

EMERGENCY BACK-END REGISTRY OPERATOR AGREEMENT

This EMERGENCY BACK-END REGISTRY OPERATOR AGREEMENT (this “Agreement”) is entered into as of 16 August 2013 (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 CORE Association (“EBERO Service Provider”), a Swiss Association with legal seat in World Trade Center II, 9 Route de Pre-Bois, CH-1215 Geneva.

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 4.1) or the termination of this Agreement pursuant to Article 4, 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 comply with the terms, conditions and procedures established in the *EBERO Common Transition Process-v1.1 2013-07-29* attached hereto as Exhibit B and incorporated into and considered a part of this Agreement, amended from time to time (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 in Section 2.1 below) for a failed TLD (as defined below).

(b) EBERO Service Provider shall be subject to testing and simulation established in Exhibit E-1 and 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 will be conducted in two stages, with the first stage currently anticipated to be completed no later than September 30, 2013 (the “Common Transition Readiness Inspection”), and the second stage anticipated to be completed no later than December 31, 2013 (the “EBERO Readiness Exercise”). Starting in the second year following the Effective Date and continuing each year thereafter, ICANN will perform the “Annual Readiness Inspection” as provided for in Exhibit E-3. ICANN will not assign the EBERO Service Provider any Event Activation Order until the EBERO Service Provider successfully completes the Common Transition Readiness Inspection as determined by ICANN in its sole business judgment.

(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”) for the duration of the term specified therein (up to 36 months) or, if earlier, until the Failed TLD ceases operations for any reason or the transition of the failed TLD to a successor registry operator as provided in the CTP Manual. The parties acknowledge that no, one or multiple Event Activation Orders may be assigned to EBERO Service Provider hereunder. ICANN shall have no obligation to designate EBERO Service Provider as the EBERO for any Failed TLD if EBERO Service Provider is in breach of any of its obligations hereunder or any registry agreement between ICANN and EBERO Service Provider or any of its Affiliates.

(d) EBERO Service Provider shall serve as EBERO for any Failed TLD that is part of the New gTLD Program for which ICANN designates EBERO Service Provider as EBERO under any Event Activation Order; *provided, however*, ICANN agrees that EBERO Service Provider will not be designated as EBERO for any of the TLDs set forth in Exhibit C hereto.

(e) EBERO Service Providers generally will be assigned to an EBERO Event in rotating order; provided, however ICANN shall maintain the sole discretion to designate an EBERO to provide the EBERO Services for a Failed TLD in the order ICANN determines. The initial rotating order will be determined by a random drawing.

(f) Following ICANN’s designation of EBERO Service Provider as an EBERO for a Failed TLD pursuant to an Event Activation Order, ICANN will publicly announce such designation, which announcement shall be in form and substance reasonably acceptable to the EBERO Service Provider.

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 ICANN’s EBERO Service Provider Request for Information, and statements made in writing during 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; and

(ii) 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 a registry operator for a TLD in the New gTLD Program is temporarily unable to perform certain critical functions and ICANN declares an emergency event (“Emergency Event”), EBERO Service Provider shall provide the following back-end registry functions in respect of that Failed TLD registry when requested by ICANN in an Event Activation Order: DNS, DNSSEC, Whois, SRS/EPP, and Data Escrow registry services (collectively, the “EBERO Services”). The EBERO Services shall be provided and implemented in the manner specified in the Section 11 of the CTP Manual. ICANN shall be responsible for providing the centralized zone file to the EBERO Service Provider.

2.2 Contractual and Operational Compliance Audits.

(a) 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 of this Agreement. 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 required by Section 7.14) as EBERO Service Provider’s Confidential Information in accordance with Section 6.13.

(b) Any audit conducted pursuant to Section 2.3(a) will be at ICANN’s expense.

(c) EBERO Service Provider will give ICANN immediate notice of the commencement of any of the proceedings referenced in Section 3.2(d) or the occurrence of any of the matters specified in Section 3.2(f).

2.3 EBERO Performance Specifications. Performance Specifications for the EBERO Service Provider will be as set forth in the CTP Manual. 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.

2.4 Personal Data. EBERO Service Provider shall take reasonable steps to protect data about any identified or identifiable natural person (“Personal Data”) collected from or on behalf of the Failed TLD from loss, misuse, unauthorized disclosure, alteration or destruction. EBERO Service Provider shall not use or authorize the 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.

2.5 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 IANA for any emergency requests for changes to the root zone, and (iv) undertake other obligations as provided in the CTP Manual.

2.6 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.

2.7 EBERO Transition Process. The EBERO Transition Process is set forth in Section 3.0 *et seq.* 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.

ARTICLE 3.

TERM AND TERMINATION

3.1 Term. The term of this Agreement will be five years from the Effective Date; provided, however, that (i) if EBERO Service Provider is serving as EBERO for a Failed TLD with a registry agreement term (“TLD Term”) that expires after such five year term, the term of this Agreement shall expire upon expiration of such TLD Term, or (ii) if the term of

any Event Activation Order extends beyond the five year term, then the term of this Agreement shall expire upon the expiration of such Event Activation Order (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 Article 2 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 Event Activation Order, or (ii) EBERO Service Provider fails to comply with any obligations, processes or procedure set forth in the CTP Manual in any material respect.

(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 to provide EBERO Services for a TLD not previously identified in Exhibit C.

(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 6.5.

(g) ICANN may terminate this Agreement for any reason upon one hundred eighty (180) 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 covenants set forth in Article 2, or (B) any breach of ICANN's payment obligations set forth in Article 5 of this Agreement, 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 one hundred eighty (180) 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 any expiration of any TLD Term as specified in an Event Activation Order or termination of an Event Activation Order, 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 6. In addition, as it relates to such Event Activation Order, Article 5, Article 6, Section 4.5, and

this Section 4.6 shall survive the expiration any TLD Term as specified in an Event Activation Order or termination of an Event Activation Order. Other than as specified in this Section 3.4(b) with respect to any expiration of any TLD Term as specified in an Event Activation Order 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), before either party may initiate arbitration pursuant to Section 4.2 below, ICANN and EBERO Service Provider must attempt to resolve the dispute through mediation in accordance with the following terms and conditions:

(a) A party shall submit a dispute to mediation by written notice to the other party. 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 6.13) as Confidential Information of such other party in accordance with Section 6.13.

(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 will 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 will 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, unless (i) ICANN is seeking punitive or exemplary damages, or operational sanctions, or (ii) the parties agree in writing to a greater number of arbitrators. In the case of clauses (i) or (ii) in the preceding sentence, the arbitration will be conducted by a panel of three arbitrators with each party selecting one arbitrator and the two selected arbitrators selecting the third arbitrator. In order to expedite the arbitration and limit its cost, the arbitrator(s) shall establish page limits for the parties' filings in conjunction with the arbitration, and should the arbitrator(s) determine that a hearing is necessary, the hearing shall be limited to one (1) calendar day, provided that in any arbitration in which ICANN is seeking punitive or exemplary damages, or operational sanctions, the hearing may be extended for one (1) additional calendar day if agreed upon by the parties or ordered by the arbitrator(s) based on the arbitrator(s) independent determination or the reasonable request of one of the parties thereto. The prevailing party in the arbitration will have the right to recover its costs and reasonable attorneys' fees, which the arbitrator(s) 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 6.13) as Confidential Information of such other party in accordance with Section 6.13. 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. 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. 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 EBERO Standby Fee. ICANN shall pay EBERO Service Provider a standby fee of \$85,000 (the “Standby Fee”) per annum. The Standby Fee shall be paid quarterly in four equal installments of \$21,250 each March 15th, June 15th, September 15th, and December 15th. ICANN’s obligation to pay the quarterly Standby Fee will begin on the date on which the EBERO Service Provider successfully completes the Common Transition Readiness Inspection pursuant to Section 1.1(b). The first quarterly payment of the Standby Fee will be prorated based on the number of calendar days between the date on which the EBERO Service Provider successfully completes the Common Transition Readiness Inspection pursuant to Section 1.1(b) and the end of the calendar quarter in which the successful completion date falls. The Standby Fee shall be paid regardless of whether any Event Activation Orders are in force.

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 based on the number of active domains under management (“DUMs”) by the TLD. The Standard Emergency Event Fee due to the EBERO Service Provider shall be as provided in the fee table of DUMs in Exhibit D-1 attached hereto and made part of this Agreement. 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 Event Activation Order’s transition-in tasks in Exhibit D-2 attached hereto and made part of this Agreement. 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 Event Activation Order activities provided in Exhibit D-2.

5.3 Difficult Emergency Event Fee. Some transitions of the Failed TLD to the EBERO Service Provider may be classified as a “Difficult Emergency Event.” The factors for

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. At the request of the EBERO Service Provider, ICANN may, in its sole reasonable discretion, declare an Emergency Event to be a Difficult Emergency Event. 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 at its sole reasonable discretion, but shall in any event be no more than \$30,000.00 per Emergency Event. ICANN shall pay the EBERO Service Provider the Difficult Emergency Event Fee within sixty (60) days following the EBERO Service Provider’s acceptance of the Event Activation Order.

5.4 Third-Party Transition-Out Fee. In the event ICANN directs EBERO Service Provider to transition the Failed TLD to a third-party successor agency as part of the Transition-Out Plan, ICANN shall pay to EBERO Service Provider a transition-out fee of \$20,000 (the “Transition-Out Fee”). The Transition-Out Fee shall be paid to EBERO Service Provider within thirty (30) calendar days of following the successful completion of the Transition-Out Plan and termination of the Event Activation Order. A service order will be successfully completed 30 days following IANA’s updates to the root zone to point to the successor registry.

5.5 Termination Fee; Event Activation Order. In the event ICANN terminates an Event Activation Order without cause after the EBERO Service Provider accepts the Event Activation Order, but prior to the completion of the Transition-Out Plan, EBERO Service Provider shall be entitled to any fees due under Sections 5.2 and 5.3 (the “Early Termination Fee”). ICANN shall pay the Early Termination Fee within thirty (30) days following the Event Activation Order termination date.

5.6 Additional Fee on Late Payments. 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.

5.7 Expenses. ICANN will pay for reasonable and documented expenses actually incurred by EBERO Service Provider in the course of providing the EBERO Services under this Agreement, provided that such expenses shall be approved in writing in advance by ICANN. ICANN may specify pre-approved expenses in an Event Activation Order.

ARTICLE 6.

MISCELLANEOUS

6.1 Indemnification of ICANN. 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 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 or negligence by ICANN or any directors, officers, employees and agents acting on its behalf. 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 6.1 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.

6.2 Indemnification Procedures. If any third-party claim is commenced that is indemnified under Section 6.1 above, ICANN shall provide notice thereof to EBERO Service Provider as promptly as reasonably practicable. EBERO Service Provider shall be entitled, if it so elects, in a notice promptly delivered to ICANN, to immediately take control of the defense and investigation of such claim and to employ and engage attorneys reasonably acceptable to ICANN to handle and defend the same, at EBERO Service Provider'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. ICANN shall cooperate, at EBERO Service Provider's cost and expense, in all reasonable respects with EBERO Service Provider and its attorneys in the investigation, trial, and defense of such claim and any appeal arising therefrom, and may, at ICANN'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 ICANN other than the payment of money in an amount that is fully indemnified by EBERO Service Provider will be entered into without the consent of ICANN. If EBERO Service Provider does not assume full control over the defense of a claim subject to such defense in accordance with this Section 6.2, ICANN will have the right to defend the claim in such manner as it may deem appropriate, at the cost and expense of EBERO Service Provider and EBERO Service Provider 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 No Offset. All payments due under this Agreement will be made in a timely manner throughout the Term and notwithstanding the pendency of any dispute (monetary or otherwise) between EBERO Service Provider and ICANN.

6.5 Change of Control; Assignment and Subcontracting.¹ Except as set forth in this Section 6.5, 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. For purposes of this Section 6.5, a direct or indirect change of control of EBERO Service Provider or any subcontracting arrangement for the EBERO Services (a “Subcontracting Arrangement”) shall be deemed an assignment.

(a) EBERO Service Provider must provide no less than thirty (30) calendar days advance notice to ICANN of any assignment or Subcontracting Arrangement, and any agreement to assign or subcontract any portion of the operations of the EBERO Services (whether or not a Subcontracting Arrangement) must mandate compliance with all covenants, obligations and agreements by EBERO Service Provider hereunder, and EBERO Service Provider shall continue to be bound by such covenants, obligations and agreements. EBERO Service Provider must also provide no less than thirty (30) calendar days 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.

(b) Within thirty (30) calendar days of either such notification pursuant to Section 6.5(a), ICANN may request additional information from EBERO Service Provider establishing (i) compliance with this Agreement and (ii) that the party acquiring such control or entering into such assignment or Material Subcontracting Arrangement (in any case, the “Contracting Party”) and the ultimate parent entity of the Contracting Party 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 which case EBERO Service Provider must supply the requested information within fifteen (15) calendar days.

(c) EBERO Service Provider agrees that ICANN's consent to any assignment, change of control or Subcontracting Arrangement will also be subject to background checks on any proposed Contracting Party (and such Contracting Party's Affiliates).

(d) If ICANN fails to expressly provide or withhold its consent to any assignment, direct or indirect change of control of EBERO Service Provider or any Subcontracting Arrangement within thirty (30) calendar days of ICANN's receipt of notice of such transaction (or, if ICANN has requested additional information from EBERO Service Provider as set forth above, thirty (30) calendar days of the receipt of all requested written information regarding such transaction) from EBERO Service Provider, ICANN shall be deemed to have consented to such transaction.

(e) In connection with any such 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) any consummated change of control shall not be voidable by ICANN; provided, however, that, if ICANN reasonably determines to withhold its consent to such transaction, ICANN may terminate this Agreement pursuant to Section 3.2(f), (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, and (iii) EBERO Service Provider may assign this Agreement without the consent of ICANN directly to a wholly-owned subsidiary of EBERO Service Provider, or, if EBERO Service Provider is a wholly-owned subsidiary, to its direct parent or to another wholly-owned subsidiary of its direct parent, upon such subsidiary's or parent's, as applicable, express assumption of the terms and conditions of this Agreement.

6.6 Amendments and Waivers. Except as set forth in the Exhibits and Specifications hereto, no amendment, supplement or modification of this Agreement or any provision hereof 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.

6.7 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 previous registry operator of a TLD for which EBERO Service Provider is designated as an EBERO hereunder.

6.8 General Notices. All notices to be given under or in relation to this Agreement will be given either (i) in writing at the address of the appropriate party as set

forth below or (ii) via facsimile or electronic mail as provided below, unless that party has given a notice of change of postal or email address, or facsimile number, 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 will be deemed to have been properly given (i) if in paper form, when delivered in person or via courier service with confirmation of receipt or (ii) if via facsimile or by electronic mail, upon confirmation of receipt by the recipient's facsimile machine or email server, provided that such notice via facsimile or electronic mail shall be followed by a copy sent by regular postal mail service within three (3) calendar days. In the event other means of notice become practically achievable, such as notice via a secure website, the parties will work together to implement such notice means under this 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
Facsimile: +1-310-823-8649
Attention: President, Generic Domains Division

With a Required Copy to: General Counsel
Email: (As specified from time to time.)

If to EBERO Service Provider, addressed to:
CORE Association
World Trade Center II, 29 Route de Pre-Bois
CH-1215, Geneva
Switzerland
Telephone: +41-22-929-5744
Facsimile: +41-22-929-5745
Attention: Werner Staub, Coordinator of the Permanent Secretariat
Email: secretariat@corenic.org

6.9 Entire Agreement. This Agreement (including 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.

6.10 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 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.

6.11 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.

6.12 Severability; Conflicts with Laws. 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.

6.13 Confidentiality

(a) Subject to Section 6.13(c), during the Term and for a period of two (2) 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. 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 6.13(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: _____
Akram Atallah
President, Generic Domains Division

CORE ASSOCIATION

By: _____
Werner Staub
Coordinator of the Permanent Secretariat

EXHIBIT A

Form of Event Activation Order

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

EXHIBIT B

EBERO Common Transition Process-v1.1 2013-07-29

(Attached)

EXHIBIT C

List of Non-Designatable Top-Level Domains

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

EXHIBIT D-1

Standard Emergency Event Fee Schedule

(Attached)

EXHIBIT D-2

Criteria for 50% Standard Fee Payment

1. 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. Make 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 the EBERO), where only escrow deposits that pass validation at the escrow agent are considered successful.
4. Meet the following service levels (using the definitions in sections 3, 4, 5, and 8 of Specification 10 of the new gTLD 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 new 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 to perform critical functions necessary to respond to an EBERO Event. The inspection will include everything in the Annual Readiness Inspection, EXHIBIT E-3, plus 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 shall then successfully transfer of data and provide to ICANN (via electronic mail, with verbal confirmation by telephone) 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 within 60 minutes of request.
2. Successfully obtain data escrow formatted data using ICANN-specified procedures 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 dump and at least one incremental change from the escrow)).
2. The drill will be scheduled.
3. The EBERO will pre-identify the IP address(es) they intend to transfer zones from.
4. ICANN will notify the EBERO that they must retrieve the zone from a specified IP address.
5. The EBERO will successfully transfer the zone, confirming the cryptographic checksum of the received zone file to ICANN.
6. ICANN will notify the EBERO that they must transfer escrow deposits.
7. The EBERO 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, 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

EXHIBIT E-2

EBERO Readiness Exercise

The intent of the EBERO Readiness Exercise is to simulate the transfer in of a registry to the EBERO operating environment. In an EBERO Readiness Exercise, an EBERO 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 an EBERO to perform emergency registry transitions.

At the beginning of the exercise, the EBERO will be activated and can retrieve a TLD zone file and be told to have it answering queries within 4 hours. At some subsequent point at a time determined by ICANN, an escrow deposit will be provided to the EBERO and they will be directed to begin operations within specified SLA.

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 a working WHOIS/RDDS 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 the EBERO 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.

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

EBERO Readiness Exercise

1. ICANN will to provide registry data sets (a zone file and escrow deposit set (a full dump 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 the EBERO 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 the EBERO.

5. The EBERO must provide an operational primary DNS, WHOIS service and registrar-ready EBERO 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
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 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 EBERO 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 E-3

Annual Readiness Inspections

The intent of the on-site annual readiness inspection is to reconfirm the readiness of an EBERO to respond to an EBERO Event. The inspection will not require the EBERO to perform any test or simulations of the technical infrastructure. The inspection will include but may not be 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's operating environment. Any roles/responsibilities that must not be assigned to the same person must be noted in a matrix of compatibility.
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 a 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. An EBERO EVENT COORDINATOR is mandatory. All other roles will be EBERO-specific.
CONTACT DATA	<p>Each named individual listed in STAFFING has up-to-date contact data (home phone, cell phone, email, Jabber, etc.) on file with the EBERO so that they can be contacted if the EBERO is activated.</p> <p>EBERO also maintains a 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, with human-to-human communication (by phone, jabber, or some other method) within 30 minutes to facilitate activation of the EBERO. Contact methods are to be reviewed and distributed on a monthly basis.</p>
ON-CALL	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	Policies and procedures to ensure that documentation used and supporting EBERO is reviewed, updated and maintained on at least an annual basis, or when significant changes occur in the business.

Requirement	High Level Description / Evaluation Criteria
ESCROW IMPORT	Software and procedures necessary to import a set of properly formatted escrow deposits to populate a registry running on the EBERO's infrastructure
ESCROW RETRIEVAL	Software and procedures to retrieve escrow deposits from ICANN.
ZONE RETRIEVAL	Software and procedures to retrieve zone files from ICANN's repository.
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
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.
DATA-QUALITY	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.
INFRASTRUCTURE-CAPACITY	<p>The physical data centers, network connectivity, servers and physical and logical infrastructure must be in place to deploy an EBERO.</p> <p>The EBERO must provide an internally-generated report that certifies the existing infrastructure is capable of absorbing a minimum of 1 million domain names across up to 50 registries.</p>

Exhibit B



Internet Corporation for Assigned Names and Numbers

ICANN EBERO EVENT

COMMON TRANSITION PROCESSES

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Version	Date	Comments
1.0	July 18, 2013	Initial release, as included in the EBERO master services agreement.
1.1	July 29, 2013	Synchronized sections 11.4.3 to the content of section 6; typographic error and formatting corrections.

Figure 1: Document Version Control

1 EBERO Event Team

1.1 Mission

The Emergency Back-End Registry Operator Response Team protects the security, stability and resilience of the Domain Name System by temporarily assuming the operation of critical registry functions of delegated top level domains 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

Article II, Section 2 of ICANN Bylaws expressly authorizes 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 the mechanism of choice to protect the operational stability of the Internet from certain threats.

The EBERO Event Team reports through a designated Event Director to a steering committee made up of ICANN management and executives under the authority of the President, Generic Domains Division.

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 from multiple ICANN staff 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, real and simulated registry failure scenarios), and thus are created on an as-needed basis as circumstances warrant.

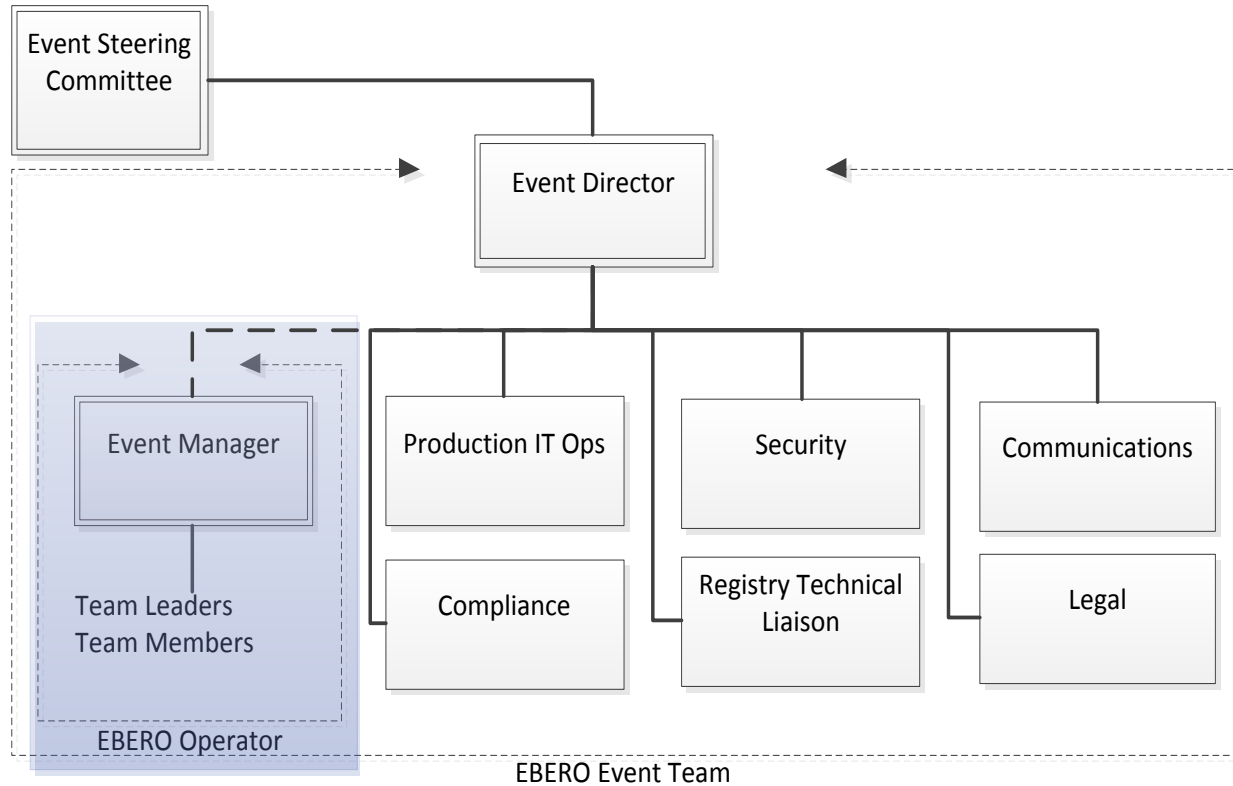


Figure 2: EBERO Event Team Organization

1.3.1 Event Steering Committee

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

1. President, Generic Domains Division
2. General Counsel
3. Operations Manager

In the event that circumstances warrant, any of the committee members can designate an Event Director. The Event Steering Committee should be able to designate an Event Director within 1 hour of notification that an emergency performance threshold has been or is about to be exceeded.

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) declare that an EBERO Event is underway (authorizing EBERO service providers to take action); (b) authorize the requests for changes at 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**. A 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 a Catastrophic Event could relax or suspend EBERO service level commitments, in the interest of protecting the security, stability and resiliency of the DNS.

1.3.3 Legal

ICANN Legal must 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.

1.3.4 Communications

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

1.3.5 Compliance

The Compliance team has two essential roles within the EBERO Event Team. The first is to, when time permits, prepare and transmit necessary compliance notices to the failing registry. In addition, Compliance has access to 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 required.

1.3.6 Registry Technical Liaison

The Registry Technical Liaison provides access to specific expertise to properly advise the Event Director and facilitates work as warranted by the situation at hand.

1.3.7 Registrar Liaison

The Registrar Liaison provides access to specific expertise to properly advise the Event Director and facilitates work as warranted by the situation at hand.

1.3.8 Security

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

1.3.9 ICANN 24x7 Operations Center Staff

ICANN's operation staff performs tasks and facilitates work as warranted by the situation at hand.

1.3.10 Other Internal ICANN Subject Matter Expertise (as needed)

As emergency situations are difficult to predict, other expertise and staffing resources may be called to participate in an EBERO Event team when circumstances warrant.

1.3.11 Emergency Back-End Registry Operator (EBERO)

The EBERO provides five critical registry functions in response to an ICANN-declared emergency. Those functions are:

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

1.3.12 EBERO Event Manager

The EBERO must designate one or more individuals to provide primary point of contact for EBERO matters during the EBERO event (only one would be “on duty” at a time); this is not a technical role, but instead a management role that must be able to be performed 24x7 on short notice. During the 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, a single voice must be able to speak on behalf of the EBERO service provider. The EBERO Event Manager must:

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

It is not intended or required that the Event Manager directly answer phone calls from ICANN 24x7 – widely used mechanisms for on-call response based on activation from a 24x7 operations or support center is appropriate provided that an event manager can be activated by the EBERO’s 24x7 operations to become available in sufficient time to meet the timing requirements described in *4 EBERO Service Levels*.

1.3.13 EBERO Service Team Leads and Team Members

As each EBERO service provider’s internal functions could be structured differently, the roles required to perform an EBERO transition within that service provider are not being enumerated within the common transition process, but are implicitly required. 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.

1.4 Affected Parties and Roles

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

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Affected Party	Event Director (or designee) role
ICANN 24x7 Operations Center	Notifies the executive committee of registries which are failing to meet service level commitments, based on ICANN’s SLA monitoring.
ICANN Compliance	Notifies the executive committee of registries which are failing to meet specifications for data escrow, as well as advising of historical compliance concerns with the registry.
ICANN Executive Management	Authorizes and delegates authority to an Event Director, so that should emergency thresholds be reached, prompt action can be taken to protect the stability and resilience of the DNS.
ICANN Corporate Communications	The Event Director provides information related to the EBERO event; Communications (with Senior Management) makes appropriate disclosures and releases to the public, press, or other affected parties.
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 service provider.
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.

Figure 3: Affected Parties and EBERO Event Team Roles

2 Registry Status Descriptions

Status	Description
Ready	(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	<p>(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.</p> <p>In a heightened alert status, key personnel from both ICANN and the selected EBERO will be notified by their respective organizations and the team will activate communication channels for screen sharing, chat (e.g., Adobe Connect) and verbal communication (e.g. a teleconference bridge). ICANN and the EBERO service provider will monitor these communication channels.</p>
Event Declared	(Section 3.4) Once an Event Director approves activation by declaring that an Event is underway, the EBERO service provider 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 affected 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 (WHOIS) 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) Upon designation of a successor registry (or approval to return registry functions to the original registry), the EBERO will generate an up-to-date "gold" 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 registry. 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

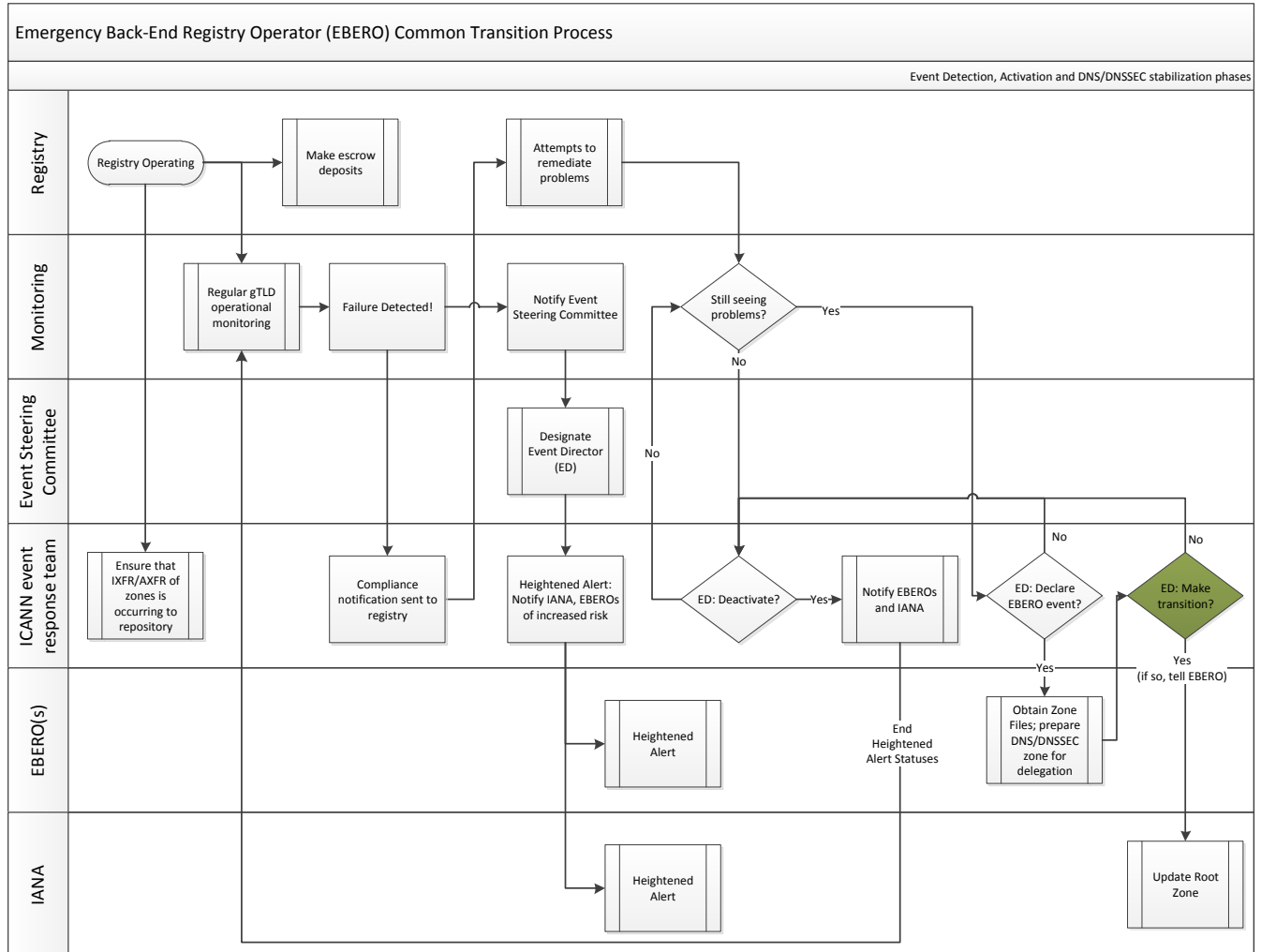


Figure 5: EBERO Event Common Transition Process, Event Detection through DNS/DNSSEC transition

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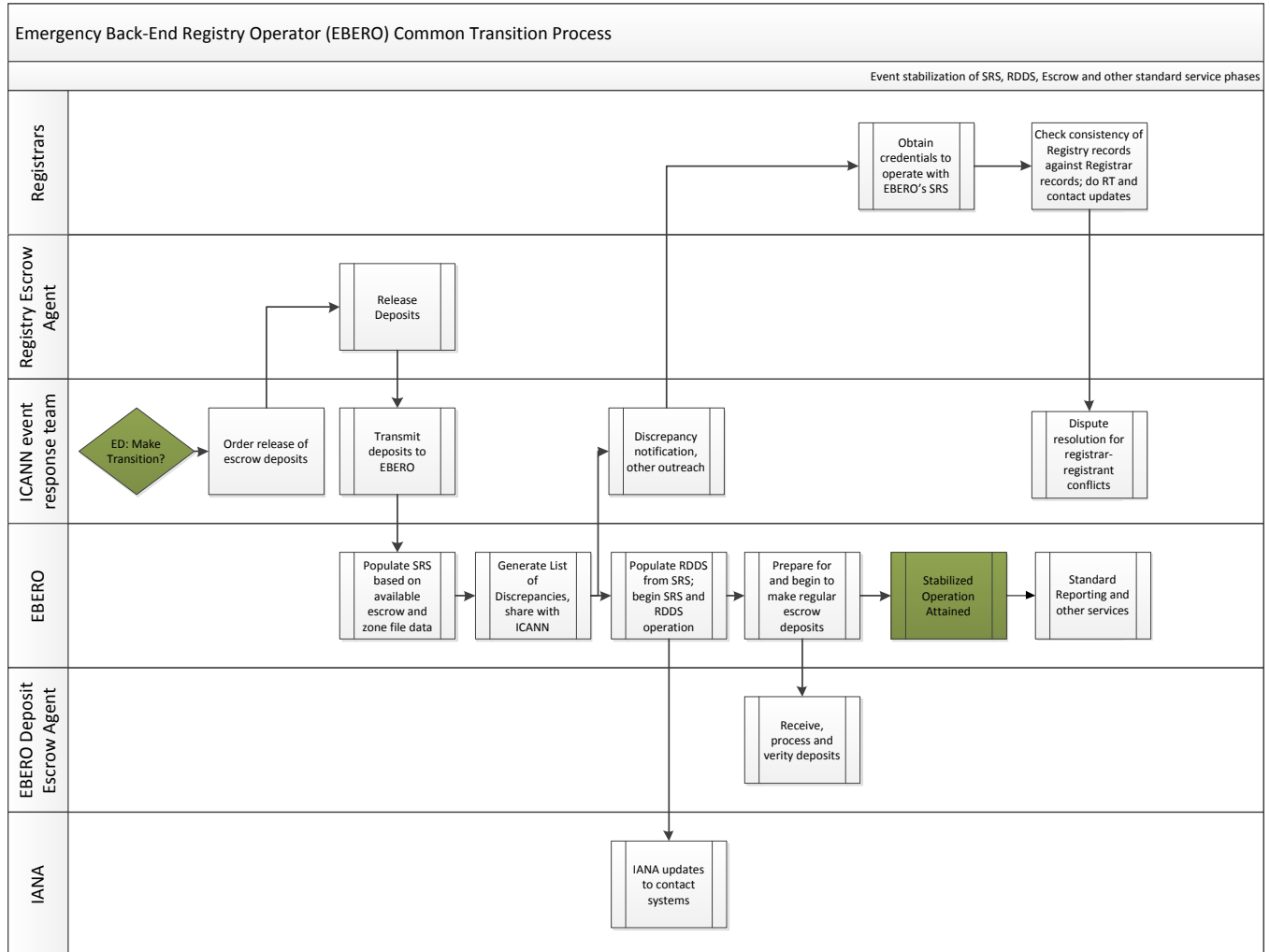


Figure 6: EBERO Event Common Transition Process, Data Escrow Release until Registry is stabilized

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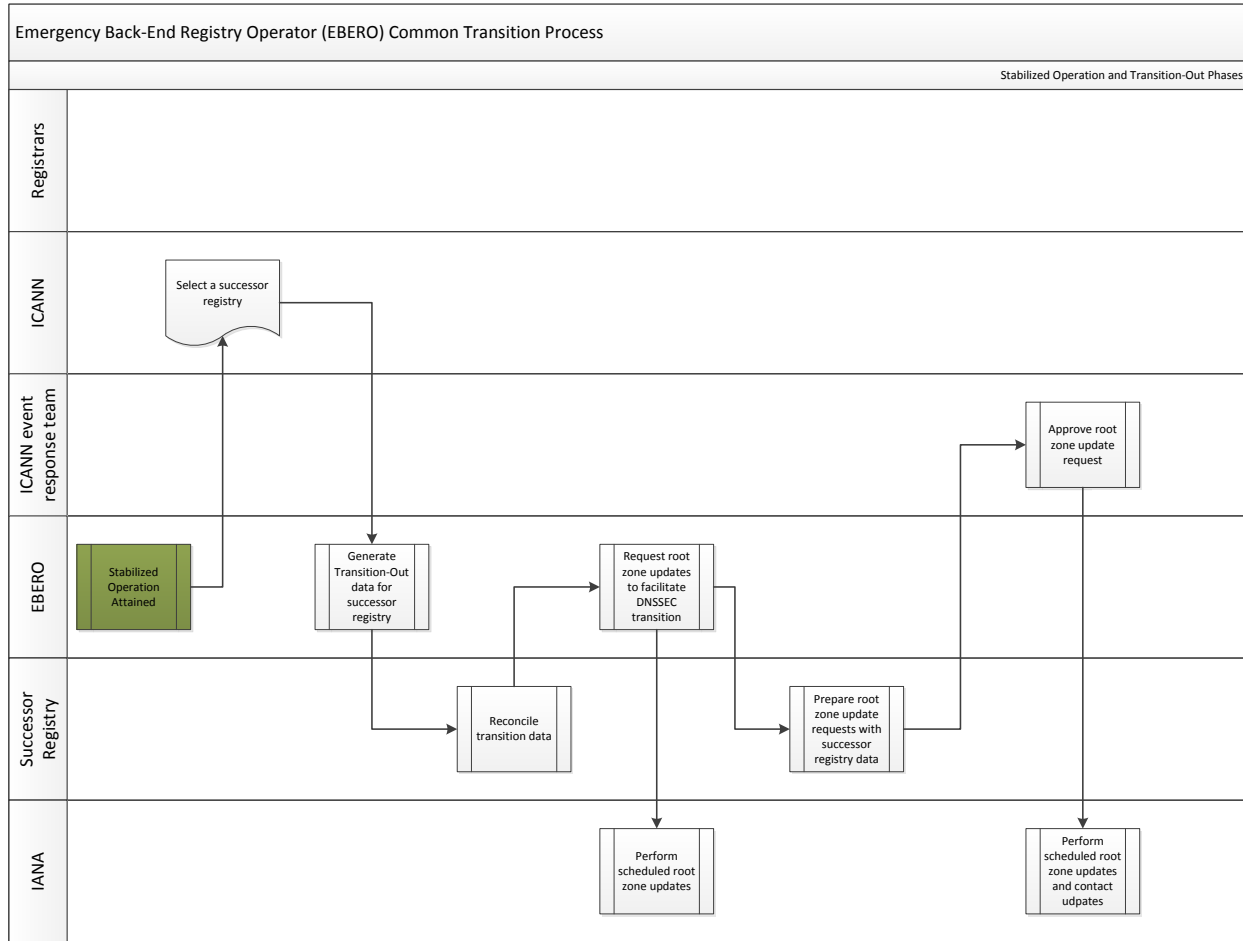


Figure 7: EBERO Event Common Transition Process, Transitioning Out of EBERO

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. ICANN is monitoring the registry and operating a zone file repository to ensure that zone file data is no more than 24 hours old in the EBERO repository.

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 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 EBERO is **not** detailed in this high-level description. Example of conditions sufficient to invoke a state of heightened alert might include a registry requesting a transition to EBERO or a registry reaching a failure state that has utilized

10% of the emergency threshold timing window as described in Specification 10 of the new gTLD agreement. During a Heightened Alert State, ICANN will be trying to work with the registry to remediate the service problems.

Service	Specification 10 Emergency Threshold To Trigger Heightened Alert
DNS	24 minutes of total downtime / week
DNSSEC	24 minutes of total downtime / week
RDDS	144 minutes of total downtime / week
SRS	144 minutes of total downtime / week
Data Escrow	1008 minutes after the issuance of a Compliance notice of (a) failure to receive notification of required escrow deposits; or (b) failure of deposits to pass verification.

Figure 8: Heightened Alert Performance Thresholds

When Heightened Alert State is entered, the ICANN EBERO Steering Committee—a group comprised of management and senior executives from ICANN—will name an EBERO Event Director. The EBERO event director (Event Director) will streamline the execution and decision processes within ICANN and allow for the rapid response to changing conditions and needs. 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 named, ICANN’s operations function will select an EBERO and notify both the EBERO’s and IANA’s 24x7 emergency contacts, announcing that a Heightened Alert State exists. ICANN’s operations team will 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 operations team will communicate authentication credentials and addressing information needed to perform transition data retrieval should an event be declared. ICANN’s operation team will ensure that zone file data is placed in an accessible area of the zone file repository for the EBERO during the state of Heightened Alert.

EBERO assignments will be made first in, first-out. The specific starting order will be determined during the contracting phase, with specific TLD exemptions being written into an addendum to the contract to address situations where EBERO transition could pose specific legal challenges (for example, a registry operated in a region under sanctions from the jurisdiction in which the EBERO operates). In addition, that addendum will identify any strings where the back-end provider requests to be moved to “last in line” for moral or mission conflict purposes. Finally, an EBERO may put itself “last in line” during a particular period, due to circumstances such as planned maintenance or capacity considerations (already transitioning a TLD, operating in a contingency due to a disaster, etc.). 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 the “last in line” will not still need to be selected, but the preference of the EBERO service provider 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 the 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, the EBERO service provider **may** be able to and **may** retrieve zone files.

The Event Director will notify the selected EBERO and IANA to trigger heightened alert **within 1 hour of an Event Director being named or at least 4 hours prior to an EBERO event being able to be declared.**

This communication will include:

- Name, email and other identification of the Event Director
- Contact information for the collaboration technology
 - 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 small (less than 1000 domain names under management) gTLD was detected as not offering SRS services for 4 hours and has been non-responsive to our attempts to remediate. The soonest the Event Director could declare an event would be at 01:00 UTC, in approximately 6 hours. We are opening a conference bridge for an event response team now.")

ICANN and the EBERO may consider opening the event collaboration channels to observers from other EBERO service providers. This could be a valuable cross-training opportunity, but is of secondary importance to EBERO emergency responses and thus is not required.

It is not anticipated that a state of heightened alert would exist for a period of more than 24 hours prior to an event being declared in the current model.

3.4 Event Declared State

From a Heightened Alert state, a decision loop is entered: should the Event Director declare an event, triggering the preparation by the EBERO to transition 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 liaison, security, 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 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 (approved) DNSSEC practice statements. Note that during parts of the transition, the re-signed zone could result in some DNSSEC signed domain names becoming non-functional due to failing validation.

The EBERO will have four (4) 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 event is declared and the communication of that event is **received** by the EBERO.

ICANN will prepare a request to release escrow deposits for the escrow agent as soon as the event is declared, but will not transmit the request 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 hang in this “pending decision to Transition-In” status, as last ditched 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 security, compliance, registry technical liaison, registrar liaison, and the EBERO as to the readiness of the zone for transition. Once authorization to proceed is given, events should proceed to stable operation without blocking decision points. Declaring an event will trigger ICANN processes for communication to registrars and the community; in addition, compliance notifications should be sent.

Task	Description	Depends	Maximum Time to Complete within SLA	Responsible Party
1	Declare Event		Initial event	Event Director
2	Acknowledge Service Order	1		EBERO 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		EBERO Event Manager
12	3.5.5 Populate SRS from escrow deposits and	11	+72 hours	EBERO

Task	Description	Depends	Maximum Time to Complete within SLA	Responsible Party
	zone file data			
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	TRANSION-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. Note that re-delegation of the TLD can only occur after this task is complete.

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, our 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, assuming that a heightened state of alert was achieved.

3.5.3 Escrow Release

The registry's escrow agent must receive an authorized request to release the escrow deposits for the troubled registry 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 secrecy around this request, but no formal notification mechanism will be used to inform the EBERO of the release request being transmitted; informal communication (on the event bridge) 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. In either event, the specific communication channel used to transmit escrow data to the EBERO is to be determined. If an ICANN public key is used in the escrow release, then ICANN will provide a properly decrypted (and, as needed, re-encrypted using an EBERO provided public key) within 2 hours of receipt. This process is described in section 7 *Escrow Release Protocol and Procedures for EBEROs*.

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 9 *Handling Discrepancies between Data Sources during Transition*.

EBEROs 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.

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 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 registry.

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 more than 24 hours following the activation of SRS and SRS must be operational no more than 72 hours following receipt of escrow data. Note that RDDS operation includes zone file availability to other EBEROs.

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 WHOIS works 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:*>, <registrar:*>	Code 2201 "Authorization Error"

Figure 10: Unauthorized EPP transactions during an EBERO event

3.5.8 Begin Escrow Deposits

The EBERO transitioned registry 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 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.

All EBERO escrow deposits must be in XML format (not CSV).

3.6 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 as defined by the URS requirements in the gTLD registry agreement with the exception that Domain Names never expire.

3.6.1 Reporting Functions

The EBERO will begin to generate reporting data, as a query able system or as scheduled reports as described in *10 Critical Performance Metrics and Reporting Structures*.

3.6.2 Registrar Credentialing and SRS Access

While EBEROs are required to permit any registrar to credential with them prior to an EBERO event, only especially large registrars or existing registrars for the EBERO service provider’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 required by the EBERO, it will have access to SRS and can make changes within the prescribed parameters of an EBERO SRS.

3.6.3 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	<p>There are several ways in which a registrant could be inadvertently changed (out of date or incomplete SRS).</p> <p>As long as the registrar is correct, this doesn’t really require a dispute resolution process. The registrar will presumably have documentation and can figure out who is the registrant from data in in their own system.</p> <p>However, the current technical model will require that ICANN approve all registrar transfers (to avoid billable events occurring within the SRS).</p>

Alleged Change	Path to resolution
Domain Name Registration Status	<p>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.</p> <p>Any resolution of this issue will involve weighing and validating the veracity of technical evidence.</p>
Registrar where one of the involved registrars is a placeholder (reserved registrar)	<p>This scenario occurs when the Transition-In is forced to use an escrow deposit that's older than the creation of the domain at the originating registry. Such discrepancies should already be identified as part of the Transition-In process.</p> <p>Any resolution of this issue will involve weighing and validating the veracity of technical evidence.</p>
Registrar where none of the involved registrars is a placeholder (reserved registrar)	<p>This scenario occurs when a domain transfer has occurred that was not reflected in the escrow deposit. There is no good way to predict that such discrepancies exist, but there should be a "statute of limitations" that limits how long this process needs to be available.</p> <p>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.</p> <p>If both involved registrars agree that this is an error, provide documentation that the transfer between registrars did occur after the escrow file was generated and before the transition event 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.</p>

Figure 11: Allegations of Improper Changes during Transition

3.6.4 ICANN Selection of a Successor Registry

It is ICANN's responsibility to identify a successor registry to end the EBERO event and that all selection processes are assumed to be able to be fully completed with sufficient time to complete a Transition-Out within one year.

3.7 Transition-Out State

The intent of all EBERO transitions is to be temporary and to swiftly return the registry to normal operations. 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. Any Transition-Out process should be expected to take at least several weeks due to the need to reconcile data at the receiving registry and routine delays involved in DNSSEC key rollovers.

3.7.1 Generate Transition-Out Data

This step only applies to successor registries that are not the EBERO.

The EBERO will use the data escrow deposit format to provide the necessary data for an EBERO 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 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, it must be the source of data to the receiving registry; however, duplicate data may also be provided by ICANN.

Data Type	Provided by EBERO to receiving registry	Provided by ICANN to receiving registry
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
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 12: Data Sources for Transition-Out

3.7.2 Reconcile Transition-Out Data

Data reconciliation is expected to be the responsibility of the receiving (successor) registry. 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 registry’s particular technical or business model. That is, bluntly, beyond the scope of EBERO functionality: the EBERO exists to provide temporary stabilization. The successor must receive functional data, but that data might not conform to the specific desired organizational or structural features of the receiving registry operator.

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.

3.7.3 DNSSEC Key Rollover to New Successor Registry Key

As needed, the EBERO will cooperate with getting updated DS records for the successor registry included in the root by IANA, to facilitate transition of DNSSEC services to the successor registry.

3.7.4 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.

4 EBERO Service Levels

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 fifth business 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 13: Ready State Service Levels

4.2 Heightened Alert State

Action	Party	Service Level
Notify "first in line" EBERO and IANA of heightened risk of EBERO event	ICANN	Within one (1) hour of the Event Director being named, or no less than four (4) hours prior to an EBERO event being declared.

Figure 14: 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 event declaration 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 transition.

Figure 15: 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 we 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.
WHOIS operational	EBERO	The EBERO must answer WHOIS 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 EBERO responsibility. The Event Director will approve this form within 1 business day of its submission from the EBERO.

Figure 16: 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	<p>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 volumes of registrars being accredited exceed 20 per day, accrediting twenty (20) registrars per day on a first-come, first-served basis shall meet this service level.</p> <p>After each registrar meets EBERO-defined validation tests, the EBERO will have up to two (2) additional business days to provide access.</p>
Selection of a Successor Registry	ICANN	This is expected to occur with sufficient speed to ensure that Transition-Out can occur as scheduled. Obviously, many circumstances outside ICANN's control are involved.

Figure 17: Stabilized Operational State Service Levels

4.6 Transition-Out State

Action	Party	Service Level
Generate Transition-Out Data	EBERO	Barring agreement between EBERO and successor registry otherwise, Transition-Out data will be provided within 1 business day of request.
Reconcile Transition Datasets	Successor Registry	Barring other agreement between EBERO and successor registry, the maximum time to resolve before the successor registry may incur financial penalties that will be used by ICANN to pay the EBERO to continue back-end operations should not exceed 28 days.
Root Zone and IANA Updates	IANA	Scheduled basis.

Figure 18: 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 may be updated by ICANN from time to time.

Each EBERO will provide a critical call list of this nature to ICANN the monthly basis. Critical call list information includes:

- 24x7 telephone contact number.
- Team OpenPGP (PGP) public keys (which should rotate on some frequency TBD); PGP keys are used to protect data and files being transferred between ICANN and the EBERO.
- Team SSH identity public keys (which should rotate on some set by ICANN from time to time); SSH identity keys will be used to authenticate and authorize certain file transfers from ICANN to 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 of this nature for critical ICANN contacts on the same schedule as EBEROs, 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 Managers or their designees under separate cover as needed.

The normal operation mode is for each EBERO to provide this information to ICANN by the fifth business day of the month, every month, with updates if something 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 EBERO providers.

6 Zone File Retrieval Procedure for EBEROs

ICANN will operate a zone file repository of all TLDs that are eligible to Transition-In to EBERO, for the purpose of facilitating EBERO transitions. It is ICANN's responsibility to ensure that the repository has a sufficiently current zone file, and that the zone file is updated from an authoritative source at least once every 24 hours, and to ensure that the zone file undergoes some validation to ensure the file is loadable. Any zone file that is inaccessible when an event is declared will immediately relax the transition SLAs until such time as the zone file becomes available. Only those zone files for TLDs which have reached a state of heightened alert or have had an event declared will be accessible to the assigned EBERO for that (real or simulated) incident. During a state of heightened alert or when an event is declared, the EBERO will be notified by the Event Director when 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 from time to time. Updated methods for zone file retrieval may be developed in consultation with all EBERO service providers.

7 Escrow Release Protocol and Procedures for EBEROs

7.1 Notification

All notifications described in *7 Escrow Release Protocol and Procedures for EBEROs* are going to be made using the virtual collaboration space created as part of the state of heightened alert. Many notifications will be verbal only: the purpose of notice is to ensure that proper actions are triggered in a timely manner.

7.2 Escrow release from Registry Escrow Agent to ICANN

ICANN is the beneficiary of the escrow agreement. ICANN will provide authorization to the escrow agent. 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 the deposit appears to be of the particular 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 and notification will be given to the EBERO that the escrow is available for retrieval.

The EBERO staff 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 belongs to the originating registry, and is temporarily in the custody of ICANN and has been entrusted to the EBERO for operational purposes only. The EBERO has no ownership stake in the data.

Following the Transition-Out or discontinuation transitioned operation; 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 registry against the shared registration system to clarify any data issues.

After that 30 days, and no more than 120 days later, the EBERO will eliminate all live copies of data derived from the released escrow deposits. Backup images may be cleared in the normal course of backup management as defined by the EBERO. However, any such backup images 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 to ICANN, and the recovered data specific to EBERO will be promptly eliminated, unused.

9 Handling Discrepancies between Data Sources during Transition

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

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 top level domain. In any case of 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 performing this analysis, an escrow file that is two (2) or more days more recent than the zone file is considered “newer”; In cases where the relative age is very close (within 48 hours), the zone file will be considered authoritative, on the strength of the review that publication creates. Data selection should still be flavored by Postel’s Law, being liberal in what is accepted.

In cases where the escrow file is newer, a new zone file can be generated out of escrow. However, the expected, typical case will revolve around the zone file being 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 at 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 best effort.

9.3 Reconciling Divergence between the Zone File and Escrow Deposit

If the data sources agree, there the outcome is trivial: use the (more complete) escrow data, 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 approximate 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 doesn't 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	Ignore the domain from the escrow deposit	Create domain using content from escrow (Postel's Law)
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 19: 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, the EBEROs need to 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 20: <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 could 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

Any transaction that requires authInfo is, to our best understanding, impermissible. However, authInfo data should be generated with pseudorandom values at Transition-In, in the event that our understanding is incorrect for some nuance of an EBERO's SRS system.

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 (respect the hold). However, if the escrow file is not newer (as defined above) and the entry exists in the zone file, then discard the hold status.

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) the zone file, then the pending* status will be respected; this implies that the domain name should not be included in a generated zone file.
pendingTransfer	If an escrow deposit domain object is in a pendingTransfer status, we treat it as if it is correct and follow existing described rules above, and add it 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. However, 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 don't 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 21: 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 decision-makers, as well as 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 immediately, in its discretion. Several additional, new fields have been created, which are EBERO specific operational metrics. They have been noted in the specifications below in italics.

10.1 EBERO Per-Registrar Metrics Specifications

This report shall be compiled in a comma separated-value formatted file as specified in RFC 4180. The file shall be named “gTLD-ebero-registrars-yyyymmdd.csv”, where “gTLD” is the gTLD name; in case of an IDN-TLD, the A-label shall be used; “yyyymmdd” is the year, month and day being reported in UTC. The file shall contain the following fields per registrar and **must include the EBERO placeholder registrar** in the report:

Field Number	Field Name	Description
01	Registrar-name	Registrar’s full corporate name as registered with IANA
02	IANA-id	http://www.iana.org/assignments/registrar-ids
03	total-domains	Total domains under sponsorship
04	total-name servers	Total name servers registered for the TLD
05	<i>Registrar-operational</i>	<i>Set to 1 if the registrar is operational at the end of the reporting period, set to 0 otherwise</i>
06	<i>Registrar-ramp-up</i>	<i>Set to 1 if the registrar has received a password for access to OT&E at the end of the reporting period but is not yet operational; set to 0 otherwise</i>
07	<i>Registrar-pre-ramp-up</i>	<i>Set to 1 if the registrar has requested access, but has not yet entered the ramp-up period at the end of the reporting period</i>
08	<i>Registrar-unknown</i>	<i>Set to 1 if the registrar has not yet requested access to OT&E at the end of the reporting period</i>
09	<i>ebero-placeholder-affected-domains</i>	<i>Number of domain names for this registrar having one or more placeholder records</i>

Figure 22: EBERO Per-Registrar Metrics

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. The last line of each report shall include totals for each column across all registrars; the first field of this line shall read “Totals” while the second field shall be left empty in that line. No other lines besides the ones described above shall be included. Line breaks shall be <U+000D, U+000A> as described in RFC 4180.

EBERO per-registrar metrics reports must be available on a daily basis starting from when the SRS becomes active until three weeks of operation into stabilized operation, then on a weekly basis on the first of the month, or on the day of month specified by ICANN when operation is stabilized.

10.2 EBERO Registry Performance Metrics Specifications

This report shall be compiled in a comma separated-value formatted file as specified in RFC 4180. The file shall be named “gTLD-ebero-activity-yyyymm.csv”, where “gTLD” is the gTLD name; in case of an IDN-TLD, the A-label shall be used; “yyyymm” is the year and month being reported in UTC. The file shall contain the following fields per registrar:

Field Number	Field Name	Description
01	operational-registrars	number of operational registrars at the end of the reporting period
02	ramp-up-registrars	number of registrars that have received a password for access to OT&E at the end of the reporting period
03	pre-ramp-up-registrars	number of registrars that have requested access, but have not yet entered the ramp-up period at the end of the reporting period
04	zfa-passwords	number of active zone file access passwords at the end of the reporting period
05	whois-43-queries	number of WHOIS (port 43) queries responded to during the reporting period
06	web-whois-queries	number of web-based WHOIS queries responded during the reporting period, not including searchable WHOIS.
07	searchable-whois-queries	number of searchable WHOIS queries responded to during the reporting period, if offered
08	dns-udp-queries-received	number of DNS queries received over UDP transport during the reporting period
09	dns-udp-queries-responded	number of DNS queries received over UDP transport that were responded to during the reporting period
10	dns-tcp-queries-received	number of DNS queries received over TCP transport during the reporting period

Figure 23: EBERO Registry Performance Metrics

EBERO registry performance metrics must be generated on a monthly basis on the first of the month, or on the day of month specified by ICANN when operation is stabilized. The EBERO will have a minimum of one calendar month to begin reporting from the point of attaining stabilized operation.

11 Requirements for Critical Registry Functions

The requirements for the EBERO's five critical registry functions (as originally described in the term sheet that all EBEROs agreed to in principle) are reproduced below.

11.1 DNS and Domain Name Security Extensions (DNSSEC)

The EBERO Provider 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 resigning 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 Registry Agreement.
2. Provide capacity to serve high volume traffic with a minimum available peak capability of 14,000 queries per second (based on an estimated 1 million aggregate domains in the subject registry).
3. Adequately address the risk of distributed denial of service attacks.
4. Provide Service Addresses demonstrating diversity in their DNS node announcement strategy.
5. Have the capacity to implement "Hashed Authenticated Denial of Existence" for DNS Security Extensions, in accordance with RFC 5155 and its successors.
6. Serve both the IPv4 and IPv6 address space. An EBERO shall offer public IPv6 transport for, at least, two of the Registry's name servers listed in the DNS root zone with the corresponding IPv6 addresses registered with IANA.
7. Apply updates to the DNS from the source data in the SRS in accordance with performance specifications described in section 2 of Specification 10 of the new gTLD agreement.
8. Adapt to additional DNS record types and keep pace with new DNS practices.

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 will 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. Provide relevant EPP extensions as described in specification 6 of the base new gTLD registry agreement section 1.2;
5. Have the ability to provision registrars with a central account function to manage all registries the EBERO is currently running, that the registrar is maintaining registrations in.
6. Provide EPP server API 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. Have the ability to operate primary and secondary SRS environments in geographically diverse locations as described in Specification 6 section 3.1.
10. Have the ability to 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 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 (Whois)

The EBERO shall offer Registration Data Directory Services (RDDS) in accordance with Specification 4 (SPECIFICATION FOR REGISTRATION DATA PUBLICATION SERVICES) of the Registry Agreement. The RDDS will:

1. Provide RDDS capability to handle daily peak volume of 600,000 queries (based on an estimated 1 million aggregate domains in the EBERO operated registry system).
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 EBERO Providers. The EBERO will transition-in failing TLD registries from the required escrow deposit data that TLD operators must maintain daily and a copy of the failed Registry DNS zone that the EBERO is required to download daily for all new gTLDs.

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 registry 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 Registry Agreement (DATA ESCROW REQUIREMENTS).
7. Meet any new standardized Escrow format adopted by ICANN, considering that the escrowed data elements will be the same between formats and only the data formats will be different (e.g. XML and JSON).
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 Registry Agreement (SPECIFICATION FOR REGISTRATION DATA PUBLICATION SERVICES).
9. When transitioning from the EBERO back to the previous registry operator or to a new registry operator, collaborate with the new operator in order to achieve an orderly transition with minimum impact to registrants and gTLD users.
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 24: 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 25: 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 26: 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 27: Placeholder Contact for IDN Variant Withheld

EXHIBIT D-1
Standard Emergency Event Fee Table

DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee
1	\$ 18,000								
500	\$ 18,000	30,500	47,826	60,500	92,016	90,500	\$ 128,016	120,500	\$ 154,496
1,000	\$ 18,000	31,000	48,636	61,000	92,616	91,000	\$ 128,616	121,000	\$ 154,864
1,500	\$ 18,000	31,500	49,446	61,500	93,216	91,500	\$ 129,216	121,500	\$ 155,231
2,000	\$ 18,000	32,000	50,256	62,000	93,816	92,000	\$ 129,816	122,000	\$ 155,599
2,500	\$ 18,000	32,500	51,066	62,500	94,416	92,500	\$ 130,416	122,500	\$ 155,967
3,000	\$ 18,000	33,000	51,876	63,000	95,016	93,000	\$ 131,016	123,000	\$ 156,335
3,500	\$ 18,000	33,500	52,686	63,500	95,616	93,500	\$ 131,616	123,500	\$ 156,703
4,000	\$ 18,000	34,000	53,486	64,000	96,216	94,000	\$ 132,216	124,000	\$ 157,070
4,500	\$ 18,000	34,500	54,306	64,500	96,816	94,500	\$ 132,816	124,500	\$ 157,438
5,000	\$ 18,000	35,000	55,116	65,000	97,416	95,000	\$ 133,416	125,000	\$ 157,806
5,500	\$ 18,000	35,500	55,926	65,500	98,016	95,500	\$ 134,016	125,500	\$ 158,174
6,000	\$ 18,000	36,000	56,736	66,000	98,616	96,000	\$ 134,616	126,000	\$ 158,542
6,500	\$ 18,000	36,500	57,546	66,500	99,216	96,500	\$ 135,216	126,500	\$ 158,909
7,000	\$ 18,000	37,000	58,356	67,000	99,816	97,000	\$ 135,816	127,000	\$ 159,277
7,500	\$ 18,000	37,500	59,166	67,500	100,416	97,500	\$ 136,416	127,500	\$ 159,645
8,000	\$ 18,000	38,000	59,976	68,000	101,016	98,000	\$ 137,016	128,000	\$ 160,013
8,500	\$ 18,000	38,500	60,786	68,500	101,616	98,500	\$ 137,616	128,500	\$ 160,381
9,000	\$ 18,000	39,000	61,596	69,000	102,216	99,000	\$ 138,216	129,000	\$ 160,748
9,500	\$ 18,000	39,500	62,406	69,500	102,816	99,500	\$ 138,816	129,500	\$ 161,116
10,000	\$ 18,000	40,000	63,216	70,000	103,416	100,000	\$ 139,416	130,000	\$ 161,484
10,500	\$ 18,697	40,500	64,026	70,500	104,016	100,500	\$ 139,784	130,500	\$ 161,852
11,000	\$ 19,394	41,000	64,836	71,000	104,616	101,000	\$ 140,152	131,000	\$ 162,220
11,500	\$ 20,092	41,500	65,646	71,500	105,216	101,500	\$ 140,519	131,500	\$ 162,587
12,000	\$ 20,789	42,000	66,456	72,000	105,816	102,000	\$ 140,887	132,000	\$ 162,955
12,500	\$ 21,486	42,500	67,266	72,500	106,416	102,500	\$ 141,255	132,500	\$ 163,323
13,000	\$ 22,183	43,000	67,860	73,000	107,016	103,000	\$ 141,623	133,000	\$ 163,691
13,500	\$ 22,880	43,500	68,886	73,500	107,616	103,500	\$ 141,991	133,500	\$ 164,059
14,000	\$ 23,578	44,000	69,696	74,000	108,216	104,000	\$ 142,358	134,000	\$ 164,426
14,500	\$ 24,275	44,500	70,506	74,500	108,816	104,500	\$ 142,726	134,500	\$ 164,794
15,000	\$ 24,972	45,000	71,316	75,000	109,416	105,000	\$ 143,094	135,000	\$ 165,162
15,500	\$ 25,669	45,500	72,126	75,500	110,016	105,500	\$ 143,462	135,500	\$ 165,530
16,000	\$ 26,366	46,000	72,936	76,000	110,616	106,000	\$ 143,830	136,000	\$ 165,898
16,500	\$ 27,064	46,500	73,746	76,500	111,216	106,500	\$ 144,197	136,500	\$ 166,265
17,000	\$ 27,761	47,000	74,556	77,000	111,816	107,000	\$ 144,565	137,000	\$ 166,633
17,500	\$ 28,458	47,500	75,366	77,500	112,416	107,500	\$ 144,933	137,500	\$ 167,001
18,000	\$ 29,155	48,000	76,176	78,000	113,016	108,000	\$ 145,301	138,000	\$ 167,369
18,500	\$ 29,852	48,500	76,986	78,500	113,616	108,500	\$ 145,669	138,500	\$ 167,737
19,000	\$ 30,550	49,000	77,796	79,000	114,216	109,000	\$ 146,036	139,000	\$ 168,104
19,500	\$ 31,247	49,500	78,606	79,500	114,816	109,500	\$ 146,404	139,500	\$ 168,472
20,000	\$ 31,944	50,000	79,416	80,000	115,416	110,000	\$ 146,772	140,000	\$ 168,840
20,500	\$ 32,641	50,500	80,016	80,500	116,016	110,500	\$ 147,140	140,500	\$ 169,208
21,000	\$ 33,338	51,000	80,616	81,000	116,616	111,000	\$ 147,508	141,000	\$ 169,576
21,500	\$ 34,036	51,500	81,216	81,500	117,216	111,500	\$ 147,875	141,500	\$ 169,943
22,000	\$ 34,733	52,000	81,816	82,000	117,816	112,000	\$ 148,243	142,000	\$ 170,311
22,500	\$ 35,430	52,500	82,416	82,500	118,416	112,500	\$ 148,611	142,500	\$ 170,679
23,000	\$ 36,127	53,000	83,016	83,000	119,016	113,000	\$ 148,979	143,000	\$ 171,047
23,500	\$ 36,824	53,500	83,616	83,500	119,616	113,500	\$ 149,347	143,500	\$ 171,415
24,000	\$ 37,522	54,000	84,216	84,000	120,216	114,000	\$ 149,714	144,000	\$ 171,782
24,500	\$ 38,219	54,500	84,816	84,500	120,816	114,500	\$ 150,082	144,500	\$ 172,150
25,000	\$ 38,919	55,000	85,416	85,000	121,416	115,000	\$ 150,450	145,000	\$ 172,518
25,500	\$ 39,726	55,500	86,016	85,500	122,016	115,500	\$ 150,818	145,500	\$ 172,886
26,000	\$ 40,536	56,000	86,616	86,000	122,616	116,000	\$ 151,186	146,000	\$ 173,254
26,500	\$ 41,346	56,500	87,216	86,500	123,216	116,500	\$ 151,553	146,500	\$ 173,621
27,000	\$ 42,156	57,000	87,816	87,000	123,816	117,000	\$ 151,921	147,000	\$ 173,989
27,500	\$ 42,966	57,500	88,416	87,500	124,416	117,500	\$ 152,289	147,500	\$ 174,357
28,000	\$ 43,776	58,000	89,016	88,000	125,016	118,000	\$ 152,657	148,000	\$ 174,725
28,500	\$ 44,586	58,500	89,616	88,500	125,616	118,500	\$ 153,025	148,500	\$ 175,093
29,000	\$ 45,396	59,000	90,216	89,000	126,216	119,000	\$ 153,395	149,000	\$ 175,460
29,500	\$ 46,206	59,500	90,816	89,500	126,816	119,500	\$ 153,760	149,500	\$ 175,828
30,000	\$ 47,016	60,000	91,416	90,000	127,416	120,000	\$ 154,128	150,000	\$ 176,196

EXHIBIT D-1
Standard Emergency Event Fee Table

DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee	DUM	EBERO Fee
150,500	\$ 176,564	180,500	\$ 198,632	210,500	\$ 220,700	240,500	\$ 242,768	270,500	\$ 270,356
151,000	\$ 176,932	181,000	\$ 199,000	211,000	\$ 221,068	241,000	\$ 243,136	271,000	\$ 270,858
151,500	\$ 177,299	181,500	\$ 199,367	211,500	\$ 221,435	241,500	\$ 243,503	271,500	\$ 271,361
152,000	\$ 177,667	182,000	\$ 199,735	212,000	\$ 221,803	242,000	\$ 243,871	272,000	\$ 271,863
152,500	\$ 178,035	182,500	\$ 200,103	212,500	\$ 222,171	242,500	\$ 244,239	272,500	\$ 272,366
153,000	\$ 178,403	183,000	\$ 200,471	213,000	\$ 222,539	243,000	\$ 244,607	273,000	\$ 272,868
153,500	\$ 178,771	183,500	\$ 200,839	213,500	\$ 222,907	243,500	\$ 244,975	273,500	\$ 273,371
154,000	\$ 179,138	184,000	\$ 201,206	214,000	\$ 223,274	244,000	\$ 245,342	274,000	\$ 273,873
154,500	\$ 179,506	184,500	\$ 201,574	214,500	\$ 223,642	244,500	\$ 245,710	274,500	\$ 274,376
155,000	\$ 179,874	185,000	\$ 201,942	215,000	\$ 224,010	245,000	\$ 246,078	275,000	\$ 274,878
155,500	\$ 180,242	185,500	\$ 202,310	215,500	\$ 224,378	245,500	\$ 246,446	275,500	\$ 275,380
156,000	\$ 180,610	186,000	\$ 202,678	216,000	\$ 224,746	246,000	\$ 246,814	276,000	\$ 275,883
156,500	\$ 180,977	186,500	\$ 203,045	216,500	\$ 225,113	246,500	\$ 247,181	276,500	\$ 276,385
157,000	\$ 181,345	187,000	\$ 203,413	217,000	\$ 225,481	247,000	\$ 247,549	277,000	\$ 276,888
157,500	\$ 181,713	187,500	\$ 203,781	217,500	\$ 225,849	247,500	\$ 247,917	277,500	\$ 277,390
158,000	\$ 182,081	188,000	\$ 204,149	218,000	\$ 226,217	248,000	\$ 248,285	278,000	\$ 277,893
158,500	\$ 182,449	188,500	\$ 204,517	218,500	\$ 226,585	248,500	\$ 248,653	278,500	\$ 278,395
159,000	\$ 182,816	189,000	\$ 204,884	219,000	\$ 226,952	249,000	\$ 249,020	279,000	\$ 278,898
159,500	\$ 183,184	189,500	\$ 205,252	219,500	\$ 227,320	249,500	\$ 249,388	279,500	\$ 279,400
160,000	\$ 183,552	190,000	\$ 205,620	220,000	\$ 227,688	250,000	\$ 249,756	280,000	\$ 279,902
160,500	\$ 183,920	190,500	\$ 205,988	220,500	\$ 228,056	250,500	\$ 250,258	280,500	\$ 280,405
161,000	\$ 184,288	191,000	\$ 206,356	221,000	\$ 228,424	251,000	\$ 250,761	281,000	\$ 280,907
161,500	\$ 184,655	191,500	\$ 206,723	221,500	\$ 228,791	251,500	\$ 251,263	281,500	\$ 281,410
162,000	\$ 185,023	192,000	\$ 207,091	222,000	\$ 229,159	252,000	\$ 251,766	282,000	\$ 281,912
162,500	\$ 185,391	192,500	\$ 207,459	222,500	\$ 229,527	252,500	\$ 252,268	282,500	\$ 282,415
163,000	\$ 185,759	193,000	\$ 207,827	223,000	\$ 229,895	253,000	\$ 252,771	283,000	\$ 282,917
163,500	\$ 186,127	193,500	\$ 208,195	223,500	\$ 230,263	253,500	\$ 253,273	283,500	\$ 283,419
164,000	\$ 186,494	194,000	\$ 208,562	224,000	\$ 230,630	254,000	\$ 253,776	284,000	\$ 283,922
164,500	\$ 186,862	194,500	\$ 208,930	224,500	\$ 230,998	254,500	\$ 254,278	284,500	\$ 284,424
165,000	\$ 187,230	195,000	\$ 209,298	225,000	\$ 231,366	255,000	\$ 254,780	285,000	\$ 284,927
165,500	\$ 187,598	195,500	\$ 209,666	225,500	\$ 231,734	255,500	\$ 255,283	285,500	\$ 285,429
166,000	\$ 187,966	196,000	\$ 210,034	226,000	\$ 232,102	256,000	\$ 255,785	286,000	\$ 285,932
166,500	\$ 188,333	196,500	\$ 210,401	226,500	\$ 232,469	256,500	\$ 256,288	286,500	\$ 286,434
167,000	\$ 188,701	197,000	\$ 210,769	227,000	\$ 232,837	257,000	\$ 256,790	287,000	\$ 286,937
167,500	\$ 189,069	197,500	\$ 211,137	227,500	\$ 233,205	257,500	\$ 257,293	287,500	\$ 287,439
168,000	\$ 189,437	198,000	\$ 211,505	228,000	\$ 233,573	258,000	\$ 257,795	288,000	\$ 287,941
168,500	\$ 189,805	198,500	\$ 211,873	228,500	\$ 233,941	258,500	\$ 258,297	288,500	\$ 288,444
169,000	\$ 190,172	199,000	\$ 212,240	229,000	\$ 234,308	259,000	\$ 258,800	289,000	\$ 288,946
169,500	\$ 190,540	199,500	\$ 212,608	229,500	\$ 234,676	259,500	\$ 259,302	289,500	\$ 289,449
170,000	\$ 190,908	200,000	\$ 212,976	230,000	\$ 235,044	260,000	\$ 259,805	290,000	\$ 289,951
170,500	\$ 191,276	200,500	\$ 213,344	230,500	\$ 235,412	260,500	\$ 260,307	290,500	\$ 290,454
171,000	\$ 191,644	201,000	\$ 213,712	231,000	\$ 235,780	261,000	\$ 260,810	291,000	\$ 290,956
171,500	\$ 192,011	201,500	\$ 214,079	231,500	\$ 236,147	261,500	\$ 261,312	291,500	\$ 291,459
172,000	\$ 192,379	202,000	\$ 214,447	232,000	\$ 236,515	262,000	\$ 261,815	292,000	\$ 291,961
172,500	\$ 192,747	202,500	\$ 214,815	232,500	\$ 236,883	262,500	\$ 262,317	292,500	\$ 292,463
173,000	\$ 193,115	203,000	\$ 215,183	233,000	\$ 237,251	263,000	\$ 262,819	293,000	\$ 292,966
173,500	\$ 193,483	203,500	\$ 215,551	233,500	\$ 237,619	263,500	\$ 263,322	293,500	\$ 293,468
174,000	\$ 193,850	204,000	\$ 215,918	234,000	\$ 237,986	264,000	\$ 263,824	294,000	\$ 293,971
174,500	\$ 194,218	204,500	\$ 216,286	234,500	\$ 238,354	264,500	\$ 264,327	294,500	\$ 294,473
175,000	\$ 194,586	205,000	\$ 216,654	235,000	\$ 238,722	265,000	\$ 264,829	295,000	\$ 294,976
175,500	\$ 194,954	205,500	\$ 217,022	235,500	\$ 239,090	265,500	\$ 265,332	295,500	\$ 295,478
176,000	\$ 195,322	206,000	\$ 217,390	236,000	\$ 239,458	266,000	\$ 265,834	296,000	\$ 295,980
176,500	\$ 195,689	206,500	\$ 217,757	236,500	\$ 239,825	266,500	\$ 266,337	296,500	\$ 296,483
177,000	\$ 196,057	207,000	\$ 218,125	237,000	\$ 240,193	267,000	\$ 266,839	297,000	\$ 296,985
177,500	\$ 196,425	207,500	\$ 218,493	237,500	\$ 240,561	267,500	\$ 267,341	297,500	\$ 297,488
178,000	\$ 196,793	208,000	\$ 218,861	238,000	\$ 240,929	268,000	\$ 267,844	298,000	\$ 297,990
178,500	\$ 197,161	208,500	\$ 219,229	238,500	\$ 241,297	268,500	\$ 268,346	298,500	\$ 298,493
179,000	\$ 197,528	209,000	\$ 219,596	239,000	\$ 241,664	269,000	\$ 268,849	299,000	\$ 298,995
179,500	\$ 197,896	209,500	\$ 219,964	239,500	\$ 242,032	269,500	\$ 269,351	299,500	\$ 299,498
180,000	\$ 198,264	210,000	\$ 220,332	240,000	\$ 242,400	270,000	\$ 269,854	300,000	\$ 300,000
								Over 300K	\$ 300,000