Registrar Data Escrow Specifications

1 Introduction

1.1 Paragraph 3.6 of the Registrar Accreditation Agreement (RAA) <http://www.icann.org/registrars/ra-agreement-17may01.htm> obligates all ICANN-accredited registrars to submit to ICANN or, at the registrar's election and expense, to a reputable escrow agent, a copy of the electronic database maintained by the registrar in accordance with paragraph 3.4.1 of the RAA on a schedule, under the terms, and in the format specified by ICANN.

1.2 The RAA at paragraph 3.4.1 describes a database containing the following data elements (among others), for each registered name under a registrar's sponsorship:

    1.2.1   The name of the Registered Name;
    1.2.2   The names of the primary nameserver and secondary nameserver(s) for the Registered Name;
    1.2.3   The expiration date of the registration;
    1.2.4   The name and postal address of the Registered Name Holder;
    1.2.5   The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the technical contact for the Registered Name; and
    1.2.6   The name, postal address, e-mail address, voice telephone number, and (where available) fax number of the administrative contact for the Registered Name; and
    1.2.7   The name and (where available) postal address, e-mail address, voice telephone number, and fax number of the billing contact

1.3 The collective contents of these fields are referred to in this document as "Escrow Records."

1.4 This document specifies the schedule, terms, and format registrars must use to escrow data pursuant to RAA paragraph 3.6.

2 Schedule

2.1 Deposit Schedule
2.1.1 The data deposit schedule for each registrar will vary depending on the registrar's quarterly gTLD transaction volume as determined by ICANN. Registrars whose transaction volume meets or exceeds 100,000 registration-years per ICANN fiscal quarter will be required to submit incremental deposits daily and full deposits weekly. Registrars with fewer than 100,000 registration-years per quarter will be required to deposit data into escrow once per week, but submission of daily incremental deposits for such registrars will be optional.

2.1.2 Upon implementation of the RDE program, ICANN will notify registrars of their respective deposit schedules. Registrars will also be provided notifications in the event

their required deposit schedule changes due to a change in quarterly transaction volume.

2.1.3 The following table sets out the deposit schedule applicable to each registrar by quarterly transaction volume. The number on the far left represents transaction-years billed by ICANN and the number at the far right approximates the percentage of registrars in each category at the end of the first quarter in ICANN's fiscal year 2006-07.

Quarterly Transaction Volume	Frequency of "Full" Deposits	Frequency of Incremental Deposits	% of Registrars in Transaction-Volume Category
1 - 99,999	once every week	n/a	96%
100,000 +	once every week	once every day	4%

2.2 Implementation Schedule

2.2.1 The Registrar Data Escrow (RDE) program will be rolled out to registrars in waves. Registrars will be grouped according to their quarterly transaction volume, and among these groups, registrars will be randomly selected to begin implementation (depositing data) so that each round of implementation will include registrars with varied database sizes and deposit schedules.

2.2.2 In addition, ICANN may identify specific registrars to begin RDE implementation outside the random selection process where:

2.2.2.1 the registrar volunteers to begin implementation;

2.2.2.2 the registrar does not respond to ICANN's communication efforts or communication attempts with the registrar have failed (e.g., bounced email, disconnected telephone or fax numbers, returned postal mail, etc.);

2.2.2.3 the registrar is in breach of its accreditation agreement;

2.2.2.4 ICANN receives credible information that the registrar may be in breach of its obligations under the RAA or incorporated consensus policies and informal efforts at resolution are unsuccessful;

2.2.2.5 ICANN receives information that the registrar has failed to fund one or more registry accounts, causing transactions to fail;

2.2.2.6 the registrar's accreditation agreement is within ninety (90) days of expiring; or

2.2.2.7 ICANN adjudges implementation necessary to protect the stability and security of the DNS.

2.2.3 All accredited registrars will be required to begin escrowing data within approximately six months of the initiation of implementation.

3   Terms

3.1 Generally Applicable Terms

3.1.1 Registrars may deposit their Escrow Records with ICANN's designated agent at no charge or they may use a reputable escrow agent at registrar expense. In either case, the following terms will apply to all escrow arrangements and shall be incorporated into any agreement between ICANN, the registrar, and the escrow agent.

3.1.1.1 Within thirty days of notice by ICANN that a registrar's data escrow provision is being invoked, the registrar must designate whether it will escrow data with ICANN or with a reputable third-party escrow agent.

3.1.1.2 Within sixty (60) days of notice by ICANN that a registrar's data escrow provision is being invoked, the registrar must begin escrowing data. ICANN may, within its discretion, extend this deadline upon a showing of good cause by the registrar.

3.1.1.3 Registrars may change their election of escrow agent by providing at least seven (7) days notice to ICANN in writing. In order to assist ICANN's monitoring of the effectiveness of the RDE program, registrars are encouraged to include in their notice a brief explanation of the basis for the change of escrow agent.

3.1.1.4 In the event deposits are not made according to the designated schedule, the RDE agent shall notify ICANN and the registrar within five (5) days if an electronic deposit is not received on the scheduled deposit date or within ten (10) days of a scheduled, but not received, deposit by courier/post.[1] (The RDE agent shall be required to provide notice to ICANN of all deposits and failed deposits when ICANN implements an automated RDE compliance reporting system.)

3.1.1.5 The RDE agent shall verify the integrity of data deposited to it through checksum validation as set forth below. If errors are discovered, these should primarily be resolved directly with the registrar, but upon unsuccessful resolution, the RDE agent shall notify ICANN within ten (10) days of discovery of the error.

3.1.1.6 The RDE agent shall execute data validation scripts as provided by ICANN and submit the resulting reports to ICANN.

3.1.1.7 The RDE agent shall perform manual reviews of deposits necessary to assist registrars in remedying failed data validation tests and as reasonably requested by ICANN.

3.1.1.8 The RDE agent shall release deposited data to ICANN within five days of written notice by ICANN of the expiration without renewal or termination of the registrar's accreditation agreement. In the event the data is released pursuant to this provision of the RAA, ICANN or its assignee shall have a non-exclusive, irrevocable, royalty-free license to exercise (only for transitional purposes) or have exercised all rights necessary to provide registrar services.

3.1.1.9 Notwithstanding the terms of the RAA, upon mutual agreement of ICANN and the registrar, the RDE agent shall release escrowed data at any time to ICANN, the registrar, or another designated party.

3.1.1.10 All parties shall employ commercially reasonable means to ensure security of data, including use of encryption during file storage and transmission.

3.1.1.11 ICANN shall have the right, either directly or through use of an independent auditor or other agent, to perform an inspection and audit of the records and systems of all RDE agents.

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[1] The RDE agent shall notify ICANN within ten days of a missed deposit by courier or post. This notice period overlaps with and is not extended by the seven day grace period for receipt of a deposit that was timely mailed (below). In other words, the RDE agent will notify ICANN and the registrar by day 10 following a missed deposit, not day 17.

3.1.1.12 The terms, format, and schedule incorporated in this document may be changed by ICANN upon 60 days notice to registrars and RDE agents with whom ICANN has escrow agreements.

3.2 Terms Applicable to Registrars that Deposit Escrow Data with ICANN's Designated Escrow Agent

3.2.1 The following terms apply only to those registrars who elect to deposit data with ICANN's designated escrow agent.

3.2.1.1 Registrars who deposit escrow data with ICANN's designated escrow agent shall enter into a standardized agreement with ICANN and the agent which sets forth the obligations and liabilities of all parties to the agreement.

3.2.1.2 ICANN or its designated escrow agent may impose limitations on the format of data and method of transmission of data that are more restrictive than the specifications contained in this document. (E.g., the escrow agent might accept deposits electronically only or may require exclusive use of a particular data compression method. These are examples, not an exhaustive list of possible limitations.)

3.2.1.3 ICANN's designated escrow agent, as applicable may review data deposited to verify its completeness, consistency, and formatting at any time, without notice to the registrar. The cost of such reviews will be borne by ICANN or its designated escrow agent.

3.3 Terms Applicable to Registrars Utilizing Third-Party Escrow Agents

3.3.1 Registrars may elect to escrow data with an ICANN-approved Third Party Provider (TPP) of escrow services in lieu of depositing with ICANN's designated escrow agent. The following terms apply to registrars who elect to use a TPP:

3.3.1.1 TPP escrow agents that wish to be approved by ICANN must submit a TPP application to ICANN. The TPP application must be sponsored by at least one ICANN-accredited registrar in order to be considered by ICANN. In accordance with the RAA, ICANN will not unreasonably withhold approval of any reputable, registrar-selected escrow agent.

3.3.1.2 All approved TPPs shall provide their private PGP (or other approved encryption) keys to ICANN before accepting escrow deposits and update their keys with ICANN immediately if changed.

3.3.1.3 Once a TPP has been approved, any registrar may utilize its services without need for an additional TPP application, except that no registrar shall be permitted to escrow data with a TPP with whom it has any relationship or affiliation, including, without limitation, common ownership, management, or staff. (This does not obligate TPPs to accept any willing registrar as a client; approved TPPs may contract with whomever they choose.) A list of all approved TPP escrow agents will be published on ICANN's website.

3.3.1.4 In the event ICANN withdraws its approval of a TPP escrow agent, affected registrars will be notified and provided at least sixty (60) days to elect ICANN's designated escrow agent or an approved TPP as their new escrow agent. Affected registrars may be required to begin escrowing data with the newly elected escrow agent upon the effective date of the withdrawal by ICANN of the TPP's approval.

3.3.1.5 TPP escrow agents may impose limitations on the format of data and method of transmission of data which are more restrictive than the specifications contained in this document. (E.g., the TPP might choose to accept deposits electronically only or may require exclusive use of a particular data compression method. These are examples, not an exhaustive list of possible limitations.)

3.3.1.6 TPP escrow agents shall retain and archive two copies of all deposited escrow data for at least one year from the date of deposit. The archived data may be stored on its original medium (in addition to one copy) or two copies may be retained in another reliable form (e.g., copied to a redundant array of independent hard drives or a CD/DVD ROM) provided that checksum validation is successfully performed following any copying or transfer of data and the files are not otherwise modified from the form in which they were deposited by the registrar. To the extent data is copied to hard drives, the TPP shall not store any two sequential, "full" deposits by the same registrar on the same drive or array of drives.

3.3.1.7 TPP escrow agents shall erase or destroy all deposited data older than one year (including copies and derivative versions), unless a longer period is agreed to by the registrar and TPP escrow agent.

4   Format

4.1 The following format requirements are applicable to all registrars, regardless of whether the registrar deposits data with ICANN's designated escrow agent or a TPP.

4.1.1 Escrow records shall be compiled into a single (uncompressed) CSV text file or multiple (uncompressed) text files approximately 1 gigabyte or one million rows in size, in compliance with RFC 4180 <http://tools.ietf.org/html/rfc4180>. In accordance with RFC 4180, the character encoding for the CSV file should be US-ASCII, although UTF-8 is also permissible.

4.1.2 At a minimum, the text file(s) must contain seven (7) fields, one for each of the enumerated elements described in section 1.2 of this document. Registrars may include additional fields to hold sub-elements where it is logical to do so (e.g., one field may contain the administrative contact's name and another may hold the administrative contact's telephone number).

4.1.3 In the case of internationalized domain names, the A-label (ASCII compatible form of the IDN string) shall be referenced in the domain name field (e.g., "xn--11b5bs1di.tld"), not the U-label.

4.1.4 Nameservers may be submitted as separate fields or they may be included in one field with each nameserver separated by a single space, provided that the format shall be the same for all Escrow Records in a deposit.

4.1.5 Registrars that allow customers to register domain names through Whois privacy or proxy services that incidentally prevent escrow of the beneficial domain name users' contact information may include additional fields in the text file to escrow the names, addresses, telephone/fax numbers, and email addresses of the beneficial users.

Registrars that elect not to deposit such beneficial user information will be not be licensed use of ICANN's registrar data escrow logo.

4.1.6 No additional data, other than what is described in the most current version of this document, should be included in an escrow deposit.

4.1.7 Registrars shall deposit Escrow Records for every gTLD name (including sponsored TLD names) under their management as registrar, except that registrars may optionally exclude from the deposit any name in an add-grace period on the date of the data file's compilation.

4.1.8 The deposited data shall be temporally current, relative to the last deposit date (i.e., no more than six (6) days old for registrars who only make weekly deposits and no more than twenty-three (23) hours old for registrars who make daily deposits).

4.1.9 Registrars who use "handles" or other unique identifiers to represent identical contact information may provide two separate data files: one that is populated with the handles for each domain name's contacts, and a second text file in the same general format that provides detailed contact information relative to each handle. The first file must still contain at least the seven fields indicated above for each domain name (although some fields will be populated with only handles) and the second file must include at least the same data for each and every handle.

4.1.10 Registrars who do not use handles may populate otherwise redundant fields in an Escrow Record with reference to a completely populated field in the same record. (For example the admin-c field in one record might contain complete data, but if the tech-c is identical, the tech-c field could be populated with "ac" or a similarly unambiguous abbreviation as a cross-reference, instead of redundant data.)

4.1.11 Incremental deposits, where required, must include complete Escrow Records for each domain name under the registrar's sponsorship that was not included in the most recent full or incremental deposit (i.e., newly added or transferred-in names). Incremental deposits may incorporate the cross-reference and handle conventions described above and do not need to include Escrow Records for names for which there was merely a change to registration data since the last deposit.

4.1.12 The CSV file(s) shall include the respective header in the first row of the (first) file (in the series). If the data is spread across a sequence of multiple files with identical format, only the first file in the sequence should contain the header row.

4.1.13 The header shall clearly designate the data contained within the corresponding fields. Field names in the header row shall be composed of the following characters: lower case 'a' through lower case 'z', upper case 'A' through upper case 'Z', decimal digits '0' through '9', the ASCII underscore character ('_'), and the ASCII hyphen ('-'). Field names must begin with a letter. No other characters are allowed; in particular, embedded spaces, punctuation characters, or other special characters are not allowed.

4.1.14 The first field in the header row shall be the domain name (or handle in the handle definition file). Unambiguous abbreviations may be used. Field names referring to the registrant shall be prefixed with the string 'rt-' (e.g., 'rt-fax'); field names referring to the administrative contact shall be prefixed with the string 'ac-' (as in 'ac-name'); field names referring to

the technical contact shall be prefixed with the string 'tc-' (as in 'tc-country'), and field names referring to a billing contact shall be prefixed with 'bc-' (as in 'bc-phone').

4.1.15 Registrars shall provide ICANN and their RDE agent with a copy of their header row and a table of any abbreviations used in the header row or in lieu of data as described in section 4.1.10 above.

4.1.16 Each record or row following the header shall contain registration details for only one domain name or handle.

4.1.17 If the size of a single file exceeds one gigabyte, the file shall be split by the registrar into files approximately one gigabyte or one million rows in size. File splits shall occur only at the end of record boundaries.

4.1.18 The registrar shall generate a SHA-1 or SHA-256 hash for each file (after file splitting, if applicable). The hash string(s) shall be submitted in a single, uncompressed text file along with the respective file name(s). The text file with checksums shall be composed of ASCII lines of text. Each line shall consist of the hash value for one file, followed by white space, followed by the name of the file. (This is the format produced by the widely available "sha1sum" utility.) An alternative or replacement hash function or verification method may be specified by ICANN in the future as the technology evolves.

4.1.19 The registrar shall compress each file (excluding the hash file) using any one of the following methods:

    4.1.19.1 UNIX compress

    4.1.19.2 gzip

    4.1.19.3 bzip2

    4.1.19.4 PKZIP (or compatible .zip)

    4.1.19.5 RAR (version 2.0 or older, only)

    4.1.19.6 An alternative compression method specified in the future by ICANN as the technology evolves.

4.1.20 Compressed files shall be encrypted using the escrow agent's public RDE key for PGP and signed using the registrar's private key for PGP. An alternative or replacement encryption method may be specified by ICANN in the future as the technology evolves.

4.1.21 Files shall be named according to the following convention: [IANA ID]_RDE_[YYYY-MM-DD]_[full/inc/hdl/hash]_[#], where

    4.1.21.1 [IANA ID] is replaced with the registrar's IANA ID number;

    4.1.21.2 [YYYY-MM-DD] is replaced by the file creation date;

    4.1.21.3 [full/inc/hdl/hash] is replaced by "full" if the data represents a full dump, "inc" if the escrowed data represents an incremental deposit, "hdl" if the data includes underlying contact data for each handle, or "hash" in the case of the text file containing the hash string(s);

    4.1.21.4 [#] is replaced by the position of the file in the series of files (but not used for the hash file); and

    4.1.21.5 a file extension, appropriate to the compression method, is appended.

4.1.22 The compressed files and the text file containing the hash string(s) shall be transmitted from the registrar to the escrow agent electronically (via SFTP, SCP, etc.) or by delivery of a physical medium. Acceptable physical media include CD-ROM, DVD-ROM, and USB storage drive. If a physical medium is used, the postmark date (or verifiable date of

deposit with a reputable courier) shall be used to determine the timeliness of the submission, provided that the data is received within seven (7) days of sending.

4.1.23 ICANN may, in its sole discretion, reject as non-compliant any particular implementation of these specifications it reasonably determines to be inconsistent with the purposes of these standardized requirements (i.e., where the data could not be readily or practically used as permitted by the RAA).