EMERGENCY BACK---END REGISTRY OPERATOR AGREEMENT

This EMERGENCY BACK---END REGISTRY OPERATOR AGREEMENT (this "Agreement") is entered into as of March 6, 2025 (the "Effective Date") between Internet Corporation for Assigned Names and Numbers ("ICANN"), a California nonprofit public benefit corporation, with its principal offices located at 12025 Waterfront Drive, Suite 300, Los Angeles, CA, USA 90094--2536 and Canadian Internet Registration Authority ("EBERO Service Provider"), a Canadian not-for-profit organization with its principal offices located at 979 Bank Street, Suite 400, Ottawa, ON, Canada K1S 5K5.

ARTICLE 1.

DESIGNATION AS EBERO; REPRESENTATIONS AND WARRANTIES

1.1 Designation.

(a) Upon the Effective Date and until the earlier of the expiration of the Term (as defined in Section 3.1) or the termination of this Agreement pursuant to Article 3, ICANN designates EBERO Service Provider as an emergency back---end registry operator (an "EBERO"), subject to the terms and conditions of this Agreement and any service order issued by ICANN and accepted by EBERO Service Provider (each, an "Event Activation Order"). The form of the Event Activation Order is attached hereto as Exhibit A, and any issued and accepted Event Activation Order shall be incorporated into and considered a part of this Agreement. EBERO Service Provider accepts such designation and agrees to perform its obligations hereunder and to comply with the terms, conditions and procedures established in the *EBERO Common Transition Process*-- which is attached hereto as Exhibit B (which may be amended by ICANN from time to time) and incorporated into and considered a part of this Agreement, as so amended (the "CTP Manual"). EBERO Service Provider acknowledges that ICANN has, and may in the future, designate other third parties to serve as an EBERO, and ICANN may appoint more than one EBERO to provide the EBERO Services (as set forth and defined in Section 2.1 below) for a Failed TLD (as defined below).

(b) Upon notification by ICANN, EBERO Service Provider shall be subject to testing and simulation established in Exhibit E-2 to confirm its ability to provide the EBERO Services as specified in the CTP Manual (the "Testing and Simulation"). The Testing and Simulation consists of two stages, the first stage (the "Common Transition Readiness Inspection")was completed by EBERO Service Provider pursuant to a previous Emergency Back End Registry Operator Agreement executed between the parties on or about August 15, 2019

. ICANN and the EBERO Service Provider will perform the second stage ("EBERO Readiness Exercise") as provided for in Exhibit E-2. ICANN may not assign the EBERO Service Provider any Event Activation Order until the EBERO Service Provider successfully completes the EBERO Readiness Exercise as detailed in Exhibit E-2.

(c) EBERO Service Provider shall provide the services specified in this Agreement for the top---level domain(s) (each a "TLD") for which EBERO Service Provider is designated by ICANN as EBERO pursuant to an Event Activation Order (individually and collectively, such designated TLDs are referred to herein as, the "Failed TLD" or "Failed TLDs"). EBERO Service Provider shall provide such services under the Event Activation Order until the earlier of (i) ICANN's notification to EBERO Service Provider that the Failed TLD will cease operations and not be transitioned to another operator, (ii) the transition of the Failed TLD to a successor registry operator, the original registry operator, another EBERO or registry service provider (each such provider/operator, a "successor operator") as provided in the CTP Manual, (iii) cancellation of the EBERO Event, or (iv) ICANN otherwise terminates the Event Activation Order pursuant to Section 3.2. ICANN shall have no obligation to designate EBERO Service Provider as the EBERO for any Failed TLD.

(d) EBERO Service Provider shall serve as the EBERO for Failed TLD(s) for which ICANN designates EBERO Service Provider (pursuant to Section 2.1 below) as the EBERO under any Event Activation Order; *provided, however*, ICANN agrees that EBERO Service Provider will not be designated as the EBERO for any of the TLDs set forth in Exhibit C hereto.

(e) ICANN shall maintain the sole discretion to designate an EBERO to provide the EBERO Services for a Failed TLD.

(f) Following ICANN's designation of EBERO Service Provider as the EBERO for a Failed TLD pursuant to an Event Activation Order, ICANN will publicly announce such designation.

1.2 Representations and Warranties.

(a) EBERO Service Provider represents and warrants to ICANN as follows:

(i) all material information provided and statements made in its submission in connection with the negotiation of this Agreement, were true and correct in all material respects at the time made, and such information or statements continue to be true and correct in all material respects as of the Effective Date except as otherwise previously disclosed in writing by EBERO Service Provider to ICANN;

(ii) EBERO Service Provider maintains sufficient total sustained capacity to successfully handle DNS queries of [redacted] and to distribute DNS services using Anycast; and

(iii) EBERO Service Provider is duly organized, validly existing and in good standing under the laws of the jurisdiction set forth in the preamble hereto, and EBERO Service Provider has all requisite power and authority and obtained all necessary approvals to enter into and duly execute and deliver this Agreement.

(b) ICANN represents and warrants to EBERO Service Provider that ICANN is a nonprofit public benefit corporation duly organized, validly existing and in good standing under the laws of the State of California, United States of America. ICANN has all requisite power and authority and obtained all necessary corporate approvals to enter into and duly execute and deliver this Agreement.

ARTICLE 2.

OBLIGATIONS OF THE PARTIES

2.1 EBERO Services. In the event ICANN declares an emergency event ("EBERO Event") and EBERO Service Provider is designated as the EBERO for such Failed TLD by accepting an Event Activation Order:

(a) EBERO Service Provider shall provide the following back---end registry functions in respect of that Failed TLD: DNS, DNSSEC, RDDS, SRS/EPP, and will execute Data Escrow registry deposits and support services (including, without limitation, those in Sections 3.7 and 3.8 of the CTP Manuel), all as provided hereunder and in the CTP Manual (collectively all such functions and services shall be referred to herein as the "EBERO Services"). The EBERO Services shall be provided and implemented in the manner specified in Section 11 of the CTP Manual.

(b) EBERO Service Provider shall have at least two Anycast networks to distribute the DNS service in respect of that Failed TLD, provided that at least one of these Anycast networks shall be managed by a third party that is not an Affiliate (as defined in Section 6.12) of the EBERO Service Provider. For purposes of this Agreement, "Anycast" is a network addressing and routing method whereby multiple DNS servers in different locations use the same IP address, such that when a query is sent to that IP address, the query is routed and resolved by one of such DNS servers closest to it, as described in RFC 9499.

2.2 Transition-Out Services. As part of its EBERO Services, ICANN may direct the EBERO Service Provider to transition a Failed TLD to a successor operator as part of the Transition---Out Process in Exhibit B. These transition-out services shall include consultation by the EBERO Service Provider with the successor operator and/or its registry services provider to develop a transition-out plan. Such

transition-out plan must be approved by ICANN and IANA prior to execution. EBERO Services Provider will provide information about the tasks it will undertake as part of the transition process, coordinate and plan with the gaining provider, ICANN and IANA as needed. The Transition-Out will occur upon a mutually agreeable time by all parties.

Decommissioning/Removal from Root Zone. If a Failed TLD is not transitioned to a successor operator and/or its registry services provider, it may be removed from the Root Zone. When EBERO Service Provider is notified of a Failed TLD removal from the Root Zone, it may decommission systems and support for the Failed TLD. EBERO Service Provider shall not receive a transition-out services fee when a Failed TLD is removed from the Root Zone.

2.3 Contractual and Operational Compliance Audits. ICANN may from time to time (not to exceed twice per calendar year) conduct, or engage a third party to conduct, contractual compliance audits to assess EBERO Service Provider's compliance with its representations and warranties contained in Article 1 of this Agreement and its covenants contained in Article 2. Such audits shall be tailored to achieve the purpose of assessing compliance, and ICANN will (a) give reasonable advance notice of any such audit, which notice shall specify in reasonable detail the categories of documents, data and other information requested by ICANN, and (b) use commercially reasonable efforts to conduct such audit in such a manner as to not unreasonably disrupt EBERO Service Provider's operations. As part of such audit and upon request by ICANN, EBERO Service Provider shall timely provide all responsive documents, data and any other information necessary to demonstrate EBERO Service Provider's compliance with this Agreement. ICANN will treat any information obtained in connection with such audits that is appropriately marked or otherwise designated in writing as confidential as EBERO Service Provider's Confidential Information in accordance with Section 6.12. Any audit conducted pursuant to this Section will be at ICANN's expense.

2.4 Notification of Certain Events. EBERO Service Provider will give ICANN immediate notice of the commencement of any of the proceedings referenced in Section 3.2(e) or the occurrence of any of the matters specified in Section 3.2(f).

2.5 EBERO Performance Specifications. The performance specifications for EBERO Service Provider will be as set forth in Section 4 of the CTP Manual (the "Performance Specifications"). EBERO Service Provider shall comply with such Performance Specifications and shall keep technical and operational records sufficient to evidence compliance with such specifications for each calendar year during the Term.

2.6 Personal Data.

(a) For purposes of this Agreement, "Applicable Data Protection Laws" means (i) the EU General Data Protection Regulation (EU) 2016/679 (the "GDPR"), together with any transposing, implementing or supplemental legislation,

in each case to the extent applicable to a party, and (b) all applicable laws, regulations or requirements or regulatory guidance, in any jurisdiction, in relation to data protection, privacy and confidentiality of "Personal Data" (as defined in Section 2.6(b) of this Agreement), in each case to the extent applicable to a party.

For purposes of this Agreement, "Personal Data" means any information relating to an identified or identifiable natural person ("Data Subject"); an identifiable person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier, or to one or more factors specific to his or her physical, physiological, genetic, mental, economic, cultural or social identity.

(b) For purposes of this Agreement, "Processing" (or any of its conjugates) means any operation or set of operations which is performed on Personal Data or on sets of Personal Data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction.

(c) EBERO Service Provider shall comply with the Applicable Data Protection Laws when Processing Personal Data in connection with providing the EBERO Services for a Failed TLD under this Agreement, including that EBERO Service Provider will Process the Personal Data in a manner that ensures appropriate security of the Personal Data, including protection against unauthorized or unlawful Processing and against accidental loss, destruction or damage, using appropriate technical or organizational measures. EBERO Service Provider shall not Process or use or authorize the Processing or use of Personal Data in a way that is incompatible with providing the EBERO Services. Upon expiration or termination of this Agreement, EBERO Service Provider shall destroy all Personal Data for all TLDs within ninety (90) calendar days following such termination or expiration. In addition, following the expiration or termination of an Event Activation Order, EBERO Service Provider shall destroy all Personal Data for such TLD within ninety (90) calendar days following such termination or expiration.

(d) EBERO Service Provider agrees to incorporate additional data protection requirements into this Agreement by way of an amendment to this Agreement pursuant to Section 6.5 which could also take the form of a separately executed Data Protection Addendum (the "Additional Data Protection Requirements"), if (i) ICANN reasonably determines that Applicable Data Protection Laws require the Additional Data Protection Requirements, or (ii) an authority issues guidance or an order that Additional Data Protection Requirements are required (each of the events under (i) and (ii) is referred to as an "Amendment Triggering Event"). Failure on part of EBERO Service Provider to agree to the Additional Data Protection Requirements as required under this Section 2.6(d) within 90 days after an Amendment Triggering Event occurred may be grounds for

termination pursuant to Section 3.2(d) of this Agreement.

(e) The limitations on liability set forth in Section 4.3 of this Agreement shall not apply to any violations of this Section 2.6.

2.7 Communications; Single Point of Contact. To facilitate efficient and effective delivery of the EBERO Services in the event ICANN declares an Emergency Event, ICANN shall establish a primary point of contact to manage all activities and communications with EBERO Service Provider (the "Event Director") as provided in

the CTP Manual. During an Emergency Event, the Event Director shall have authority to act on behalf of ICANN, and EBERO Service Provider shall take direction from the Event Director. The Event Director shall (i) provide technical and operational notices to registrars, as appropriate, (ii) make arrangements with the data escrow provider of the Failed TLD for release of data escrow files to the EBERO Service Provider, (iii) notify and coordinate with the Internet Assigned Numbers Authority Functions Operator ("IANA") for any emergency requests for changes to the root zone, and (iv) undertake other obligations as provided in the CTP Manual. Program communications with the Event Director or other ICANN personnel (including those regarding on-call lists, communication methods and event instructions) may be via e-mail or other collaboration tools.

2.8 No Support for End Customers. EBERO Service Provider shall have no obligation to interface with or be responsible for providing customer service, billing or technical support for "End Customers." "End Customers" shall mean any person or entity who has requested the registration or renewal of a domain name in the Failed TLD whether directly or indirectly through a registrar or any registry.

2.9 EBERO Transition Process. The EBERO Transition Process is set forth in Section 3.0 of the CTP Manual. Failure to comply with the service requirements and service level agreements set forth in the CTP Manual in any material respect may be grounds for termination pursuant to Section 3.2 of this Agreement.

2.10 Compliance with Consensus Policies and Temporary Policies. EBERO Service Provider shall comply with and implement all Consensus Policies and Temporary Policies found at <http://www.icann.org/general/consensus-policies.htm>, as of the Effective Date and as may in the future be developed and adopted in accordance with the ICANN Bylaws, provided such future Consensus Polices and Temporary Policies are adopted in accordance with the procedure and relate to those topics and subject to those limitations set forth in Specification 1 of the new gTLD base Registry Agreement ("Base Registry Agreement") found at <https://www.icann.org/resources/pages/registries/registries-agreements-en>.

ARTICLE 3.

TERM AND TERMINATION

3.1 Term. The term of this Agreement will initiate on the Effective Date and expire on November 30, 2027; provided, however, that if EBERO Service Provider is providing services for a Failed TLD(s) pursuant to an active Event Activation Order at the time of the expiration date listed herein, then the term of this Agreement as a whole shall be automatically extended to expire upon the expiration of such Event Activation Order as set forth in Section 1.1(c) (the "Term").

3.2 Termination by ICANN.

(a) ICANN may, upon notice to EBERO Service Provider, terminate

this Agreement and/or any or all Event Activation Orders if EBERO Service Provider fails to cure any fundamental and material breach of EBERO Service Provider's representations and warranties set forth in Article 1 or obligations set forth in Articles 2, 4 or 6 within thirty (30) calendar days after ICANN gives EBERO Service Provider notice of such breach, which notice describes with reasonable specificity the details of the alleged breach.

(b) ICANN may, upon notice to EBERO Service Provider, terminate this Agreement and/or any or all Event Activation Orders if (i) EBERO Service Provider fails to complete the transition of any Failed TLD in any material respect, or (ii) EBERO Service Provider fails to comply with any obligations, processes or procedures set forth in the CTP Manual in any material respect with respect to any Failed TLD.

(c) ICANN may, upon notice to EBERO Service Provider, terminate this Agreement and/or any or all Event Activation Orders if EBERO Service Provider refuses or otherwise fails to agree to incorporate the Additional Data Protection Requirements as required under Section 2.6(d) of the Agreement within 90 days after an Amendment Triggering Event occurred.

(d) ICANN may, upon notice to EBERO Service Provider, terminate this Agreement and/or any or all Event Activation Orders if (i) EBERO Service Provider makes an assignment for the benefit of creditors or similar act, (ii) attachment, garnishment or similar proceedings are commenced against EBERO Service Provider, which proceedings are a material threat to EBERO Service Provider's ability to provide EBERO Services, and are not dismissed within sixty (60) calendar days of their commencement, (iii) a trustee, receiver, liquidator or equivalent is appointed in place of EBERO Service Provider or maintains control over any of EBERO Service Provider's property, (iv) execution is levied upon any of EBERO Service Provider's property, (v) proceedings are instituted by or against EBERO Service Provider under any bankruptcy, insolvency, reorganization or other laws relating to the relief of debtors and such proceedings are not dismissed within thirty (30) calendar days of their commencement, or (vi) EBERO Service Provider files for protection under the United States Bankruptcy Code, 11 U.S.C. Section 101 et seq., or a foreign equivalent or liquidates, dissolves or otherwise discontinues its operations.

(e) ICANN may, upon notice to EBERO Service Provider, terminate this Agreement and/or any or all Event Activation Orders if (i) EBERO Service Provider knowingly employs any officer that is convicted of a misdemeanor related to financial activities or of any felony, or is judged by a court of competent jurisdiction to have committed fraud or breach of fiduciary duty, or is the subject of a judicial determination that ICANN reasonably deems as the substantive

equivalent of any of the foregoing and such officer is not terminated within thirty (30) calendar days of EBERO Service Provider's knowledge of the foregoing, or (ii) any member of EBERO Service Provider's board of directors or similar governing body is convicted of a misdemeanor related to financial activities or of any felony, or is judged by a court of competent jurisdiction to have committed fraud or breach of fiduciary duty, or is the subject of a judicial determination that ICANN reasonably deems as the substantive equivalent of any of the foregoing and such member is not removed from EBERO Service Provider's board of directors or similar governing body within thirty (30) calendar days of EBERO Service Provider's knowledge of the foregoing.

(f) ICANN may, upon thirty (30) calendar days' notice to EBERO Service Provider, terminate this Agreement and/or any or all Event Activation Orders as specified in Section 6.4.

(g) ICANN may terminate this Agreement for any reason upon two hundred seventy (270) calendar days advance notice to EBERO Service Provider.

(h) ICANN may terminate any Event Activation Order for any reason upon ninety (90) calendar days advance notice to EBERO Service Provider.

3.3 Termination by EBERO Service Provider.

(a) EBERO Service Provider may terminate this Agreement upon notice to ICANN if, (i) ICANN fails to cure (A) any fundamental and material breach of ICANN's obligations set forth in Articles 2, 4 or 6, or (B) any breach of ICANN's payment obligations set forth in Article 5, each within thirty (30) calendar days after EBERO Service Provider gives ICANN notice of such breach, which notice will include with specificity the details of the alleged breach, (ii) an arbitrator or court of competent jurisdiction has finally determined that ICANN is in fundamental and material breach of such covenants or its payment obligations, and (iii) ICANN fails to comply with such determination and cure such breach within ten (10) calendar days or such other time period as may be determined by the arbitrator or court of competent jurisdiction.

(b) EBERO Service Provider may terminate this Agreement for any reason upon two hundred seventy (270) calendar days advance notice to ICANN.

3.4 Effect of Termination.

(a) Upon any expiration of the Term or termination of this Agreement, the obligations and rights of the parties hereto shall cease, provided that such expiration or termination of this Agreement (including all Event

Activation Orders) shall not relieve the parties of any obligation or breach of this Agreement accruing prior to such expiration or termination, including, without limitation, all accrued payment obligations arising under Article 5. In addition, Article 4, Article 6, and this Section 3.4 shall survive the expiration or termination of this Agreement.

(b) Upon termination of an Event Activation Order pursuant to Section 1.1(c), the obligations and rights of the parties hereto shall cease with respect to such expired or terminated Event Activation Order, provided that such expiration or termination shall not relieve the parties of any obligation or breach of this Agreement accruing prior to such expiration or termination, including, without limitation, all accrued payment obligations arising under Article 5. In addition, as it relates to such Event Activation Order, Article 4, Article 6, and this Section 3.4 shall survive the expiration or termination of an Event Activation Order. Other than as specified in this Section 3.4(b) with respect to any expiration of or termination of an Event Activation Order, all other Event Activation Orders and this Agreement shall remain in effect.

ARTICLE 4.

DISPUTE RESOLUTION

4.1 Mediation. In the event of any dispute arising under or in connection with this Agreement (including any Event Activation Order), either party may request to resolve the dispute through mediation prior to initiating arbitration. The requesting party shall send a written notice of its desire to use mediation (pursuant to the notice requirements of Section 6.7) and if the other party sends an approval of such request within 10 business days of receipt of the request, then ICANN and EBERO Service Provider shall attempt to resolve the dispute through mediation in accordance with the terms and conditions below. If the non-requesting party does not approve using mediation, then the dispute can then proceed to arbitration pursuant to Section 4.2 below.

(a) The mediation shall be conducted by a single mediator selected by the parties. If the parties cannot agree on a mediator within fifteen (15) calendar days of delivery of written notice pursuant to this Section 4.1, the parties will promptly select a mutually acceptable mediation provider entity, which entity shall, as soon as practicable following such entity's selection, designate a mediator, who is a licensed attorney with general knowledge of contract law and, to the extent necessary to mediate the particular dispute, general knowledge of the domain name system. Any mediator must confirm in writing that he or she is not, and will not become during the term of the mediation, an employee, partner, executive officer, director, or security holder of ICANN or EBERO Service Provider. If such confirmation is not provided by the appointed mediator, then a replacement mediator shall be appointed pursuant to this Section 4.1(a).

(b) The mediator shall conduct the mediation in accordance with the rules and procedures that he or she determines following consultation with the

parties. The parties shall discuss the dispute in good faith and attempt, with the mediator's assistance, to reach an amicable resolution of the dispute. The mediation shall be treated as a settlement discussion and shall therefore be confidential and may not be used against either party in any later proceeding relating to the dispute, including any arbitration pursuant to Section 4.2. The mediator may not testify for or against either party in any later proceeding relating to the dispute.

(c) Each party shall bear its own costs in the mediation. The parties shall share equally the fees and expenses of the mediator. Each party shall treat information received from the other party pursuant to the mediation that is appropriately marked or otherwise designated in writing as confidential (as required by Section 6.12) as Confidential Information of such other party in accordance with Section 6.12.

(d) If the parties have engaged in good faith participation in the mediation but have not resolved the dispute for any reason, either party or the mediator may terminate the mediation at any time and the dispute can then proceed to arbitration pursuant to Section 4.2 below. If the parties have not resolved the dispute for any reason by the date that is ninety (90) calendar days following the date of the notice delivered pursuant to Section 4.1(a), the mediation shall automatically terminate (unless extended by agreement of the parties) and the dispute can then proceed to arbitration pursuant to Section 4.2 below.

4.2 Arbitration. Disputes arising under or in connection with this Agreement (including any Event Activation Order) that are not resolved pursuant to Section 4.1, including requests for specific performance, will be resolved through binding arbitration conducted pursuant to the rules of the International Court of Arbitration of the International Chamber of Commerce. The arbitration will be conducted in the English language and will occur in Los Angeles County, California. Any arbitration will be conducted by a single arbitrator. In order to expedite the arbitration and limit its cost, the arbitrator shall establish page limits for the parties' filings in conjunction with the arbitration, and should the arbitrator determine that a hearing is necessary, the hearing shall be limited to one (1) calendar day, The prevailing party in the arbitration will have the right to recover its costs and reasonable attorneys' fees, which the arbitrator shall include in the awards. Each party shall treat information received from the other party pursuant to the arbitration that is appropriately marked as confidential (as required by Section 6.12) as Confidential Information of such other party in accordance with Section 6.12. In any litigation involving ICANN concerning this Agreement, jurisdiction and exclusive venue for such litigation will be in a court located in Los Angeles County, California; however, the parties will also have the right to enforce a judgment of such a court in any court of competent jurisdiction.

4.3 Limitation of Liability. ICANN's aggregate monetary liability for violations of this Agreement will not exceed an amount equal to the fees paid by ICANN to EBERO Service Provider within the preceding twelve---month period pursuant to this Agreement, except with respect to ICANN's indemnification

obligations pursuant to Section 6.1 and Section 6.2, for which ICANN's aggregate monetary liability will be limited to the greater of $200,000 or an amount equal to the fees paid by ICANN to EBERO Service Provider within the preceding twenty---four-month period pursuant to this Agreement. Other than as set forth in Section 2.6, EBERO Service Provider's aggregate monetary liability to ICANN for breaches of this Agreement will be limited to an amount equal to the fees paid by ICANN to EBERO Service Provider during the preceding twelve---month period, except with respect to EBERO Service Provider's indemnification obligations pursuant to Section 6.1 and Section 6.2, for which EBERO Service Provider's aggregate monetary liability will be limited to the greater of (a)$ 200,000 or (b) an amount equal to the fees paid by ICANN to EBERO Service Provider during the preceding twenty---four month period. In no event shall either party be liable for special, punitive, exemplary or consequential damages arising out of or in connection with this Agreement (including any Event Activation Order) or the performance or nonperformance of obligations undertaken in this Agreement (including any Event Activation Order). Except as otherwise provided in this Agreement or any Event Activation Order, neither party makes any warranty, express or implied, with respect to the services rendered by itself, its servants or agents, or the results obtained from their work, including, without limitation, any implied warranty of merchantability, non---infringement or fitness for a particular purpose.

4.4 Specific Performance. EBERO Service Provider and ICANN agree that irreparable damage could occur if any of the provisions of this Agreement is not performed in accordance with its specific terms. Accordingly, the parties agree that they each shall be entitled to seek from the arbitrator or court of competent jurisdiction specific performance of the terms of this Agreement (in addition to any other remedy to which each party is entitled).

ARTICLE 5.

FEES

Subject to the terms of this Agreement, ICANN shall pay EBERO Service Provider fees for providing the EBERO Services, and expenses as follows:

5.1 INTENTIONALLY OMITTED.

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5.2 Standard Emergency Event Fee. ICANN shall pay EBERO Service Provider a standard emergency event fee for each Failed TLD for which EBERO Service Provider is providing EBERO Services (the "Standard Emergency Event Fee"). The Standard Emergency Event Fee is $10,000. ICANN shall pay fifty percent (50%) of the Standard Emergency Event Fee within thirty (30) calendar days following the date the EBERO Service Provider accepts the Event Activation Order and completes the requirements set forth in Exhibit D attached hereto. ICANN shall pay the remaining fifty percent (50%) of the Standard Emergency Event Fee within six months of the EBERO Service Provider's completion of the requirements set forth in Exhibit D.

5.3 Ongoing Event Fee. Once the EBERO Service Provider completes the requirements set forth in Exhibit D Transition-In State for a Failed TLD, ICANN shall pay the EBERO Service Provider a fee for maintenance of such Failed TLD (the "Ongoing Event Fee"). The Ongoing Event Fee will be initially calculated (and may be reviewed monthly) based on the number of domains under management for such Failed TLD, determined on a monthly basis. The monthly rate is set forth in Exhibit F attached hereto. The Ongoing Event Fee shall be payable quarterly on each March 31st, June 30th, September 30th, and December31st. EBERO Service Provider shall invoice ICANN the Ongoing Event Fee at the end of each quarter. The Ongoing Event Fees shall be prorated for any part of a month for which EBERO Services are provided. If multiple fees are included on the same invoice, the invoice shall be itemized as to the type of fee and the TLD for which the ongoing event fee is being assessed.

5.4 Difficult Emergency Event Fee. At the request of the EBERO Service Provider, ICANN may, in its sole discretion, classify certain transitions of a Failed TLD to the EBERO Service Provider as a "Difficult Emergency Event." The factors for ICANN designating an emergency event as a Difficult Emergency Event may include, but are not limited to, the following factors: the unavailability of the Failed TLD staff for support, inaccurate or incomplete Failed TLD documentation, and significant difficulty with zone file or escrow data or transfer of the files. If ICANN designates an emergency event as a Difficult Emergency Event, the EBERO Service Provider shall be entitled to an additional fee (the "Difficult Emergency Event Fee"). The Difficult Emergency Event Fee shall be determined by ICANN, in its sole discretion, but shall in any event be no more than $30,000 per Difficult Emergency Event. ICANN shall make its determination of whether the event is a Difficult Emergency Event after EBERO Service Provider's request and its completion of the requirements set forth in Exhibit D. If ICANN makes such a determination, it shall notify the EBERO Service Provider and the Difficult Emergency Event Fee may be included in its next invoice to ICANN.

5.5 Third-Party Transition---Out Services Fee. In the event ICANN

directs the EBERO Service Provider to transition a Failed TLD to a successor operator as part of the Transition---Out Process in Exhibit B, ICANN shall pay to EBERO Service Provider a transition---out services fee of $20,000 (the "Transition---Out Fee"). EBERO Service Provider shall invoice ICANN the Transition-Out Fee within thirty (30) calendar days following the successful completion of the Transition---Out Plan and termination of the Event Activation Order.

5.6 Testing and Simulation Fees. If applicable, ICANN shall pay EBERO Service Provider a fee of $10,000 after successful completion of each EBERO Readiness Exercise set forth in Exhibit E-2. EBERO Service Provider shall invoice ICANN for such fees only after receiving notification from ICANN of its successful completion of each testing and simulation event.

5.7 Payment Terms; Additional Fee on Late Payments. ICANN shall pay invoices from EBERO Service Provider within 30 days of ICANN's receipt of such invoice. For any payments thirty (30) calendar days or more overdue under this Agreement, ICANN shall pay an additional fee on late payments at the rate of 1.5% per month or, if less, the maximum rate permitted by applicable law.

ARTICLE 6.

MISCELLANEOUS

6.1 Indemnification. EBERO Service Provider shall indemnify and defend ICANN and its directors, officers, employees, and agents (collectively, "Indemnitees") from and against any and all third---party claims, damages, liabilities, costs, and expenses, including reasonable legal fees and expenses, arising out of or relating to EBERO Service Provider's breach of any obligation contained in this Agreement or any willful misconduct by EBERO Service Provider provision of the EBERO Services, provided that EBERO Service Provider shall not be obligated to indemnify or defend any Indemnitee to the extent the claim, damage, liability, cost or expense arose due to a breach by ICANN of any obligation contained in this Agreement or any willful misconduct by ICANN. This Section 6.1 shall not be deemed to require EBERO Service Provider to reimburse or otherwise indemnify ICANN for costs associated with the negotiation or execution of this Agreement, or with monitoring or management of the parties' respective obligations hereunder. Further, this Section shall not apply to any request for attorney's fees in connection with any litigation or arbitration between or among the parties, which shall be governed by Article 4 or otherwise awarded by a court of competent jurisdiction or arbitrator. EBERO Service Provider shall not be liable for indemnification under this Section 6.1 for any act or omission of any previous registry operator of a TLD for which EBERO Service Provider is designated as an EBERO hereunder. ICANN shall

indemnify and defend EBERO Service Provider and its directors, officers, employees, and agents (collectively, "EBERO Indemnitees") from and against any and all third---party claims, damages, liabilities, costs, and expenses, including reasonable legal fees and expenses (individually and collectively, "Claims"), to the extent such Claims are attributable to ICANN's wrongful designation of EBERO Service Provider as an emergency interim registry operator of the registry for a TLD in breach of ICANN's agreement with the registry operator for such TLD, provided that ICANN shall not be obligated to indemnify or defend any EBERO Indemnitee to the extent the claim, damage, liability, cost or expense arose due to a breach by EBERO Service Provider of any obligation contained in this Agreement or any willful misconduct by EBERO Service Provider.

6.2 Indemnification Procedures. If any third---party claim is commenced that is indemnified under Section 6.1 above, the indemnified party shall provide notice thereof to the indemnifying party as promptly as reasonably practicable. The indemnifying party shall be entitled, if it so elects, in a notice promptly delivered to the indemnified party, to immediately take control of the defense and investigation of such claim and to employ and engage attorneys reasonably acceptable to the indemnified party to handle and defend the same, at the indemnifying party's sole cost and expense, provided that in all events ICANN will be entitled to control at its sole cost and expense the litigation of issues concerning the validity or interpretation of ICANN's policies, Bylaws or conduct. The indemnified party shall cooperate, at the indemnifying party's cost and expense, in all reasonable respects with the indemnifying party and its attorneys in the investigation, trial, and defense of such claim and any appeal arising therefrom, and may, at the indemnified party's own cost and expense, participate, through its attorneys or otherwise, in such investigation, trial and defense of such claim and any appeal arising therefrom. No settlement of a claim that involves a remedy affecting the indemnified party other than the payment of money in an amount that is fully indemnified by the indemnifying party will be entered into without the consent of the indemnified party. If the indemnifying party does not assume full control over the defense of a claim subject to such defense in accordance with this Section 6.2, the indemnified party will have the right to defend the claim in such manner as it may deem appropriate, at the cost and expense of the indemnifying party and the indemnifying party shall cooperate in such defense.

6.3 Defined Terms. For purposes of this Agreement, unless such definitions are amended pursuant to a Consensus Policy at a future date, in which case the following definitions shall be deemed amended and restated in their entirety as set forth in such Consensus Policy, Security and Stability shall be defined as follows:

(a) For the purposes of this Agreement, an effect on "Security" shall mean (1) the unauthorized disclosure, alteration, insertion or destruction of registry data, or (2) the unauthorized access to or disclosure of information or resources on the Internet by systems operating in accordance with all applicable standards.

(b) For purposes of this Agreement, an effect on "Stability" shall

refer to (1) lack of compliance with applicable relevant standards that are authoritative and published by a well-established and recognized Internet standards body, such as the relevant Standards-Track or Best Current Practice Requests for Comments ("RFCs") sponsored by the Internet Engineering Task Force; or (2) the creation of a condition that adversely affects the throughput, response time, consistency or coherence of responses to Internet servers or end systems operating in accordance with applicable relevant standards that are authoritative and published by a well-established and recognized Internet standards body, such as the relevant Standards-Track or Best Current Practice RFCs, and relying on EBERO Service Provider's delegated information or provisioning of services.

6.4 Change of Control; Assignment and Subcontracting.

(a) Except as set forth in this Section 6.4, neither party may assign any of its rights and obligations under this Agreement without the prior written approval of the other party, which approval will not be unreasonably withheld. EBERO Service Provider must provide advance notice to ICANN of any assignment. Thereafter, ICANN may request additional information from EBERO Service Provider establishing (i) compliance with this Agreement and (ii) that the party entering into such assignment meets any ICANN---adopted specification or policy on EBERO Service Provider criteria then in effect (including with respect to financial resources and operational and technical capabilities). In addition, ICANN may require inspections, testing and/or background checks on the entity that EBERO Service Provider is seeking approval for the assignment of this Agreement.

(b) EBERO Service Provider must also provide advance notice to ICANN prior to the consummation of any transaction anticipated to result in a direct or indirect change of control of EBERO Service Provider. Thereafter, ICANN may request additional information from EBERO Service Provider establishing (i) compliance with this Agreement and (ii) that the party acquiring such control meets any ICANN---adopted specification or policy on EBERO Service Provider criteria then in effect (including with respect to financial resources and operational and technical capabilities). In addition, ICANN may require background checks on the entity anticipated to gain direct or indirect control of EBERO Service Provider.

(c) EBERO Service Provider shall not use subcontractors or independent contractors or consultants to perform obligations hereunder without prior written consent by ICANN which will not be unreasonably withheld. Approved subcontractors or independent contractors or consultants used by EBERO Service Provider to perform its obligations hereunder shall be bound by the same confidentiality obligations as EBERO Service Provider. EBERO Service Provider shall be responsible for the delivery of services of any such subcontractor as if EBERO Service Provider had performed the services itself. ICANN may request additional information from EBERO Service Provider establishing (i) compliance with this Agreement and (ii) that the requested subcontractor meets any ICANN---adopted specification or policy on EBERO Service Provider criteria then in effect (including with respect to financial resources and operational and technical capabilities). In addition, ICANN

may require inspections, testing and/or background checks on the requested subcontractor.

(d) ICANN shall review all the information provided in support of an assignment, change of control or subcontracting request and use its reasonable judgement in regards to its determination of consent. ICANN shall then notify EBERO Service Provider of its determination. In the instance of a request for assignment of this Agreement, if ICANN determines that consent is appropriate, the EBERO Service Provider and the assignee entity of this Agreement shall execute an Assignment and Assumption Agreement, in a form to be provided by ICANN, which will mandate compliance by the assignee entity of all covenants, obligations and agreements by EBERO Service Provider hereunder.

(e) In connection with any approved assignment, change of control or subcontracting arrangement, EBERO Service Provider shall comply with any transition processes required in the CTP Manual.

(f) Notwithstanding the foregoing, (i) a direct or indirect change of control shall follow the procedures above; provided, however that any consummated change of control shall not be voidable by ICANN and if ICANN reasonably determines to withhold its consent to such transaction, ICANN may terminate this Agreement pursuant to Section 3.2(g), and (ii) ICANN may assign this Agreement without the consent of EBERO Service Provider upon approval of the ICANN Board of Directors in conjunction with a reorganization, reconstitution or re---incorporation of ICANN upon such assignee's express assumption of the terms and conditions of this Agreement.

6.5 Amendments and Waivers. Except for Exhibits A, B, D and E 1-2 which are each subject to revision by ICANN upon 90 days advance written notice to the EBERO Service Provider (with implementation of such revisions by EBERO Service Provider within this 90 day period), no amendment, supplement or modification of this Agreement or any provision hereof or Exhibit hereto shall be binding unless executed in writing by both parties. No waiver of any provision of this Agreement shall be binding unless evidenced by a writing signed by the party waiving compliance with such provision. No waiver of any of the provisions of this Agreement or failure to enforce any of the provisions hereof shall be deemed or shall constitute a waiver of any other provision hereof, nor shall any such waiver constitute a continuing waiver unless otherwise expressly provided.

6.6 No Third---Party Beneficiaries. This Agreement will not be construed to create any obligation by either ICANN or EBERO Service Provider to any non---party to this Agreement, including any registrar, registered name holder or any registry operator (including any previous registry operator or successor operator of a TLD for which EBERO Service Provider is designated as an EBERO hereunder).

6.7 General Notices. Except for operational notices (including those

related to Emergency Events and Event Activation Orders) pursuant to Sections 1.1., 2.2., 2.3, 2.4, 3.2(i), 5.6, 6.4(d) and Exhibits D, E-1, and E-2 which may be sent electronically, all notices to be given under or in relation to this Agreement will be given in writing at the address of the appropriate party as set forth below, unless that party has given a notice of change of postal address, as provided in this agreement. Any change in the contact information for notice below will be given by the party within thirty (30) calendar days of such change. Notices, designations, determinations, and specifications made under this Agreement will be in the English language. Any notice required by this Agreement shall be deemed received (i) when delivered in person or (ii) on the fifth (5th) day after being sent by first class U.S. mail, or on the following day if sent overnight by U.S. commercial express courier to an address within the United States, or on the third (3rd) day after being sent by international express courier. 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 Agreement.

If to ICANN, addressed to:
Internet Corporation for Assigned
Names and Numbers
12025 Waterfront Drive,
Suite 300
Los Angeles, CA 90094---2536
Telephone: +1---310-301---5800
Attention: EBERO Operations Team

With a Required Copy to: General Counsel

If to EBERO Service Provider, addressed to:

Canadian Internet Registration Authority

979 Bank Street, Suite 400

Ottawa, ON, Canada

K1S 5K5
Telephone: 613-237-5335
Attention: Dave Chiswell, VP of Product Development

Email: Dave.chiswell@cira.ca

With a copy to legal department, email legal@cira.ca:

6.8 Entire Agreement. This Agreement (including its Exhibits, those specifications and documents incorporated by reference to URL locations, the Common Transition Process Document, and all Event Activation Orders which form a part of it) constitutes the entire agreement of the parties hereto pertaining to the EBERO and supersedes all prior agreements, understandings, negotiations and discussions, whether oral or written, between the parties on that subject.

6.9 English Language Controls. Notwithstanding any translated version

of this Agreement and/or specifications that may be provided to EBERO Service Provider, the English language versions of this Agreement, its Exhibits and all referenced specifications are the official versions that bind the parties hereto. In the event of any conflict or discrepancy between any translated version of this Agreement and the English language version, the English language version controls. All notices, designations, determinations, and specifications made under this Agreement shall be in the English language.

6.10 Ownership Rights. Subject to the provisions of this Agreement, each party will continue independently to own its intellectual property, including all patents, trademarks, trade names, service marks, copyrights, trade secrets, proprietary processes and all other forms of intellectual property. Nothing contained in this Agreement shall be construed as (a) establishing or granting to EBERO Service Provider any property ownership rights, licenses or interests in the Failed TLD for which it provides EBERO Services or the letters, words, symbols or other characters making up the TLD string, or (b) affecting any existing intellectual property or ownership rights of the registry operator of the Failed TLD.

6.11 Severability; Conflicts with Laws; Governing Law. This Agreement shall be deemed severable; the invalidity or unenforceability of any term or provision of this Agreement shall not affect the validity or enforceability of the balance of this Agreement or of any other term hereof, which shall remain in full force and effect. If any of the provisions hereof is determined to be invalid or unenforceable, the parties shall negotiate in good faith to modify this Agreement so as to affect the original intent of the parties as closely as possible. This Agreement shall be governed by the laws of the State of California without regard to conflicts of law principles.

6.12 Confidentiality

(a) Subject to Section 6.12(c), during the Term and for a period of three (3) years thereafter, each party shall, and shall cause its and its Affiliates' (defined below), officers, directors, employees and agents to, keep confidential and not publish or otherwise disclose to any third party, directly or indirectly, any information that is, and the disclosing party has marked as, or has otherwise designated in writing to the receiving party as, "confidential trade secret," "confidential commercial information" or "confidential financial information" (collectively, "Confidential Information"), except to the extent such disclosure is permitted by the terms of this Agreement. Such Confidential Information may include information of the Failed TLD (or a potential Failed TLD). For the purposes of this Agreement, "Affiliate" is defined to mean a person or entity that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, the person or entity specified, and "control" (including the terms "controlled by" and "under common control with") means the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of a person or entity, whether through the ownership of securities, as trustee or executor, by serving as an employee or a member of a board of directors or equivalent governing body, by contract, by credit arrangement or otherwise.

(b) The confidentiality obligations under Section 6.12(a) shall not apply to any Confidential Information that (i) is or hereafter becomes part of the public domain by public use, publication, general knowledge or the like through no fault of the receiving party in breach of this Agreement, (ii) can be demonstrated by documentation or other competent proof to have been in the receiving party's possession prior to disclosure by the disclosing party without any obligation of confidentiality with respect to such information, (iii) is subsequently received by the receiving party from a third party who is not bound by any obligation of confidentiality with respect to such information, (iv) has been published by a third party or otherwise enters the public domain through no fault of the receiving party, or (v) can be demonstrated by documentation or other competent evidence to have been independently developed by or for the receiving party without reference to the disclosing party's Confidential Information.

(c) Each party shall have the right to disclose Confidential Information to the extent that such disclosure is (i) made in response to a valid order of a court of competent jurisdiction or, if in the reasonable opinion of the receiving party's legal counsel, such disclosure is otherwise required by applicable law; provided, however, that the receiving party shall first have given notice to the disclosing party and given the disclosing party a reasonable opportunity to quash such order or to obtain a protective order or confidential treatment order requiring that the Confidential Information that is the subject of such order or other applicable law be held in confidence by such court or other third party recipient, unless the receiving party is not permitted to provide such notice under such order or applicable law, or (ii) made by the receiving party or any of its Affiliates to its or their attorneys, auditors, advisors, consultants, contractors or other third parties for use by such person or entity as may be necessary or useful in connection with the performance of the activities under this Agreement, provided that such third party is bound by confidentiality obligations at least as stringent as those set forth herein, either by written agreement or through professional responsibility standards.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives.

INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS

By: _____
Signature

_____
Print Name and Title

Date: _____

AGREED AND ACCEPTED:

CANADIAN INTERNET REGISTRATION AUTHORITY

By: _____
Signature

_____
Print Name and Title

Date: _____

EXHIBIT A

Form of Event Activation Order

To be provided in the form determined by ICANN, as revised from time to time.

EBERO EVENT ACTIVATION ORDER (EAO)

Initiator:	ICANN Event Director
Recipient:	EBERO Event Manager
Purpose:	To notify EBERO provider that emergency transition is both authorized and required to begin immediately.

EVENT ACTIVATION

ICANN Event Director Name:	
EBERO Provider Name:	
EBERO Event Manager Name:	
Date/Time of Event Declaration:	
Top Level Domain string:	
Zone file location:	
Other notes (Optional):	

An EBERO Event has been declared for the Top Level Domain string listed above. ICANN hereby orders preparations for an emergency transition of the TLD string to begin immediately in compliance with the EBERO Master Services Agreement. Immediately complete the ACCEPTANCE section below and digitally sign and return this EAO to ebero@icann.org. This order is VOID if no response is received within 1 hour of transmission.

VALIDATION OF EAO

This order must be digitally signed by an ICANN approved Event Director to be valid.

ACCEPTANCE

EBERO Provider Name:	
Date/Time of Acceptance:	
Event Manager Name:	

VALIDATION OF ACCEPTANCE

Acceptance of the EAO data must be completed by a valid EBERO Event Manager, digitally signed and returned via a secure mechanism.

EXHIBIT B

EBERO Common Transition Process---version 3.0

August 2019

(Attached)

Exhibit B



Internet Corporation for Assigned Names and Numbers

ICANN EBERO EVENT

COMMON TRANSITION PROCESSES

Version 3.0

August 2019

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Version	Date	Comments
3.0	August 2019	Updated release to include changes to the program as a result of lessons learned from exercises and events.
2.2	August 4, 2014	Updated release. Added references to protocol to explicitly discuss the use of ICANN-modified zone and escrow data (part of the name collision response protocol).
2.1	April 23, 2014	Updated interim release. Removed incorrect data classification as 'business confidential' – this document becomes a public document when released; Corrected section number in comments of the change log for CTP 2.0 (erroneously listed section 9.4 for the reporting format for discrepancies when in fact it's in section 10.3) and invalid cross-reference section numbers to insure consistent internal linkages; Provided additional text to sections 3.5.5 and 3.5.7 in response to clarification questions from EBERO s; Corrected layout and formatting errors in section 10.4;
2.0	March 17, 2014	Interim release. Formatting corrections, language clarifications to remove idiomatic references. Alignment of program description (section 1) to actual implementation based on GDD Operations procedures manual; Addition of appendix 13 (form for reporting on closure of transition-in); Addition of section 10.3 (mandatory reporting format for discrepancies); Clarification of transition-in processes related to nic.tld, SSL certificates, host naming, DNSSEC considerations, and substantive updates of the document reflecting lessons learned from EBERO event exercises in 1H2014.
1.1	July 29, 2013	Synchronized sections 11.4.3 to the content of section 6; typographic error and formatting corrections.
1.0	July 18, 2013	Initial release, as included in the EBERO master services agreement.

Figure 1: Document Version Control

1 EBERO Event Team

1.1 Mission

The Emergency Back-End Registry Operator Event Team ("EBERO Event Team(s)") protects the security, stability and resiliency of the Domain Name System by temporarily supervising the operation of critical registry functions of delegated top level domains by a third party emergency back-end registry operator (Emergency Back-End Registry Operator or "EBERO") in response to circumstances in which the contracted registry operator is no longer suitable, able or willing to perform its registry obligations.

1.2 Authority and Constituency

Pursuant to Section 1.2(a)(i) of the ICANN Bylaws, ICANN is committed to preserve and enhance the administration of the DNS and the operational stability, reliability, security, global interoperability, resilience, and openness of the DNS and the Internet. Section 2.2 of the ICANN Bylaws prohibits ICANN from acting as a Domain Name System Registry or Registrar or Internet Protocol Address Registry in competition with entities affected by the policies of ICANN. However, this prohibition is not "intended to prevent ICANN from taking whatever steps are necessary to protect the operational stability of the Internet in the event of financial failure of a Registry or Registrar or other emergency." The Emergency Back-End Registry Operator is a mechanism available to ICANN to protect the operational stability of the Internet following the failure of a registry operator to perform its registry obligations (an "EBERO Event").

As detailed in Section 1.3 below, the EBERO Event Team reports through a designated Event Director to an executive committee made up of ICANN management and executives under the authority of the President, Global Domains Division (GDD) ("EBERO Executive Committee").

The EBERO Event Team serves the ICANN community through a limited scope and role.

1.3 EBERO Event Team Organizational Structure and Composition

The EBERO Event Team is a cross-functional team led by the ICANN Technical Services Team, but working with staff from multiple ICANN organization departments, partnering with designated registry service provider organizations . These registry service providers and staff have been designated as having responsibility to perform tasks involved in the emergency transition of a new gTLD registry in response to an emergency or imminent failure of critical registry services. EBERO Event Teams only exist in response to emergencies (including, but not limited to, tests of emergency response capabilities and real and simulated registry failure scenarios) and thus are created on an as-needed basis as circumstances warrant.

In the event of multiple registry failures, ICANN may request an EBERO to execute the transition process for one or more Failed TLDs (as defined in the Emergency Back-End Registry Operator Agreement between ICANN and the EBERO (the "EBERO Master Agreement") to which this Exhibit is attached). In such a circumstance, ICANN will perform a triage process to establish the order of transition for the Failed TLDs. In the event of more than one TLD failure, ICANN will provide a prioritized list to the

appointed EBERO accompanied by the estimated number of domains under management for each Failed TLD.

The appointed EBERO will communicate which and how many of the Failed TLDs for which EBERO services are needed that it can support for such event. Should there be more Failed TLDs for which EBERO services are needed than the appointed EBERO can support, ICANN will appoint additional appointed EBEROs to support the remainder of the applicable Failed TLDs. In such an event, ICANN may also designate additional Event Directors to coordinate the EBERO Event across multiple EBEROs. ICANN does not expect that any direct coordination between EBEROs will be required.

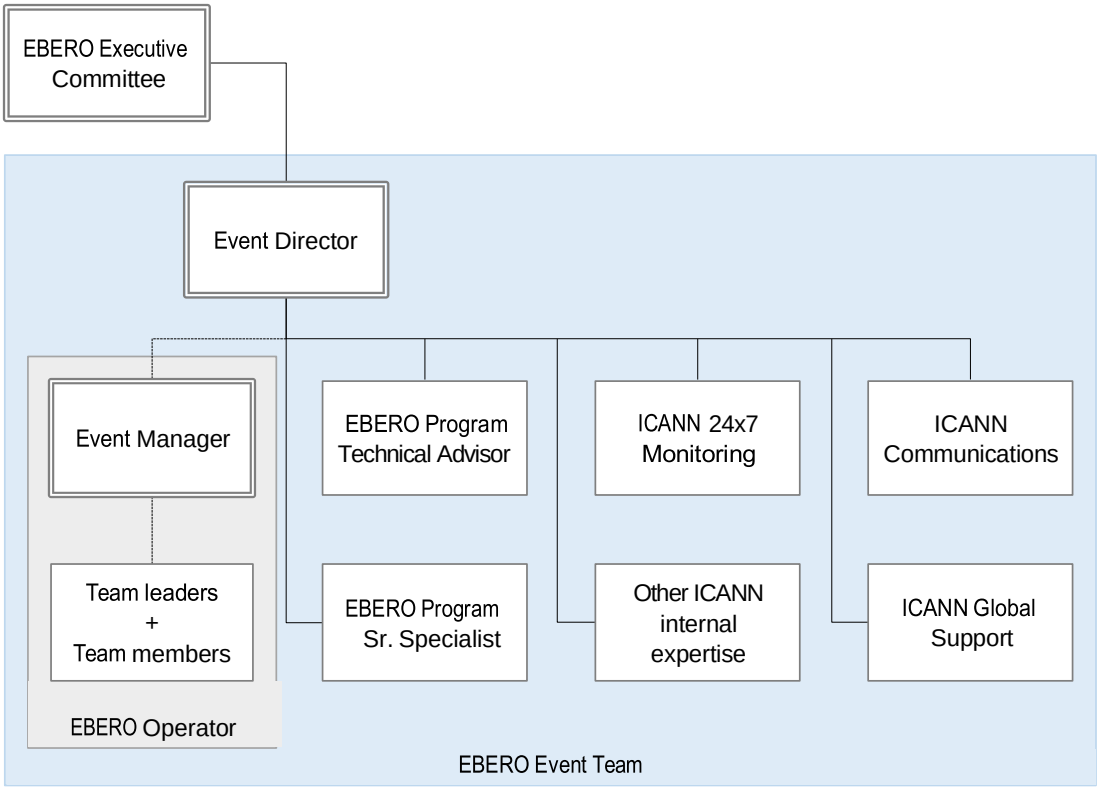


Figure 2: EBERO Event Team Structure

1.3.1 EBERO Executive Committee

A subset of ICANN executives and management, acting in concert, will collectively be known as the EBERO Executive Committee and will select and authorize the individuals to act as Event Directors . This EBERO Executive Committee will delegate sufficient authority so that the Event Directors can (as the situation warrants) authorize necessary EBERO activities. The EBERO Executive Committee will include the following ICANN staff:

1. Senior Vice President, Global Domains Division (GDD)
2. Vice President, Global Domains Division (GDD) Operations
3. ICANN General Counsel
4. Chief Innovation and Information Officer

The EBERO Executive Committee pre-authorizes one or more individuals as eligible to be an Event Director. When the SLA 24x7 monitoring system detects that an emergency performance threshold as specified in the base Registry Agreement, Specification 10 has been or is about to be exceeded, an on-call Event Director is notified by Technical Services. In the event that circumstances warrant, any of the EBERO Executive Committee members can designate an Event Director for a particular EBERO Event and the designated Event Director may be changed during an EBERO Event.

1.3.2 Event Director

The Event Director provides the human decision check on all EBERO activities. The Event Director's fundamental roles are to (a) review and confirm that an EBERO Event is underway and whether an emergency transition is required (authorizing EBEROs to take action); (b) authorize the requests for changes at the Internet Assigned Numbers Authority Functions Operator ("IANA") (including contact updates and both scheduled and emergency root zone updates associated with an EBERO Event); and (c) declare the end of an event, which terminates EBERO activities. The Event Director will serve as the emergency decision-maker in the event that regular channels are not practical to meet the developing circumstances of the emergency.

The Event Director is also empowered to declare an **EBERO Catastrophic Event**. An EBERO Catastrophic Event is a circumstance where EBERO(s) need to be invoked but includes complications or concerns so significant that existing common processes may pose substantial unforeseen risks to the security, stability, and/or resiliency of the DNS (for example, a failure of many registries at the same time). The declaration of an EBERO Catastrophic Event could suspend EBERO service level commitments, in the interest of protecting the security, stability and resiliency of the DNS.

1.3.3 Senior EBERO Specialist

The Senior EBERO Specialist (SES) selected by the Event Director from a list of trained individuals, assists the managing of communications and facilitates the execution of the Common Transition Process.

1.3.4 EBERO Program Technical Advisor

The technical advisor assists the Event Director in understanding the necessary technical aspects of registry operation in order to facilitate appropriate decision-making when needed.

1.3.5 ICANN Global Support

ICANN Global Support is part of the communications strategy for EBERO Events, and thus is involved in delivering messaging and communications via telephone and email during an EBERO Event. In addition, the Global Support team may be involved in other roles as required by the needs of the situation.

1.3.6 ICANN 24x7 SLA Monitoring

ICANN's ongoing network monitoring provides information about the current status of the registry under operations.

1.3.7 ICANN Communications

ICANN Communications will be involved in all externally facing publication communications, and may be involved in other roles as required by the needs of the situation.

1.3.8 Other Internal ICANN Subject Matter Expertise (as needed)

1.3.8.1 ICANN Legal

ICANN Legal will be available to the Event Director to ensure proper legal authority exists to take action, proper form is followed, and, to the extent possible, to limit liability associated with an EBERO Event.

1.3.8.2 ICANN Contractual Compliance

The ICANN Contractual Compliance team has two essential roles within the EBERO Event Team. The first is to prepare and transmit necessary compliance notices to the failing registry. The second is to provide the Event Director with historical data about past behaviors involving the registry and compliance, which may help to inform the Event Director as s/he is deciding whether an emergency Transition-In (as described in Section 3.5 below) is required.

1.3.8.3 GDD Technical Services liaison

The GDD Technical Services Liaison provides access to specific expertise to properly advise the Event Director and facilitates work as warranted by the situation at hand. For any EBERO Event requiring modifications to zone or escrow data prior to release to the EBERO, the GDD Technical Services liaison will make any necessary modifications.

1.3.8.4 Registrar and Registry Engagement teams

The Registrar and Registry Engagement teams provide access to specific expertise to properly advise the Event Director and facilitate work as warranted by the situation at hand.

1.3.8.5 Security, Stability and Resilience (SSR) team

SSR provides access to specific expertise to properly advise the Event Director and to facilitate work warranted by the situation at hand.

1.4 Emergency Back-End Registry Operator

The EBERO provides five critical registry functions in response to an EBERO Event. Those functions are:

- DNS
- DNSSEC
- RDDS
- SRS (EPP)
- Data Escrow

1.4.1 EBERO Event Manager

The EBERO must designate one or more individuals to serve as the Event Manager for the EBERO and to provide primary point of contact for EBERO matters during the EBERO Event. The EBERO will notify ICANN of who the Event Manager(s) will be and at what time such person will be the Event Manager (i.e., Person X from 0:00-7:59; Person Y from 8:00-15:49, Person Z 16:0-23:59) The Event Manager is not a technical role, but instead a management role that must be able to be performed 24x7 on short notice. During the EBERO Event, it is expected that team members within ICANN and the EBERO will work closely to meet the needs of the circumstances causing the EBERO Event. For purposes of initiating critical functions, the Event Manager, as the single voice of the EBERO, will speak on behalf of the EBERO. The Event Manager must:

- Acknowledge receipt of event and service orders
- Escalate problems with data transmissions
- Confirm to ICANN when services are ready for the Transition-In
- Work with ICANN's Event Director and staff to address issues as they arise
- Direct EBERO internal staff as needed

It is not intended or required that the Event Manager directly answer phone calls from ICANN on a 24x7 basis provided that an Event Manager can be activated by the EBERO's 24x7 operations center to become available in sufficient time to meet the timing requirements described in *4 EBERO Service Levels*.

1.4.2 EBERO Service Team Leads and Team Members

As each EBERO's internal functions may be structured differently, the roles required to perform an EBERO transition within each individual EBERO are not being enumerated within this Common Transition Process, but are implicitly required. EBERO team members are likely to, for example, have expert roles specializing in DNS, EPP/SRS, database, networking and routing infrastructure, security, and registrar onboarding/relations.

1.5 Affected Parties and Roles

The following table defines the roles of the EBERO Event Team in relation to parties involved in the EBERO service:

Party	Responsibilities
ICANN 24x7 Operations Center	Notifies the Technical Services team of registries which are failing to meet service level commitments, based on ICANN's SLA monitoring.
ICANN Compliance	Notifies the on-call Event Director of any registries which are failing to meet specifications for data escrow, as well as advising of historical compliance concerns with the registry.
EBERO Executive Committee	Should emergency thresholds be reached, prompt action should be taken to protect the stability and resilience of the DNS and domain name registrants.

Party	Responsibilities
ICANN Communications	Communications (with Senior Management) makes appropriate disclosures and releases to the public, press, or other affected parties.

Figure 3: Affected Parties and EBERO Event Team Roles

The following table defines the roles of the EBERO Event Director in relation to parties involved in the EBERO service:

Party	Responsibilities of the Event Director
Accredited Registrars	The Event Director provides technical and operational notices about transitioning and transitioned registries to all accredited registrars after an emergency transition occurs.
Registry Escrow Agents	The Event Director notifies the escrow agent to arrange the swift release of escrow deposits in accordance with the escrow agreements.
EBERO Escrow Agent	The Event Director notifies the contracted escrow agent to authorize the initiation and termination of escrow deposits by the EBERO.
IANA	The Event Director notifies IANA of registry transition events and makes emergency requests for changes to the root zone and to IANA authorization databases.

2 Registry Status Descriptions

Status	Description
Ready State	(Section 3.2) Normal operation modes for registries; EBEROs maintain readiness; routine communications (at least once per month) between EBEROs and ICANN ensure that activation channels will work.
Heightened Alert State	(Section 3.3) Upon designation of an Event Director, s/he will select an EBERO and notify the EBERO's 24x7 network operations center to advise the EBERO of the increased risk of an EBERO transition being required. This activation will permit the EBERO to enter a heightened alert status. In a heightened alert state, key personnel from both ICANN and the selected EBERO will be notified by their respective organizations and the team will activate communication channels for collaboration and verbal communication (e.g. a teleconference bridge). ICANN and the EBERO will monitor these communication channels.
Event Declared	(Section 3.4) Once an Event Director approves activation by declaring that an EBERO Event is underway, the EBERO will prepare for an emergency transition of DNS and DNSSEC services. The end state of that preparation is an environment that can, with only updates to the root zone, provide DNS and DNSSEC services for the Failed TLD.
Transition-In	(Section 3.5) The Event Director begins the Transition-In process by requesting a root zone update from IANA. Until this update occurs, the TLD will continue to be fully operated by the original registry back-end. The Transition-In process moves DNS, DNSSEC and eventually SRS (Shared Registration System), RDDS (Registration Data Directory Services) and Data Escrow services to the EBERO.

Stabilized	(Section 3.6) Once an operationally stabilized state of the five critical registry functions is attained, a variety of normal operational functions will occur. This includes the authorization process for registrars to access the EBERO's SRS environment, as well as receiving outcomes from dispute resolution and directives from ICANN with respect to updates and corrections to SRS data and reporting functions with respect to critical registry and EBERO metrics.
Transition-Out	(Section 3.7.5) Upon ICANN's designation of a successor registry operator, the original registry operator, another EBERO or registry service provider (each such provider/operator, a "Successor Operator"), the EBERO will generate an up-to-date verified and valid escrow format deposit of SRS data, and provide that data along with the escrow deposits and zone file used for the Transition-In, and the first full escrow deposit generated by the EBERO for reconciliation and analysis by the receiving Successor Operator. A full (or incremental/differential) updated escrow formatted deposit will be provided as part of the Transition-Out process.

Figure 4: Registry Status Descriptions

3 Overview of EBERO Common Transition Process

3.1 Overview of Process

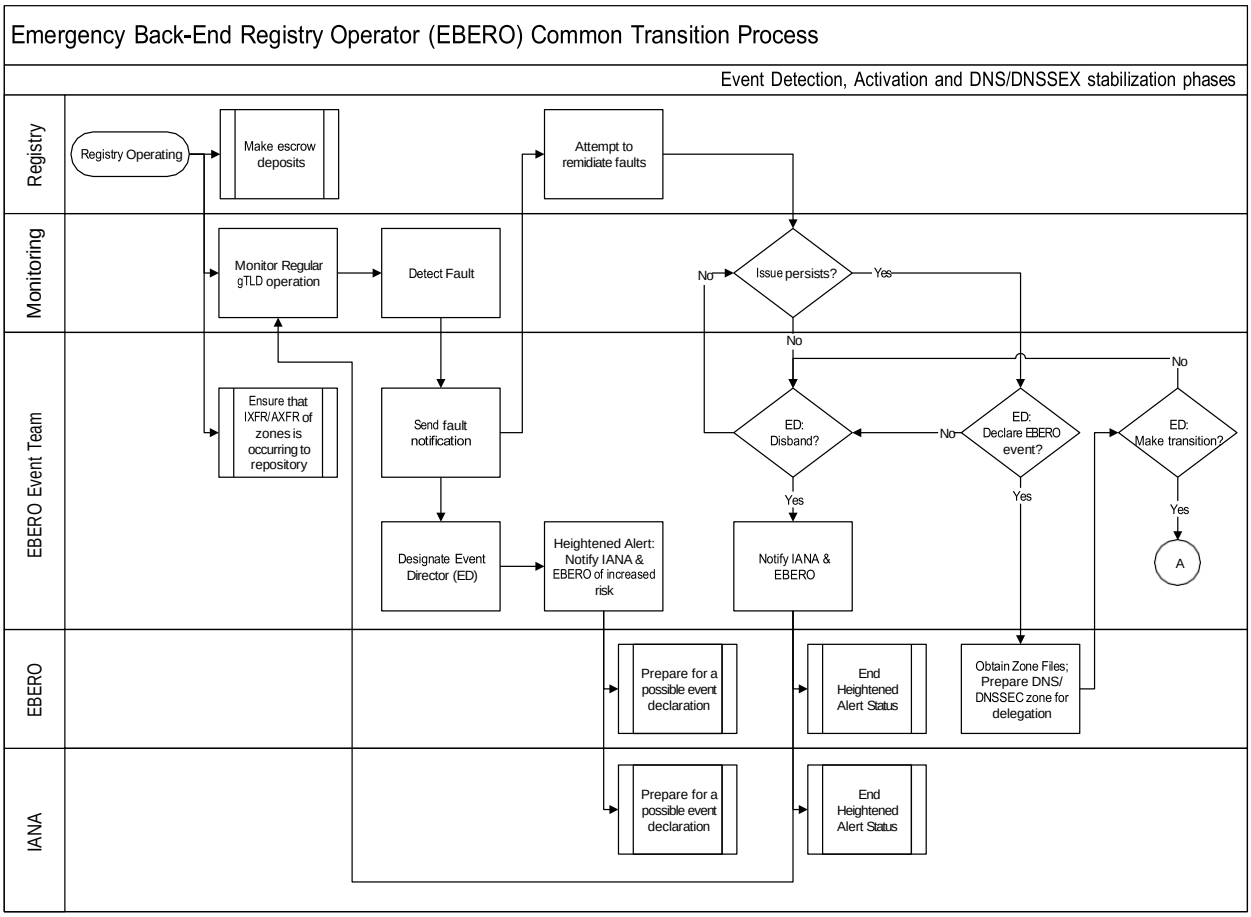


Figure 5: EBERO Event Common Transition Process, Event Detection through DNS/DNSSEC transition

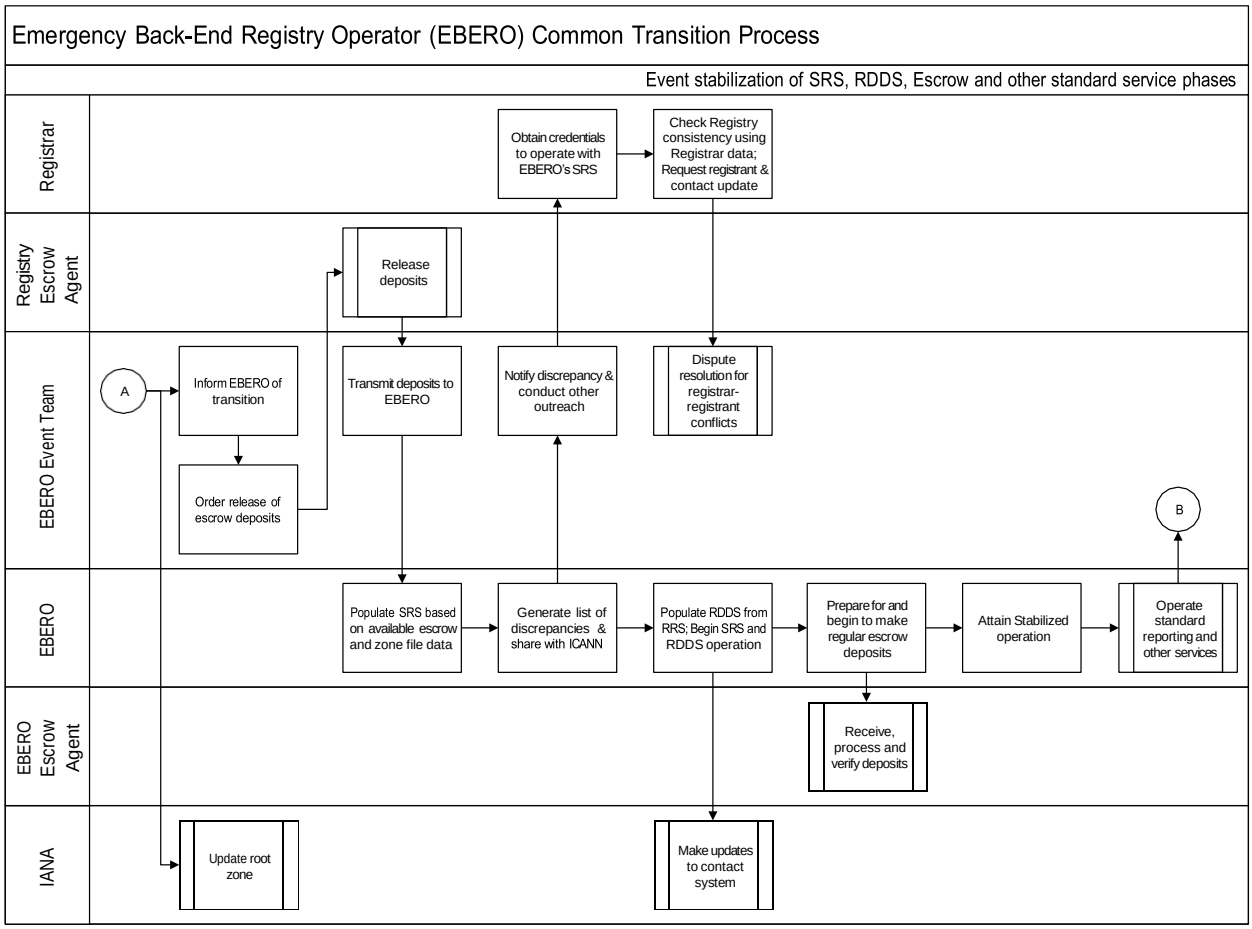


Figure 6: EBERO Event Common Transition Process, Data Escrow Release until Registry is stabilized

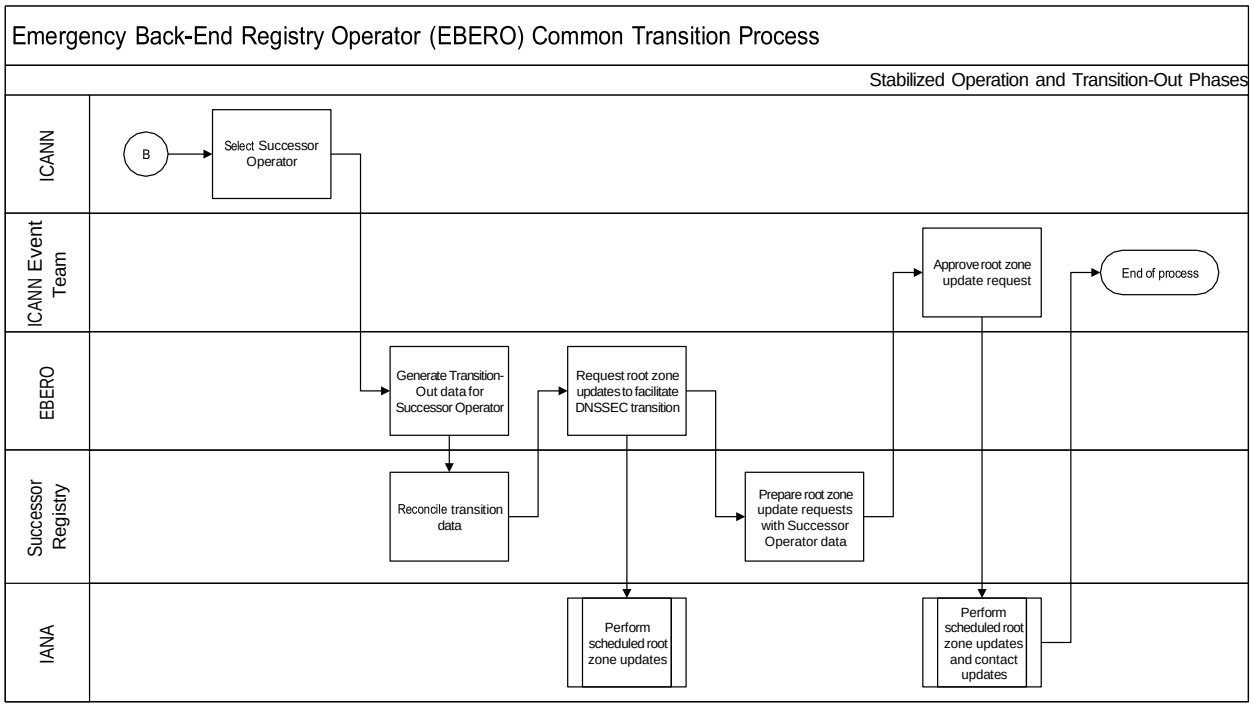


Figure 7: EBERO Event Common Transition Process, Transitioning Out of EBERO

3.2 Ready State

During the ready state, there is no crisis and no atypical risk of an EBERO Event occurring. The registry is operating normally pursuant to the requirements of the applicable registry agreement. ICANN is monitoring the registry and operating a zone file repository to ensure that zone file data is no more than 24 hours old.

During the Ready State, ICANN and EBEROs will (on a monthly basis) confirm 24x7 contact and regular management "call lists" (assigned management personnel, e-mail, office phone numbers, etc.) in English for non-emergency communication. In addition, appropriate public key distributions may occur with this routine monthly communication. Monthly contact updates are described in Section *5 Monthly Contact Information Update Procedure for EBEROs*.

3.3 Heightened Alert State

An exhaustive list of conditions used to evaluate the decision to trigger a heightened alert is **not** detailed in this high-level description. Examples of conditions sufficient to invoke a state of heightened alert might include a registry operator requesting a transition to EBERO or the ICANN risk assessment specialists concluding that there is a *substantial risk and credible threat* that the registry operator would—within 48 hours—fail to meet its obligations under its registry agreement. During any Heightened Alert State, ICANN will attempt to work with the registry operator to remediate the underlying problem(s).

Service	Example Triggers for Heightened Alert
DNS	60 minutes of total downtime / week
DNSSEC	60 minutes of total downtime / week
RDDS	720 minutes of total downtime / week
SRS	720 minutes of total downtime / week
Data Escrow	Uncured Compliance notice of (a) failure to receive notification of required escrow deposits; or (b) failure of deposits to pass verification, for a period of 6 or more days.

Figure 8: Heightened Alert Performance Thresholds

It is within the discretion of the Event Director whether and when to identify the TLD string reaching a Heightened Alert state. When an Event Director is activated, s/he will select an EBERO and notify both the EBERO's and IANA's 24x7 emergency contacts, communicating in English that a Heightened Alert State exists. The ICANN team may also open a virtual collaboration space (for example, this could include screen sharing technology (e.g. Adobe Connect) and voice sharing (e.g. telephone conference bridge); the specific technologies may be revised based on circumstances). In addition, ICANN's EBERO team will communicate authentication credentials and addressing information needed to perform transition data retrieval should an EBERO Event be declared. ICANN's technical advisor will ensure that zone file data is placed in an accessible area of the zone file repository for the EBERO during the Heightened Alert State.

Exhibit C to the Master EBERO Agreement provides for specific TLD exemptions to the EBERO's obligation to provide services (for example, if an EBERO transition could pose a specific legal challenge) . In the event that an EBERO needs to put itself "last in line" because of technical circumstances (such as a planned maintenance or capacity considerations (already transitioning a TLD, operating in a contingency due to a disaster, etc.)) then it may do so by sending written notice (in English) to ICANN stating the technical reason for the need of "last in line" status and the duration of such technical event (which needs to be a commercially reasonable period of time). In addition, the EBERO is responsible for immediately notifying ICANN of any developments or situations which would limit its ability to successfully perform its responsibilities as an EBERO. There is no assurance that an EBERO that has requested "last in line" status will not still need to be selected, but the preference of the EBERO making such request will be considered.

Heightened Alert State will provide the opportunity for EBEROs to activate staff so that they can respond should an EBERO Event be declared. It also provides an opportunity for IANA to coordinate with the root zone management partners to ensure that root zone updates can occur promptly. If an applicable TLD string is disclosed by the Event Director, Heightened Alert State provides an opportunity for ICANN's operations team to ensure that the EBERO has access to the ICANN-managed zone file repository for the failing registry. During a Heightened Alert State, ICANN may provide the EBERO the zone files.

The Event Director will notify the selected EBERO and IANA to trigger Heightened Alert State as soon as possible following the notification of a potential Failed TLD. This notification will include:

- Name, email and other identification of the Event Director

- Contact information for the collaboration space
  - Call bridge access numbers
  - Collaboration tool access instructions
  - Any event authentication credentials (keywords, passphrases, etc.) required.
- A high-level description of the circumstances leading to the event (for example, "A gTLD with less than 1000 domain names under management was detected as not offering SRS services for 4 hours and has been non-responsive to our attempts to remediate. The Event Director may declare an EBERO Event, but will not make such declaration before 01:00 UTC, in approximately 6 hours. We are opening a conference bridge for an event response team. Please dial in now.")

ICANN and the selected EBERO may jointly decide to open the event collaboration channels to observers from other EBEROs for the purposes of using the EBERO Event as a cross-training opportunity, but this is of secondary importance to EBERO emergency responses and thus is not required.

It is not anticipated that a Heightened Alert State would exist for a period of more than 24 hours prior to an EBERO Event being declared.

3.4 EBERO Event Declared State

Following a Heightened Alert State if the Event Director confirms that an EBERO Event is underway, the EBERO will begin preparation for the transition of DNS and DNSSEC services for the top-level domain. The situation will be weighed on a case-by-case basis, considering whether the transition would be better or worse for the stability, security and resiliency of the DNS. Inputs from various ICANN departments including registry and registrar liaisons, SSR, and technical expertise on DNS and registry functions will evaluate the risks so that the Event Director can hold his or her decision, or can direct the EBERO and IANA to proceed with DNS transition or, if circumstances warrant, end the event.

Once an EBERO Event is declared, the EBERO will obtain a copy of the TLD zone file. The zone file retrieval procedure is described in Section *6 Zone File Retrieval Procedure for EBEROs*. Upon successful retrieval, the EBERO will re-sign the zone within its infrastructure in accordance with the requirements of DNSSEC and the EBERO's (ICANN-approved) DNSSEC practice statements. Note that during parts of the Transition-In, the re-signed zone could result in some DNSSEC signed domain names becoming non-functional due to failing validation.

The EBERO will have four hours to obtain a copy of the zone file and have a working DNS zone ready for changing the delegation records (NS and DS) in the root zone, and within those same four hours, must have the DNS zone signed and operating in accordance with the requirements of DNSSEC, starting from the time that the communication that an EBERO Event has been declared is received by the EBERO.

ICANN will prepare a request to release escrow deposits for the escrow agent for the TLD as soon as the EBERO Event is declared, but will not transmit the request to IANA until the decision to Transition-In is made. ICANN should perform necessary compliance notifications to meet its contractual and procedural obligations.

It is possible to persist in this "pending decision to Transition-In" status, as last-ditch efforts to correct the registry problem are attempted. However, it is expected that ICANN will not keep an EBERO in this status for more than 24 hours, unless the status is part of a scheduled and agreed upon drill. If time and circumstances permit, this time could be used for DNS/DNSSEC pre-delegation testing of the transitioned zone by ICANN.

3.5 Transition-In State

Transition-In describes real, widely visible changes to the behavior of the Internet's system of unique identifiers. Transition-In is triggered by the order of the Event Director. The Event Director will be advised by ICANN SSR, Compliance, technical liaison, Registrar and Registry Engagement teams, and the EBERO as to the readiness of the zone for transition. Once authorization to proceed is given, the processes should proceed to stable operation without blocking decision points. Declaring an EBERO Event will trigger ICANN processes for communication to registrars and the community; in addition, compliance notifications should be sent.

Task	Description	Task Dependencies	Maximum Time to Complete within SLA	Responsible Party
1	Declare EBERO Event		Initial event	Event Director
2	Acknowledge Service Order	1		Event Manager
3	3.5.1 Retrieve Zone File and Prepare DNS and DNSSEC for Re-delegation	2	+4 hours	EBERO
4	Prepare root zone update request	2	+4 hours	ICANN
5	Prepare escrow release order	2	+4 hours	ICANN
6	Authorize Transition-In	3,4		Event Director
7	3.5.2 Update Root Zone	6	+4 hours	IANA, Root Management Partners
8	3.5.3 Escrow Release	5,6	+24 hours	Registry Escrow Agent, ICANN
9	DNS/DNSSEC Operational	7		
10	3.5.4 Escrow Release to EBERO	8	+2 hours	ICANN, EBERO
11	Acknowledge receipt of escrow release	10		Event Manager
12	3.5.5 Populate SRS from Escrow Deposits and Zone File Data	11	+72 hours	EBERO
13	3.5.6 Listing of Discrepancies between Escrow Data and Zone File	11	+72 hours	EBERO
14	SRS Operational	12,13		
15	3.5.7 Populate RDDS from SRS; Begin SRS and RDDS Operation	14	+24 hours	EBERO
16	RDDS Operational	15		
17	Prepare to make escrow deposits	16	+24 hours	EBERO
18	3.5.8 Begin Escrow Deposits	17		
19	TRANSITION-IN COMPLETE: STABILIZED OPERATION BEGINS	6, 9, 14, 16, 18	Event+150 hours	

Figure 9: Transition-In Tasks and Timeline

3.5.1 Retrieve Zone File and Prepare DNS and DNSSEC for Re-delegation

The EBERO will obtain the most up-to-date copy of the registry's zone file from ICANN and will prepare a DNS constellation to provide the DNS with DNSSEC service. Further, the EBERO must provide DNS name server and DNSSEC (DS) keying data (in electronic form) to the Event Director for the transitioned zone as part of the EBERO's preparations. Note that re-delegation of the TLD in the root zone can only occur after this task is complete.

This necessarily includes changing any DNS resource records needed to provide proper DNS services (for example, replacing all nameserver records and including appropriate glue records for the TLD itself).

There is special handling required for the mandatory domain "nic.tld" (for top level domain "tld"). Once an EBERO begins its Transition-In, the EBERO must consider itself the registry operator with respect to management and control of nic.tld. That is, control of nic.tld must be given to the EBERO, who will control the nic.tld zone. This is addressed in more depth in *3.5.5 Populate SRS from Escrow Deposits and* Zone File Data.

Prior to re-delegation in the root zone, the EBERO must meet the currently published technical requirements for authoritative name servers as published by IANA and updated from time to time. The current requirements are available at https://www.iana.org/help/nameserver-requirements.

3.5.1.1 DNSSEC for an uncooperative failing registry or when expedience requires no cooperation

When dealing with DNSSEC changes and an uncooperative registry operator (i.e., a registry operator that is unable or unwilling to make changes to its critical functions in a manner that will facilitate the Transition-In), or if transition timing does not permit a more graceful DNSSEC change, the EBERO will remove all provided DNSSEC keying data for the zone, generating and signing the zone with new KSKs and ZSKs, and provide new DS records to the Event Director for inclusion at the root. This "hard stop" will disrupt DNSSEC services for the transitioned zone and may be end-user and registrant noticeable (for a period of time, DNSSEC will simply not work), but this is considered an acceptable service impact as part of the emergency transition.

3.5.1.2 DNSSEC with a cooperative failing registry

A failing registry operator may be able or willing to cooperate in facilitating an orderly DNSSEC key rotation as part of the Transition-In. Any cooperative strategy must not require the EBERO and failing registry operator to exchange private key data as part of Transition-In. While it may be unlikely that there will be sufficient time to conduct a KSK rotation as described in RFC5011 or RFC6781 (or other,

should subsequent RFCs supersede that advice), if there is sufficient time and the EBERO, ICANN and failing registry operator concur on implementation details, a pre-publication strategy may be used.

3.5.2 Update Root Zone

The Root Zone must be updated to contain appropriate NS, DS and glue records. IANA is notified of a root zone update, performs its mandatory checks and coordinates changes with the root zone partners to ensure the change occurs. The Event Director will authorize a request to IANA for NS, DS and glue record updates in the root, which will be prepared by ICANN staff with technical data provided by the EBERO. While no specific service levels are defined, ICANN's current understanding is that all root zone parties are both committed to 24x7 response capabilities, and that the timing commitments from those entities will facilitate (barring problems uncovered with mandatory checks) a root zone update within 4 hours of request.

3.5.3 Escrow Release

The registry operator's escrow agent must receive an authorized request to release the escrow deposits for the Failed TLD to ICANN. While, contractually, this must occur within 24 hours of request, ICANN will transmit that request only upon authorization from the Event Director. There is no formal notification mechanism that will be used to inform the EBERO of the release request being transmitted; informal communication (on the event bridge or via the Adobe Connect room) is deemed sufficient to set a timing expectation as to when the escrow deposits will become available to EBERO.

3.5.4 Escrow Release to EBERO

ICANN will receive escrow releases directly from the escrow agent, then will use an ICANN key and re-encrypt the data using the EBERO's public key. ICANN will provide the set of escrow files within 2 hours of receipt, unless modifications are required to the escrow data as described in Section 3.5.4.1 Modifications to Escrow Releases by ICANN. This process and the specific release mechanisms and channels are described in Section *7 Escrow Release Protocol and Procedures for EBEROs*.

3.5.4.1 Modifications to Escrow Releases by ICANN

ICANN may decide it is necessary to modify escrow deposits released to the EBERO (for example, to address name collisions). If ICANN chooses to modify the escrow deposits, the Event Director may suspend emergency transition service levels if those modifications introduce delays or problems to the transition process.

3.5.5 Populate SRS from Escrow Deposits and Zone File Data

The EBERO will import the zone file and escrow deposits into its EBERO SRS, handling discrepancies between the two data sources using an algorithm described in Section *9 Handling Discrepancies between Data Sources during Transition*.

The EBERO will be responsible for using the latest zone file retrieved from ICANN, and for using the last full escrow deposit and any applicable incremental deposits released to the EBERO through ICANN. Unmodified copies of the data files used to populate the SRS must be retained by the EBERO.

Escrow deposits may or may not contain information about the nic.tld second-level domain; however, this information will be incorrect because it reflects the failed registry operator, rather than the EBERO. Once an EBERO Event has been authorized and the EBERO begins its Transition-In, the SRS (and RDDS) must reflect that nic.tld is now under the control of the EBERO. EBEROs are required to provide WHOIS at TCP port 43 as described in RFC 3912 at whois.nic.tld. Furthermore, web-based whois is also required to be locatable at whois.nic.tld. The EBERO must deploy necessary records such that nic.tld and whois.nic.tld correctly resolve in DNS as part of their transition strategy. All changes made must be reflected in the Listing of Discrepancies between Escrow Data and Zone File report. Once the EBERO has an RDAP service available, as described in Section 11, it must be provided for TLDs that are served by the EBERO.

The Common Transition Process specifies the behavior of several names within NIC.TLD. Namely, the EBERO must be able to control the name WHOIS.NIC.TLD, because it is required by Specification 4 for the RDDS service. The underlying reason why EBEROs must seize control of NIC.TLD is specifically so that they can specify the correct addresses for the WHOIS service, for the Failed TLD. As a result, the "takeover of NIC.TLD" during an EBERO Event is expected to be implemented through DNS changes and setup of critical functions only; it is not a commitment to provide new web content hosting or other services. To minimize confusion and to ensure the proper direction of inquiries to ICANN Global Support Center, the primary web presence for any transitioned TLD will be the EBERO program web page. In the re-delegated NIC.TLD domain, the following characteristics must also exist in DNS:

- HTTP connections to WWW.NIC.TLD and NIC.TLD must be responded by the EBERO with a HTTP redirect to https://www.icann.org/ebero (the EBERO program webpage).
- There must be either one CNAME or both A and AAAA records for WHOIS.NIC.TLD.
- The NIC.TLD zone must be DNSSEC signed.
- Any other names in NIC.TLD should be removed, unless required for operational reasons in the EBERO's best judgment.

3.5.6 Listing of Discrepancies between Escrow Data and Zone File

The EBERO will reconcile escrow and zone file data as part of the SRS import process, and generate a list of the discrepancies between the two sources using the algorithm described below in Section *9 Handling Discrepancies between Data Sources during Transition*. The action taken on any discrepancy must be included in this listing. The listing will be both communicated to ICANN and preserved as part of the Transition-Out documentation to be provided to any Successor Operator. The format for this listing is described in Section *10.1 Reporting Format for SRS reconciliation and report of discrepancies*.

Changes made to nic.tld as described in Section *3.5.5 Populate SRS from Escrow Deposits and* Zone File Data must be reflected in the listing of discrepancies.

3.5.7 Populate RDDS from SRS; Begin SRS and RDDS Operation

In keeping with customary practices for registries, the RDDS will be populated from the SRS system or will query the SRS system directly. Thus, RDDS operation must be operational no later than 24 hours following the activation of SRS and SRS must be operational no later than 72 hours following receipt of escrow data. Note that RDDS operation includes zone file availability to other EBEROs.

The EPP interface to SRS must be protected by an SSL certificate, as described in the RFC 5734. Due to the tight deployment timelines, all EBEROs must either operate their own certificate authority to issue this certificate, or must use a certificate already issued to the EBERO prior to the EBERO Event.

The recommended architecture for EBERO certificates is to either operate a certificate authority or to obtain a commercial wildcard certificate for the *.ebero.providerdomain namespace. There is no provision for additional time in the service levels to account for difficulties procuring encryption certificates. If the EBERO has control of 'providerdomain', then all TLDs transitioned to an EBERO should also operate with hostnames in the structure service-tld.ebero.providerdomain. Any certificates used to secure web-based RDDS or other registrant and end-user facing services, must be issued by a globally trusted certificate authority member of the CA/Browser Forum. These certificates may all function with the same wildcard certificate so long as it comes from a globally trusted certificate authority.

The encryption certificate required for access to the EPP service must be issued to the canonical name of the SRS EPP service; however, that host name may be in names other than the TLD. Furthermore, because EPP implementation models differ widely across registry designs, the EPP (and other services directed and accessible only to registrars such as web-based control panels) may use any certificate authority (including internal ones) compatible with the EBERO's SRS systems and selected by the EBERO.

To conform to Specification 4 of the new gTLD registry agreement, host name 'whois.nic.tld' must resolve and be accessible over both IPv4 and IPv6. 'whois.nic.tld' must answer TCP/43 in conformance with RFC 3912 for Whois services, and must conform to standard HTTP behaviors at TCP/80. If nic.tld is not available (registered to an end-user instead of the failed registry operator), the EBERO and ICANN will agree on the domain where the service will be provided. However, whois.nic.tld:80 does not require a web-based WHOIS gateway; it can provide HTTP redirection to another web services, provided that web browsers accessing http://whois.nic.tld will, without user intervention, result in access to a web-based WHOIS query tool serving the EBERO transitioned TLD over HTTPS. The permissible behaviors for RDDS host names are listed below in the table below.

Hostname	TCP port	Protocol	Expected behavior
Whois.nic.tld	43	WHOIS (RFC3912)	Must answer per Specification 4.
Whois.nic.tld	80	HTTP (RFC2616)	Must provide an HTTP 3xx redirection to an HTTPS host where the web-based WHOIS service will be provided over secure transport there (for

			example, https://whois-tld.ebero.providerdomain/)
Whois.nic.tld	443	HTTPS (RFC2818)	Must do exactly one of the following using a valid certificate, if it answers at all: a) Not answer; or b) Provide a web-based interface to WHOIS; or c) Provide an HTTP 3xx redirection to an HTTPS host, if the web-based WHOIS service will be provided encrypted there (for example, https://whois-tld.ebero.providerdomain/)

Figure 10: Expected RDDS hostname/port behaviors

Once SRS and RDDS are confirmed to be operational, the Event Director will request any additional IANA changes to update contacts for authorized changes to the registry's operation, ensure RDDS services work properly, etc.

The SRS must not allow any transform, create or delete commands until the first full escrow deposit has been generated and validated by the escrow agent to guarantee a known good state for escrow transfers.

Once SRS is operational, the following table describes the transaction types that should behave in compliance with STD69 (i.e.: RFCs 5730, 5731, 5732, 5733, 5734 and 5910 or successors); however, from a policy standpoint, certain transactions must be rejected as unauthorized by EBERO operational policy.

Note that only the DS interface of RFC 5910 must be supported.

Reference	Command type	Mandatory Result in EBERO
RFC5731 3.2.1	<domain:create>	Code 2201 "Authorization Error"
RFC5731 3.2.2	<domain:delete>	Code 2201 "Authorization Error"
RFC5731 3.2.3	<domain:renew>	Code 2201 "Authorization Error"
RFC5731 3.2.4	<domain:transfer>	Code 2201 "Authorization Error"
RFC5731 3.2.5	<domain:update> For any updates **other than** those affecting: <contact:*>, <ns:*> <secDNS:*>, <registrant:*>	Code 2201 "Authorization Error"

Figure 11: Unauthorized EPP transactions during an EBERO event

3.5.8 Begin Escrow Deposits

The EBERO must perform the five critical registry functions. Escrow deposits must begin at the first scheduled deposit time that is a minimum of 24 hours after activation of SRS. An SRS that becomes live on at any time on Day 1 (00:01 to 23:59 UTC) would be required to make Day 3's 00:00 deposit, assuring

a minimum of 24 hours to begin deposits. The first deposit must be a FULL deposit, regardless of the day of the week on which it occurs to ensure that the escrow begins at a known good state.

EBEROs are expected to be able to interoperate with ICANN's contracted escrow provider for EBERO prior to an EBERO event, so that operational deployment is limited to capturing configurable parameters.

The EBERO must comply with the Data Escrow requirements specified in Specification 2 of the gTLD Registry Agreement

3.6 PGP and SSH keys maintenance

Several processes require cryptographic keys from ICANN and the EBERO to be known to each other for non-repudiation and confidentiality.

The EBERO will provide ICANN an HTTPS URL where a PGP keyring can be downloaded by ICANN, and the PGP key(s) included in the keyring will be considered authoritative by ICANN for the EBERO. ICANN will retrieve the keyring monthly.

ICANN will provide the EBERO an HTTPS URL where a PGP keyring can be downloaded by the EBERO provider, and the PGP key(s) included in the keyring will be considered authoritative by the EBERO for ICANN. The EBERO will download and process the keyring before sending the monthly report described in section 5.

ICANN will provide the EBERO an HTTPS URL where a tarball with the SSH host key(s) of the ICANN's SFTP servers can be downloaded by the EBERO, and the SSH host key(s) included in the tarball will be considered authoritative by the EBERO for ICANN. The EBERO will download and process the tarball before sending the monthly report described in section 5.

ICANN and the EBERO shall rotate its PGP key(s) at least every six months.

In order to rotate the key(s), ICANN and the EBERO shall publish current and future key(s) to be used concurrently for a period of time in order to have smooth rollover.

An outbound mechanism shall be used for emergency rollovers and for the EBERO to provide ICANN with the SSH identity key(s).

3.7 Stabilized State

In the Stabilized State, the registry operates with limited changes (no domain transfers, domain delete, domain renewals, or domain creates). Domain names must not be expired. Registrant, contact, NS and DS updates must be supported via EPP. The EBERO must support manual updates when requested via e-mail from the Event Director (or designee) on a commercially reasonable, good faith best effort basis. The EBERO must support the URS process, if supported in the Registry Agreement of the TLD, as defined

by the URS requirements in the gTLD registry agreement with the exception that Domain Names must not be permitted to expire.

Within 48 hours of achieving a Stabilized State, the EBERO must provide a written report detailing divergences from its implementation plan to ICANN. A template for this report is described in *10.2 EBERO Common Transition Activity Report*.

3.7.1 Reporting Functions

The EBERO will provide reporting as described in Specification 3 of the gTLD Registry Agreement.

3.7.2 Registrar Credentialing and SRS Access

While EBEROs are required to permit any registrar to credential with them prior to an EBERO Event, only existing registrars for the EBERO's non-EBERO registry operations are expected to undertake the technical resource investment of establishing those credentials before an EBERO Event occurs. As a result, a credentialing process (perhaps the standard credentialing process the EBERO already operates) will be required.

Once a registrar has credentials and passes whatever necessary technical validations that are required by the EBERO, it will have access to SRS and can make changes within the prescribed parameters of an EBERO SRS.

3.7.3 Conflict Dispute Resolution

In extreme cases, data discrepancies may require some form of (as yet undefined) dispute resolution process to examine the available data and make a determination as to the proper registrant or sponsoring registrar. Such a process might be adapted from the registrar transfer dispute resolution process, but needs to be performed by ICANN or a party ICANN decides to contract.

Given that the Transition-In process reconciles differences between a registry's released escrow deposits and a zone file, and given the nature of the mandatory algorithm, there are at least four critical classes of dispute as described in the table below.

Alleged Change	Path to resolution
Registrant	There are several ways in which a registrant could be inadvertently changed (e.g., out of date or incomplete SRS). As long as the registrar is correct, this situation does not require a dispute resolution process. The registrar will presumably have documentation and can figure out who is the registrant from data in the registrar's own system. However, the current technical model will require that ICANN approve all registrar transfers (to avoid billable events occurring within the SRS).
Domain Name Registration Status	Registrants or their registrars may dispute the specific status of any given domain name registration; changes may occur after an escrow deposit is created that would not be reflected in a transitioned registry based on those escrow deposits. This is especially important if the change in status would result in the domain name not being included in the zone file. Any resolution of this issue will involve weighing and validating the veracity of technical evidence.
Registrar where one of the involved registrars is a placeholder (reserved registrar)	This scenario occurs when the Transition-In is forced to use an escrow deposit that is older than the creation of the domain at the originating registry. Such discrepancies should already be identified as part of the Transition-In process. Any resolution of this issue will involve weighing and validating the veracity of technical evidence.
Registrar where none of the involved registrars is a placeholder (reserved registrar)	This scenario occurs when a domain transfer has occurred that was not reflected in the escrow deposit. Any resolution of this issue will involve weighing and validating the veracity of technical evidence to resolve. Potentially, this may require input from two parties, if there is dispute. If both involved registrars agree that this is an error, they should provide documentation that the transfer between registrars did occur after the escrow file was generated and before the transition in occurred, and agree on a recommended resolution, the Event Director (or their designee) should approve the change and have the EBERO make the change to the SRS.

Figure 12: Allegations of Improper Changes during Transition

3.7.4 ICANN Selection of a Successor Operator

It is ICANN's responsibility to identify the method to end the EBERO Event. Selection processes for a successor operator or other disposition of the Failed TLD are meant to begin after Transition-In has been completed.

3.7.5 Zone File Access to ICANN

The EBERO will provide bulk access to the zone files for the TLD to ICANN or its designee on a continuous basis in the manner ICANN may reasonably specify from time to time. Access will be provided at least daily. Zone files will include SRS data committed as close as possible to 00:00:00 UTC.

3.7.6 Bulk Registration Data Access to ICANN

The EBERO will provide bulk registration data access to ICANN as described in Section 3 of Specification 4 of the gTLD Registry Agreement, as modified by Appendix F to the Temporary Specification for gTLD Registration Data.

3.8 Transition-Out Process

The Transition-Out process is expected to vary by the specific circumstances of the TLD. Any Transition-Out process should be expected to take at least several weeks due to the need to reconcile data at the Successor Operator and routine delays involved in DNSSEC key rollovers. While the specific Transition-Out process may include some kind of negotiated process, several functions and responsibilities will be common to any EBERO Transition-Out.

3.8.1 Generate Transition-Out Data

This step only applies to Successor Operators that are not the EBERO.

The EBERO will use the data escrow deposit format to provide the necessary data for a Transition-Out. In addition to the current status (as described in an escrow deposit) of the transitioned registry, the EBERO should be expected to provide copies of the original escrow deposits and zone file that it used to perform the Transition-In, as well as a copy of the first full escrow deposit representing the EBERO's initial state.

Because only the EBERO can authoritatively state what data was used by the EBERO, the EBERO will be the source of data to the Successor Operator; however, duplicate data may also be provided by ICANN.

Data Type	Provided by EBERO to Successor Operator	Provided by ICANN to Successor Operator
Released Escrow deposit from originating registry	Yes	Yes
Zone file used for Transition-In	Yes	Yes
Report of discrepancies and how they were handled during Transition-In	Yes	Yes
Initial Escrow-formatted status of registry taken when Transition-In was completed	Yes	No

Escrow-formatted current status of registry at time of Transition-Out	Yes	No

Data Type	Provided by EBERO to Successor Operator	Provided by ICANN to Successor Operator
Read-only access to EBERO SRS for a period of no less than 30 days	Yes	No
Copy of each manual change request made by ICANN to the EBERO	No	Yes
Log of detailed transform transactions on a specific domain name for a period of no less than 30 days for any domain name associated with a discrepancy during Transition-In or subject to any manual change requested by ICANN.	Yes	No

Figure 13: Data Sources for Transition-Out

3.8.2 Reconcile Transition-Out Data

Data reconciliation is expected to be the responsibility of the Successor Operator. The EBERO will provide a current, validly formatted copy of a full escrow deposit reflecting the registry as it is being operated by the EBERO, but that information may be missing linkages or could require additional data to meet the Successor Operator's particular technical or business model as the EBERO exists to provide temporary stabilization.

For as long as the EBERO provides technical operation of the critical functions of the zone, it is expected that the EBERO will provide updates (occurring no more frequently than daily) of the output data to the Successor Operator.

3.8.3 DNSSEC Key Rollover to New Successor Operator Key

The EBERO, Successor Operator and ICANN will agree on a DNSSEC/DNS transition plan. As part of the DNSSEC/DNS transition plan, the EBERO will cooperate among other things in getting updated DS records for the Successor Operator included in the root by IANA, include the successor operator's DNSKEYs into the KEYSET of the transitioned TLD and continue providing the DNS service for at least one week after the TLD has been delegated to the successor operator in the root zone.

3.8.4 Scheduled Root Zone and IANA Updates

The EBERO will request technical updates with IANA, in conjunction with ICANN staff under the direction of the Event Director as appropriate, to facilitate a smooth transition of the registry to the Successor Operator.

3.9 TLD Termination while in EBERO

A TLD may be terminated while in EBERO, and the process is expected to vary by the specific circumstances of the TLD. The EBERO and ICANN will agree on a plan to terminate a TLD while in EBERO, once a decision to terminate the TLD has been made and communicated to the EBERO.

4 EBERO Service Levels

All EBERO Service Levels are defined with the underlying assumption of ongoing effort to improve processes to maximize the speed and accuracy of transitions and minimize any impact on domain name registrants and on Internet users.

4.1 Ready State

Action	Party	Service Level
Contact information refresh/update	EBERO	No less frequently than once every 45 days, with the intent being that an update occur by the seventh calendar day of each month by e-mail
Operate zone file repository	ICANN	This service will operate at a minimum of 99.9% uptime and will be synchronized to the gTLD's master to within 24 hours.

Figure 14: Ready State Service Levels

4.2 Heightened Alert State

Action	Party	Service Level
Notify EBERO and IANA of heightened risk of EBERO Event	ICANN	As soon as possible once the Event Director has been notified of a potential TLD failure by Technical Services.

Figure 15: Heightened Alert State Service Levels

4.3 Event Declared State

Action	Party	Service Level
Ensure that the zone file is available to the EBERO from the ICANN-operated repository	ICANN	Zone file must be accessible to the EBERO prior to DNS/DNSSEC transition, or service level timings must be relaxed.
Prepare DNS and DNSSEC operations for zone from ICANN-provided copy of zone file	EBERO	Service must be ready for delegation within 4 hours from the declaration of an EBERO Event and zone file availability.
ICANN will trigger the event or move to a lesser state of readiness	ICANN	ICANN may take up to 24 hours, or longer if the EBERO is so advised, to make the decision to start transition-in activities.

Figure 16: Event Declared State Service Levels

4.4 Transition-In State

Action	Party	Service Level
IANA performs root zone update processes	IANA, Root Management Partners	No service level is currently defined; current best estimate is that ICANN can obtain a root zone update within 4 hours, assuming that we start from a state of heightened alert.
Release Escrow Deposits to ICANN or ICANN designee	Registry Escrow Agent	Deposits must be released within 24 hours of the order coming from ICANN.
Release Escrow Data to EBERO	ICANN	Escrow files will be made available for transfer to the EBERO within 2 hours of the escrow release being received at ICANN.
Escrow-Zone File Discrepancies Identified with Notification to ICANN	EBERO	The discrepancies and actions taken on those discrepancies between the zone file and the escrow deposit must be identified, and notification of those discrepancies must be transmitted to ICANN prior to SRS becoming operational (in less than 72 hours from receipt of the escrow data).
SRS operational	EBERO	The EBERO must have SRS operational (able to receive commands from authorized registrars, the set of which must include the ICANN test registrar) within 72 hours of receipt of the escrow data.
RDDS operational	EBERO	The EBERO must answer RDDS queries based on transitioned SRS content within 24 hours of SRS becoming operational.
Escrow Deposits	EBERO	The EBERO must begin making escrow deposits for the transitioned registry no more than 24 hours after the beginning of the day following the day SRS becomes operational.
Request IANA Authorization Database Updates	ICANN	The Event Director must approve a root TLD change template to update the technical (EBERO) contacts for the TLD based on the form listed at http://www.iana.org/domains/root/tld-change-template.txt and submit that form to IANA. ICANN will pre-populate the sections that are not the EBERO's responsibility. The Event Director will approve this form or notify the EBERO of any missing information within 1 business day of its submission from the EBERO.

Figure 17: Transition-In State Service Levels

4.5 Stabilized Operational State

Action	Party	Service Level
DNS, DNSSEC, RDDS, SRS and Escrow	EBERO	Performance service levels will be compatible with the specifications to the new gTLD Registry Agreement. Any exceptions to the specifications will need to be identified and detailed.
Begin Reporting Functions	EBERO	Monthly reporting should be operational no later than the end of the month following the month that the EBERO reaches a stabilized state.
Accredit registrars	EBERO	A registrar will be given access to the OT&E environment within 1 business day (at the primary place of business of the EBERO) of request, once a Stabilized Operation State is achieved; should the volume of registrars accredited exceed 20 per day, accrediting 20 registrars per day on a first-come, first-served basis shall meet this service level. After each registrar meets EBERO-defined validation tests, the EBERO will have up to two additional business days to provide access.
Selection of a Successor Operator	ICANN	This is expected to occur with sufficient speed to ensure that Transition-Out can occur.

Figure 18: Stabilized Operational State Service Levels

4.6 Transition-Out State

Action	Party	Service Level
Generate Transition-Out Data	EBERO	Unless otherwise agreed to between EBERO and the Successor Operator, Transition-Out data will be provided within 1 business day of request.
Root Zone and IANA Updates	IANA	Scheduled basis.

Figure 19: Transition-Out State Service Levels

5 Monthly Contact Information Update Procedure for EBEROs

During the Ready State, ICANN and EBEROs will (on a monthly basis) confirm 24x7 contact and regular management "call lists" (assigned management personnel, e-mail, office phone numbers, etc.) for non-emergency communication. In addition, appropriate public key distributions will occur with this routine monthly communication. The detailed list of elements and acceptable mechanisms for distribution may be updated by ICANN from time to time.

Each EBERO will provide a critical call list to ICANN on a monthly basis. Critical call list information includes:

- 24x7 telephone contact number.
- ICANN's PGP and SSH keys considered authoritative by the EBERO.
- EBERO's PGP keys considered authoritative by the EBERO.
- List of individuals who can serve as EBERO Event Manager, showing a schedule and escalation path if more than one individual is involved.
    - Office telephone number
    - E-mail address
    - Cell phone/pager
    - PGP public key (optional)
- Optional: any other key players within the organization who are likely to play a team role in EBERO transitions.
    - Name
    - Description of role
    - Email address
    - PGP public key (optional)
    - Phone numbers (optional)
- A list of all authorized IP addresses for the EBERO to retrieve zone file and released escrow deposit data must be sent as part of the monthly contact update.

ICANN will provide a similar call list to each EBERO for critical ICANN contacts on a monthly basis, and will include addressing information for access to zone files and released escrow deposits. Authentication credentials will be sent by ICANN to each EBERO Event Manager or their designees under separate cover as needed.

The normal operation mode is for each EBERO to provide this information to ICANN by the seventh calendar day of the month, every month. Updates should occur more rapidly if something changes that could affect ICANN's ability to contact the EBERO in the event of an emergency.

Notifications will be sent to ICANN at an e-mail address specified by ICANN from time to time or via other communications channels established in consultation with all EBEROs.

6 Zone File Retrieval Procedure for EBEROs

ICANN will operate a zone file repository of TLDs for the purpose of facilitating EBERO transitions. It is ICANN's responsibility to ensure that the repository has a sufficiently current zone file, the zone file is updated from an authoritative source at least once every 24 hours, and the zone file undergoes some validation to ensure the file is loadable. Any zone file that is inaccessible when an EBERO Event is declared will immediately defer the start of the transition SLAs until such time as the zone file becomes available. Only those zone files for TLDs which have reached a Heightened Alert State or have had an EBERO Event declared will be accessible to the assigned EBERO for that (real or simulated) incident. During a Heightened Alert State or when an EBERO Event is declared, the EBERO will be notified by the Event Director when the applicable zone files are accessible.

Access to the repository will occur via the Secure Shell (SSH) protocol. Network addressing and authentication credentials will be provided by ICANN to the EBEROs from time to time. Updated methods for zone file retrieval may be developed ICANN in consultation the EBEROs.

7 Escrow Release Protocol and Procedures for EBEROs

7.1 Notification

The purpose of notice is to ensure that proper actions are triggered in a timely manner. All notifications described in Section *7 Escrow Release Protocol and Procedures for EBEROs* will be made using the virtual collaboration space created as part of the Heightened Alert State. Many notifications will be provided orally only.

7.2 Escrow release from Registry Escrow Agent to ICANN

ICANN is the beneficiary of the registry operator's escrow agreement for the TLD. If an escrow release is necessary, ICANN will provide authorization to the escrow agent to release the escrow to ICANN. The escrow agent will then provide an encrypted release to ICANN via SFTP, encrypted with a previously shared ICANN PGP public key.

7.3 ICANN Decryption and Re-encryption of Escrow Deposits for EBERO

Upon receipt, ICANN staff will decrypt the escrow deposit using ICANN's escrow private key and will verify that the deposit is for the applicable TLD. The decrypted data in the escrow release will be combined into a single tar ball and then be encrypted/compressed using the EBERO's previously shared PGP public key and signed using ICANN's private key.

7.4 Escrow Release from ICANN to EBERO

The re-encrypted escrow deposit archive will be placed on an SFTP server operated by ICANN. ICANN will notify the EBERO that the escrow is available for retrieval.

The EBERO will notify ICANN at each of the following stages of success or failure:

1. Initiation of retrieval of the file
2. Completion of retrieval of the file
3. Verification of the signature on the file
4. Decryption/Decompression of the escrow deposits

Once the archive is successfully decompressed and decrypted, the EBERO is considered to have received the escrow release.

8 Data Retention after Transition-Out/Discontinuation of EBERO

All transitioned registry data is temporarily in the custody of ICANN and entrusted to the EBERO for operational purposes only. The EBERO has no ownership stake in the registry data.

Following the Transition-Out, discontinuation transitioned operation or termination of the TLD while in EBERO, the EBERO will generate and make a complete, accurate, and validation-passing escrow deposit. Once that deposit is confirmed to be valid, the EBERO will continue to hold data from the transitioned registry for a period of no less than 30 days, to ensure that read-only research can be performed as requested by the Successor Operator or ICANN against the shared registration system to clarify any data issues.

Between 30 and 90 days following the date the deposit is confirmed to be valid, the EBERO will eliminate all live copies of data derived from the released escrow deposit. Backup images may be cleared in the normal course of backup management as defined by the EBERO. However, any such backup images shall be securely stored and will not be used to intentionally obtain access to EBERO data; any accidental or incidental access to EBERO data from such backup images will be promptly reported by the EBERO to ICANN, and the recovered data specific to the EBERO will be promptly eliminated, unused.

9 Handling Discrepancies between Data Sources during Transition

Because the zone file is constantly updated, but the escrow deposits only occur once per day, some level of disagreement between the two sources is likely to occur. The handling of discrepancies must be uniform across all EBEROs to reduce the complexity of any exit strategy from an EBERO to a Successor Operator.

The zone file will contain resource records for domain names within the zone, specifically NS, optionally DS records for those domains, and potentially A and AAAA glue records. Those resource records are considered authoritative for the TLD. In the case of a disagreement, the information from the newest source of data (described below) should be accepted. At a high level, the data escrow data will contain descriptions of SRS objects, including domains (with DNSSEC extension data), hosts, and contacts. These two separate and distinct data sources must be combined to form a coherent view of the registry data.

9.1 Data Selection Principles

The newest source of data (between the escrow deposits and the zone file) is considered authoritative for handling disagreements between data sources. For purposes of performing this analysis, an escrow deposit that is 48 hours or more recent than the zone file is considered "newer". In cases where the relative age is within 48 hours, the zone file will be considered authoritative.

In cases where the escrow file is newer, a new zone file can be generated out of the escrow deposit. However, in most circumstances the zone file will be newer than the escrow deposit, which implies:

- Any domain name listed in the zone file must have a corresponding domain object created in the SRS.
- Any domain that exists in the escrow deposit, but does not exist in the zone file, will be added to the SRS in a serverHold state. Any unknown state in the escrow deposit will be considered ACTIVE, based on business rules (existing name servers).
- Any domain object created from the zone file needs to have a populated entry in the SRS, even if the escrow data was incomplete or missing for that domain name. Any domain object created in the SRS from the zone file information only must have placeholder registrar linkages, as well as placeholder contact and the name server host records.

9.2 Placeholder Data

Domain objects which do not exist in the escrow deposit, but exist in the zone file, will require placeholder data. While NS and DS records will not require placeholders (they can be populated directly from the zone file), appropriate contact data and registrar linkages must be created and is described below.

Placeholder contact data may be updated by ICANN from time to time to reflect current customer service contact points and are described in Section 12 Appendix: EBERO Placeholder Data. Any such

updates required to the contact data will need to be applied by the EBERO in a timely manner, using commercially reasonable efforts.

9.3 Reconciling Divergence between the Zone File and Escrow Deposit

If the data sources agree, the escrow data should be used as it contains all relevant fields.

Nature of Divergence between data sources	Escrow newer than zone file	Zone file newer than escrow	Zone file and Escrow approximately the same age (within 48 hours)
Domain exists in zone file, but not in escrow deposit	Create domain with placeholder records (because it could be a variant name that does not have an explicit SRS object)	Create domain with placeholder records	Create domain using placeholder records
Domain does not exist in zone file, but exists in escrow deposit	Create domain using content from escrow deposit	Ignore the domain from the escrow deposit	Create domain using content from escrow deposit
Object exists in both zone file and in escrow deposit, but values do not match	Create object in SRS using escrow deposit data; if an object is missing in the escrow deposit, and if that object is referenced in the escrow deposit, and that object is available in the zone file, use the data from the zone file.	Create object in SRS using escrow deposit data, then update using values from zone file	Create object in SRS using escrow deposit data, then update using values from zone file

Figure 20: Discrepancy Management Rules for Objects in the Zone File

9.3.1 Missing Registrar Objects

It is possible to reconstruct the registrar object from data available at IANA; any registrar object that cannot be reconstructed from data published by IANA (i.e.: any invalid registrar number) must be set to the IANA-assigned registrar that is reserved for EBERO use.

9.3.2 Missing Contact Objects

Contact objects: all missing contacts will use specified placeholder objects and will be recorded, so that the affected domain name and registrar are easily identifiable and summarized for future actions.

9.3.3 Data Escrow <nndn> Management Rules for IDN Variants

Because the escrow format provides for multiple ways to implement IDN variants, all EBEROs must use a uniform method to handle each of those variant methods.

Escrow File Content	Action
<nndn> blocked or <nndn> withheld	The EBERO should create a domain name object in its SRS using appropriate placeholder values for blocked or withheld variant names described in the appendices.
<nndn> mirror	EBEROs are encouraged, but not required, to implement IDN variant bundling at the second level (that is, in this context, support a single registration controlling multiple domain names in the zone file, such that changes to the DNSSEC or name server parameters to that one registration would promulgate to all affected IDN variants automatically within the registry). Should the EBERO not implement IDN variant bundling in its SRS, it must force each variant into a linked DN in the SRS, using original source contact and registrant data.

Figure 21: <nndn> IDN variant rule management

9.3.4 Multiple External Host Objects with Different Sponsoring Registrars in the Escrow Deposit

It is possible that the escrow deposit may contain multiple external host objects with different sponsoring registrars. In such a case, the EBERO should create the external host object in the SRS, using the most recent entry from the escrow deposit (based on creation date).

9.3.5 Host Attributes Versus Host Objects

The EBERO must use host objects, rather than host as domain attributes, within its SRS for EBERO transitioned registries to ensure uniform operation.

9.3.6 authInfo Considerations

AuthInfo data should be replaced with random values at Transition-In.

9.3.7 Objects in a serverHold or clientHold state

Should an object be in a serverHold or clientHold state, and if the escrow file is newer (as defined above), then the domain must not be put into the zone file even if the domain exists in the zone file provided by ICANN. However, if the escrow file is not newer (as defined above) and the entry exists in the zone file, then the hold status should be discarded by the EBERO.

9.3.8 SRS Pending Status

Because pending statuses are standard SRS behaviors, and because implicit discrepancies could exist as a result of pending status, explicit rules are required.

Escrowed Domain Object State	Required Action
pendingDelete or pendingRestore	If the escrow deposit is older (as defined above) than the zone file, and the zone file shows the domain object is available, then the pending* status will be discarded. If the escrow deposit is newer (as defined above) than the zone file, then the pending* status will be respected.
pendingTransfer	If an escrow deposit domain object is in a pendingTransfer status, it must be treated as if it is correct and follow the existing described rules above, and it should be added to the SRS. The pendingTransfer state should be reflected in SRS, even though the EBERO will not perform the transfer. Dispute resolution may be required to resolve any conflict if it is wrong, and it needs to be flagged in the log as a potential area of discrepancy.
pendingCreate	Objects in a pendingCreate status leave substantial ambiguity as to who the registrant is supposed to be. However, that ambiguity could be addressed as import rules or through dispute resolution. If the escrow deposit is older (as defined above) than the zone file, and the zone file shows the domain object is available, and the escrow deposit contains multiple instances of the same domain name in pendingCreate, then the domain object should be created with placeholder records (because we do not know who the registrant is). Dispute resolution will be required to resolve the conflict and the records need to be flagged as a potential area of discrepancy. If the escrow deposit is older (as defined above) than the zone file, and the zone file shows the domain object is available, and the escrow deposit contains only one instance the same domain name in pendingCreate, then the domain object should be created in the SRS sponsored by and registered to whomever the escrow deposit specifies. This situation should also be flagged as a potential area of discrepancy, however, and the dispute resolution process may be used if needed.

Figure 22: Management of pending* Status in Escrow Deposits

9.3.9 Unknown or Non-standard SRS/EPP States

All unknown or non-standard states should be ignored.

10 Critical Performance Metrics and Reporting Structures

Tracking the impact of an EBERO Event is the fundamental purpose behind the reporting structures, to inform ICANN and the community, about the breadth, scope and impact of an EBERO Event on registrars, registrants, and the quality of registry data that the EBERO was able to reconstruct.

This model represents metrics of value in helping to resolve data discrepancies and engaging necessary parties to restore registrant access to update services. As such, these metrics may be released by ICANN in its discretion.

10.1 Reporting Format for SRS reconciliation and report of discrepancies

Section 3.5.6 Listing of Discrepancies between Escrow Data and Zone File requires the EBERO to provide a report describing decisions about and manipulations of registry data required to perform the Transition-In.

Specific requirements have been documented to make the report standard and to make the report format friendly to automation (both to generate and to analyze).

10.1.1 Divergences between Zone file and Escrow Deposit Data.

This section is governed by Section 9.3 Reconciling Divergence between the Zone File and Escrow Deposit.

This report shall be compiled in a comma separated-value formatted file as specified in RFC 4180. The file shall be named “ebero-TLD-divergences-yyyymmdd-vv.csv”, where “TLD” is the TLD name; in case of an IDN-TLD, the A-label shall be used; “yyyymmdd” is the year, month and day being reported in UTC; “vv” shall be an unsigned integer, beginning with 1, representing the version number of the document. The file shall contain the following fields representing the discrepancies identified under the logic of section 9 of the Common Transition Process:

Field Number	Field Name	Description
01	fqdn	Fully qualified domain name that had a discrepancy
02	rr-type	Type of DNS resource record affected
03	zonefile-value	The value provided by the zonefile (can be blank)
04	escrow-value	The value provided by the escrow deposit (can be blank)
05	value-used	The value that was selected for use in the EBERO SRS (can be blank)

Figure 23: Reporting Format for Divergences between Zone File and Escrow Deposit Data

The first line shall include the field names exactly as described in the table above as a “header line” as described in section 2 of RFC 4180. No other lines besides the ones described above shall be included. Line breaks shall be <U+000D, U+000A> as described in RFC 4180.

10.1.2 Object Manipulations for EBERO SRS consistency during transition

This report shall be compiled in a comma separated-value formatted file as specified in RFC 4180. The file shall be named “ebero-TLD-objects-yyyymmdd-vv.csv”, where “TLD” is the TLD name; in case of an IDN-TLD, the A-label shall be used; “yyyymmdd” is the year, month and day being reported in UTC; “vv” shall be an unsigned integer, beginning with 1, representing the version number of the document. The file shall contain the following fields representing the discrepancies identified under the logic of section 9 of the Common Transition Process. Note that individual roids may result in more than one action, and thus could generate multiple rows in the CSV log file.

Field Number	Field Name	Description
01	ryde-type	This can be a domain, contact, host, nndn, or registrar
02	action	Which rule was followed when the object was examined? For CTP version 1.1, use the chart below to identify the relevant rules with “Unique Rule Identifiers”. Version 1.2 and higher will provide unique rule identifiers in the text of the rules.
03	escrow-roid	The affected escrowed repository object identifier as defined in the ryde data objects draft/standard. This value can be blank if placeholder records were generated.
04	srs-roid	The affected repository object identifier as used in the EBERO’s SRS. This value can be blank if the object was not added to the SRS.

Figure 24: EBERO SRS Object Manipulation Log

The first line shall include the field names exactly as described in the table above as a “header line” as described in section 2 of RFC 4180. No other lines besides the ones described above shall be included. Line breaks shall be <U+000D, U+000A> as described in RFC 4180.

Unique Rule Identifier	Description
NIC_CHANGE_DOMAIN	[CTP 3.5.5] changing a service domain object (nic.tld) to ensure proper functionality of the EBERO, including a registrant change.
NIC_CHANGE_HOST	[CTP 3.5.5] changing a host object to ensure proper functionality of the EBERO registry
NIC_CHANGE_CONTACT	[CTP 3.5.5] changing a contact object to ensure proper functionality of the EBERO registry
NIC_CHANGE_NNDN	[CTP 3.5.5] changing an NNDN object to ensure proper functionality of the EBERO registry
PLACEHOLDER_REGISTRATION	[CTP 9.2] Creation of a placeholder domain object
PLACEHOLDER_CONTACT	[CTP 9.2] Creation of a placeholder contact object
ZONEFILE_DOMAIN_ZONE_NOT_ESCROW	[CTP 9.3] Domain name in zone file but not in escrow deposit
ZONEFILE_DOMAIN_ESCROW_NOT_ZONE	[CTP 9.3] Domain name in escrow deposit but not in zone file
ZONEFILE_OBJECT_DISAGREEMENT	[CTP 9.3] Values exist in both escrow deposit and zone file, but the values do not match.
MISSING_REGISTRAR	[CTP 9.3.1] Assignment of a ROID to a placeholder registrar.
MISSING_CONTACT	[CTP 9.3.2] Missing contact object detected
NNDN_PLACEHOLDER_DOMAIN	[CTP 9.3.3] Creation of a placeholder domain for BLOCKED or WITHHELD domain name variants.
NNDN_PLACEHOLDER_MIRROR	[CTP 9.3.3] Creation of a placeholder domain for MIRROR type domain name variants.
OBJECT_WRONG_SPONSOR	[CTP 9.3.4] (re)assignment of a ROID to a particular sponsoring registrar.
HOST_ATTRIBUTE_CONVERSION	[CTP 9.3.7] Conversion of a host attribute to a host object
OBJECT_SERVERHOLD	[CTP 9.3.7] object in serverHold
OBJECT_CLIENTHOLD	[CTP 9.3.7] object in clientHold
PENDING_DELETE	[CTP 9.3.8] object in pendingDelete
PENDING_RESTORE	[CTP 9.3.8] object in pendingRestore
PENDING_TRANSFER	[CTP 9.3.8] object in pendingTransfer
PENDING_CREATE	[CTP 9.3.8] object in pendingCreate

Figure 25: Rule Identifiers for Object Manipulation Logs

10.2 EBERO Common Transition Activity Report

Report Date: YYYY-MM-DD

Emergency Transition of <TLD> to <EBERO>

Common Transition Process Requirement	**Conformance to plan/procedure and Common Transition Process** **Please note "full compliance" or describe any variance from internal documentation and/or the mandatory CTP process that occurred during the emergency transition.**
3.5.1 Retrieve Zone File and Prepare DNS and DNSSEC for Re-delegation	
3.5.2 Update Root Zone (to be filled by ICANN)	
3.5.3 Escrow Release (to be filled by ICANN)	
3.5.4 Escrow Release to EBERO (to be filled by ICANN)	
3.5.5 Populate SRS from Escrow Deposits and Zone File Data	
3.5.6 Listing of Discrepancies between Escrow Data and Zone File	
3.5.7 Populate RDDS from SRS; Begin SRS and RDDS Operation	
3.5.8 Begin Escrow Deposits	
3.7.1 Reporting Functions	
3.7.2 Registrar Credentialing and SRS Access	

This report must be completed within 48 hours of completing the "Transition-In" phase of an EBERO Event.

11 Requirements for Critical Registry Functions

The requirements for the EBERO's five critical registry functions are reproduced below.

11.1 DNS and Domain Name Security Extensions (DNSSEC)

The EBERO shall provide multiple DNS service locations that are geographically diverse and can be demonstrated to fully serve domain name resolution for the global Internet in compliance with existing performance specifications. The DNS and Domain Name Security Extensions (DNSSEC) support will:

1. Provide Full DNSSEC support and capability (that is, comply with RFCs 4033, 4034, 4035, 4509 and their successors, and follow the best practices described in RFC 4641 and its successors), including the ability to generate new KSK and ZSK keys for the transitioned TLD, secure the keys and rotate the keys following a DPS created by the EBERO and authorized by ICANN [and included as a specification to the EBERO agreement]. Emergency DNS zone re-signing may be a part of an emergency transition process that prospective EBERO's must be able to support, where ICANN facilitates an expedited DS publication in the DNS root zone for the transitioned TLD. Compliance with Specification 6, Section 1.3 of the new gTLD Registry Agreement.
2. Provide capacity to serve high volume traffic with a minimum available peak capability of 35,000 queries per second in the aggregate.
3. Provide capacity to maintain at least 8 TLDs for a total of 40 million domains in an EBERO environment concurrently.
4. Adequately address the risk of distributed denial of service attacks.
5. Demonstrate geographic diversity in their DNS node announcement strategy.
6. Support "Hashed Authenticated Denial of Existence" for DNS Security Extensions, in accordance with RFC 5155 and its successors.
7. Registry Operator shall be able to accept IPv6 addresses as glue records in its Registry System and publish them in the DNS. An EBERO shall offer public IPv6 transport for, at least, two of the registry's name servers for the transitioned TLDs.
8. Apply updates to the DNS from the source data in the SRS in accordance with performance specifications described in Specification 10, Section 2 of the new gTLD agreement.
9. Adapt to additional DNS record types and keep pace with new DNS practices as defined by ICANN. The timeline to support additional functionality is to be agreed in good faith between the EBERO and ICANN.

11.2 Shared Registry System (SRS)

Shared Registry System provided by the EBERO will implement standard SRS functionality but will provide by default a limited set of functionality to registrars. The EBERO SRS must meet the following requirements:

1. Billing functions are not required.
2. Domain registrations, domain renewals, domain transfers, domain restores and domain deletes must not be provided via EPP; such changes must only be supported via web user interface and

must only be applicable under ICANN-approved circumstances, including but not limited to Expedited Registry Security Requests, or decisions from UDRP,URS, or other ICANN domain name dispute resolution procedures;

3. Domains must not be expired and domains must not be auto-renewed;
4. Comply with Specification 6, Section 1.2 of the new gTLD Registry Agreement;
5. Support the provisioning of registrars with a central account function to manage all registries the EBERO is currently the EBERO for, that the registrar is maintaining registrations in.
6. Provide EPP for client interaction.
7. Provide a log of all transformation transactions in the TLD from EBERO activation until deactivation for any domain name that was subject of a discrepancy during Transition-In, or was subject to any manual change order from ICANN. Each transaction must include:
    a. serialized object prior to transformation
    b. serialized object after transformation
    c. transformation requested by (IANA ID of the registrar; any change requested by ICANN should reference the ICANN test registrar)
    d. timestamp
    e. type of transformation
8. Provide standard TLD reporting required by ICANN as described in Section *10 Critical Performance Metrics and Reporting Structures*.
9. Operate primary and secondary SRS environments in geographically diverse locations as described in Specification 6 Section 3.1 of the new gTLD Registry Agreement.
10. Support and maintain IDN registrations, note that variant registrations must only be maintained. An EBERO will comply with Specification 6, Section 1.4 of the new gTLD Registry Agreement.
11. Support bulk transfer and de-accreditations of registrars.
12. Provide operational and test environments.
13. Provide change control policies and procedures.
14. Provide quality assurance programs.

11.3 Registration Data Directory Services

The EBERO shall offer Registration Data Directory Services (RDDS) in accordance with Specification 4 of the new gTLD Registry Agreement. For clarity, EBERO shall implement a Registration Data Access Protocol (RDAP) service supporting access to domain name registration data no later than one hundred thirty-five (135) days after it is requested by ICANN. The RDAP implementation shall conform to the requirements set by ICANN. The RDDS will:

1. Provide capacity to serve high volume traffic with a minimum available peak capability of 4,000 queries per second in the aggregate.
2. Operate RDDS environments in geographically diverse locations.
3. Ensure RDDS output compliance as specified by ICANN.
4. Comply with and support any replacement RDDS technologies sanctioned by ICANN.

5. Apply updates to RDDS from the source data in the SRS in accordance with performance specifications described in Specification 10 of the new gTLD registry agreement.

11.4 Data Escrow and Transitions

All EBEROs will support ICANN in developing a common "Emergency Registry Transition Plan" to be implemented by all contracted EBEROs.

Transition services will:

1. Determine and reconcile the most recent DNS zone file data between the central zone file copy and the data escrow deposit with the EBERO operated registry system.
2. Transition a registry from its own operations to a Successor Operator.
3. Obtain necessary gTLD zone files from an ICANN-operated repository of zone data when an EBERO event is declared.
4. Process raw migrations from an inconsistent data set in the worst cases, and so should have deep data recovery and mitigation capabilities.
5. Test the EBERO capabilities and readiness to accept and act upon an emergency transition at least once per year.
6. Continue to provide regular updates to escrowed data with an escrow provider, in accordance with Specification 2 of the new gTLD Registry Agreement.
7. Meet any new standardized escrow format adopted by ICANN, considering that the escrowed data elements will be the same between formats. The timeline to support additional functionality is to be agreed in good faith between the EBERO and ICANN.
8. Post zone files of the registries it is currently operating in the Centralized Zone Data Access System compliant with Specification 4, Section 2 of the new gTLD Registry Agreement.
9. When performing a Transition-Out from the EBERO back to a Successor Operator, collaborate with the Successor Operator in order to achieve an orderly transition with minimum impact to registrants.
10. Support ICANN in monitoring and documenting emergency transition processes when they happen. ICANN will note what worked well and what could be improved in order to propose modifications to this process.
11. Maintain updated and documented processes and procedures for registry transitions and customer service.
12. Provide ICANN with a report confirming that any transition process was executed in compliance with procedures or documenting any variances.

12 Appendix: EBERO Placeholder Data

12.1 Registrar

An EBERO registrar (to be the source when the actual source is unknown) will be registered with IANA prior to production. The EBERO registrar will be the placeholder for all domain name registrations that do not have a known registrar.

12.2 Contact for Unknown Registrant, Known Registrar

Contact Field	Placeholder Structure for Unknown Registrant, Known Registrar
Individual Name	EBERO– Registrant Data Unavailable
Organization	Please Contact <registrar> Customer Service for Resolution
Address	<registrar mailing address>
Telephone Numbers	<registrant customer service phone number, if available; if not, invalid phone number>
Email Address	<registrar's customer service email address, if available; if not, mandatory registrar abuse contact; if that is also not available, invalid address>
Status	
Sponsoring Registrar	<sponsoring registrar>

Figure 26: Placeholder Contact for Unknown Registrant, Known Registrar

12.3 Contact for Unknown Registrar

Contact Field	Placeholder Structure for Unknown Registrar
Individual Name	EBERO– Registrar Data Unavailable
Organization	Please have your registrar contact ICANN for resolution
Address	12025 Waterfront Drive, Suite 300 Los Angeles, California 90094-2536 USA
Telephone Numbers	+1 310 301 5800 +1 310 823 8649 (FAX)
Email Address	See http://www.icann.org/en/contact
Status	serverDeleteProhibited, serverTransferProhibited, serverUpdateProhibited
Sponsoring Registrar	EBERO Registrar

Figure 27: Placeholder Contact for Unknown Registrar

12.4 Contact for IDN Variant Blocked

Contact Field	Placeholder Structure for IDN Variant Blocked
Individual Name	EBERO– IDN Variant Blocked
Organization	This name has been blocked as part of the registry's IDN variant policy
Address	12025 Waterfront Drive, Suite 300 Los Angeles, California 90094-2536 USA

Contact Field	Placeholder Structure for IDN Variant Blocked
Telephone Numbers	+1 310 301 5800 +1 310 823 8649 (FAX)
Email Address	See http://www.icann.org/en/contact
Status	serverDeleteProhibited, serverTransferProhibited, serverUpdateProhibited
Sponsoring Registrar	EBERO Registrar

Figure 28: Placeholder Contact for IDN Variant Blocked

12.5 Contact for IDN Variant Withheld

Contact Field	Placeholder Structure for IDN Variant Withheld
Individual Name	EBERO– IDN Variant Withheld
Organization	This name has been withheld as part of the registry's IDN variant policy
Address	12025 Waterfront Drive, Suite 300 Los Angeles, California 90094-2536 USA
Telephone Numbers	+1 310 301 5800 +1 310 823 8649 (FAX)
Email Address	See http://www.icann.org/en/contact
Status	serverDeleteProhibited, serverTransferProhibited, serverUpdateProhibited
Sponsoring Registrar	EBERO Registrar

Figure 29: Placeholder Contact for IDN Variant Withheld

EXHIBIT C

List of Top-Level Domains Not to be Designated

As of the Effective Date, EBERO Service Provider has not identified any gTLD string for which it cannot provide EBERO Services.

EXHIBIT D

1. The EBERO Service Provider must provide notice to ICANN that each of the following tasks have been completed as defined in the CTP Manual:
    a. CTP Manual 3.5.1 (Prepare DNS and DNSSEC for re---delegation)
    b. CTP Manual 3.5.5 (Populate SRS from escrow deposits and zone file data)
    c. CTP Manual 3.5.6 (Generate the Listing of Discrepancies between escrow data and zone)
    d. CTP Manual 3.5.7 (Populate RDDS from SRS; begin SRS and RDDS operation)
        i. The SRS must be accessible to the ICANN monitoring/testing registrar to be considered operational
        ii. An escrow deposit formatted file must be generated reflecting the current contents of the SRS database must be created prior to the SRS being considered operational.
    e. CTP Manual 3.5.8 (Begin Daily Escrow Deposits)

2. CTP Manual 3.5.2 -- IANA must have successfully performed the root zone updates to re---delegate DNS, operated in accordance with DNSSEC requirements.

3. The EBERO Service Provider shall have made at least one successful full daily escrow deposit, and three additional successful daily escrow deposits (which can be either full or incremental within the discretion of EBERO Service Provider), where only escrow deposits that pass validation at the escrow agent are considered successful.

4. The EBERO Service Provider must meet the following service levels (using the definitions in Sections 3, 4, 5, and 8 of Specification 10 of the Base Registry Agreement) for a continuous period of 30 days following ICANN's receipt of the notice described in (1) above, as measured by ICANN's existing compliance and 24x7 operations monitoring regimes for all gTLDs.

	Parameter	**SLR (30---day basis)**
DNS	DNS service available	0 min downtime = 100% availability
	DNS name server availability	432 min of downtime (≥99%)
	TCP DNS resolution RTT	1500 ms, for at least 95% of the queries
	UDP DNS resolution RTT	500 ms, for at least 95% of the queries
	DNS update time	60 min, for at least 95% of the probes
RDDS	RDDS availability	864 min of downtime (≥98%)
	RDDS query RTT	2000 ms, for at least 95% of the queries
	RDDS update time	60 min, for at least 95% of the queries
EPP	EPP service availability	864 min of downtime (≥98%)

	EPP session---command RTT	4000 ms, for at least 90% of the queries
	EPP query---command RTT	2000 ms, for at least 90% of the queries
	EPP transform---command RTT	4000 ms, for at least 90% of the queries

EXHIBIT E-1

Common Transition Readiness Inspection

The intent of the on-site Common Transition Readiness inspection is to determine the readiness of an EBERO Services Provider to perform critical functions necessary to respond to an EBERO Event. The inspection will include the Program Review as defined below (e.g. documentation) and the Data Transfer Verification, which is the test demonstration of zone file and data escrow transfers as defined below.

Data Transfer Verification

ICANN will provide a set of data files which have undergone the same compression, archiving, and encryption processes that will be used with zone files and escrow deposits. These files will be placed online, in the same manner that files will be placed online during an EBERO Event. The EBERO Service Provider shall then successfully transfer the data and provide to ICANN cryptographic checksums of the deposits and zone file, which must match the cryptographic checksums generated at ICANN.

1. Successfully obtain the DNS zone file using ICANN-specified procedures in Section 6 of the CTP Manual within 60 minutes of request.
2. Successfully obtain data escrow formatted data using ICANN-specified procedures in Section 7 of the CTP Manual within 90 minutes of request (function is not to be performed simultaneously with (1) above).
3. Successfully decrypt/decompress data escrow data.

The rules of engagement for the Common Transition Readiness Inspection are as follows:

1. ICANN will provide one real or manufactured registry data set (a zone file and escrow deposit set (a full backup and at least one incremental change from the escrow)).
2. The drill will be scheduled.
3. The EBERO Service Provider will pre---identify the IP address(es) they intend to transfer zones from.
4. ICANN will notify the EBERO Service Provider that they must retrieve the zone from a specified domain name or IP address.
5. The EBERO Service Provider will successfully transfer the zone, confirming the cryptographic checksum of the received zone file to ICANN.
6. ICANN will notify the EBERO Service Provider that they must transfer escrow deposits.
7. The EBERO Service Provider will successfully transfer the escrow deposits, confirming the cryptographic checksum of the decompressed and decrypted files to ICANN.

An unqualified success would occur within time limits. A qualified success would occur within +100% of SLA (found in Section 3.5 of the CTP Manual), but requires an after---action report that details how to remediate the process internally to bring performance to within time limits. A failure would be a failure to transfer the data within +100% of time limits.

EBERO Simulation Objective	Unqualified Success	Qualified Success	Failure
Retrieval of ICANN test zone file and providing matching cryptographic checksum back to ICANN	Within 60 minutes of request	Within 120 minutes of request	Not within 120 minutes of request
Retrieval of ICANN test escrow deposits and providing matching cryptographic checksum back to ICANN	Within 90 minutes of request	Within 180 minutes of request	Not within 180 minutes of request

Program Review

The intent of the Program Review is to confirm the readiness of an EBERO Service Provider to respond to an EBERO Event. This effort includes documentation review, supplemented with limited EBERO Service Provider personnel interviews, over topics that include but are not limited to:

Requirement	High Level Description / Evaluation Criteria
ROLES	A list of the roles and responsibilities required to perform an emergency registry transition from escrow deposits and zone files into the specific EBERO Service Provider's operating environment. Any roles/responsibilities that must not be assigned to the same person must be noted in a matrix of compatibility. An EBERO EVENT MANAGER is mandatory. All other roles will be EBERO Service Provider-specific.
STAFFING	Each role/responsibility is assigned to a named person (individuals may play more than one role or hold more than one responsibility, but must not hold incompatible roles/responsibilities), and has at least one listed successor should that named individual be unavailable during an emergency event. Individuals do not need to be dedicated to only EBERO functions, but must be able to perform EBERO functions (that is, must be able to be released from other commitments) when required. Personnel associated with the EBERO program must have the requisite skills and training to achieve program goals. Program staffing is to be internally reviewed at least quarterly.

Requirement	High Level Description / Evaluation Criteria
CONTACT DATA	Each named individual listed in STAFFING has up---to---date contact data (home phone, cell phone, email, Jabber, etc.) on file with the EBERO Service Provider so that they can be contacted if the EBERO is activated. EBERO Service Provider also maintains a current list of contact methods (which should include email, phone, SMS, pager, or 24x7 manned operations center) which is shared with ICANN to contact the EBERO Service Provider, with human-to-human communication (by phone, or some other method) within 30 minutes to facilitate activation of the EBERO Service Provider. Contact methods are to be reviewed and distributed on a monthly basis.
ONCALL	A 24x7 on-call rotation schedule, with escalation, is in place for all necessary roles to perform an emergency transition within SLA. Each individual in the on-call rotation is listed in STAFFING.
POLICY	The EBERO Service Provider must display mature operational discipline for quality in software, operational security, and service delivery. Policies and procedures to ensure that documentation used and supporting EBERO functions is reviewed, updated and maintained on at least an annual basis, or when significant changes occur in the business.
ZONE RETRIEVAL	Software and procedures used to retrieve zone files from ICANN's repository.
ESCROW RETRIEVAL	Software and procedures to retrieve escrow deposits from ICANN.
ZONE IMPORT	Software and procedures to import a properly formatted DNS zone file into a DNS server and redeploy it with emergency DNSSEC re-keying
ESCROW IMPORT	Software and procedures necessary to import a set of properly formatted escrow deposits to populate a registry running on the EBERO Service Provider's infrastructure
IMPLEMENTATION PLAN	A plan, with assigned responsibilities linked to the ROLES, that details the process and procedures for how to reactivate a registry from escrow deposits or from a zone file at a given EBERO.
DATAQUALITY	Policies, procedures and software required to compare the contents of the zone file to the contents of an escrow deposit, to find any inconsistencies between the two data sources.

Requirement	High Level Description / Evaluation Criteria
INFRASTRUCTURE CAPACITY	A current description of the physical data centers, network connectivity, servers and physical and logical infrastructure that are in place and available to the EBERO Service Provider to support the emergency transition of a TLD. The EBERO Service Provider must provide an internally---generated report that certifies the existing infrastructure is capable of absorbing 40 million domain names across up to 8 registries. In addition, as emergency transitions may pose additional security, stability, and resilience challenges, the EBERO Service Provider must provide a current analysis of the organization's current stance to protect against denial of service, capacity, and other forms of attack.
COMPLIANCE VERIFICATION	Because of its position of responsibility and trust, all EBERO Service Providers must remain in good standing with respect to performance of all contractual commitments to ICANN.

EXHIBIT E-2

EBERO Readiness Exercise

The intent of the EBERO Readiness Exercise is to simulate the transfer in of a registry to EBERO Service Provider operating environment. In an EBERO Readiness Exercise, EBERO Service Provider will temporarily deploy a registry from escrow deposits and a zone file following the Common Transition Process.

There are two primary objectives of the exercise: meeting or exceeding service levels described in the Common Transition Process, and ensuring accuracy with respect to identifying and handling discrepancies between the data sources provided for the exercise. Demonstrating a timely, properly performing transition with expected identification and handling of data discrepancies will demonstrate the readiness of EBERO Service Provider to perform emergency registry transitions.

Prior to the exercise, EBERO Service Provider will provide certification that its documentation, procedures and resources are updated to date. At the beginning of the exercise, EBERO Service Provider will be activated and can retrieve a TLD zone file and be answering queries within 4 hours. At some subsequent point, at a time determined by ICANN, an escrow deposit will be provided to EBERO Service Provider and they will be directed to begin operations within the specified SLA. All references to SLAs can be found in Section 3.5 of the CTP Manual.

EBERO Readiness Exercise Objectives

1. Deploy a working DNS zone and perform an emergency DNSSEC re---keying of the zone, within 4 hours.

2. Deploy a working SRS within 72 hours of receipt of escrow data.

3. Deploy working RDDS services within 24 hours of activation of the SRS.

4. Begin making escrow deposits within 24 hours of RDDS activation.

5. Identify all discrepancies between the DNS zone and the escrow data before the SRS goes active.

6. Generate a properly DNSSEC signed zone file for the TLD from the SRS system.

7. Identify ways to optimize and improve the EBERO Common Transition Processes.

8. Write a report showing the EBERO's performance against the above objectives.

9. Write a report showing remediation from any flagged areas of concern in an ICANN---generated validation report.

ICANN will provide a set of escrow deposits and a zone file with some set of discrepancies. The zone will be moderately small (1000 or fewer domain names).

A service will be considered operational from an SLA standpoint when EBERO Service Provider communicates to the ICANN testing team that the zone is operational. The ICANN testing team will perform a series of validation tests for each of the services, including tests of internally pre---identified discrepancy cases.

EBERO Service Provider will provide a report showing its performance with respect to the objectives above. Following submission of that report, EBERO Service Provider will receive an ICANN service validation report. EBERO Service Provider will report its remediation of any deficiencies and certify EBERO Service Provider is ready for operation.

Self-Certification

Prior to the EBERO Readiness Exercise, EBERO Service Provider will attest that its documentation, procedures and resources are updated to date. ICANN will provide EBERO Service Provider with a certification template to provide its attestation; the items EBERO Service Provider will certify will be no less than those items referenced in the Program Review of the Common Transition Readiness Inspection (E-1).

In the event EBERO Service Provider is unable to provide its certification, it must provide details into any deviation from the requirement or expected behavior and provide details of EBERO Service Provider's plan to remediate the issue(s) in a timely manner.

EBERO Readiness Exercise

1. ICANN will provide registry data sets (a zone file and escrow deposit set (a full backup and at least one incremental change from the escrow)) with the following characteristics:
    a. 500 to 1000 registered domain names
    b. DNSSEC signed data
    c. Some Number of Possible Intentional Corruptions, such as:
        i. Wildcard prohibition
        ii. Reserved names
        iii. Info in escrow deposit but not zone file
        iv. Info in zone file but not in escrow deposit
        v. Mismatched DNSSEC key data in escrow and zone file
        vi. Mismatched DNS servers between escrow and zone file

2. The drill will be scheduled.

3. ICANN will notify EBERO Service Provider that they will be activated and make a zone file available.

4. At some time after the zone file is provided, the escrow file will be made available to EBERO Service Provider.

5. EBERO Service Provider must provide an operational primary DNS, WHOIS service and registrar-ready EBERO Service Provider SRS, RDDS and provide valid escrow deposits within SLA time frames.

Major readiness milestones:

1. Deployment of DNS zone from zone file only

2. Emergency re---signing/rekeying of DNS zone

3. Initiation of RDDS from released escrow deposits

4. Initiation of SRS from released escrow deposits

5. Initiation of SRS---driven rebuild of DNS zone without discrepancy from zone file

6. Initiation of new Escrow deposits by EBERO Service Provider

7. Reconciliation of differences between SRS and DNS zone

a. Identify discrepancies

b. Receive updates and apply changes as required

8. When SRS is "close enough" to emergency zone file, switchover to SRS---generated zone file

An unqualified success would be deployment within SLA.

A qualified success would be operational (within spec) deployment within +100% of SLA, but requires an after---action report that details how to remediate the process internally to bring performance to within SLA.

A failure would be not being operational within +100% of SLA.

EBERO Simulation Objective	**Unqualified Success**	**Qualified Success**	**Failure**

Completion of an emergency deployment of DNS (with re---signing and rekeying of DNSSEC) from a cached zone file	Within 4 hours of request	Within 8 hours of request	Not within 8 hours of request
EBERO Simulation Objective	**Unqualified Success**	**Qualified Success**	**Failure**
Initiation of SRS from released escrow deposits, including deployment of a properly signed DNS zone from the SRS database (handling discrepancies as defined in the Common Transition Process).	Complete within 72 hours of receipt of escrow deposit data	Complete within 144 hours of receipt of escrow deposit data	Not complete within 144 hours of receipt of escrow deposit data
Initiation of RDDS services from released escrow deposits	Complete within 24 hours of receipt of activation of the SRS	Complete within 48 hours of receipt of activation of the SRS	Not complete within 48 hours of activation of the SRS
Initiation of escrow deposits from SRS system	Complete within 24 hours of RDDS activation	Complete within 48 hours of RDDS activation	Not complete within 48 hours of RDDS activation
Identifications of discrepancies between escrow deposits and cached zone file	100% of discrepancies identified with no crossover errors.	Missed up to 5% of discrepancies in the set, or no discrepancies missed with any crossover errors.	More than 5% of discrepancies between data sets missed.

Exhibit F: Ongoing Event Fee Table

The Monthly Total Fee set forth below is a fixed fee for all DUMs between the stated figure and the number of DUMS stated in the following row. For instance, for DUMs between 10,000 and 10,499, the Monthly Total Fee is $500 and for DUMs between 10, 500 and 10,999, the Monthly Total Fee is $519.

DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee
1	$500	$18,000								
500	$500	$18,000		30,500	$1,329	$47,826		60,500	$2,556	$92,016
1,000	$500	$18,000		31,000	$1,351	$48,636		61,000	$2,573	$92,616
1,500	$500	$18,000		31,500	$1,374	$49,446		61,500	$2,589	$93,216
2,000	$500	$18,000		32,000	$1,396	$50,256		62,000	$2,606	$93,816
2,500	$500	$18,000		32,500	$1,419	$51,066		62,500	$2,623	$94,416
3,000	$500	$18,000		33,000	$1,441	$51,876		63,000	$2,639	$95,016
3,500	$500	$18,000		33,500	$1,464	$52,686		63,500	$2,656	$95,616
4,000	$500	$18,000		34,000	$1,486	$53,486		64,000	$2,673	$96,216
4,500	$500	$18,000		34,500	$1,509	$54,306		64,500	$2,689	$96,816
5,000	$500	$18,000		35,000	$1,531	$55,116		65,000	$2,706	$97,416
5,500	$500	$18,000		35,500	$1,554	$55,926		65,500	$2,723	$98,016
6,000	$500	$18,000		36,000	$1,576	$56,736		66,000	$2,739	$98,616
6,500	$500	$18,000		36,500	$1,599	$57,546		66,500	$2,756	$99,216
7,000	$500	$18,000		37,000	$1,621	$58,356		67,000	$2,773	$99,816
7,500	$500	$18,000		37,500	$1,644	$59,166		67,500	$2,789	$100,416
8,000	$500	$18,000		38,000	$1,666	$59,976		68,000	$2,806	$101,016
8,500	$500	$18,000		38,500	$1,689	$60,786		68,500	$2,823	$101,616
9,000	$500	$18,000		39,000	$1,711	$61,596		69,000	$2,839	$102,216
9,500	$500	$18,000		39,500	$1,734	$62,406		69,500	$2,856	$102,816
10,000	$500	$18,000		40,000	$1,756	$63,216		70,000	$2,873	$103,416
10,500	$519	$18,697		40,500	$1,779	$64,026		70,500	$2,889	$104,016
11,000	$539	$19,394		41,000	$1,801	$64,836		71,000	$2,906	$104,616
11,500	$558	$20,092		41,500	$1,824	$65,646		71,500	$2,923	$105,216
12,000	$577	$20,789		42,000	$1,846	$66,456		72,000	$2,939	$105,816
12,500	$597	$21,486		42,500	$1,869	$67,266		72,500	$2,956	$106,416
13,000	$616	$22,183		43,000	$1,885	$67,860		73,000	$2,973	$107,016
13,500	$636	$22,880		43,500	$1,914	$68,886		73,500	$2,989	$107,616
14,000	$655	$23,578		44,000	$1,936	$69,696		74,000	$3,006	$108,216
14,500	$674	$24,275		44,500	$1,959	$70,506		74,500	$3,023	$108,816
15,000	$694	$24,972		45,000	$1,981	$71,316		75,000	$3,039	$109,416
15,500	$713	$25,669		45,500	$2,004	$72,126		75,500	$3,056	$110,016
16,000	$732	$26,366		46,000	$2,026	$72,936		76,000	$3,073	$110,616
16,500	$752	$27,064		46,500	$2,049	$73,746		76,500	$3,089	$111,216
17,000	$771	$27,761		47,000	$2,071	$74,556		77,000	$3,106	$111,816
17,500	$791	$28,458		47,500	$2,094	$75,366		77,500	$3,123	$112,416
18,000	$810	$29,155		48,000	$2,116	$76,176		78,000	$3,139	$113,016
18,500	$829	$29,852		48,500	$2,139	$76,986		78,500	$3,156	$113,616
19,000	$849	$30,550		49,000	$2,161	$77,796		79,000	$3,173	$114,216
19,500	$868	$31,247		49,500	$2,184	$78,606		79,500	$3,189	$114,816
20,000	$887	$31,944		50,000	$2,206	$79,416		80,000	$3,206	$115,416
20,500	$907	$32,641		50,500	$2,223	$80,016		80,500	$3,223	$116,016
21,000	$926	$33,338		51,000	$2,239	$80,616		81,000	$3,239	$116,616
21,500	$945	$34,036		51,500	$2,256	$81,216		81,500	$3,256	$117,216
22,000	$965	$34,733		52,000	$2,273	$81,816		82,000	$3,273	$117,816
22,500	$984	$35,430		52,500	$2,289	$82,416		82,500	$3,289	$118,416
23,000	$1,004	$36,127		53,000	$2,306	$83,016		83,000	$3,306	$119,016
23,500	$1,023	$36,824		53,500	$2,323	$83,616		83,500	$3,323	$119,616
24,000	$1,042	$37,522		54,000	$2,339	$84,216		84,000	$3,339	$120,216
24,500	$1,062	$38,219		54,500	$2,356	$84,816		84,500	$3,356	$120,816
25,000	$1,081	$38,919		55,000	$2,373	$85,416		85,000	$3,373	$121,416
25,500	$1,104	$39,726		55,500	$2,389	$86,016		85,500	$3,389	$122,016
26,000	$1,126	$40,536		56,000	$2,406	$86,616		86,000	$3,406	$122,616
26,500	$1,149	$41,346		56,500	$2,423	$87,216		86,500	$3,423	$123,216
27,000	$1,171	$42,156		57,000	$2,439	$87,816		87,000	$3,439	$123,816
27,500	$1,194	$42,966		57,500	$2,456	$88,416		87,500	$3,456	$124,416
28,000	$1,216	$43,776		58,000	$2,473	$89,016		88,000	$3,473	$125,016
28,500	$1,239	$44,586		58,500	$2,489	$89,616		88,500	$3,489	$125,616
29,000	$1,261	$45,396		59,000	$2,506	$90,216		89,000	$3,506	$126,216
29,500	$1,284	$46,206		59,500	$2,523	$90,816		89,500	$3,523	$126,816
30,000	$1,306	$47,016		60,000	$2,539	$91,416		90,000	$3,539	$127,416

DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee
90,500	$3,556	$128,016		120,500	$4,292	$154,496		150,500	$4,905	$176,564
91,000	$3,573	$128,616		121,000	$4,302	$154,864		151,000	$4,915	$176,932
91,500	$3,589	$129,216		121,500	$4,312	$155,231		151,500	$4,925	$177,299
92,000	$3,606	$129,816		122,000	$4,322	$155,599		152,000	$4,935	$177,667
92,500	$3,623	$130,416		122,500	$4,332	$155,967		152,500	$4,945	$178,035
93,000	$3,639	$131,016		123,000	$4,343	$156,335		153,000	$4,956	$178,403
93,500	$3,656	$131,616		123,500	$4,353	$156,703		153,500	$4,966	$178,771
94,000	$3,673	$132,216		124,000	$4,363	$157,070		154,000	$4,976	$179,138
94,500	$3,689	$132,816		124,500	$4,373	$157,438		154,500	$4,986	$179,506
95,000	$3,706	$133,416		125,000	$4,384	$157,806		155,000	$4,997	$179,874
95,500	$3,723	$134,016		125,500	$4,394	$158,174		155,500	$5,007	$180,242
96,000	$3,739	$134,616		126,000	$4,404	$158,542		156,000	$5,017	$180,610
96,500	$3,756	$135,216		126,500	$4,414	$158,909		156,500	$5,027	$180,977
97,000	$3,773	$135,816		127,000	$4,424	$159,277		157,000	$5,037	$181,345
97,500	$3,789	$136,416		127,500	$4,435	$159,645		157,500	$5,048	$181,713
98,000	$3,806	$137,016		128,000	$4,445	$160,013		158,000	$5,058	$182,081
98,500	$3,823	$137,616		128,500	$4,455	$160,381		158,500	$5,068	$182,449
99,000	$3,839	$138,216		129,000	$4,465	$160,748		159,000	$5,078	$182,816
99,500	$3,856	$138,816		129,500	$4,475	$161,116		159,500	$5,088	$183,184
100,000	$3,873	$139,416		130,000	$4,486	$161,484		160,000	$5,099	$183,552
100,500	$3,883	$139,784		130,500	$4,496	$161,852		160,500	$5,109	$183,920
101,000	$3,893	$140,152		131,000	$4,506	$162,220		161,000	$5,119	$184,288
101,500	$3,903	$140,519		131,500	$4,516	$162,587		161,500	$5,129	$184,655
102,000	$3,914	$140,887		132,000	$4,527	$162,955		162,000	$5,140	$185,023
102,500	$3,924	$141,255		132,500	$4,537	$163,323		162,500	$5,150	$185,391
103,000	$3,934	$141,623		133,000	$4,547	$163,691		163,000	$5,160	$185,759
103,500	$3,944	$141,991		133,500	$4,557	$164,059		163,500	$5,170	$186,127
104,000	$3,954	$142,358		134,000	$4,567	$164,426		164,000	$5,180	$186,494
104,500	$3,965	$142,726		134,500	$4,578	$164,794		164,500	$5,191	$186,862
105,000	$3,975	$143,094		135,000	$4,588	$165,162		165,000	$5,201	$187,230
105,500	$3,985	$143,462		135,500	$4,598	$165,530		165,500	$5,211	$187,598
106,000	$3,995	$143,830		136,000	$4,608	$165,898		166,000	$5,221	$187,966
106,500	$4,005	$144,197		136,500	$4,618	$166,265		166,500	$5,231	$188,333
107,000	$4,016	$144,565		137,000	$4,629	$166,633		167,000	$5,242	$188,701
107,500	$4,026	$144,933		137,500	$4,639	$167,001		167,500	$5,252	$189,069
108,000	$4,036	$145,301		138,000	$4,649	$167,369		168,000	$5,262	$189,437
108,500	$4,046	$145,669		138,500	$4,659	$167,737		168,500	$5,272	$189,805
109,000	$4,057	$146,036		139,000	$4,670	$168,104		169,000	$5,283	$190,172
109,500	$4,067	$146,404		139,500	$4,680	$168,472		169,500	$5,293	$190,540
110,000	$4,077	$146,772		140,000	$4,690	$168,840		170,000	$5,303	$190,908
110,500	$4,087	$147,140		140,500	$4,700	$169,208		170,500	$5,313	$191,276
111,000	$4,097	$147,508		141,000	$4,710	$169,576		171,000	$5,323	$191,644
111,500	$4,108	$147,875		141,500	$4,721	$169,943		171,500	$5,334	$192,011
112,000	$4,118	$148,243		142,000	$4,731	$170,311		172,000	$5,344	$192,379
112,500	$4,128	$148,611		142,500	$4,741	$170,679		172,500	$5,354	$192,747
113,000	$4,138	$148,979		143,000	$4,751	$171,047		173,000	$5,364	$193,115
113,500	$4,149	$149,347		143,500	$4,762	$171,415		173,500	$5,375	$193,483
114,000	$4,159	$149,714		144,000	$4,772	$171,782		174,000	$5,385	$193,850
114,500	$4,169	$150,082		144,500	$4,782	$172,150		174,500	$5,395	$194,218
115,000	$4,179	$150,450		145,000	$4,792	$172,518		175,000	$5,405	$194,586
115,500	$4,189	$150,818		145,500	$4,802	$172,886		175,500	$5,415	$194,954
116,000	$4,200	$151,186		146,000	$4,813	$173,254		176,000	$5,426	$195,322
116,500	$4,210	$151,553		146,500	$4,823	$173,621		176,500	$5,436	$195,689
117,000	$4,220	$151,921		147,000	$4,833	$173,989		177,000	$5,446	$196,057
117,500	$4,230	$152,289		147,500	$4,843	$174,357		177,500	$5,456	$196,425
118,000	$4,240	$152,657		148,000	$4,853	$174,725		178,000	$5,466	$196,793
118,500	$4,251	$153,025		148,500	$4,864	$175,093		178,500	$5,477	$197,161
119,000	$4,261	$153,395		149,000	$4,874	$175,460		179,000	$5,487	$197,528
119,500	$4,271	$153,760		149,500	$4,884	$175,828		179,500	$5,497	$197,896
120,000	$4,281	$154,128		150,000	$4,894	$176,196		180,000	$5,507	$198,264

DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee		DUM	Monthly Total Fee	3 Year Fee
180,500	$5,518	$198,632		210,500	$6,131	$220,700		240,500	$6,744	$242,768		270,500	$7,510	$270,356
181,000	$5,528	$199,000		211,000	$6,141	$221,068		241,000	$6,754	$243,136		271,000	$7,524	$270,858
181,500	$5,538	$199,367		211,500	$6,151	$221,435		241,500	$6,764	$243,503		271,500	$7,538	$271,361
182,000	$5,548	$199,735		212,000	$6,161	$221,803		242,000	$6,774	$243,871		272,000	$7,552	$271,863
182,500	$5,558	$200,103		212,500	$6,171	$222,171		242,500	$6,784	$244,239		272,500	$7,566	$272,366
183,000	$5,569	$200,471		213,000	$6,182	$222,539		243,000	$6,795	$244,607		273,000	$7,580	$272,868
183,500	$5,579	$200,839		213,500	$6,192	$222,907		243,500	$6,805	$244,975		273,500	$7,594	$273,371
184,000	$5,589	$201,206		214,000	$6,202	$223,274		244,000	$6,815	$245,342		274,000	$7,608	$273,873
184,500	$5,599	$201,574		214,500	$6,212	$223,642		244,500	$6,825	$245,710		274,500	$7,622	$274,376
185,000	$5,610	$201,942		215,000	$6,223	$224,010		245,000	$6,836	$246,078		275,000	$7,636	$274,878
185,500	$5,620	$202,310		215,500	$6,233	$224,378		245,500	$6,846	$246,446		275,500	$7,649	$275,380
186,000	$5,630	$202,678		216,000	$6,243	$224,746		246,000	$6,856	$246,814		276,000	$7,663	$275,883
186,500	$5,640	$203,045		216,500	$6,253	$225,113		246,500	$6,866	$247,181		276,500	$7,677	$276,385
187,000	$5,650	$203,413		217,000	$6,263	$225,481		247,000	$6,876	$247,549		277,000	$7,691	$276,888
187,500	$5,661	$203,781		217,500	$6,274	$225,849		247,500	$6,887	$247,917		277,500	$7,705	$277,390
188,000	$5,671	$204,149		218,000	$6,284	$226,217		248,000	$6,897	$248,285		278,000	$7,719	$277,893
188,500	$5,681	$204,517		218,500	$6,294	$226,585		248,500	$6,907	$248,653		278,500	$7,733	$278,395
189,000	$5,691	$204,884		219,000	$6,304	$226,952		249,000	$6,917	$249,020		279,000	$7,747	$278,898
189,500	$5,701	$205,252		219,500	$6,314	$227,320		249,500	$6,927	$249,388		279,500	$7,761	$279,400
190,000	$5,712	$205,620		220,000	$6,325	$227,688		250,000	$6,938	$249,756		280,000	$7,775	$279,902
190,500	$5,722	$205,988		220,500	$6,335	$228,056		250,500	$6,952	$250,258		280,500	$7,789	$280,405
191,000	$5,732	$206,356		221,000	$6,345	$228,424		251,000	$6,966	$250,761		281,000	$7,803	$280,907
191,500	$5,742	$206,723		221,500	$6,355	$228,791		251,500	$6,980	$251,263		281,500	$7,817	$281,410
192,000	$5,753	$207,091		222,000	$6,366	$229,159		252,000	$6,994	$251,766		282,000	$7,831	$281,912
192,500	$5,763	$207,459		222,500	$6,376	$229,527		252,500	$7,007	$252,268		282,500	$7,845	$282,415
193,000	$5,773	$207,827		223,000	$6,386	$229,895		253,000	$7,021	$252,771		283,000	$7,859	$282,917
193,500	$5,783	$208,195		223,500	$6,396	$230,263		253,500	$7,035	$253,273		283,500	$7,873	$283,419
194,000	$5,793	$208,562		224,000	$6,406	$230,630		254,000	$7,049	$253,776		284,000	$7,887	$283,922
194,500	$5,804	$208,930		224,500	$6,417	$230,998		254,500	$7,063	$254,278		284,500	$7,901	$284,424
195,000	$5,814	$209,298		225,000	$6,427	$231,366		255,000	$7,077	$254,780		285,000	$7,915	$284,927
195,500	$5,824	$209,666		225,500	$6,437	$231,734		255,500	$7,091	$255,283		285,500	$7,929	$285,429
196,000	$5,834	$210,034		226,000	$6,447	$232,102		256,000	$7,105	$255,785		286,000	$7,943	$285,932
196,500	$5,844	$210,401		226,500	$6,457	$232,469		256,500	$7,119	$256,288		286,500	$7,957	$286,434
197,000	$5,855	$210,769		227,000	$6,468	$232,837		257,000	$7,133	$256,790		287,000	$7,970	$286,937
197,500	$5,865	$211,137		227,500	$6,478	$233,205		257,500	$7,147	$257,293		287,500	$7,984	$287,439
198,000	$5,875	$211,505		228,000	$6,488	$233,573		258,000	$7,161	$257,795		288,000	$7,998	$287,941
198,500	$5,885	$211,873		228,500	$6,498	$233,941		258,500	$7,175	$258,297		288,500	$8,012	$288,444
199,000	$5,896	$212,240		229,000	$6,509	$234,308		259,000	$7,189	$258,800		289,000	$8,026	$288,946
199,500	$5,906	$212,608		229,500	$6,519	$234,676		259,500	$7,203	$259,302		289,500	$8,040	$289,449
200,000	$5,916	$212,976		230,000	$6,529	$235,044		260,000	$7,217	$259,805		290,000	$8,054	$289,951
200,500	$5,926	$213,344		230,500	$6,539	$235,412		260,500	$7,231	$260,307		290,500	$8,068	$290,454
201,000	$5,936	$213,712		231,000	$6,549	$235,780		261,000	$7,245	$260,810		291,000	$8,082	$290,956
201,500	$5,947	$214,079		231,500	$6,560	$236,147		261,500	$7,259	$261,312		291,500	$8,096	$291,459
202,000	$5,957	$214,447		232,000	$6,570	$236,515		262,000	$7,273	$261,815		292,000	$8,110	$291,961
202,500	$5,967	$214,815		232,500	$6,580	$236,883		262,500	$7,287	$262,317		292,500	$8,124	$292,463
203,000	$5,977	$215,183		233,000	$6,590	$237,251		263,000	$7,301	$262,819		293,000	$8,138	$292,966
203,500	$5,988	$215,551		233,500	$6,601	$237,619		263,500	$7,315	$263,322		293,500	$8,152	$293,468
204,000	$5,998	$215,918		234,000	$6,611	$237,986		264,000	$7,328	$263,824		294,000	$8,166	$293,971
204,500	$6,008	$216,286		234,500	$6,621	$238,354		264,500	$7,342	$264,327		294,500	$8,180	$294,473
205,000	$6,018	$216,654		235,000	$6,631	$238,722		265,000	$7,356	$264,829		295,000	$8,194	$294,976
205,500	$6,028	$217,022		235,500	$6,641	$239,090		265,500	$7,370	$265,332		295,500	$8,208	$295,478
206,000	$6,039	$217,390		236,000	$6,652	$239,458		266,000	$7,384	$265,834		296,000	$8,222	$295,980
206,500	$6,049	$217,757		236,500	$6,662	$239,825		266,500	$7,398	$266,337		296,500	$8,236	$296,483
207,000	$6,059	$218,125		237,000	$6,672	$240,193		267,000	$7,412	$266,839		297,000	$8,250	$296,985
207,500	$6,069	$218,493		237,500	$6,682	$240,561		267,500	$7,426	$267,341		297,500	$8,264	$297,488
208,000	$6,079	$218,861		238,000	$6,692	$240,929		268,000	$7,440	$267,844		298,000	$8,278	$297,990
208,500	$6,090	$219,229		238,500	$6,703	$241,297		268,500	$7,454	$268,346		298,500	$8,291	$298,493
209,000	$6,100	$219,596		239,000	$6,713	$241,664		269,000	$7,468	$268,849		299,000	$8,305	$298,995
209,500	$6,110	$219,964		239,500	$6,723	$242,032		269,500	$7,482	$269,351		299,500	$8,319	$299,498
210,000	$6,120	$220,332		240,000	$6,733	$242,400		270,000	$7,496	$269,854		>300,000	$8,333	$300,000