

.COM Agreement Appendix 7 Functional and Performance Specifications

These functional specifications for the Registry TLD consist of the following parts:

1. Verisign Registry Operator Registrar Protocol;
2. Supported initial and renewal registration periods;
3. Grace period policy;
4. Nameserver functional specifications;
5. Patch, update, and upgrade policy; and
6. Migration to Extensible Provisioning Protocol Plan.
7. Performance Specifications

1. Registry Operator Registrar Protocol

1.1 Extensible Provisioning Protocol

Registry Operator intends to implement the Extensible Provisioning Protocol (“EPP”) in conformance with the Proposed Standard and Informational RFCs 3730, 3731, 3732, 3733, 3734, 3735, and 3915 published by the Internet Engineering Task Force (“IETF”) and/or any successor standards, versions, modifications or additions thereto as Registry Operator deems reasonably necessary. Subject to the Migration to Extensible Provisioning Protocol Plan described in Section 6 below, Registry Operator will support EPP in conformance with the aforementioned standards. Implementation of EPP is subject to Registry Operator reasonably determining that (i) the standard can be implemented in a way that minimizes disruption to customers; and (ii) the standard provides a solution for which the potential advantages are reasonably justifiable when weighed against the costs that Registry Operator and its registrar customers would incur in implementing the new standard.

1.2 Registry Registrar Protocol

Subject to the Migration to Extensible Provisioning Protocol Plan described in Section 6 below, Registry Operator will support Registry Registrar Protocol (“RRP”) Version 2.1.2 in accordance with the patch, update, and upgrade policy

below, or any successor standards, versions, upgrades, modifications or additions thereto as it deems reasonably necessary. Registry Operator will provide the current version of the protocol for download on its website by registrars.

2. Supported initial and renewal registration periods

a. Initial registrations of Registered Names (where available according to functional specifications and other requirements) may be made in the registry for terms of up to ten years.

b. Renewal registrations of Registered Names (where available according to functional specifications and other requirements) may be made in the registry for terms not to exceed a total of ten years.

c. Upon change of sponsorship of the registration of a Registered Name from one registrar to another, according to Part A of the [ICANN Policy on Transfer of Registrations between Registrars](#), the term of registration of the Registered Name shall be extended by one year, provided that the maximum term of the registration as of the effective date of sponsorship change shall not exceed ten years.

d. The change of sponsorship of registration of Registered Names from one registrar to another, according to Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#) shall not result in the extension of the term of the registrations and Registry Operator may assist in such change of sponsorship.

3. Grace period policy

This section describes Registry Operator's practices for operational "Grace" and "Pending" periods, including relationships among sequential operations that occur within given time frames. A *Grace Period* refers to a specified number of calendar days following a Registry operation in which a domain action may be reversed and a credit may be issued to a registrar. Relevant registry operations in this context are:

- Registration of a new domain,
- Extension of an existing domain,
- Auto-Renew of an existing domain;
- Transfer of an existing domain; and
- Deletion of an existing domain.

Extension of a registration period is accomplished using the RRP or EPP RENEW command or by auto-renewal; registration is accomplished using the RRP ADD command or the EPP CREATE command; deletion/removal is accomplished using the RRP DEL command or the EPP DELETE command; transfer is accomplished using the RRP or EPP TRANSFER command or, where ICANN approves a bulk transfer under Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#), using the procedures specified in that Part. Restore is accomplished using the RRP RESTORE command or EPP UPDATE command.

There are five grace periods provided by Registry Operator's Shared Registration System: *Add Grace Period, Renew/Extend Grace Period, Auto-Renew Grace Period, Transfer Grace Period, and Redemption Grace Period.*

A *Pending Period* refers to a specified number of calendar days following a Registry operation in which final Registry action is deferred before the operation may be completed. Relevant Registry operations in this context are:

- Transfer of an existing domain,
- Deletion of an existing domain, and
- Restore of a domain name in Redemption Grace Period.

3.1 Grace Periods

3.1.1 Add Grace Period

The *Add Grace Period* is a specified number of calendar days following the initial registration of a domain. The current value of the *Add Grace Period* for all registrars is five calendar days. If a Delete, Extend (RRP or EPP Renew command), or Transfer operation occurs within the five calendar days, the following rules apply:

Delete. If a domain is deleted within the *Add Grace Period*, the sponsoring Registrar at the time of the deletion is credited for the amount of the registration; provided, however, that Registry Operator shall have the right to charge Registrars a fee as may be set forth in its Registry-Registrar Agreement for disproportionate deletes during the *Add Grace Period*. The domain is deleted from the Registry database and is immediately available for registration by any Registrar. See Section 3.2 for a description of overlapping grace period exceptions.

Extend (RRP or EPP Renew command). If a domain is extended within the *Add Grace Period*, there is no credit for the add. The expiration date of the domain registration is extended by the number of years, up to a total of ten years, as specified by the registrar's requested Extend operation.

Transfer (other than ICANN-approved bulk transfer). Transfers under Part A of the [ICANN Policy on Transfer of Registrations between Registrars](#) may not occur during the *Add Grace Period* or at any other time within the first 60 days after the initial registration. Enforcement is the responsibility of the Registrar sponsoring the domain name registration and is enforced by the SRS.

Bulk Transfer (with ICANN approval). Bulk transfers with ICANN approval may be made during the *Add Grace Period* according to the procedures in Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#). The expiration dates of transferred registrations are not affected. The losing Registrar's account is charged for the initial add.

3.1.2 Renew/Extend Grace Period

The *Renew/Extend Grace Period* is a specified number of calendar days following the renewal/extension of a domain name registration period through an RRP Command Renew. The current value of the *Renew/Extend Grace Period* is five calendar days. If a Delete, Extend, or Transfer occurs within that five calendar days, the following rules apply:

Delete. If a domain is deleted within the *Renew/Extend Grace Period*, the sponsoring Registrar at the time of the deletion receives a credit of the renew/extend fee. The domain immediately goes into the Redemption Grace Period. See Section 3.2 for a description of overlapping grace period exceptions.

Extend (RRP Command "Renew"). A domain can be extended within the *Renew/Extend Grace Period* for up to a total of ten years. The account of the sponsoring Registrar at the time of the additional extension will be charged for the additional number of years the registration is extended.

Transfer (other than ICANN-approved bulk transfer). If a domain is transferred within the *Renew/Extend Grace Period*, there is no credit. The expiration date of the domain registration is extended by one year and the years added as a result of the Extend remain on the domain name up to a total of 10 years.

Bulk Transfer (with ICANN approval). Bulk transfers with ICANN approval may be made during the *Renew/Extend Grace Period* according to the procedures in Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#). The expiration dates of transferred registrations are not affected. The losing Registrar's account is charged for the Renew/Extend operation.

3.1.3 Auto-Renew Grace Period

The *Auto-Renew Grace Period* is a specified number of calendar days following an auto-renewal. An auto-renewal occurs if a domain name registration is not renewed by the expiration date; in this circumstance the registration will be automatically renewed by the system the first day after the expiration date. The current value of the *Auto-Renew Grace Period* is 45 calendar days. If a Delete, Extend, or Transfer occurs within the *Auto-Renew Grace Period*, the following rules apply:

Delete. If a domain is deleted within the *Auto-Renew Grace Period*, the sponsoring Registrar at the time of the deletion receives a credit of the Auto-Renew fee. The domain immediately goes into the Redemption Grace Period. See Section 3.2 for a description of overlapping grace period exceptions.

Extend. A domain can be extended within the *Auto-Renew Grace Period* for up to a total of ten years. The account of the sponsoring Registrar at the time of the additional extension will be charged for the additional number of years the registration is extended.

Transfer (other than ICANN-approved bulk transfer). If a domain is transferred within the *Auto-Renew Grace Period*, the losing Registrar is credited with the Auto-Renew charge and the year added by the Auto-Renew operation is cancelled. The expiration date of the domain is extended by one year up to a total maximum of ten and the gaining Registrar is charged for that additional year, even in cases where a full year is not added because of the 10-year registration term maximum limitation.

Bulk Transfer (with ICANN approval). Bulk transfers with ICANN approval may be made during the *Auto-Renew Grace Period* according to the procedures in Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#). The expiration dates of transferred registrations are not affected. The losing Registrar's account is charged for the Auto-Renew.

3.1.4 Transfer Grace Period

The *Transfer Grace Period* is a specified number of calendar days following the transfer of a domain according to Part A of the [ICANN Policy on Transfer of Registrations between Registrars](#). The current value of the *Transfer Grace Period* is five calendar days. If a Delete, Extend, or Transfer occurs within that five calendar days, the following rules apply:

Delete. If a domain is deleted within the *Transfer Grace Period*, the sponsoring Registrar at the time of the deletion receives a credit of the transfer fee. The domain immediately goes into the Redemption Grace Period. See Section 3.2 for a description of overlapping grace period exceptions.

Extend. If a domain registration is extended within the *Transfer Grace Period*, there is no credit for the transfer. The Registrar's account will be charged for the number of years the registration is extended. The expiration date of the domain registration is extended by the number of years, up to a maximum of ten years, as specified by the registrar's requested Extend operation.

Transfer (other than ICANN-approved bulk transfer). If a domain is transferred within the *Transfer Grace Period*, there is no credit. The expiration date of the domain registration is extended by one year up to a maximum term of ten years. The [ICANN Policy on Transfer of Registrations between Registrars](#) does not allow transfers within the first 60 days after another transfer has occurred; it is registrars' responsibility to enforce this restriction.

Bulk Transfer (with ICANN approval). Bulk transfers with ICANN approval may be made during the *Transfer Grace Period* according to the procedures in Part B of the [ICANN Policy on Transfer of Registrations between Registrars](#). The expiration dates of transferred registrations are not affected. The losing Registrar's account is charged for the Transfer operation that occurred prior to the Bulk Transfer.

3.1.5 Bulk Transfer Grace Period

There is no grace period associated with Bulk Transfer operations. Upon completion of the Bulk Transfer, any associated fee is not refundable.

3.1.6 Redemption Grace Period

A domain name is placed in REDEMPTIONPERIOD status when a registrar requests the deletion of a domain that is not within the Add Grace Period. A name that is in REDEMPTIONPERIOD status will not be included in the zone file. A registrar can not modify or purge a domain in REDEMPTIONPERIOD status. The only action a registrar can take on a domain in REDEMPTIONPERIOD is to request that it be restored. Any other registrar requests to modify or otherwise update the domain will be rejected. Unless restored, the domain will be held in REDEMPTIONPERIOD status for a specified number of calendar days. The current length of this Redemption Period is 30 calendar days.

3.2 Overlapping Grace Periods

If an operation is performed that falls into more than one grace period, the actions appropriate for each grace period apply (with some exceptions as noted below).

- If a domain is deleted within the Add Grace Period and the Extend Grace Period, then the Registrar is credited the registration and extend amounts, taking into account the number of years for which the registration and extend were done.

- If a domain is auto-renewed, then extended, and then deleted within the Extend Grace Period, the registrar will be credited for any Auto-Renew fee charged and the number of years for the extension.

3.2.1 Overlap Exception

- If a domain registration is extended within the Transfer Grace Period, then the current Registrar's account is charged for the number of years the registration is extended.

Note: If several billable operations, including a transfer, are performed on a domain and the domain is deleted within the grace periods of each of those operations, only those operations that were performed after the latest transfer, including the latest transfer, are credited to the current Registrar.

3.3 Pending Periods

3.3.1 Transfer Pending Period

The *Transfer Pending Period* is a specified number of calendar days following a request from a registrar (registrar A) to transfer a domain in which the current registrar of the domain (registrar B) may explicitly approve or reject the transfer request. The current value of the *Transfer Pending Period* is five calendar days for all registrars. The transfer will be finalized upon receipt of explicit approval or rejection from the current registrar (registrar B). If the current registrar (registrar B) does not explicitly approve or reject the request initiated by registrar A, the registry will approve the request automatically after the end of the *Transfer Pending Period*. During the *Transfer Pending Period*:

- a. RRP or EPP TRANSFER request or RRP or EPP RENEW request is denied.
- b. SYNC is not allowed.
- c. RRP DEL or EPP DELETE request is denied.
- d. Bulk Transfer operations are allowed.
- e. RRP MOD or EPP UPDATE request is denied.

After a transfer of a domain, the RRP or EPP TRANSFER request may be denied for 60 days.

3.3.2 Pending Delete Period

A domain name is placed in PENDING DELETE status if it has not been restored during the Redemption Grace Period. A name that is in PENDING DELETE status will not be included in the zone file. All registrar requests to modify or otherwise update a domain in PENDING DELETE status will be rejected. A domain name is purged from the registry database a specified number of

calendar days after it is placed in PENDING DELETE status. The current length of this Pending Delete Period is five calendar days.

4. Nameserver functional specifications

Nameserver operations for the Registry TLD shall comply with RFCs 1034, 1035, and 2182.

5. Patch, update, and upgrade policy

Registry Operator may issue periodic patches, updates or upgrades to the Software, RRP/EPP or APIs ("Licensed Product") licensed under the Registry-Registrar Agreement (the "Agreement") that will enhance functionality or otherwise improve the Shared Registration System under the Agreement. For the purposes of this Part 5 of Appendix 7, the following terms have the associated meanings set forth herein.

1. A "Patch" means minor modifications to the Licensed Product made by Registry Operator during the performance of error correction services. A Patch does not constitute a Version.
2. An "Update" means a new release of the Licensed Product which may contain error corrections, minor enhancements, and, in certain circumstances, major enhancements, and which is indicated by a change in the digit to right of the decimal point in the version number of the Licensed Product.
3. An "Upgrade" means a new release of the Licensed Product which involves the addition of substantial or substantially enhanced functionality and which is indicated by a change in the digit to the left of the decimal point in the version of the Licensed Product.
4. A "Version" means the Licensed Product identified by any single version number.

Each Update and Upgrade causes a change in version.

* Patches do not require corresponding changes to client applications developed, implemented, and maintained by each registrar.

* Updates may require changes to client applications by each registrar in order to take advantage of the new features and/or capabilities and continue to have access to the Shared Registration System.

* Upgrades require changes to client applications by each registrar in order to take advantage of the new features and/or capabilities and continue to have access to the Shared Registration System.

Registry Operator, in its sole discretion, will deploy Patches during scheduled and announced Shared Registration System maintenance periods.

For Updates and Upgrades, Registry Operator will give each registrar notice prior to deploying the Updates and Upgrades into the production environment. The notice shall be at least ninety (90) days. Such notice will include an initial notice before deploying the Update that requires changes to client applications or the Upgrade into the Operational Test and Evaluation ("OT&E") environment to which all registrars have access. Registry Operator will maintain the Update or Upgrade in the OT&E environment for at least thirty (30) days, to allow each registrar the opportunity to modify its client applications and complete testing, before implementing the new code in the production environment.

This notice period shall not apply in the event Registry Operator's system is subject to the imminent threat of a failure or a material security threat, the discovery of a major security vulnerability, or a Denial of Service (DoS) attack where the Registry Operator's systems are rendered inaccessible by being subject to:

- i) excessive levels of data traffic
- ii) unauthorized traffic
- iii) data traffic not conforming to the protocols used by the Registry

6. Migration to Extensible Provisioning Protocol Plan

Support of RRP and EPP:

Subject to this Section 6, Registry Operator will support the RRP as a "thin" registry. Registry Operator will continue to support RRP until all impacted registrars have migrated to EPP, but in no event later than 18 months after the deployment date of EPP unless otherwise agreed upon in writing by Registry Operator.

Dual RRP and EPP Operations:

1. Registry Operator will provide an extended period for impacted registrars to transition from RRP to EPP on a timeframe acceptable to registrars, but in no event later than 18 months after the deployment date of EPP unless otherwise agreed upon in writing by Registry Operator.
2. Registry Operator's RRP implementation will be completely replaced by EPP on a date determined jointly by Registry Operator, ICANN, and the registrar community, which date shall not be later than 18 months after the deployment date of EPP unless otherwise agreed upon in writing by Registry Operator.
3. Registry Operator's EPP implementation will not support the use of authinfo codes to verify transfers until all registrars have migrated to EPP.

7. Performance Specifications

Monthly Metric	Requirement
Total outage	8 hours
Unplanned outage	4 hours
Major upgrade outage	12 hours
Check domain average	3 seconds
Add domain average	5 seconds

Notes:

- Two "Major Upgrades" per year are allowed, each of which may last 12 hours.
- Registry Operator and ICANN will discuss in good faith addition of appropriate metrics for nameserver packet loss and round-trip times.