coordinator where she managed several software development projects that included new features and updates to proprietary software products.

Naela joined the IANA team in 2005 as a Project Specialist. She is fluent in Arabic and English.

Barbara Denny, IANA Expert Consultant

Barbara Denny has almost 25 years of experience in experimental data networking research. She has worked at BBN, SRI, 3Com, USC-ISI, San Diego Research Center, and Light Cloud Software. She is currently a visiting researcher at Xerox PARC and an IESG/IETF designated expert. Her networking expertise is in the mobile wireless domain. She spent many years on government-sponsored projects involving MANETS, beginning with packet radio. This included the development and testing of protocols to support mobile hosts in the Internet during the mid-1980s. She was an early developer of Internet router technology and later enhanced other efforts in the areas of policy-based routing and queuing algorithms for quality of service. She has also participated in the design and development of transport and signaling protocols. She was the first Visiting Research Scholar at USC-ISI's Postel Center for Experimental Networking. Through the Postel Center, she continues to support the traffic generation tools written at SRI for the networking community.

Barbara received a B.S. with University Honors in Applied Mathematics (Computer Science) from Carnegie Mellon University, and was a Math and Music Major while at Wake Forest University.

Ólafur Guðmundsson, IANA Expert Consultant

Ólafur Guðmundsson is the principal in OGUD Consulting LLC, he is recognized as leading authority on the Domain Name system and has been the co-chair of the IETF working group that deals with changes in the DNS protocol (DNSEXT).

Ólafur has years of experience working on the Internet, and has been active in developing a number of core Internet protocols. He is currently Chief Scientist at Binnacle Systems, and co-chair of the IETF's DNSEXT working group. He has held prior positions at Binnacle Systems, NeuStar, ISI, Network Associates Labs, Trusted Information Systems, the University of Maryland and the University of Iceland.

Mark McFadden, IANA Expert Consultant

Mark McFadden is a specialist in Internet naming, numbering and addressing. His professional interests include both engineering and policy issues in the area of Internet identifiers. As a consultant to global telecommunications and Internet providers he helps organizations plan and implement Internet numbering and addressing strategies. His most recent work has been in the area of telecommunications convergence – the transition for large telecommunications providers from traditional switched networks to pure IP strategies.

He also teaches in the Internet Technologies and Information Security Program at the University of Wisconsin at Milwaukee. He is currently doing research in the area of addressing requirements for multihoming in complex IPv6 networks. Previously, he was Chief Technology Officer at the Commercial Internet eXchange, a global industry trade association for Internet Service Providers. Prior to that, Mark was a senior networking engineer in ISPs and in large-scale public-sector networks. He is an active contributor to the Internet Engineering Task Force (IETF), Internet Corporation for Assigned Names and Numbers (ICANN), as well as other Internet and telecommunications standards bodies. Currently, Mark is the Secretariat for the ISPCP Constituency in the Generic Names Supporting Organization. He is also a member of the technical advisory committee for implementation of enum in North America. He was formerly chairperson of the Address Council in the ICANN Address Supporting Organization.