

## M. Description of Cost Elements

*With over five years of experience designing, implementing, and managing mission-critical public resources, NeuStar confidently presents an illustrative analysis of the costs associated with administration of the usTLD.*

The development of a next-generation, thick Internet Registry architecture is a high-priority, fully funded, NeuStar initiative. NeuStar has developed an Internet registry business plan with the goal of providing a state-of-the-art, innovative, world-class solution that is reliable and scalable and exceeds customer expectations. NeuStar has analyzed and enumerated the resources required to design, implement, and operate the usTLD registry and has evaluated the market research and general demand for TLDs to develop a registration forecast. Factors such as economies of scope and scale, interoperability, and feasibility were considered in each of the required operational aspects of the registry as well as for the innovations NeuStar is proposing.

In the following section, we provide a qualitative review of the various cost elements associated with operating the registry, managing the existing locality structure, establishing and administering policies, communicating and working with the Department of Commerce's Contracting Officer and other Internet stakeholders, and developing enhanced service offerings and applications to increase the demand and utility of the space.

### Expense Estimation

NeuStar's technical solution has been designed to meet or exceed the requirements of the RFQ; the costs associated with delivering this service are discussed in this section. We feel that our past and current experience providing registry services gives us a solid base for generating a resource plan that is realistic and covers all aspects of Registry operation. NeuStar's strong efforts balance the infrastructure, security, and IP issues with providing the best value for coordination and management of the usTLD.

The costs associated with coordination and management of the usTLD registry are variable with respect to registration volume, SRS queries, Whois queries, innovative designs of the registry, the number of accredited registrars, modernization of the locality structure, policy formulation, marketing and outreach, and the ability to provide the highest levels of service. NeuStar has considered each of these determinations when analyzing the costs for each of the resources required to operate a world-class registry. These costs refer to the implementation and transition phases as well as to the continuing operation of the registry business after launch. The resources required to support the development, operation, and ongoing enhancement of the usTLD were derived by weighing technical specifications against market demand in the form of anticipated volumes.

NeuStar is currently developing and implementing this registry architecture through its subsidiary, NeuLevel, and will leverage that development design. When analyzing the usTLD opportunity, proportional allocations are made to develop the stand-alone financial plan (presented in Section N). While there is technical infrastructure to be shared, there are incremental costs associated with an additional TLD, as well as costs unique to the usTLD. All costs associated with coordination and management of the usTLD are presented below, distinguished by capital investment and operational spending.

### HIGHLIGHTS

- **NeuStar will be responsible to ICAAN for all ccTLD fees**
- **NeuStar will leverage existing infrastructure and experience to reduce expenses**

## Capital Investment

Hardware estimates are inclusive of all incremental hardware components required for ongoing development and operation of the Registry. Software estimates include custom software development to support all registry services described throughout this proposal, as well as third-party software purchases.

As discussed in Section O, Proposed Technical Plan, the physical infrastructure for the registry is a highly scalable design built to operate at high performance and availability levels. The Enhanced Shared Registry System (SRS) data centers are responsible for the core registry functions of adding, modifying, and deleting domain names to the registry. Nameservers that manage the resolution of domain names to IP addresses are colocated. The quantity of application, name, Web and Whois servers; routers; load balancers; and relevant networking equipment is driven by the zone root query volume and size, anticipated demand for usTLD registrations, and the thick registry design.

The software design is an equally large-scale and important facet of the development of a next-generation Internet registry. The custom thick registry architecture that is being developed will provide enhanced service offerings and applications to be seamlessly integrated into the usTLD space. Additionally, this open architecture will allow for ease in scaling the registry hardware as query and registration volumes increase. Currently, as active members in the IETF, we are developing an open interface registry-registrar protocol that will be available at no charge to all usTLD-accredited registrars. In addition to this custom development, NeuStar, as a part of its design, will purchase various third-party software packages.

The capital investment NeuStar is currently making in an Internet registry architecture will not only surpass existing performance and security standards but will serve as a means to promote competition and increase the number of applications available for the usTLD.

## Operating Expenses

The management of the usTLD includes developing policy, coordinating the current delegated managers in the locality space, fulfilling the function of registrar for undelegated names in the locality-based space, accrediting registrars, managing operational and technical aspects of the registry, maintaining high levels of security, maintaining facilities for infrastructure and registry employees, providing communication between and within all facets of the registry, enhancing the utility of the space through business development, implementing marketing and outreach programs, and acting as a representative to the ccTLD constituency within ICANN. Each of these items and the cost drivers are explained in the following paragraphs.

## Functional Areas

The coordination and management of the usTLD comprises several roles and functions for NeuStar, including transition and integration of new customers, acting as a registrar for undelegated names in the locality structure, and operating a near-real-time registry, as well as a product development role. As a part of its corporate philosophy, NeuStar leverages all corporate functions (i.e., finance and accounting, human resources, legal, media relations, and procurement) across all lines of business.

The generation of the compliance report and recommendations will require unique, individual efforts and external subject matter experts. The scope of this effort includes making direct contact with existing delegees and subdelegees to determine their current technical and operational capabilities, generating an up-to-date database with their contact information, and determining how a central administrator can share some of their responsibilities. NeuStar will leverage knowledge of large outreach programs gained in its experience of transitioning the North American Numbering Plan Administration (NANPA) and will solicit the assistance of subject matter experts on the U.S. domain name structure.

Formulation of and monitoring acceptance of policy is another important function that NeuStar will manage as administrator of the usTLD. The policy staff is responsible for coordinating with the usTLD Policy Council on formation of new policies or modification of existing policy. They will communicate with the requisite parties at ICANN, that is, the ccTLD constituency, the GAC, and the Intellectual Property Constituency. This group will also be responsible for accreditation of new usTLD registrars.

Because of their sensitive nature, the registry and registrar functions will be handled separately. NeuStar will have dedicated staff that fulfills the function of registrar for undelegated domains in the locality-based structure of the usTLD; they will not have any responsibilities within the registry operations. This function will act like current registrars with an XRP-like interface into the registry with which they register domains under that delegation.

In its role as central registry, NeuStar has experience managing technical and operational responsibilities. Experienced staff will manage all networks, systems, databases, and hardware to meet the service level requirements of the registry.

Additionally, NeuStar will focus a team of individuals on the increased enhancement of the usTLD through the facilitation of new applications and value-added services to increase the utility of the usTLD. This product development group will coordinate with various public interest groups as well as commercial entities to promote new and innovative extensions to the usTLD.

## Expense Categories

New and incremental *staffing* is required for each functional area of the coordination and management of the usTLD. Through our existing contract with the Federal Communications Commission, NeuStar has government-approved labor burden rates that are factored to all staff rates to cover all employee-related benefits; that rate is 33.3%. For each of the staff members, we have modeled to account for all expenses that are applicable for each function.

The Enhanced SRS and two of the nameserver sites will be housed in NeuStar *facilities* in Virginia and Illinois. A proportional amount of the space in those data centers is allocated for the Internet registry. In addition to these technical facilities, NeuStar will contract with qualified third parties to host nameservers in geographically disbursed facilities. All usTLD-related staff will occupy space in one of our U.S.-based facilities.

*Communications* expense is calculated on a cost-per-Megabit rate and is projected to decline on cost at an annual rate of 15%. This includes all bandwidth and capacity requirements at the SRS data centers and the nameserver sites. NeuStar contracts with multiple communications providers to share its communication lines rather than being reliant on a single provider. This protects each phase of the system from outage due to a communication provider's backbone outage.

Significant funds are allocated to the marketing and *outreach* programs for the usTLD, in conjunction with the marketing plan presented in Section B.2.8 and the outreach programs in Sections B.3.5 This category of expense includes the public relations efforts, the execution of a brand awareness campaign, and any media or collateral related to the usTLD.

In its role as administrator of the usTLD, NeuStar will be an active member of the ccTLD constituency and abide by all policies and best practices established by ICANN. NeuStar will participate in meetings and working groups wherever appropriate to protect the value and autonomy of the usTLD. As a member, NeuStar would be responsible for all funding requirements set forth by ICANN. Currently, there is a formula, composed of a fixed fee and a variable component based on registry volume, to determine quarterly "dues" to ICANN. Additionally, NeuStar will be responsible for a membership fee to the ccTLD constituency. NeuStar has included this funding requirement in the financial plan.



As a part of normal operations, NeuStar budgets for ongoing hardware and software *maintenance*. This provides additional support for all capital expenditures discussed above.

As with the approved labor burden, NeuStar has a government-approved general and administrative rate allocated to all direct expenses that is used in forecasting expenses and generating a competitive price. That rate is 25%.

Each of the enumerated expenses is critical to the efficient coordination and management of the usTLD. NeuStar's extensive experience operating a mission-critical public resource uniquely qualifies us to identify and account for each aspect of our responsibilities. Quantitative analysis for these expenses can be found in the financial statement presented in Section N.