B.4 Locality-Based usTLD Structure Functions

NeuStar's modernized functions for the locality-based usTLD namespace will support the current delegated managers and registrants, and encourage new registrations in the namespace.

HIGHLIGHTS

- **NeuStar's modernization of the usTLD structure extends not only to the expanded space but to the locality space as well.**
- **We will reach out to delegated managers and registrants for continued input for improving functions in the locality space.**
- **NeuStar will automate the registration process in the locality space to encourage registrations and ensure that those registrations are processed quickly and efficiently.**

Although the usTLD locality space is currently underutilized and undervalued, it remains a valuable space, with existing delegated managers and registrants who appreciate its hierarchical structure. A goal of modernizing the usTLD infrastructure cannot lie only in plans to allow registrations in an expanded space; it must also accommodate the existing locality space. Similarly, simply keeping the locality space as is, without modernizing its infrastructure or examining policies for improvements, is a disservice to the users of that space.

NeuStar's approach to developing and implementing a usTLD infrastructure is inclusive. Our current understanding of the locality space will be augmented when we reach out to delegated managers and to registrants for their input. Our services provided in the locality space, to registrants and to delegated managers, will be equal to those services offered in the expanded space. Our customers are important to us, and our diminishing those services for any subset of our customers would be contrary to our philosophy of equitable treatment and integrity.

The locality-based usTLD structure functions highlighted below and in Sections B.4.1 through B.4.7 include all of the requirements listed in RFQ Section B.4. In each case, although the specific needs of customers in the locality space have been kept in mind, our solution is as rich in functionality as the comparable function in the expanded space.

Existing Delegees and Registrants Service Provision – NeuStar will provide an implementation of the usTLD consistent with the policies and philosophy embodied in RFC 1480 and the other usTLD policy documents. This implementation will be supplemented by our Centralized usTLD Database, a centralized Whois, Delegee Whois and automatic registration services to replace the current manual process.

Undelegated Third Level Subdomains Service Provision – NeuStar will provide registrar services for undelegated third-level subdomains in the locality space through the use of our Enhanced Shared Registry System (SRS), the same system that will be used by registrars in the expanded space.

Locality-Based Process Modernization – NeuStar will modernize the processes used in the locality space by leveraging our Enhanced SRS and Centralized usTLD Database, by automating registrations, and by implementing an automated update process and a modernized zone file update process.

Current Locality-Based usTLD Users Coordination – NeuStar will establish target communications mechanisms, including e-mail listservs, chat services, and other Internet-based services, as well as traditional customer outreach mechanisms, such as user group meetings, user support representatives, and other support services to maintain close relationships with usTLD stakeholders.

Compliance with Current Locality-Based usTLD Policies Investigation and Report – NeuStar will approach our compliance investigation as a means of forming partnerships with the Delegated Managers, i.e., delegees and subdelegees in the locality space. We view this report as a means of not only discovering problems in the locality space, but also of collaborating with Delegated Managers to improve the overall utility of the namespace.

usTLD Delegated Manager Database Development – NeuStar's database of Delegated Manager information will ensure that all delegee and subdelegee contact information and delegation information is kept up to date, so that both the registry can contact these Delegated Managers to resolve issues, and so that registrants can contact these Delegated Managers to register in the locality space.

Whois Database Development – NeuStar's centralized enhanced Whois database will accommodate Web-based, free, public searches for registrant and delegated manager contact information and will ensure the accuracy of data throughout the locality space.

The functions presented in this section will enhance the utility of the locality space and make the namespace more attractive to registrants who wish to register a domain name based in the geographic hierarchy. By centralizing our services and automating the registration process, we will provide our customers with a stable registry environment and easy-to-use services as good as or better than those offered by any other top-level domain registry.

B.4.1 Existing Delegees and Registrants Service Provision

Existing delegees and registrants in the usTLD rely on the services that the usTLD infrastructure provides. However, that current infrastructure has not evolved along with other leading Internet registries. Currently, the registration process currently is manual, the zone data update process is batch oriented, and the basic usTLD policies are not even available in a single coherent document.

It is unfortunate that the current implementations are now outdated. The lag behind modern implementations causes potential users to question the value of acquiring or maintaining names in the US domain name space. NeuStar proposes significant improvements that will benefit the existing users of the usTLD. We intend to make the usTLD a world renown ccTLD. We intend to provide services and support that improves on current practice and complies with existing policies (including RFC 1480 and Web pages on www.nic.us that take precedence). We intend to enhance the value of domain names held by existing delegees and registrants.

As proposed by NeuStar, the usTLD will have a robust, secure, and reliable infrastructure equal to or better than any Internet registry. The registration process will be streamlined so that users can check, add, modify, or delete names over an easy to access, simple to use web interface. All pertinent data related to name registrations will be maintained in a centralized data base at the registry. NeuStar will provide tools to delegees and subdelegees to simplify the process of inputting data into the Centralized usTLD Database. Zone file data will be updated from the database and propagated to nameservers in near real time. Whois data for all name holders (name holder refers collectively to delegees, subdelegees and registrants) will be available free

through a public, web-based interface, and the Whois DB will allow for multiple string and field searches.

The existing delegees and registrants in the US domain will then be provided the service and support that they are entitled to expect. NeuStar will provide these services using robust and reliable systems designed to support the use of the usTLD by the Internet community of the United States.

B.4.1.1 Needs of Existing Users

The continued operation and support of the locality based usTLD is a fundamental concern to its users and an essential set of functions for the Internet community of the United States. For existing delegees and registrants, NeuStar proposes to provide service and support that will enhance the value of the names they hold in the US domain.

Current name holders want the capability to check, add, modify, or delete their data. They want DNS nameservers to have current zone file data, and they want their Whois data to be accurate and timely. In addition, users need to rely on a robust, reliable, and secure infrastructure that will be able to satisfy their expected future needs as well as their current ones.

NeuStar plans to implement an infrastructure designed to meet users' needs. This will include the following:

- Secure website for delegee and registrant access,
- Centralized usTLD database, and
- Updates of zone file, Whois and Delegee Whois in near real time.

In addition, as described elsewhere in this proposal, NeuStar's facilities will be based on high availability, reliable platforms, and users (Section O.1) will have access to a range of technical and customer support services (Section B.2). NeuStar will provide clear and current guidance on the applicable policies (Section B.3). The needs of the existing delegees and registrants will be met by this approach.

B.4.1.2 Implementing Services for Delegees

In the existing locality-based name space, delegees support the fabric of the US domain. These delegees are responsible for the technical operation of nameservers for the zone names they hold, and they are responsible for administering the names in that branch of the name space. RFC 1480 speaks clearly to the degree of responsibility and commitment involved. In addition to the technical and operational aspects, as indicated by the following:

> The designated manager must do a satisfactory job of operating the DNS service for the domain. That is, the actual management of the assigning of domain names, delegating subdomains and operating name servers must be done with technical competence. This includes keeping the US Domain Administrator or other higher-level domain managers advised of the status of the domain, responding to requests in a timely manner, and operating the database with accuracy, robustness, and resilience.

That RFC also conveys the administrative context of delegation:

> The major concern in selecting a designated manager for a domain is that it be able to carry out the necessary responsibilities, and have the ability to do an equitable, just, honest, and

> competent job. The key requirement is that for each domain there be a designated manager for supervising that domain's name space. These designated authorities are trustees for the delegated domain, and have a duty to serve the community. The designated manager is the trustee of the domain for the domain itself and the global Internet community.

In that spirit, NeuStar plans to provide an implementation of the usTLD consistent with the policies and philosophy embodied in RFC 1480 and the other usTLD policy documents (e.g., as posted on www.nic.us). The major features that will provide service and support are described in Sections B, F, and O in this proposal, and include:

- Secure website for delegee and subdelegee access, with authentication ensuring that they are modifying records within their own name space,
- Centralized usTLD database, replicated on high availability, reliable platforms, and
- Updates of zone file, Whois data, and Delegee Whois in near real time.

B.4.1.3 Providing Support for Registrants

In the existing locality-based name space, registrants are offered an alternative to running their own name servers, since delegation entails its own burdens of responsibility and costs. Instead, registrants' data is directly entered in the US domain, meaning that the zone data files on the usTLD name servers themselves have the name holders' information.

Direct registration provides name service support to a wider population of users by relieving them of administrative and technical requirements that come with delegation. As described later in this proposal, the usTLD registry will be able to perform registry and registrar functions on behalf of such registrants.

Registrants, too, will enjoy the benefit from the same services and support indicated above for delegees in the existing locality-based space, including secure website, centralized database, near real time updates, and other features provided for name holders in the usTLD.

B.4.2 Undelegated Third Level Sub-domains Service Provision

Undelegated sub-domains have been situated as a middle ground that offers name registration without requiring name server operation. The name servers for names in undelegated sub-domains are in fact the usTLD's name servers, and the name holders' data is kept in the main usTLD database and zone files.

The Statement of Work (SOW) requires that the usTLD Administrator provide registry and registrar services for name holders in undelegated third level locality sub-domains and others. According to the official US Domain Registry's Web site (www.nic.us), that set of undelegated domains has the following structure:

Name Structures—usTLD Locality-Based

City Government:	<dept-name>	.	CI	.	<locality>	.	<state-code>	.	US
County Government:	<dept-name>	.	CO	.	<locality>	.	<state-code>	.	US
Parish Government:	<dept-name>	.	PARISH	.	<locality>	.	<state-code>	.	US
Town Government:	<dept-name>	.	TOWN	.	<locality>	.	<state-code>	.	US
Township:	<dept-name>	.	TOWNSHIP	.	<locality>	.	<state-code>	.	US
Township (option):	<dept-name>	.	TWP	.	<locality>	.	<state-code>	.	US
Borough Government:	<dept-name>	.	BOROUGH	.	<locality>	.	<state-code>	.	US
Village Government:	<dept-name>	.	VILLAGE	.	<locality>	.	<state-code>	.	US
Village (option):	<dept-name>	.	VIL	.	<locality>	.	<state-code>	.	US
Schools K12 District:			<school-district>	.	K12	.	<state-code>	.	US
K12 School:	<school>	.	<school-district>	.	K12	.	<state-code>	.	US
Private School:	<school>	.	PVT	.	K12	.	<state-code>	.	US
Community College:			<school>	.	CC	.	<state-code>	.	US
Technical School:			<school>	.	TEC	.	<state-code>	.	US
Councils of Government:			<org-name>	.	COG	.	<state-code>	.	US
District:			<org-name>	.	DST	.	<state-code>	.	US
Library:			<library-name>	.	LIB	.	<state-code>	.	US
Museum:			<org-name>	.	MUS	.	<state-code>	.	US
State Government:			<state-agency>	.	STATE	.	<state-code>	.	US
Statewide Non-Profit:			<org-name>	.	GEN	.	<state-code>	.	US

In order to satisfy these requirements, the needs of the name holders in these domains include not only those of direct registrants, but also those analogous to certain capabilities available to delegees and subdelegees. The problem is that there is no delegee for the undelegated domains. The solution is to provide the functions of registry and registrar, on behalf of those domains, for name holders who are direct registrants of undelegated domains.

The usTLD functions will already include those of usTLD Administrator, for all users, and as name server operators and name space administrators for the undelegated third level sub-domains. In addition to those, NeuStar proposes to provide the functions of registrar, on behalf of an undelegated sub-domain and its direct registrants, and of registry, to include that registrar in the Enhanced SRS.

The direct registrants in undelegated sub-domains of the US domain will then be provided the service and support that they are entitled to expect. NeuStar will provide these services using robust and reliable systems designed to support the use of the usTLD by the Internet community of the United States.

B.4.2.1 Additional Needs of Undelegated Domains

Undelegated domains, by definition, have no official delegee to whom the domain is delegated. Registrants in such a domain must rely on the usTLD itself to operate name servers, store data

for the zone files, and administer that portion of the name space. There are two different roles for the usTLD Registry to perform, depending on the particular domain, namely:

- For the ".us" domain, the function is that of the registry operator for a ccTLD, and
- For the undelegated sub-domain, the function is that of a registrar.
- Secure website for delegee and registrant access,
- Centralized usTLD database, and
- Updates of zone file, Whois, and Delegee Whois in near real time,

but also including:

- Implementation of an Enhanced SRS, and
- Provision of Registrar Services, on behalf of and in trust for undelegated sub-domains.

As described elsewhere in this proposal, NeuStar's facilities will be based on high availability, reliable platforms (Section O), and users will have access to a range of technical and customer support services (Section B.2). NeuStar will provide clear and current guidance on the applicable policies. The needs of the name holders in requisite undelegated sub-domains will be met by this approach.

B.4.2.2 Implementing Registrar Services

NeuStar will provide registrar services on behalf of undelegated sub-domains through a process analogous to that for competitive registrars wishing to interconnect with the Enhanced Shared Registry System (SRS) for the usTLD. NeuStar is developing this Enhanced SRS as part of its planned modernized registry infrastructure. Registrar functions will be developed to support NeuStar's capability to act as a registrar on behalf of an undelegated sub-domain in the locality-based name space. The term SRS refers to a system that has a mechanized interface to multiple registrars, which provides the same service to all of the interconnected registrars.

The process of acting as a registrar requires that the registrar functions, along with the relevant terms and conditions, satisfy all appropriate requirements for competitive registrars who wish to interconnect with the SRS for the usTLD domain. This formal approach will provide both the services and the safeguards that are needed for NeuStar to act as a registrar.

In NeuStar's role as registrar for an undelegated sub-domain, it acts on behalf of the name holders who are direct registrants in the locality-based name space and who wish to have NeuStar perform the registrar function. In this role, registrants will register names at a website provided by NeuStar. This will be very similar to the way registrants register names with registrars in gTLDs such as .biz. NeuStar will provide each registrant with authenticating information that will need to be submitted for future changes and updates. This will ensure that it is the appropriate registrant modifying the name.

Just like in the expanded space, NeuStar will gather information about the registrant to populate the Central usTLD Database, create a Whois record, and update the zone file. In addition NeuStar needs to clear the payment and register the registrant in NeuStar's Registrant Database. There is a clear difference between managing a name for a registrar and managing a name for a registrant. NeuStar understands the importance of treating these two types of registrations differently.

B.4.2.3 Providing Registry Services

NeuStar will provide registry services on behalf of undelegated sub-domains through the use of our Enhanced SRS that is being developed to include NeuStar's capability to act as a registrar on behalf of an undelegated sub-domain in the locality-based name space.

The following briefly describes some of the registry functionality and support proposed by NeuStar. Details are contained in Sections F and O this proposal.

- NeuStar will centralize all pertinent information regarding all names registered in the usTLD, and all name holders and registrars will be included in the Centralized usTLD database and the Whois database.
- The Centralized usTLD database will be escrowed on a regular basis.
- The publicly accessible Whois, Delegee Whois and the zone file will be created from the Centralized usTLD database and the updates will be propagated in near real time.

NeuStar understands the range of roles, the services and the safeguards, that are required to satisfy the needs of name holders in the usTLD. Our implementation and operation will enhance the value of the names of name holders who actually are the usTLD.

B.4.3 Locality-Based Process Modernization

NeuStar's automated registration process, Centralized Database, and Enhanced Shared Registration System (SRS) will modernize the usTLD registry and encourage new registrations in the locality space.

Under the current usTLD administration, all registration and update processes within the registry are done manually. Although requests for registrations are received over a Web interface, this interface does not interact with a registration system. It simply sends a message to a person who then checks to see if the name is available, if the forms are filled out correctly, and if the registrant has met the appropriate requirements. The information is then manually added to a list of names and to the zone file, and a new zone file is created and sent to the nameservers, where it writes over the old zone file.

This process was implemented for registrations from delegated managers, that is, delegees and subdelegees, and for direct registrations with the registry. If a registrant wants to register with a delegated manager, the registration process depends on the specific delegated manager. There are no standard requirements for how or where delegated managers store information or how they update zone files, and there are very few requirements for how they maintain and manage their nameservers.

NeuStar will make vast improvements in the operations of the registry itself. NeuStar will implement an automated registration process, a Centralized usTLD Database, a Centralized Whois, an automated update process, and a modernized zone file update process. All system software and databases will be backed up daily, and the tapes will be stored off-site. As required, historical files and data will be escrowed with an escrow agent.

NeuStar's Enhanced SRS will be available to all delegated managers via secure web access. Under this new system, changes made by the delegated manager will be implemented directly into the registry systems, eliminating all manual processes associated with a registration. Changes to the Centralized usTLD Database will be made in real-time, and updates to the Whois and the zone file (if necessary) will be done in near-real time, that is, in intervals of no

more than 15 minutes. A name will go from registration to live in 15 minutes or less, whereas today it can take weeks.

NeuStar will utilize its state-of-the-art Network Operation Center (NOC) to monitor the Enhanced SRS and its subsystems, including the Centralized usTLD Database and Whois, as well as the constellation of nameservers, on a 24-hour basis 365 days per year. The NOC will not only monitor for failures but also will monitor the systems and network for degraded service that may indicate that a failure is about to happen.

NeuStar will implement billing systems to accommodate both debit accounts and credit cards. This will allow instantaneous registrations. In addition, we will utilize our customer resource management system that allows for trouble ticket management and customer contact tracking, among other capabilities.

A more detailed description of the ancilliary services provided by NeuStar to the locality space, e.g., customer service, tech support, software, is provided in Sections B.2.9 to B.2.16.

A more detailed description of the Enhanced SRS and the Centralized usTLD Database is provided in Section F of this proposal.

Section O of this proposal provides a detailed description of the systems, software, and functional capabilities that NeuStar will deploy to modernize the usTLD registry for the locality name space.

B.4.4 Current Locality-Based usTLD Users Coordination

NeuStar will develop user-friendly, effective mechanisms to encourage and coordinate the contributions of the current locality-based usTLD stakeholders.

NeuStar is acutely aware that as a result of the comparative complexity of the namespace and the lack of coordination and marketing for the usTLD, the locality-based usTLD has not attracted a high level of domain name registration activity and remains underpopulated in comparison with other ccTLDs. Although the existing administrator has established basic policies and procedures for the TLD, little has been done to enforce such policies and procedures nor has any effort been made to analyze compliance by delegated managers or the value of the namespace to its users. Moreover, virtually no effort has been made to reach out to users and stakeholders to further develop and improve the space.

NeuStar has a strong legacy of coordinating complex groups of users in the industries that it serves. Successful administration of public resources, whether they are telephone numbers or domain names, requires strong awareness of constituencies and their needs. NeuStar intends to establish target communications mechanisms, including e-mail listservs, chat services, and other Internet-based services. In addition, NeuStar will utilize traditional customer outreach, such as user group meetings, user support representatives, and other support services to maintain close relationships with usTLD stakeholders. These forums will be tailored to allow stakeholders to discuss usTLD administrative, technical, and policy issues related to the operation and management of the locality-based usTLD structure. This will ensure that, going forward with improvements in the overall space, the current users have a "voice" and stake in the future success and increased utility of the usTLD.

To begin this process, NeuStar will leverage the six-month compliance report process, discussed in detail below in Section B.4.5, to develop a strong understanding of stakeholder desires and concerns and to identify the best way to communicate with each constituency group.

Coordination of all usTLD outreach will ultimately be coordinated and developed under the auspices of the usTLD Policy Council. This council will be very important to the ongoing development of usTLD policy and public outreach. The structure and duties of this council, as well as the detailed outline of our basic outreach plan, are discussed in detail in Section B.3.5.

B.4.5 Compliance with Current Locality-Based usTLD Policies Investigation and Report

NeuStar's approach to the Compliance Investigation and Report will forge good relations with locality delegees while solving many of the problems that plague the current locality space.

In its request for an immediate investigation of policy compliance in the usTLD locality space, the DOC is sending a strong message about the current state of this space. Delegating portions of localities within the usTLD hierarchy began as a logical method of maintaining the space and encouraging individuals within those physical localities to register domain names. However, noncompliance by some delegees and specifically the problem of "locality squatting," have caused stagnation in registrations and have done little to promote the public interest aspect of the usTLD.

The problem of locality squatting is prevalent across current locality delegations. According to current policy, for delegations or redelegations made after July 1, 1997, it is assumed that every applicant for the delegation of a locality name has received written authorization from the locality's legitimate government to manage the domain name of that locality. Yet, according to the current list of delegated subdomains and their contacts (available on the current usTLD Web site), approximately 40 percent of the delegated subdomains are held by five individuals. Although a number of delegees who hold multiple locality delegations may be legitimate, that legitimacy is questioned when an individual delegee manages registries for localities in more than 30 states.

This compliance investigation effort is an excellent and necessary first step in improving usTLD operation and use. It will serve as more than just a report on compliance; it will also aid efforts to create a partnership among the usTLD community for achieving stable, consistent service and for pursuing enhancements in the usTLD locality space. Because of the history of usTLD administration, there is little information about current administration and operations. It is essential that a thorough investigation be performed to obtain a baseline for current information about the status of usTLD operations, assess points of satisfaction and dissatisfaction among current delegees and current registrants, and enable NeuStar to provide recommendations to the DOC for improvements by surveying current delegees and current registrants.

Without this report, it will not be possible to ensure consistent and correct administration or operation of locality-based registrations within the usTLD. The existing problems in the space will persist from an unclear, unresolved history with existing usTLD delegees.

Finally, the stated goal for the Compliance activity is to establish a basis for moving to consistent quality of service for usTLD administration. However, investigation would be appropriate even with a flawless history because it permits NeuStar to develop initial channels of communication with the existing usTLD community and to learn what changes and enhancements the community desires. NeuStar anticipates that this investigation and report will be the first step toward codifying new technical and administrative policies and proposing a successor document to RFC 1480.

The Importance of Compliance

The usTLD portion of the DNS is as essential to the infrastructure of the Internet as any other portion of the DNS. Serious use of the Internet requires highly reliable, highly stable, and highly efficient performance of the usTLD domain. Further, registrants and potential registrants in the usTLD must have assurances that they can register within their own localities without encountering resistance or nonresponsiveness from the assigned delegee. To these ends, concerns for locality-space operations divide among:

- **Technology and Operations**—Modern, standard versions of DNS and registration protocols must be used, with particular attention to recent security standards. Reliability and responsiveness of each DNS, Whois, and the registration process must be on a par with corresponding services elsewhere on the Internet.
- **Administration**—Quality, style, and access to registry and registrar customer services must also be on a par with the recent, considerable improvements seen elsewhere in the DNS.
- **Policies**—The Domain Name Service is designed to support a variety of naming and operations models. However, there is increasing support for some policies to be consistent across the entire DNS and for consistency among subsets of DNS activities.
- **Service**—Service to registrants is of the utmost importance in ensuring that the locality hierarchy serves its public service functions. Nonresponsiveness to customers and resistance to serving those customers is an unacceptable practice. So, too, is unreasonable pricing for registration services.

Ultimately there are four simple and direct needs that require assessment:

1. Historical and current status and effectiveness of coordination and oversight for individual usTLD locality assignments. That is, for each delegee, an assessment must be made regarding the method of operation and the effectiveness of that operation.
2. Inconsistencies in registry operation and in registered data. That is, a review must be undertaken across all usTLD locality assignments for differences in administration that would be better to make consistent.
3. Authority of the delegee to run the delegated locality assignment. That is, if a delegation (or re-delegation) was made after July 1, 1997, the delegee should be able to produce written authorization from the legitimate government of a locality to manage the domain name of that locality.
4. Adherence to the US Nexus Requirement, as outlined in Section B.3.1.

NeuStar's Approach

The new administrator of the usTLD domain will have a dual role. Although its main function will be to operate a registry for the usTLD root, it will also be charged with continuing, expanding, and enhancing the usTLD domain. This latter role entails oversight, not just operations and administration.

There are two approaches that a registry can take for oversight of the usTLD. One is top-down and authority-based, primarily entailing issuance of directives and checking for conformance. The alternative is to treat the entire usTLD domain as an activity among partners, all seeking success for the stakeholders and satisfaction among the customers. NeuStar strongly believes that an approach based on partnership will be easier to pursue and much more productive.

Ultimately, a service is always collaborative, especially when the effort comprises multiple organizations.

An approach based on partnership would be essential even with a flawless history. The "social" lesson of the Internet is that large-scale, multi-organization efforts must be based on strong, consensus-based collaboration. Use of "authority" must be carefully limited, even to the extent of choosing not to use that authority if it is likely to cause ill will among participants. However, the problematic history of usTLD makes this effort more sensitive and more difficult. We realize that there may be cases where a partnership approach may be unsuccessful, and we stand ready to use a more authoritative approach, only if it becomes necessary.

NeuStar's Investigation Process

In order to conduct this compliance investigation, NeuStar will follow steps that are typical for survey research.

Planning Phase

In order to successfully conduct a compliance investigation and to ensure fairness to all parties, NeuStar will begin by reviewing all relevant documentation, including RFC 1480, the post-1997 agreement with delegees, and any documentation provided to us by delegees. At the same time, NeuStar will request from the current usTLD registry all contact information for current delegees and information on which delegees have signed the post-1997 agreement. This information is of vital importance to conducting a compliance investigation, because delegations or redelegations made beginning in July 1997 follow different guidelines from those delegated before that date.

Once this information is obtained from the current usTLD registry, a letter introducing NeuStar as the new usTLD registry will be sent to all delegees. This letter will be a formal request for registrant and subdelegee data from the delegees and will include a request for a copy of the written authorization to manage the domain for each locality, for delegations or for redelegations made since July 1997. The same letter will be sent to subdelegees to request registrant data under those suddelegations.

From this effort, NeuStar will compile aggregate requirements for delegees, including subdelegees, and registrants and will begin our effort to find legitimate delegees. During this time, we will also select an agency to conduct a compliance survey.

This phase of activity will ensure that the investigation is based on existing history and, to the extent possible, based on the expectations of delegees and registrants.

Design Phase

During the design phase, investigation questionnaires will be formulated for delegees, including subdelegees, and for registrants. The questionnaires will cover the full range of administration and operations topics. Use of professional survey experts will ensure that the research tools employ proper wording to elicit helpful responses and otherwise avoid the serious pitfalls often encountered with surveys developed by nonprofessionals. The surveys produced must be sufficiently open to permit participants to offer unexpected information and suggestions. However, they will also be partially based on information that is already available, so that participants can be assisted with intelligent, directed questions and plausible solutions.

NeuStar expects the survey to produce several types of useful information, including but not limited to:

- Legitimacy of individual delegees;
- Status of current delegations, including adherence to current policies, policies outlined in RFC 1480, the usTLD web site and the US Nexus Requirement;
- Changes desired by delegees or registrants;
- Status quo desired by delegees or registrants; and
- Identification of nonresponsive delegees.

This feedback will permit NeuStar to pursue a constructive, iterative process for obtaining a cure to problems, while maintaining stable operations.

As noted earlier, it is essential that NeuStar approach the design of this survey as a means of finding ways to help delegees and serve them as customers of the usTLD registry. This approach is in marked contrast to one that could be heavy-handed and oriented towards establishing authority and strictness. Such a heavy-handed approach would be likely to produce poor information and strong resentment. It is expected that delegees will have concerns, and even fears, about the new administrator. NeuStar views it as appropriate and essential to allay those fears through a constructive tone and process.

Execution Phase

This phase is dominated by the mechanics of distributing surveys to delegees and registrants, ensuring they complete the forms, and then obtaining the completed forms for processing. In cases where a delegee is nonresponsive, we will send a second request, followed by an attempt to contact the delegee by another method.

Analysis

Structured portions of the surveys will be straightforward and will produce simple statistics. Open-ended portions of the survey will require the skills of a professional survey researcher to ensure that answers are compiled in an appropriate and useful manner.

Recommendations and Report

Beyond basic data analysis is the step of reducing the analysis to practical suggestions to remedy problems and pursue enhancements of the usTLD locality-space policies. These may include recommendations on:

- Structure of the locality hierarchy
- New policies for delegees to follow
- New cost guidelines for delegees to follow
- Technical aspects of the locality delegations
- Methods to enhance compliance among noncompliant delegees
- Methods of increasing the value of the locality-based structure to local communities as a public resource.

In addition to presenting recommendations for changes in locality delegations, this report will, as required in RFQ Section B4, present a full evaluation of locality squatting issues. Delegees who have proven their legitimacy by producing the requested letter of authorization will be listed, and carefully recorded information will be presented listing those delegees who contributed to the investigation, as well as those who were nonresponsive to our requests. We

- Methods to enhance compliance among noncompliant delegees
- Methods of increasing the value of the locality-based structure to local communities as a public resource.

In addition to presenting recommendations for changes in locality delegations, this report will, as required in RFQ Section B4, present a full evaluation of locality squatting issues. Delegees who have proven their legitimacy by producing the requested letter of authorization will be listed, and carefully recorded information will be presented listing those delegees who contributed to the investigation, as well as those who were nonresponsive to our requests. We believe that our partnership approach to this investigation will encourage participation in our survey, and it is our hope that the vast majority of delegees will be responsive. We further believe that this investigation will serve as an excellent introduction of NeuStar's usTLD operations to current delegees, aid efforts to create partnerships between the TLD and the delegees, and allow NeuStar to discover ways to improve the services offered in the usTLD locality space. Within six months of contract award, we will file our report and recommendations with the DOC and post the report on the usTLD Web site, as required.

B.4.6 usTLD Delegated Manager Database Development

NeuStar's Delegated Manager Database will ensure the accuracy and validity of all data for delegees and subdelegees.

Because of the administrative structure of the usTLD, that is, because there are a vast number of locality delegees and subdelegees (collectively known as delegated managers), NeuStar will develop a database of delegated managers that will be kept accurate and up to date. This will be an integral element of the Centralized usTLD Database that NeuStar will deploy as the usTLD Administrator. To manage a critical public resource like the usTLD, the Administrator needs an accurate database for all entities that have a role in administering the space, and delegated managers play an important role in the functioning of the usTLD localities. Because the usTLD Administrator may need to contact a delegated manager for reasons ranging from network outages to questions from a registrant, it is not acceptable to have out-of-date contact information that prevents issues from being addressed in a timely manner.

The most critical function with regard to creating the database is obtaining relevant information from the existing delegated managers—NeuStar has performed a similar function before. The task at hand is analogous to NeuStar's undertaking in the transitioning of the North American Numbering Plan to centralized administration. In order to fulfill our duties, NeuStar was required to create a centralized database of telephone number assignments by working with multiple phone companies across the country, most having multiple telephone number administrators. The databases across companies were inconsistent, as were those within companies. NeuStar was able to collect and standardize all of the data, and completed the transition ahead of schedule.

In order to ensure the accuracy and validity of the delegated manager data, NeuStar's Transition Team will reach out to all of the delegees and subdelegees. We will provide them with a list of the data elements we wish to populate, and will provide them with multiple methods of provisioning this data with us. On an ongoing basis, we will provide the delegated managers an easy-to-use web interface to provision new registrations into the Centralized usTLD Database. Alternatively, should they have high volumes of registrations and would

6. The name and postal address of the delegated manager;
7. The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the technical contact for the delegated manager;
8. The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the administrative contact for the delegated manager; and
9. The Web site or other contact information through which registrations can be accepted under the delegation.

As required the information in NeuStar's usTLD Delegated Manager Database will allow for multiple string and field searches though a free, publicly accessible, Web-based interface.

Detailed descriptions of how the databases will be populated and how they will be kept up to date and accurate are provided in Section F, Centralized usTLD Database and Enhanced Shared Registration System.

Redundant Delegated Manager databases will be located at the geographically diverse, redundant Enhanced SRS Data Centers located in Illinois and Virginia. In accordance with U.S. Nexus requirements, no databases will be located outside of the United States. Both databases will be updated in near real time (intervals of no more than 15 minutes) and will be synchronized.

A detailed description of the technology and operations of the Delegated Manager Database is provided in Sections O.3 and O.9.

B.4.7 Whois Database Development

NeuStar's centralized Whois database will accommodate public searches for registrant and delegated manager contact information and will ensure the accuracy of data throughout the locality space.

The locality-based usTLD space has traditionally had no centralized Whois which makes it difficult to look up contact information for domain name holders, and even for delegees. NeuStar will remedy the current deficiency by developing an enhanced, searchable, accurate, and up-to-date Whois database containing locality-based usTLD registrant information. In fact, this Whois database will be common with the Whois database for the expanded usTLD space.

NeuStar will maintain a Web site that will allow free public, searches of the Whois database, and will also provide a standard port 43 interface. As required by the COTR, the database will allow for multiple string and field searches. These searches will return Whois records that will show a differentiation between a registrant's Whois record and a delegated manager's Whois record. NeuStar will reach out to the existing delegees and subdelegees to populate information on their registrants in the databases.

NeuStar will populate the data pertaining to the existing assignments by reaching out to each of the delegated managers through information provided by the current usTLD Administrator, as well as with contact information contained in existing zone files of the usTLD Administrator and of the delegated managers. At a minimum, NeuStar will collect and update the information described below for each Whois record:

1. The name of the domain registered;
2. The Internet Protocol (IP) address of the primary nameserver and secondary nameserver(s) for the registered domain name;

3. The corresponding names of those nameservers;
4. The identity of the delegated manager under which the name is registered;
5. The creation date of the registration;
6. The name and postal address of the domain name holder;
7. The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the technical contact for the domain name holder; and
8. The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the administrative contact for the domain name holder.

More detailed descriptions of how the databases will be populated, how they will be kept up to date and accurate, and the structure of the Whois responses are provided in Section F, Centralized usTLD Database and Enhanced Shared Registration System. A detailed description of Whois policy is provided in Section B.3.5.

Redundant databases will be located at the geographically diverse, co-active Enhanced SRS Data Centers located in Illinois and Virginia. In accordance with the U.S. Nexus requirement, no registry databases will be located outside of the United States. All databases will be updated in near real time (intervals no greater than 15 minutes) and will be synchronized to ensure consistency of responses.

A more detailed, technical description of the usTLD database is provided in Sections O.3 and O.8.