IANA NAMING FUNCTION CONTRACT

This IANA Naming Function Contract (this "**Contract**") is dated as of 30 September 2016 and is entered into by and between Internet Corporation for Assigned Names and Numbers, a California nonprofit public benefit corporation ("**ICANN**") and Public Technical Identifiers, a California nonprofit public benefit corporation (the "**Contractor**"), and is effective as of the last date on which all of the conditions set out in ARTICLE II have been satisfied (the "**Effective Date**"). ICANN and Contractor may each be referred to herein individually as a "**Party**" and collectively as the "**Parties**."

WHEREAS, on 14 March 2014, the U.S. National Telecommunications and Information Administration ("**NTIA**") announced the transition of NTIA's stewardship role of key Internet domain name functions to the global multi-stakeholder community (the "**Transition**");

WHEREAS, following the Transition, ICANN will continue to serve as the Internet Assigned Numbers Authority ("**IANA**") functions operator; and

WHEREAS, ICANN and Contractor desire to enter into this Contract pursuant to which Contractor will serve as the operator for the IANA naming function after the Transition.

NOW, THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties agree as follows:

ARTICLE I: DEFINITIONS AND CONSTRUCTION

Section 1.1   Definitions.

(a)   "**Contract**" has the meaning set forth in the Preamble.

(b)   "**Approved IANA Budget**" has the meaning set forth in Section 10.2.

(c)   "**ccNSO**" has the meaning set forth in Section 4.7.

(d)   "**ccTLD**" has the meaning set forth in Section 4.4(c).

(e)   "**CCOP**" has the meaning set forth in Section 5.2(b).

(f)   "**Complainant**" has the meaning set forth in Section 8.1(a).

(g)   "**Complaint**" has the meaning set forth in Section 8.1(a).

(h)   "**Contractor**" has the meaning set forth in the Preamble.

(i)   "**CSC**" has the meaning set forth in Section 4.9(c).

(j)   "**CSS Report**" has the meaning set forth in Section 3.e of Annex A.

(k)   "**customer**" means a gTLD registry operator, a ccTLD manager or registry operator or other direct customer of Contractor (e.g., a root server operator or other non-root zone function).

(l)   "**Delegation**" refers to the process by which the operator of the IANA Naming Function initially assigns management responsibility or assigns previously assigned responsibility (after a revocation) for the management of a ccTLD, as further defined in the RFC 1591 as interpreted by the FOI.

(m)   "**DNS**" means domain name system.

(n)   "**DOC**" has the meaning set forth in Section 2.1.

(o)   "**DS**" has the meaning set forth in Section 1.d.i of Annex A.

(p)   "**Effective Date**" has the meaning set forth in the Preamble.

(q)   "**FOI**" has the meaning set forth in Section 4.7.

(r)   "**GAC 2005 ccTLD Principles**" has the meaning set forth in Section 4.7.

(s)   "**GNSO**" has the meaning set forth in Section 4.7.

(t)   "**gTLD**" has the meaning set forth in Section 4.4(c).

(u)   "**IANA**" has the meaning set forth in the Recitals.

(v)   "**IANA Function Review**" or "**IFR**" has the meaning set forth in Section 7.3(a).

(w)   "**IANA Intellectual Property**" has the meaning set forth in the License Agreement.

(x)   "**IANA Naming Function**" has the meaning set forth in Section 4.3.

(y)   "**IANA Website**" has the meaning set forth in Section 4.6.

(z)   "**ICANN**" has the meaning set forth in the Preamble.

(aa)   "**ICANN Board**" has the meaning set forth in Section 7.3(a).

(bb)   "**ICANN's Bylaws**" means those certain Bylaws for Internet Corporation for Assigned Names and Numbers, a California Nonprofit Public-Benefit Corporation, adopted by the ICANN Board on 27 May 2016, as amended.

(cc)   "**IFRT**" has the meaning set forth in Section 4.9(c).

(dd)   "**Initial Term**" has the meaning set forth in Section 9.1.

(ee)   "**Interested and Affected Parties**" means all gTLD registry operators, ccTLD managers and registry operators, the Root Zone Evolution Review Committee, the CSC, and (if formed and while in existence) each IFRT.

(ff)   "**Key Personnel**" has the meaning set forth in Section 4.9(a).

(gg)   "**License Agreement**" means that certain IANA IPR License Agreement for IANA Names Services, between the IETF Trust and ICANN.

(hh)   "**NS**" has the meaning set forth in Section 1.d.i of Annex A.

(ii)   "**NTIA**" has the meaning set forth in the Recitals.

(jj)   "**Party**" or "**Parties**" has the meaning set forth in the Preamble.

(kk)   "**Performance Issue**" has the meaning set forth in Section 8.1(b).

(ll)   "**PTI Board**" has the meaning set forth in Section 4.9(c)(ii).

(mm)   "**Renewal Term**" has the meaning set forth in Section 9.2(a).

(nn)   "**Revocation**" refers to the process by which the operator of the IANA Naming Function rescinds responsibility for management of a ccTLD from an incumbent manager, as further defined in the RFC 1591 as interpreted by the FOI.

(oo)   "**RFC 1591**" has the meaning set forth in Section 4.7.

(pp)   "**Root Zone Management**" has the meaning set forth in Section 4.3(a).

(qq)   "**RR**" has the meaning set forth in Section 1.d.i of Annex A.

(rr)   "**RZMA**" means that certain Root Zone Services Maintainer Agreement, dated as of 28 September 2016, between ICANN and VeriSign, Inc.

(ss)   "**Significantly Interested Parties**" has the meaning set forth in the RFC 1591 as interpreted by the FOI. For avoidance of doubt, under the RFC 1591 as interpreted by the FOI these parties include, but are not limited to: (i) the government or territorial authority for the country or territory associated with the ccTLD and (ii) any other individuals, organizations, companies, associations, educational institutions, or others that have a direct, material, substantial, legitimate and demonstrable interest in the operation of the ccTLD(s) including the incumbent manager. To be considered a Significantly Interested Party, any party other than the manager or the government or territorial authority for the country or territory associated with the ccTLD must demonstrate (and shall have the burden to demonstrate) that it is has a direct, material and legitimate interest in the operation of the ccTLD(s).

(tt)   "**SOW**" has the meaning set forth in Section 4.3(a).

(uu)   "**SP**" has the meaning set forth in Section 4.b.iii of Annex A.

(vv)   "**Transfer**" refers to the process by which the operator of the IANA Naming Function transfers responsibility for management of a ccTLD with the consent of the incumbent manager and the new manager, as further defined in the RFC 1591 as interpreted by the FOI.

(ww)   "**TLD**" has the meaning set forth in the definition of "Interested and Affected Parties."

(xx)   "**Transition**" has the meaning set forth in the Recitals.

Section 1.2   Construction.   Unless the context of this Contract otherwise requires: (a) words of any gender include each other gender; (b) words using the singular or plural number also include the plural or singular number, respectively; (c) the terms "hereof," "herein," "hereby" and derivative or similar words refer to this entire Contract; (d) the terms "Article," "Section," or "Annex" refer to the specified Article, Section, or Exhibit of this Contract; (e) the term "or" has, except where otherwise indicated, the inclusive meaning represented by the phrase "and/or"; and (f) the term "including" or "includes" means "including without limitation" or "includes without limitation" so as to not limit the generality of the preceding term. Unless otherwise stated, references to days shall mean calendar days.

ARTICLE II: CONDITIONS PRECEDENT

Section 2.1   Condition Precedent. This Contract shall be effective as of the last date on which the following conditions have been satisfied: (a) the agreement between ICANN and the United States Department of Commerce ("**DOC**"), effective as of 01 October 2012 (including any extension thereof) has terminated or expired and (b) ICANN has accepted the responsibility to coordinate and administer the services that were previously provided thereunder.

ARTICLE III: REPRESENTATIONS AND WARRANTIES

Section 3.1   ICANN's Warranties. ICANN represents and warrants that (a) it has all necessary rights and powers to enter into and perform its obligations under this Contract; (b) the execution, delivery and performance of this Contract by ICANN has been duly authorized by all necessary corporate action and does not violate any applicable law to which ICANN is subject; and (c) the execution, delivery and performance of this Contract by ICANN do not (i) require a consent or approval under, or (ii) conflict with, result in any violation or breach of, constitute a default under, or accelerate any rights in favor of a third party under, any agreement between ICANN and a third party.

Section 3.2   Contractor Warranties. Contractor represents and warrants that (a) it has all necessary rights and powers to enter into and perform its obligations under this Contract; (b) the execution, delivery and performance of this Contract by Contractor has been duly

authorized by all necessary corporate action and does not violate any applicable law to which Contractor is subject; and (c) the execution, delivery and performance of this Contract by Contractor do not (i) require a consent or approval under, or (ii) conflict with, result in any violation or breach of, constitute a default under, or accelerate of any rights in favor of a third party under, any agreement between Contractor and a third party.

ARTICLE IV: SERVICES AND REQUIREMENTS

Section 4.1   Designation. ICANN hereby designates Contractor as the operator of the IANA Naming Function, and authorizes Contractor to perform, the IANA Naming Function in accordance with the terms of this Contract (including the SOW). Without limiting the foregoing, ICANN hereby grants to Contractor, and Contractor hereby accepts, a worldwide, royalty-free, fully-paid right and license to the IANA Intellectual Property to the fullest extent permitted to be licensed to Contractor under the terms of the License Contract (including the right to further sublicense to the extent permitted in the License Contract). ICANN hereby authorizes Contractor to utilize any other rights and sublicensable licenses held by ICANN to the extent necessary or useful to perform the IANA Naming Function in accordance with the terms of this Contract (including the SOW). Contractor hereby accepts such designation, rights and licenses and agrees to perform the IANA Naming Function in accordance with the terms of this Contract (including the SOW).

Section 4.2   U.S. Presence.

(a)   Contractor shall be a wholly U.S. owned and operated corporation operating in one of the 50 states of the United States or District of Columbia; (ii) incorporated within the state of California, United States of America; and (iii) organized under the nonprofit public benefit corporation laws of the state of California.

(b)   Contractor shall perform the IANA Naming Function in the United States and possess and maintain, throughout the performance of this Contract, a physical address within the United States. Contractor must be able to demonstrate that all primary operations and systems will remain within the United States (including the District of Columbia). ICANN reserves the right to inspect the premises, systems, and processes of all security and operational components used for the performance of the IANA Naming Function.

Section 4.3   Scope of the IANA Naming Function. The "**IANA Naming Function**" is comprised of:

(a)   Management of the DNS Root Zone ("**Root Zone Management**") in accordance with the Statement of Work attached as Annex A to this Contract ("**SOW**");

(b)   Management of the .INT top-level domain;

(c)   Maintenance of a repository of internationalized domain name tables and label generation rulesets; and

(d)   Provision of other services and implementation of modifications in performance of the IANA Naming Function, in each case upon ICANN's request and in conformance with applicable policies and procedures.

Section 4.4   Performance of IANA Naming Function.

(a)   Contractor shall perform the IANA Naming Function in a stable and secure manner and in accordance with the SOW. The IANA Naming Function is administrative and technical in nature based on established policies that are developed through applicable ICANN policy development bodies and approved by ICANN, in each case in accordance with ICANN's Bylaws.

(b)   Contractor shall treat the IANA Naming Function with equal priority as the other IANA functions performed by Contractor, and process all requests promptly and efficiently.

(c)   Contractor shall make decisions by applying documented policies consistently, neutrally, objectively, and fairly, without singling out any particular customer for discriminatory treatment (i.e., making an unjustified prejudicial distinction between or among different customers) and in a manner that does not discriminate between types of customers (whether such customers are (i) country code top level domain ("**ccTLD**") or generic top level domain ("**gTLD**") registry operators, (ii) paying or non-paying, (iii) contracted or non-contracted, or (iv) associated with supporting organizations, advisory committees or other governing bodies of ICANN or otherwise).

(d)   Contractor shall respect the diversity of customers of the IANA Naming Function and shall provide service to its customers in conformance with prevailing technical norms, and in support of the global security, stability and resilience of the DNS. If a customer's receipt of services is based on a contract between such customer and ICANN, Contractor shall continue to provide services to such customer notwithstanding any on-going or anticipated contractual disputes between ICANN and such customer.

Section 4.5   Separation of Policy Development and Operational Roles. Contractor shall ensure that its staff performing the IANA Naming Function do not publicly initiate, advance or advocate any policy development related to the IANA Naming Function. Notwithstanding the foregoing, Contractor's staff may (i) respond to requests for information requested by Interested and Affected Parties, and, at Contractor's volition, provide objective information to such customers, in each case, to inform ongoing policy discussions, (ii) request guidance or clarification as necessary for the performance of the IANA Naming Function, and (iii) publish, contribute to or comment on any document related to ongoing policy discussions, provided that, in the case of clause (iii), the primary purpose of such publication, contribution or commentary is to supply relevant IANA Naming Function experience and insight.

Section 4.6   Users Instructions. Contractor shall, in collaboration with all Interested and Affected Parties, maintain user instructions for the IANA Naming Function, including technical requirements. Contractor shall post such instructions at iana.org ("**IANA Website**").

Section 4.7   Responsibility and Respect for Stakeholders. Contractor shall apply the policies for the Root Zone Management component of the IANA Naming Function that have been defined, or after the date of this Contract are further defined, by (a) the Generic Names Supporting Organization ("**GNSO**"), as appropriate under ICANN's Bylaws, (b) the Country Code Names Supporting Organization ("**ccNSO**"), as appropriate under ICANN's Bylaws, and (c) RFC 1591: /Domain Name System Structure and Delegation/ ("**RFC 1591**") as interpreted by the Framework of Interpretation of Current Policies and Guidelines Pertaining to the Delegation and Redelegation of Country-Code Top Level Domain Names, dated October 2014 ("**FOI**"). In addition to these policies, Contractor shall, where applicable, consult the 2005 Governmental Advisory Committee Principles and Guidelines for the Delegation and Administration of Country Code Top Level Domains ("**GAC 2005 ccTLD Principles**"). Contractor shall publish documentation pertaining to the implementation of these policies and principles on the IANA Website.

Section 4.8   Management of the .INT TLD.

(a)   Contractor shall operate the .INT TLD within the current registration policies for the .INT TLD.

(b)   Upon designation of a successor registry by ICANN, if any, Contractor shall cooperate with ICANN to facilitate the smooth transition of operation of the .INT TLD. Such cooperation shall, at a minimum, include timely transfer to the successor registry of the then-current top-level domain registration data.

Section 4.9   General Manager; Key Personnel.

(a)   Contractor shall provide trained, knowledgeable technical personnel according to the requirements of this Contract, including the following key personnel: a General Manager, a Director of Security and a Conflict of Interest Officer ("**Key Personnel**"). All Contractor personnel who interface with ICANN must have excellent oral and written communication skills. "Excellent oral and written communication skills" is defined as the capability to converse fluently, communicate effectively, and write intelligibly in the English language.

(b)   The Conflict of Interest Officer shall be responsible for ensuring the Contractor is in compliance with Contractor's internal and external conflict of interest rules and procedures.

(c)   The General Manager of Contractor shall organize, plan, direct, staff, and coordinate the overall performance of the IANA Naming Function; manage contract and subcontract activities as the authorized interface with ICANN and ensure compliance

with applicable rules and regulations. The General Manager of Contractor shall be responsible for the overall performance of Contractor under this Contract and shall meet and confer with ICANN (including the Customer Standing Committee ("**CSC**") and IANA Function Review teams ("**IFRT**"), as such terms are used in ICANN's Bylaws) regarding the status of specific Contractor activities and problems, issues, or conflicts requiring resolution. The General Manager of Contractor must possess the following skills:

(i)   demonstrated communication skills with all levels of management;

(ii)   capability to negotiate and make binding decisions for Contractor (subject to any requirements of Contractor's Bylaws and the authority delegated to such person by the Contractor's Board of Directors ("**PTI Board**"));

(iii)   extensive experience and proven expertise in managing similar multi-task agreements of this type and complexity;

(iv)   extensive experience supervising personnel; and

(v)   a thorough understanding and knowledge of the principles and methodologies associated with operations management and contract management.

(d)   Contractor shall obtain the approval of ICANN, after consultation with the PTI Board, prior to making Key Personnel substitutions. Replacements for Key Personnel must possess qualifications reasonably equal to or exceeding the qualifications of the personnel being replaced, unless an exception is approved by ICANN.

Section 4.10   Inspection Of All Deliverables And Reports Before Publication.

(a)   Prior to publication or posting of reports and other deliverables anticipated under this Contract on a template that has not been previously approved by ICANN, Contractor shall obtain approval from ICANN for such template, which will not be unreasonably withheld. Any deficiencies identified by ICANN shall be corrected by Contractor and resubmitted to ICANN within 10 business days after Contractor's receipt of notice of such deficiency.

(b)   ICANN reserves the right to inspect the premises, systems and processes of all security and operational components used for the performance of all the requirements and obligations set forth in this Contract.

ARTICLE V: PERFORMANCE

Section 5.1   Constructive Working Relationship. Contractor shall use commercially reasonable efforts to maintain a constructive working relationship with ICANN, the root zone

maintainer and all Interested and Affected Parties to ensure quality and satisfactory performance of the IANA Naming Function.

Section 5.2   Continuity of Operations.

(a)   Either ICANN or the Contractor shall provide, at a minimum, redundant sites in at least two geographically dispersed sites within the United States as well as multiple resilient communication paths to customers to ensure continuation of the IANA Naming Function in the event of cyber or physical attacks, emergencies, or natural disasters.

(b)   Contractor shall collaborate with ICANN to develop and implement a Contingency and Continuity of Operations Plan ("**CCOP**") for the IANA Naming Function. Contractor in collaboration with ICANN shall from time to time update and annually test the CCOP as necessary to maintain the security and stability of the IANA Naming Function. The CCOP shall include details on plans for continuation of the IANA Naming Function in the event of cyber or physical attacks, emergencies, or natural disasters. Contractor shall submit the CCOP to ICANN after each update and publish on the IANA Website a report documenting the outcomes of the CCOP tests within 90 calendar days of the annual test.

Section 5.3   Performance Exclusions

(a)   Contractor is not authorized to perform the services performed by the root zone maintainer, as such services are contemplated by the RZMA, unless authorized by ICANN.

(b)   Contractor shall not make changes in the policies and procedures developed by the relevant entities associated with the performance of the IANA Naming Function.

(c)   The performance of the IANA Naming Function shall not be, in any manner, predicated upon or conditioned by Contractor on the existence or entry into any contract, agreement or negotiation between Contractor and any TLD registry operator or any other third party. Compliance with this Section must be consistent with the SOW.

ARTICLE VI: TRANSPARENCY OF DECISION-MAKING

Section 6.1   Transparency. To enhance consistency, predictability and integrity in Contractor's decision-making related to the IANA Naming Function, Contractor shall:

(a)   Publish reports pursuant to ARTICLE VII of this Contract and Section 3 of the SOW.

(b)   Make public all decisions of the PTI Board relating to the IANA Naming Function, unless, upon the determination of the PTI Board, such decision (i) relates to confidential personnel matters, (ii) is covered by attorney-client privilege, work product doctrine or other recognized legal privilege, (iii) is subject to a legal obligation that Contractor

maintain its confidentiality or otherwise would result in the disclosure of confidential information of Contractor's customers, (iv) would disclose trade secrets, or (v) would present a material risk of negative impact to the security, stability or resiliency of the IANA Naming Function or the Internet.

(c)   Agree not to redact any PTI Board minutes related to decisions concerning the IANA Naming Function, provided that the PTI Board may redact such minutes on the determination that such redacted information (i) relates to confidential personnel matters, (ii) is covered by attorney-client privilege, work product doctrine or other recognized legal privilege, (iii) is subject to a legal obligation that Contractor maintain its confidentiality or otherwise would result in the disclosure of confidential information of Contractor's customers, (iv) would disclose trade secrets, or (v) would present a material risk of negative impact to the security, stability or resiliency of the IANA Naming Function or the Internet.

(d)   Have the General Manager of Contractor and chairperson of the PTI Board sign an annual attestation that Contractor has complied with the requirements of this Section 6.1.

(e)   Subject to the terms of this Contract, PTI shall operate to the maximum extent feasible in an open and transparent manner and consistent with procedures designed to ensure fairness, in each case, as such concepts are contemplated by ICANN's Bylaws.

ARTICLE VII: AUDITS, MONITORING AND REVIEWS

Section 7.1   Audits.

(a)   Contractor shall generate and publish via the IANA Website a monthly audit report identifying each root zone file and root zone "WHOIS" database change request and its status. The relevant policies under which the changes are made shall be noted within each monthly report. Such audit report shall be due to ICANN no later than 15 calendar days following the end of each month.

(b)   Contractor shall annually perform a specialized compliance audit of Contractor's security provisions relating to the IANA Naming Function against existing best practices and ARTICLE XI. This specialized compliance audit shall be performed by an external, independent auditor.

Section 7.2   Performance Monitoring.

(a)   So long as the CSC exists pursuant to ICANN's Bylaws, Contractor acknowledges and agrees that the CSC is entitled to monitor Contractor's performance under this Contract (including the SOW) in accordance with ICANN's Bylaws.

(b)   Contractor shall provide reports to the CSC as contemplated by the SOW.

(c)   Contractor shall act in good faith to resolve issues identified by the CSC.

(d)   Contractor acknowledges that the CSC shall be empowered to escalate identified areas of concern as set forth in ARTICLE VIII.

Section 7.3   IANA Naming Function Reviews.

(a)   Contractor acknowledges that ICANN's Board of Directors (the "**ICANN Board**") may cause a review by an IFRT, relating to the IANA Naming Function, this Contract and Contractor's performance under this Contract (including the SOW), in accordance with ICANN's Bylaws (an "**IANA Function Review**" or "**IFR**").

(b)   Contractor shall cooperate with the conduct of any IFRT, including any site visit conducted by an IFRT that has been previously approved by ICANN in accordance with ICANN's Bylaws.

(c)   Contractor agrees that ICANN may unilaterally amend or terminate this Contract (including the SOW) in accordance with an approved IFR Recommendation, an approved Special IFR Recommendation or an approved SCWG Recommendation (as such terms are defined in ICANN's Bylaws), subject to the limitations set forth in ICANN's Bylaws. Contractor agrees to abide by and implement any such amendments.

ARTICLE VIII: ESCALATION MECHANISMS

Section 8.1   Complaint Resolution Process.

(a)   If Contractor receives a customer service complaint from a customer (a "**Complaint**"), Contractor will review the Complaint and attempt to resolve it to the reasonable satisfaction of the person or entity who brought the Complaint (the "**Complainant**") as soon as reasonably practicable. If the Complaint is not so resolved, the Complainant may escalate the matter in writing to Contractor's management team, in which case Contractor shall notify the CSC. If the Complaint is still not resolved, the Complainant or the President of Contractor may escalate the matter in writing to ICANN's Ombudsman.

(b)   If (i) a Complainant is a customer and (ii) after completing the escalation process provided for in Section 8.1(a), the Complaint is still not resolved, then (A) the CSC may conduct a review to determine whether the Complaint is subject of a persistent performance issue of Contractor or an indication of a systemic problem with Contractor's performance of the IANA Naming Function pursuant to the terms of this Contract (a "**Performance Issue**") and (B) the Complainant may (x) request mediation, which shall be conducted in a manner consistent with the terms and process set forth below in Section 8.1(c) and (y) if the issue is not resolved following such mediation and the Complaint meets the requirements of the Independent Review Process, initiate an Independent Review Process (as defined in the ICANN's Bylaws). If the CSC determines

that a Performance Issue exists, the CSC may seek remediation of the Performance Issue through the IANA Problem Resolution Process described in Section 8.2.

(c)   Customer Mediation Process.

(i)   If a Complainant is a customer of Contractor, after completing the escalation process provided for in Section 8.1(a), the customer may initiate mediation by delivering a written notice to the President of Contractor and the Secretary of ICANN.

(ii)   There shall be a single mediator who shall be selected by the agreement of the customer and ICANN. ICANN shall propose a slate of at least five potential mediators, and the customer shall select a mediator from the slate or request a new slate until a mutually agreed mediator is selected. The customer may recommend potential mediators for inclusion on the slates selected by ICANN. ICANN shall not unreasonably decline to include mediators recommended by the customer on proposed slates and the customer shall not unreasonably withhold consent to the selection of a mediator on slates proposed by ICANN.

(iii)   The mediator shall be a licensed attorney with general knowledge of contract law and general knowledge of the DNS and ICANN. The mediator may not have any ongoing business relationship with ICANN, Contractor or the customer. The mediator must confirm in writing that he or she is not, directly or indirectly, and will not become during the term of the mediation, an employee, partner, executive officer, director, consultant or advisor of ICANN, Contractor or the customer.

(iv)   The mediator shall conduct the mediation in accordance with this Section 8.1(c), the laws of California and the rules and procedures of a well-respected international dispute resolution provider.

(v)   The mediation will be conducted in the English language and will occur in Los Angeles County, California, unless another location is mutually agreed between ICANN, Contractor and the customer.

(vi)   ICANN, Contractor and the customer shall discuss the dispute in good faith and attempt, with the mediator's assistance, to reach an amicable resolution of the dispute.

(vii)   ICANN shall bear all costs of the mediator.

(viii)   If ICANN, Contractor and the customer have engaged in good faith participation in the mediation but have not resolved the dispute for any reason, ICANN, Contractor and the customer may terminate the mediation at any time by declaring an impasse.

(ix)   If a resolution to the dispute is reached by ICANN, Contractor and the customer, ICANN, Contractor and the customer shall document such resolution.

Section 8.2   IANA Problem Resolution Process. Following the Effective Date, Contractor shall work cooperatively with the CSC to develop "Remedial Action Procedures" for the purpose of addressing Performance Issues. If the CSC determines that a Performance Issue exists, the CSC may seek resolution of the Performance Issue with Contractor, in which case Contractor shall comply with such Remedial Action Procedures if and to the extent the CSC also complies with such procedures.

Section 8.3   Notice and Mitigation Plan.

(a)   Contractor shall promptly inform ICANN of any issue or dispute arising from its performance of the requirements and services contemplated by this Contract prior to the Complaint being escalated pursuant to Section 8.1(a), and shall agree with ICANN on a plan to resolve the Complaint.

(b)   If, for any reason, Contractor fails to meet any of the requirements of this Contract, Contractor shall (i) conduct an analysis of its operations to determine the root cause of such failure, (ii) develop a mitigation plan to avoid the root cause of such failure from occurring in the future, and (iii) deliver the report to ICANN upon its completion. Contractor shall modify and update any mitigation plan as directed by ICANN.

ARTICLE IX: TERM; RENEWAL; TRANSITION AND TERMINATION

Section 9.1   Initial Term. The initial term of this Contract will be five years from the Effective Date (the "**Initial Term**").

Section 9.2   Renewal; Termination.

(a)   This Contract will be automatically renewed for successive periods of five years (each, a "**Renewal Term**") upon the expiration of the Initial Term and each successive Renewal Term, unless (i) ICANN terminates this Contract pursuant to an SCWG Recommendation arising from an IANA Naming Function Separation Process (as such terms are defined in ICANN's Bylaws) approved in accordance with ICANN's Bylaws or (ii) ICANN elects not to renew the Initial Term or any Renewal Term thereafter pursuant to an IFR Recommendation, Special IFR Recommendation, or SCWG Recommendation (as such terms are defined in ICANN's Bylaws) approved in accordance with ICANN's Bylaws by providing Contractor with not less than twelve months prior written notice. Any termination or election by ICANN to not renew this Contract under this Section 9.2 must be approved by the ICANN Board to be effective hereunder.

(b)   Subject to Section 9.2(a), the first Renewal Term shall commence immediately following the end of the Initial Term and each Renewal Term thereafter shall commence

immediately following the end of the preceding Renewal Term. Each Renewal Term shall end on the fifth anniversary of the commencement of the Renewal Term.

Section 9.3   Transition.

(a)   Contractor shall develop and maintain, with ICANN input, a plan in place for transitioning the IANA Naming Function to a successor provider to ensure an orderly transition while maintaining continuity and security of operations, including in connection with the nonrenewal of this Contract and/or divestiture or other reorganization of PTI by ICANN as contemplated by ICANN's Bylaws. The transition plan shall be submitted to ICANN and posted to the IANA Website within 18 months after the Effective Date. The plan shall thereafter be reviewed annually and updated as appropriate.

(b)   Contractor shall provide support and cooperation to ICANN, and to any successor provider of the IANA Naming Function, in order to effect an orderly, stable, secure and efficient transition of the performance of the IANA Naming Function.

(c)   Contractor agrees to be engaged in the transition plan and to provide appropriate transition staff and expertise to facilitate a stable and secure transition of the IANA Naming Function to a successor provider.

(d)   ICANN, in conjunction with the CSC as necessary, shall review the transition plan at least every five years.

Section 9.4   Survival of Terms. Upon the expiration or termination of this Contract under this ARTICLE IX, this Contract shall become wholly void and of no further force and effect, and following such expiration or termination no Party shall have any liability under this Contract to the other Party, except that each Party hereto shall remain liable for any breaches of this Contract that occurred prior to its expiration or termination; provided, however, that the following provisions shall survive the expiration or termination of this Contract: ARTICLE I, ARTICLE III, Section 9.3, ARTICLE XII, ARTICLE XIII, Section 14.1 (but only with respect to obligations accruing prior to the expiration or termination of this Contract), Section 14.2 through Section 14.15, and this Section 9.4.

ARTICLE X: RESOURCES, FEES AND BUDGET

Section 10.1   Resources and Fees.

(a)   ICANN shall provide or make available to Contractor the necessary personnel (including seconded employees), material, equipment, services and other resources and facilities to perform Contractor's obligations under this Contract, including funding in accordance with the Approved IANA Budget.

(b)   Contractor may not charge or collect fees from third parties related to the performance of the IANA Naming Function without the prior written consent of ICANN.

(c)   Any fees approved by ICANN and charged by Contractor relating to the IANA Naming Function will be based on the actual costs incurred by Contractor to perform the IANA Naming Function.

(d)   ICANN acknowledges and agrees that the performance by Contractor of the IANA Naming Function is conditioned upon the full and complete performance of all of the services and obligations required of ICANN under the Services Contract between ICANN and Contractor.

Section 10.2   Budget. Contractor shall comply with the requirements set forth in its Bylaws relating to preparing, submitting and monitoring an annual budget. ICANN will meet annually with the General Manager of Contractor to review the annual budget for the IANA Naming Function, which shall be approved in accordance with Contractor's Bylaws and ICANN's Bylaws ("**Approved IANA Budget**").

ARTICLE XI: SECURITY REQUIREMENTS

Section 11.1   Computing Systems. With respect to the performance of the IANA Naming Function, Contractor shall install and operate all computing and communications systems in accordance with best business and security practices. ICANN and Contractor shall implement a secure system for authenticated communications to Contractor's customers when carrying out the IANA Naming Function pursuant to the terms of this Contract. ICANN and Contractor shall document practices and configuration of all systems.

Section 11.2   Notification Systems. Contractor shall implement and thereafter operate and maintain a secure notification system at a minimum, capable of notifying TLD registry operators, of such events as outages, planned maintenance, and new developments. In all cases, Contractor shall notify ICANN of any outages.

Section 11.3   Data. Contractor shall ensure the authentication, integrity, and reliability of the service data in performing the IANA Naming Function.

Section 11.4   Security Plan. ICANN shall coordinate with Contractor to develop and execute a security plan that meets the requirements of this Contract and this ARTICLE XI. ICANN and Contractor shall document in the security plan the process used to ensure information systems including hardware, software, applications, and general support systems have effective security safeguards, which have been implemented, planned for, and documented. Contractor shall, in coordination with ICANN, perform periodic reviews of the security plan and update the plan as necessary.

Section 11.5   Director of Security. Contractor's Director of Security shall be responsible for ensuring Contractor's compliance with the technical and physical security measures and requirements of this Contract.

ARTICLE XII: CONFIDENTIALITY

Section 12.1   Confidentiality. Each of ICANN and Contractor agrees, in the performance of this Contract, to keep the information furnished by the other Party or acquired or developed by ICANN or Contractor in performance of this Contract, in the strictest confidence. Each Party also agrees not to publish or otherwise divulge such information, in whole or in part, in any manner or form, nor to authorize or permit others to do so, and shall take reasonable measures to restrict access to such information while in such Party's possession, to those employees needing such information to perform the work described herein, i.e., on a "need to know" basis. Each of ICANN and Contractor agrees to immediately notify the other Party in writing in the event that ICANN or Contractor, as applicable, determines or has reason to suspect a breach of this requirement has occurred.

Section 12.2   Consent. Contractor agrees that it will not disclose any information described in Section 12.1 to any person unless prior written approval is obtained from ICANN. Contractor agrees to insert the substance of this clause in any consultant agreement or similar agreement.

Section 12.3   Cooperation. Contractor acknowledges that it is obligated to cooperate with the dispute resolution, IFRT review and related escalation procedures in ICANN's Bylaws and Contractor's Bylaws and to produce documents and information in accordance with, and subject to the limitations of, those procedures.

ARTICLE XIII: INTELLECTUAL PROPERTY

Section 13.1   Ownership. As between ICANN and Contractor, ICANN shall own all intellectual property conceived, reduced to practice, created or otherwise developed by Contractor under this Contract (including the SOW).

Section 13.2   Assignment. Contractor shall assign, and shall cause all of its employees and contractors to assign, all rights in any patentable subject matter, patent applications, copyrights, trade secrets and all other intellectual property created by the Contractor, its employees or contractors pursuant to this Contract to ICANN.

Section 13.3   Work for Hire. With respect to copyright, all work performed by Contractor pursuant to this Contract (including the SOW) is a "work for hire" and ICANN shall be deemed the author and shall own all copyrightable works created by Contractor hereunder, and all copyright rights thereto. In the event this is not deemed a work for hire agreement, Contractor hereby assigns and agrees to assign ownership of the foregoing copyrightable works and copyrights to ICANN.

Section 13.4   License. ICANN shall license back any patents, patent applications, copyrights and trade secrets to Contractor for the duration of the Term solely to the extent necessary for Contractor to perform its obligations under this Contract. This license shall be non-exclusive, non-assignable, non-sublicensable, non-transferable and royalty-free.

ARTICLE XIV: MISCELLANEOUS

Section 14.1   <u>Indemnification</u>. So long as Contractor is an affiliate of ICANN (i.e. ICANN is the sole member of Contractor, with the ability to elect at least a majority of the directors of the PTI Board), ICANN shall indemnify and hold harmless Contractor, its officers, agents, and employees from liability of any nature or kind, including costs and expenses to which they may be subject, for or on account of any or all third-party claims, suits or damages of any character whatsoever, (i) resulting from injuries or damages sustained by any person or persons or property by virtue of Contractor's performance of this Contract or failure to perform under this Contract, or (ii) arising or resulting in whole or in part from the fault, negligence, wrongful act or wrongful omission of ICANN or any of its subcontractors (other than Contractor), or their respective employees or agents.

Section 14.2   <u>Notices</u>. All notices to be given under or in relation to this Contract will be given either (i) in writing at the address of the appropriate Party as set forth below or (ii) via electronic mail as provided below, unless that Party has given a notice of change of postal or email address, as provided in this Contract.

> If to ICANN:
>
> > Internet Corporation for Assigned Names and Numbers
> > 12025 Waterfront Drive, Suite 300
> > Los Angeles, CA 90094-2536
> > Attn: President and Chief Executive Officer
> > Phone: +1-310-301-5800
> > Email: goran.marby@icann.org
>
> With a copy to (which shall not constitute notice):
>
> > Internet Corporation for Assigned Names and Numbers
> > 12025 Waterfront Drive, Suite 300
> > Los Angeles, CA 90094-2536
> > Attn: General Counsel
> > Phone: +1-310-301-5800
> > Email: john.jeffrey@icann.org
>
> With a copy to (which shall not constitute notice):
>
> > Internet Corporation for Assigned Names and Numbers
> > 12025 Waterfront Drive, Suite 300
> > Los Angeles, CA 90094-2536
> > Attn: President, Global Domains Division
> > Phone: +1-310-301-5800
> > Email: akram.atallah@icann.org

If to Contractor:

> Public Technical Identifiers
> 12025 Waterfront Drive, Suite 300
> Los Angeles, CA 90094-2536
> Attn: Elise Gerich
> Phone: +1-310-463-1108
> Email: elise.gerich@icann.org

With a copy to (which shall not constitute notice):

> Internet Corporation for Assigned Names and Numbers
> 12025 Waterfront Drive, Suite 300
> Los Angeles, CA 90094-2536
> Attn: Samantha Eisner
> Phone: +1-310-578-8631
> Email: samantha.eisner@icann.org

Any notice required by this Contract will be deemed to have been properly given (i) if in paper form, when delivered in person or via courier service with confirmation of receipt or (ii) if by electronic mail, upon confirmation of receipt by the recipient's email server, provided that such notice via electronic mail shall be followed by a copy sent by regular postal mail service within three calendar days. In the event other means of notice become practically achievable, such as notice via a secure website, the parties will work together to implement such notice means under this Contract.

Section 14.3   Amendments. Except as provided in Section 7.3(c), any term or provision of this Contract may be amended, and the observance of any term of this Contract may be waived only by a physical writing referencing this Contract, and either (a) manually signed by the Parties to be bound or (b) digitally signed by the Parties to be bound. Nothing herein shall limit Section 7.3(c) above or ICANN's obligations under ICANN's Bylaws to the extent related to ICANN's commitments related to the amendment or modification of this Contract, including the ability to amend this Contract pursuant to an approved IFR Recommendation, an approved Special IFR Recommendation or an approved SCWG Recommendation, each as defined and set forth in ICANN's Bylaws.

Section 14.4   Waiver. Any term or provision of this Contract may be waived, or the time for its performance may be extended, by the Party or Parties entitled to the benefit thereof. Any such extension or waiver shall be validly and sufficiently authorized for the purposes of this Contract if, as to any Party, it is authorized in writing by an authorized representative of the Party entitled to the benefits of any such waived term or provision. The failure or delay of any Party to assert or enforce at any time any provision of, or any of its rights under, this Contract shall not be construed to be a waiver of such provision, nor in any way to affect the validity of this Contract or any part hereof or the right of any Party thereafter to enforce each and every such

provision. No waiver of any breach of this Contract shall be held to constitute a waiver of any other or subsequent breach.

Section 14.5   Severability. If any provision of this Contract should be found by a court of competent jurisdiction to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not be affected or impaired thereby.

Section 14.6   Assignment and Subcontracting.

      (a)   Neither Party may assign or transfer this Contract, or any obligation under this Contract (in whole or in part, and whether voluntarily, involuntarily, or by operation of Law) without the other Party's prior written consent.

      (b)   PTI shall not subcontract all or any portion of its rights or obligations under this Contract.

Section 14.7   Governing Law. The Parties agree that this Contract, and any and all disputes arising out of or related to this Contract, shall be governed by, construed, and enforced in all respects in accordance with the Laws of the State of California, United States of America, excluding its conflict of laws rules. Each Party expressly waives any claim that the jurisdiction of such court with respect to personal jurisdiction is improper or that the venue is inconvenient or improper.

Section 14.8   Third Party Beneficiaries. No provision of this Contract is intended to, nor shall be interpreted to, provide or create any rights, benefits or any other interest of any kind in any third party or create any obligations of ICANN or Contractor to any third party.

Section 14.9   English Version. If this Contract is translated into any language other than English, and if there is a conflict between the English version and the translated version, then the English version shall prevail in all respects.

Section 14.10 Savings Clause. Any delay, nonperformance or other breach by a Party of its obligations under this Contract and any liability therefor, shall be excused to the extent such failure is caused by the other Party's acts or omissions or the acts or omissions of such Party's employees or contractors, including such Party's failure to perform its obligations under this Contract.

Section 14.11 Cumulative Remedies. Except as otherwise expressly provided, all remedies provided for in this Contract shall be cumulative and in addition to, and not in lieu of, any other remedies available to either Party.

Section 14.12 Counterparts. This Contract may be executed in counterparts, all of which taken together shall constitute one single agreement between the Parties.

Section 14.13 Headings. The Parties agree that the headings used in this Contract are for ease of reference only and shall not be taken into account in interpreting the Contract.

Section 14.14 <u>Further Assurances</u>. Subject to the terms and conditions of this Contract, each of ICANN and Contractor agrees to use commercially reasonable best efforts to take, or cause to be taken, all appropriate action, and to do, or cause to be done, all things reasonably necessary, proper or advisable under applicable laws to make effective the transactions contemplated by this Contract.

Section 14.15 <u>Entire Contract</u>. This Contract, including all statements of work, schedules, exhibits or other attachments hereto, constitutes the entire understanding and agreement between ICANN and Contractor with respect to the subject matter of this Contract, and supersedes any and all prior or contemporaneous oral or written representation, understanding, agreement or communication relating thereto.

[*Signature Page Follows*]

IN WITNESS WHEREOF, the Parties have caused this Contract to be duly executed as of the date set forth below.

INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS

PUBLIC TECHNICAL IDENTIFIERS

By: _____
(Signature)

By: _____
(Signature)

_____
Name (print)

_____
Name (print)

_____
Title

_____
Title

<u>**ANNEX A: STATEMENT OF WORK FOR MANAGEMENT OF THE DNS ROOT ZONE**</u>

1. **ROOT ZONE MANAGEMENT**

   a. The Root Zone Management component of the IANA Naming Function is the administration of certain responsibilities associated with the Internet DNS root zone management.

   b. Contractor shall collaborate with Interested and Affected Parties to develop, maintain, enhance and post performance standards for Root Zone Management. Specifically, Contractor shall perform Root Zone Management in accordance with the service levels set forth in Section 2.

   c. Contractor shall also implement DNSSEC in all zones for which ICANN has technical administration authority.

   d. Contractor shall facilitate and coordinate the root zone of the domain name system, and maintain 24 hour-a-day/7 days-a-week operational coverage. Contractor shall work collaboratively with the Root Zone Maintainer, in the performance of this function.

      i. Contractor shall receive and process root zone file change requests for TLDs. These change requests include addition of new or updates to existing TLD name servers ("**NS**") and delegation signer ("**DS**") resource record ("**RR**") information along with associated "glue" (A and AAAA RRs). A change request may also include new TLD entries to the root zone file. Contractor shall process root zone file changes as specified in Section 2 of this <u>Annex A</u>.

      ii. Contractor shall maintain, update, and make publicly accessible a Root Zone registration database with current and verified contact information for all TLD registry operators. The Root Zone registration database, at a minimum, shall consist of the following data fields: domain status and contact points for resolving issues relating to the operation of the domain (comprised of at least organizational name, postal address, email address and telephone number). Contractor shall receive and process root zone registration data change requests for TLDs.

      iii. Contractor shall apply existing policies in processing requests related to the Delegation, Revocation and Transfer of ccTLDs, including RFC 1591 as interpreted by the FOI and any further clarification of these policies developed by the ccNSO, as appropriate under ICANN's Bylaws, and approved by the ICANN Board. In addition to these policies, Contractor shall, where applicable, consult the GAC 2005 ccTLD Principles. If an existing policy framework does not cover a specific situation, Contractor

will use commercially reasonable efforts to consult with and provide opportunity for input from Significantly Interested Parties and, where necessary, may request the ccNSO to undertake policy development work to address such issues.

iv. Contractor shall apply existing policy frameworks in processing requests related to retirement of a ccTLD, including RFC 1591 as interpreted by the FOI and any further clarification of these policies developed by the ccNSO, as appropriate under ICANN's Bylaws, and approved by the ICANN Board. If an existing policy does not cover a specific situation, Contractor will use commercially reasonable efforts to consult with and provide opportunity for input from Significantly Interested Parties and, where necessary, may request the ccNSO to undertake policy development work to address such issues.

v. Contractor shall verify that all requests related to the delegation and redelegation of generic TLDs are consistent with the procedures developed by ICANN.

vi. Contractor shall maintain an automated root zone management system that, at a minimum, includes (A) a secure (encrypted) system for customer communications; (B) an automated provisioning protocol allowing customers to manage their interactions with the root zone management system; (C) an online database of change requests and subsequent actions whereby each customer can see a record of their historic requests and maintain visibility into the progress of their current requests; (D) a test system, which customers can use to meet the technical requirements for a change request; and (E) an internal interface for secure communications between the Contractor and the Root Zone Maintainer.

2. **SERVICE LEVELS**

a. Contractor shall perform the Services in accordance with the following "Service Levels". The expectation is that Contractor will normally perform within the threshold. The thresholds will be modified over time as part of periodic reviews of the service level expectation. A subset of the following measures relate to measurement of non-routine changes where it is not applicable to set a specific threshold for performance. It is expected for measurements of non-routine process steps these will only be reported with no applicable service level expectation.

b. Services Definitions

i. Category I (Routine updates impacting Root Zone File). Routine change requests that alter the technical data published in the DNS root zone (e.g. changes to NS records, DS records and glue records). A third party may be engaged to compile, publish and distribute the root zone.

ii. Category II (Routine updates not impacting Root Zone File). Routine change requests that do not alter the DNS root zone (e.g., contact data and metadata). These changes do not require changes to the root zone.

iii. Category III (Creating or Transferring a gTLD). Requests to create ("delegate") or transfer ("redelegate" or "assign") a generic TLD. These changes require additional processing by Contractor to ensure policy and contractual requirements associated with a change of control for the TLD are met.

iv. Category IV (Creating or Transferring a ccTLD). Requests to create or transfer a country-code TLD. These changes require additional processing by Contractor to ensure policy requirements are met. This processing includes additional analysis on the change request, production of a report, and review of the report (including verification that all existing registration data has been successfully transferred from the old to new registry operator).

v. Category V (Other change requests). Other non-routine change requests. Contractor is required to process change requests that may have special handling requirements, or require additional documentary evidence or clarifications from the customer or third parties, that prevent automating the handling of the request. These requests include, but are not limited to:

1. Customers that require requests to be handled outside the online self-service platform, such as those lodging change requests through the exchange of postal mail;

2. Customers that have placed special handling instructions on file with Contractor, or have otherwise asked for special handling for a request that deviates from the normal process, resulting in the request being executed manually;

3. Unique legal or regulatory encumbrances that must be satisfied that require additional processing;

4. Removing a TLD from service (i.e. retirement or revocation); and

5. Changes that relate to the operation of the root zone itself, including changing the Root Key Signing Key, altering the set of authoritative name servers for the root zone (i.e. the "root servers"), and changes to the "root hints".

c. Service Levels

i. The fields in the following tables are as follows:

1. Process. The business process that Contractor is requested to perform.

2. Metric. The individual metric that will be measured as part of the completion of the business process.

3. Threshold. The specified target for each individual change request.

4. Type. Whether the threshold specified is a minimum target (compliance must not be less than the target) or a maximum target (compliance must not be more than the target).

5. Compliance. The percentage that the target goal in aggregate must be met or exceeded within the specified time period for all requests in the specified category.

6. Period. The time over which compliance is measured. (The period of collecting measurements to meet the Service Level Agreement (SLA)).

ii. Process Performance. Total Contractor transaction time for emergency changes should be completed within a target of 12 hours until reviewed by the CSC with Contractor.

Process Category	Metric	Threshold	Type	Compliance	Period
Category I —	**Submission**				
Routine updates impacting Root Zone File (NS, DS and glue records)	Time for ticket confirmation to be sent to requester following receipt of change request via automated submission interface	≤ 60 secs	Max	95%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	Time for lodgment of change request into RZMS by Contractor on behalf of request sent by email	≤ 3 days	Max	95%	Month
	Technical Checks				
	Time to return results for technical checks following submission of request via automated submission interface	≤ 50 mins	Max	95%	Month
	Time to return results for subsequent performance of technical checks during retesting due to earlier failed tests	≤ 3 mins	Max	95%	Month
	Contact Confirmation				
	Time for authorization contacts to be asked to approve change request after completing previous process phase	≤ 60 secs	Max	95%	Month
	Time for response to be affirmed by Contractor	≤ 60 secs	Max	95%	Month
	Contractor Review and Processing				
	Time to complete all other validations and reviews by Contractor and release request for	≤ 5 days	Max	90%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	implementation				
	Supplemental Technical Checks				
	Time to return results for performance of technical checks during Supplemental Technical Check phase	*≤ 60 secs*	*Max*	*95%*	*Month*
	Implementation of Changes				
	Time for root zone changes to be published following completion of validations and reviews by Contractor	*≤ 72 hrs*	*Max*	*99%*	*Month*
	Time to notify requester of change completion following publication of requested changes	*≤ 60 secs*	*Max*	*95%*	*Month*
Category II — Routine updates not impacting Root Zone File (Contact details and metadata)	**Submission**				
	Time for ticket confirmation to be sent to requester following receipt of change request via automated submission interface	*≤ 60 secs*	*Max*	*95%*	*Month*
	Time for lodgment of change request into RZMS by Contractor on behalf of request sent by email	*≤ 3 days*	*Max*	*95%*	*Month*
	Technical Checks				
	Time to return	*No*	*Not*	*Not*	*Not*

Process Category	Metric	Threshold	Type	Compliance	Period
	results for technical checks following submission of request via automated submission interface	*Technical Checks Undertaken*	*Applicable*	*Applicable*	*Applicable*
	Time to return results for subsequent performance of technical checks during retesting due to earlier failed tests	*No Technical Checks Undertaken*	*Not Applicable*	*Not Applicable*	*Not Applicable*
	Contact Confirmation				
	Time for authorization contacts to be asked to approve change request after completing previous process phase	*≤ 60 secs*	*Max*	*95%*	*Month*
	Time for response to be affirmed by Contractor	*≤ 60 secs*	*Max*	*95%*	*Month*
	Contractor Review and Processing				
	Time to complete all other validations and reviews by Contractor and release request for implementation	*≤ 5 days*	*Max*	*90%*	*Month*
	Supplemental Technical Checks				
	Time to return results for performance of technical checks during Supplemental	*No Technical Checks Undertaken*	*Not Applicable*	*Not Applicable*	*Not Applicable*

Process Category	Metric	Threshold	Type	Compliance	Period
	Technical Check phase				
	Implementation of Changes				
	Time for root zone changes to be published following completion of validations and reviews by Contractor	*No Technical Checks Undertaken*	*Not Applicable*	*Not Applicable*	*Not Applicable*
	Time to notify requester of change completion following publication of requested changes	*≤ 60 secs*	*Max*	*95%*	*Month*
Category III — Creating or Transferring a gTLD	**Submission**				
	Time for ticket confirmation to be sent to requester following receipt of change request via automated submission interface	*≤ 60 secs*	*Max*	*95%*	*Month*
	Time for lodgment of change request into RZMS by Contractor on behalf of request sent by email	*≤ 3 days*	*Max*	*95%*	*Month*
	Technical Checks				
	Time to return results for technical checks following submission of request via automated submission interface	*≤ 50 mins*	*Max*	*95%*	*Month*
	Time to return	*≤ 3 mins*	*Max*	*95%*	*Month*

Process Category	Metric	Threshold	Type	Compliance	Period
	results for subsequent performance of technical checks during retesting due to earlier failed tests				
	Contact Confirmation				
	Time for authorization contacts to be asked to approve change request after completing previous process phase	≤ 60 secs	Max	95%	Month
	Time for response to be affirmed by Contractor	≤ 60 secs	Max	95%	Month
	Contractor Review and Processing				
	Time to complete all other validations and reviews by Contractor and release request for implementation	≤ 10 days	Max	90%	Month
	Supplemental Technical Checks				
	Time to return results for performance of technical checks during Supplemental Technical Check phase	≤ 5 mins	Max	95%	Month
	Implementation of Changes				
	Time for root zone changes to be published following completion of validations and	≤ 72 hrs	Max	99%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	reviews by Contractor				
	Time to notify requester of change completion following publication of requested changes	≤ 60 secs	Max	95%	Month
Category IV — Creating or Transferring a ccTLD	**Submission**				
	Time for ticket confirmation to be sent to requester following receipt of change request via automated submission interface	≤ 60 secs	Max	95%	Month
	Time for lodgment of change request into RZMS by Contractor on behalf of request sent by email	≤ 3 days	Max	95%	Month
	Technical Checks				
	Time to return results for technical checks following submission of request via automated submission interface	≤ 50 mins	Max	95%	Month
	Time to return results for subsequent performance of technical checks during retesting due	≤ 3 mins	Max	95%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	to earlier failed tests				
	Contact Confirmation				
	Time for authorization contacts to be asked to approve change request after completing previous process phase	≤ 60 secs	Max	95%	Month
	Time for response to be affirmed by Contractor	≤ 60 secs	Max	95%	Month
	Contractor Review and Processing				
	Time to complete all other validations and reviews by Contractor and release request for implementation	≤ 60 days	Max	100%	Month
	Time for third-party review of request (e.g. by ICANN Board of Directors, PTI Board or other relevant verification parties)	*(Where Applicable)* ≤ 60 days *(subject to review)*	*Intentionally Left Blank*	*Intentionally Left Blank*	*Intentionally Left Blank*
	Supplemental Technical Checks				
	Time to return results for performance of technical checks during Supplemental Technical Check phase	≤ 5 mins	Max	95%	Month
	Implementation of Changes				
	Time for root zone changes to be published following	≤ 72 hrs	Max	99%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	completion of validations and reviews by Contractor				
	Time to notify requester of change completion following publication of requested changes	≤ 60 secs	Max	95%	Month
Category V — Other change requests (i.e. non-routine change requests)	**Submission**				
	Time for ticket confirmation to be sent to requester following receipt of change request via automated submission interface	≤ 60 secs	Max	95%	Month
	Time for lodgment of change request into RZMS by Contractor on behalf of request sent by email	≤ 3 days	Max	95%	Month
	Technical Checks				
	Time to return results for technical checks following submission of request via automated submission interface	≤ 50 mins	Max	95%	Month
	Time to return results for subsequent performance of technical checks during retesting due to earlier failed	≤ 3 mins	Max	95%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	tests				
	Contact Confirmation				
	Time for authorization contacts to be asked to approve change request after completing previous process phase	≤ 60 secs	Max	95%	Month
	Time for response to be affirmed by Contractor	≤ 60 secs	Max	95%	Month
	Contractor Review and Processing				
	Time to complete all other validations and reviews by Contractor and release request for implementation	No Validations Undertaken	Not Applicable	Not Applicable	Not Applicable
	Supplemental Technical Checks				
	Time to return results for performance of technical checks during Supplemental Technical Check phase	≤ 5 mins	Max	95%	Month
	Implementation of Changes				
	Time for root zone changes to be published following completion of validations and reviews by Contractor	≤ 72 hrs	Max	99%	Month
	Time to notify requester of change completion following	≤ 60 secs	Max	95%	Month

Process Category	Metric	Threshold	Type	Compliance	Period
	publication of requested changes				

d. Accuracy

Metric	Measurement	Threshold	Type	Compliance	Period
Root zone file data published in the root zone matches that provided in the change request	*Accuracy*	*100%*	*Min*	*<100%*	
Root zone database is correctly updated in accordance with change requests (does not include impact of normalization and other processing standardization - which in any event shall never detrimentally impact the update)	*Accuracy*	*100%*	*Min*	*<100%*	

e. Online Services Availability and Enquiry Processing

Metric	Threshold	Type	Compliance	Period
RZMS availability — availability of an online interactive web service for credentialed customers to submit change requests to their root zone database entries.	*≥ 99.0%*	*Min*	*< 99%*	*Month*
Website availability — availability of root zone management related documentation (i.e. on http://www.iana.org)	*≥ 99.0%*	*Min*	*< 99%*	*Month*
Directory service availability — availability of the authoritative database of TLDs	*≥ 99.0%*	*Min*	*< 99%*	*Month*
Credential recovery —	*≤ 60 secs*	*Max*	*95%*	*Month*

time to dispatch confirmation email of forgotten username or password				
Credential change — time to implement new password within the system	*≤ 5 min*	*Max*	*95%*	*Month*
Dashboard update frequency — average time to update the dashboard to ensure up-to-date reporting	*≤ 30 min*	*Max*	*100%*	*Month*
Dashboard accuracy — the data presented on the dashboard is accurate	*100%*	*Min*	*<100%*	*Month*
Dashboard availability — availability of the dashboard online	*≥ 99%*	*Min*	*<99%*	*Month*
SLE report production — time to produce reports following the conclusion of the reporting period	*Monthly*			
SLE report availability — availability of the SLE reports and associated data online	*<10 days after month end*	*Max*	*>10 days*	*Month*
SLE report publication — schedule of reporting periods	*Monthly*			
Time to send acknowledge of enquiry — time taken to send initial acknowledgement of receipt of a general enquiry pertaining to root zone management (but not pertaining to interactions in a change request context)	*≤ 60 secs*	*Max*	*95%*	*Month*
Time to send initial response to enquiry —	*≤ 5 days*	*Max*	*90%*	*Month*

time taken for staff to respond to enquiry, either in part or in whole				

f. These elements reflect activity areas that should be instrumented by Contractor, and reported pursuant to ARTICLE VII of the Contract and Section 3 of this SOW.

g. Either Party may initiate a change to the services performed by Contractor hereunder by delivering to the other a change request, in a form mutually acceptable to the Parties. Thereafter, the Parties will discuss the requested change in good faith and upon the Parties' mutual written agreement that a change to the services performed by Contractor hereunder should be made, such change shall be evidenced in writing and deemed to be incorporated into this Contract, without any need to amend the terms of this Contract.

3. **PERFORMANCE METRIC REQUIREMENTS**

a. Program Reviews and Site Visits

i. Contract acknowledges that the CSC is entitled to conduct reviews in accordance with ICANN's Bylaws and the CSC Charter.

ii. Contractor acknowledges that an IFRT is entitled to conduct site visits in accordance with ICANN's Bylaws.

b. Monthly Performance Progress Report. Contractor shall prepare and submit reports as mutually agreed between Contractor and the CSC.

c. Root Zone Management Dashboard. Contractor shall work collaboratively with ICANN and Interested and Affected Parties to produce the dashboard to report Service Level Expectations for Root Zone Management, which will be used for real-time reporting of Contractor's performance.

d. Performance Standards Reports. Contractor shall develop and publish performance standard metric reports for the IANA Naming Function in consultation with the CSC. The performance standards metric reports will be published via a website every month (no later than 15 calendar days following the end of each month).

e. Customer Service Survey. In accordance with ICANN's Bylaws, Contractor shall collaborate with the CSC and ICANN to maintain and enhance the annual customer service survey consistent with the performance standards for Root Zone Management. The survey shall, at a minimum, include a feedback section for the IANA Naming Function. No later than 60 calendar days after completing a customer service survey, Contractor shall prepare a report (the "**CSS Report**"),

submit the CSS Report to ICANN and publicly post the CSS Report to the IANA Website.

f. Final Report. Contractor shall prepare and submit a final report on the performance of the IANA Naming Function that documents standard operating procedures, including a description of the techniques, methods, software, and tools employed in the performance of the IANA Naming Function. Contractor shall submit the report to the CSC and ICANN no later than 30 days after the expiration or termination of the Contract.

g. Inspection and acceptance. ICANN will perform final inspection and acceptance of all deliverables and reports articulated in this Section 3, as set forth in Section 4.10(a) of the Contract. Any deficiencies identified by ICANN shall be corrected by Contractor and resubmitted to ICANN within 10 business days after Contractor's receipt of notice of such deficiency.

4. **BASELINE REQUIREMENTS FOR DNSSEC IN THE AUTHORITATIVE ROOT ZONE**

a. DNSSEC at the authoritative Root Zone requires cooperation and collaboration between the Contractor and the Root Zone Maintainer. The baseline requirements encompass the responsibilities and requirements for Contractor and these responsibilities and requirements must be implemented in cooperation with similar responsibilities and requirements defined within ICANN's relationship with the Root Zone Maintainer.

b. General Requirements

   i. The Root Zone system needs an overall security lifecycle, such as that described in ISO 27001, NIST SP 800-53, etc., and any security policy for DNSSEC implementation must be validated against existing standards for security controls.

   ii. The remainder of this section highlights security requirements that must be considered in developing any solution. ISO 27002:2005 (formerly ISO 17799:2005) and NIST SP 800-53 are recognized sources for specific controls. Note that reference to SP 800-53 is used as a convenient means of specifying a set of technical security requirements. The systems referenced in this document are assumed to meet all the SP 800-53 technical security controls or equivalent required by a HIGH IMPACT system.

   iii. Whenever possible, references to NIST publications are given as a source for further information. These Special Publications ("**SP**") are not intended as auditing checklists, but as non-binding guidelines and recommendations to establish a viable IT security policy. Comparable

security standards can be substituted where available and appropriate. All of the NIST document references can be found on the NIST Computer Security Research Center webpage (http://www.csrc.nist.gov/).

c. Security Authorization and Management Policy

    i. Contractor shall have its own security policy in place; each security policy must be periodically reviewed and updated, as appropriate.

        1. Supplemental guidance on generating a Security Authorization Policy may be found in NIST SP 800-37.

    ii. The policy shall have a contingency plan component to account for disaster recovery (both man-made and natural disasters).

        1. Supplemental guidance on contingency planning may be found in SP 800-34

    iii. The policy shall address Incident Response detection, handling and reporting (see 4 below).

        1. Supplemental guidance on incident response handling may be found in NIST SP 800- 61.

d. IT Access Control

    i. There shall be an IT access control policy in place and enforced for the key management functions

        1. This includes both access to hardware/software components and storage media as well as ability to perform process operations.

        2. Supplemental guidance on access control policies may be found in NIST SP 800-12.

    ii. Users without authentication shall not perform any action in key management.

    iii. In the absence of a compelling operational requirement, remote access to any cryptographic component in the system (such as hardware security modules) is not permitted.

e. Security Training

    i. All personnel participating in the Root Zone Signing process shall have adequate IT security training.

ii. Supplemental guidance on establishing a security awareness training program may be found in NIST SP 800-50.

f. Audit and Accountability Procedures

i. Contractor shall periodically review/update: (1) its formal, documented, audit and accountability policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and (2) the formal, documented procedures to facilitate the implementation of the audit and accountability policy and associated audit and accountability controls.

1. Supplemental guidance on auditing and accountability policies may be found in NIST SP 800-12.

2. Specific auditing events include the following:

a. Generation of keys.

b. Generation of signatures

c. Exporting of public key material

d. Receipt and validation of public key material (i.e., from the ZSK holder or from TLDs)

e. System configuration changes

f. Maintenance and/or system updates

g. Incident response handling

h. Other events as appropriate

ii. Incident handling for physical and exceptional cyber-attacks shall include reporting to ICANN in a timeframe and format as mutually agreed by ICANN and Contractor.

iii. The auditing system shall be capable of producing reports on an ad-hoc basis for ICANN or the CSC.

iv. A version of the reports provided to ICANN or the CSC must be made publically available.

g. Physical Protection Requirements

i. There shall be physical access controls in place to only allow access to hardware components and media to authorized personnel.

    1. Supplemental guidance on token based access may be found in NIST SP 800-73.

    2. Supplemental guidance on token based access biometric controls may be found in NIST SP 800-76.

ii. Physical access shall be monitored, logged, and registered for all users and visitors.

iii. All hardware components used to store keying material or generate signatures shall have short-term backup emergency power connections in case of site power outage. (See NIST SP 800-53r3).

iv. Appropriate protection measures shall be in place to prevent physical damage to facilities as appropriate.

h. All Components

i. All hardware and software components must have an established maintenance and update procedure in place.

    1. Supplemental guidance on establishing an upgrading policy for an organization may be found in NIST SP 800-40

ii. All hardware and software components provide a means to detect and protect against unauthorized modifications/updates/patching.

i. Interface Basic Functionality

i. Contractor's interface shall have the ability to accept and process TLD DS records, including:

    1. Accept TLD DS RRs

        a. Being able to retrieve TLD DNSKEY record from the TLD, and perform parameter checking for the TLD keys, including verifying that the DS RR has been correctly generated using the specified hash algorithm.

    2. Having procedures for:

        a. Scheduled roll over for TLD key material;

b. Supporting emergency key roll over for TLD key material; and

c. Moving TLD from signed to unsigned in the root zone.

ii. Ability to submit TLD DS record updates to the Root Zone Maintainer for inclusion into the root zone.

iii. Ability to submit RZ keyset to the Root Zone Maintainer for inclusion into the root zone.