ARI Registry Services

Registry Implementation

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About ARI Registry Services

In October 2011, AusRegistry International evolved to a new name and brand identity in a move to support the continued expansion of the organisation and position it as a dominant force in the global TLD Registry Services marketplace.

ARI Registry Services is now used as a trading name of the AusRegistry International corporate entity.

Table of Contents

Introduction

We have prepared this document to provide you with insight as to how we have implemented and will manage our Registry.

Our implementation and management of the Registry—described in this document—has been developed through many years of operational experience, discussions with Registry Operators, numerous Registrars, and industry groups.

The implementations described in this document are intended to make your interactions with us as the technical Registry service provider as easy and transparent as possible. Where appropriate we have also suggested recommendations as to decisions you may wish to consider when implementing your systems.

In this document:

Registry Operator means the entity that has entered into an agreement with ICANN for one or more TLDs.

TLD means a top level domain name for which a Registry Operator has entered into an agreement with ICANN.

Registry means the service provided by us for the TLDs.

Registry services

Registry interfaces

In delivering our service to Registry Operators we have implemented a Registry Service that has taken into consideration:

- The needs of Registry Operators and Registrars.
- The requirements of ICANN and other industry bodies.
- Our many years of experience in the operation of domain name Registries.

In this document we have described a number of the most important implementation decisions made, and how they may affect the portions of the entire Registry system that the Registrar interacts with most.

Our implementation

We provide the following interfaces:

- A Registrar interface which utilises the Extensible Provisioning Protocol (EPP), the EPP Service.
- Web-based interface.
- A Registration Data Directory Service (RDDS), also known as a WHOIS Service.
- Propagation of changes to domain name delegation information from the Registry, the DNS Update Service.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Read this and other documents provided by us.
- Read policy documents provided the Registry Operator.
- Consider the above requirements when planning and deploying your systems.

General implementation

EPP interface

One of the key interfaces to the Registry for Registrars is the EPP Service.

We will make available to Registrars a client library (a Registrar Toolkit), to simplify Registrar integration with the EPP Service, the Registrar Toolkit is further described in section 0.

The EPP Service is compliant with World Wide Web Consortium (W3C) recommendations:

- Extensible Markup Language (XML) 1.0 (Fifth Edition)
- Namespaces in XML 1.0 (Third Edition)

The EPP Service is provided over both IPv4 and IPv6.

The EPP Service complies with RFC5730 Extensible Provisioning Protocol (EPP), and the corresponding object mappings for domain, hosts and contacts which are compliant with:

- RFC5731 Extensible Provisioning Protocol (EPP) Domain Name Mapping
- RFC5732 Extensible Provisioning Protocol (EPP) Host Mapping
- RFC5733 Extensible Provisioning Protocol (EPP) Contact Mapping

EPP Service transport over Transmission Control Protocol (TCP) is implemented in compliance with RFC5734 Extensible Provisioning Protocol (EPP) Transport over TCP.

The EPP Service also complies with:

- Internet Engineering Task Force (IETF) extensions to support DNSSEC, and is complaint with RFC5910 Domain Name System (DNS) Security Extensions Mapping for the Extensible Provisioning Protocol (EPP) further described in section 0.
- Internet Engineering Task Force (IETF) extensions to support redemption grace periods defined in RFC3915 Domain Registry Grace Period Mapping for the Extensible Provisioning Protocol (EPP).

Custom extensions to the EPP Service provided by us, further described in section 0, are compliant with RFC3735 Guidelines for Extending the Extensible Provisioning Protocol (EPP). The following custom extensions have been developed:

- Collection and Management of Applications for Domain Names
  http://ausregistry.github.com/doc/application-1.0/application-1.0.txt
- Internationalised Domain Name Registrations
  http://ausregistry.github.com/doc/idn-1.0/idn-1.0.txt
- Management of Internationalised Domain Name Variants
  http://ausregistry.github.com/doc/variant-1.1/variant-1.1.txt
- Collection and Management of Key-Value Pairs
  http://ausregistry.github.com/doc/kv-1.0/kv-1.0.txt
- Management of Premium Names
  http://ausregistry.github.com/doc/premium-1.0/premium-1.0.txt
- Trademark Clearinghouse Services
  http://ausregistry.github.com/doc/tmch-1.0/tmch-1.0.txt

The current drafts of these services are posted on the URLs above, and are being actively maintained.

Our implementation

Our implementation of the EPP Service:

- The maximum number of domain names that can be included in an EPP <check> command is 20.
- We will accept and process EPP data units up to 24,576 bytes in size. Messages larger than this size will be rejected and the connection will be dropped. Note: once final Trademark Clearinghouse parameters are understood, this value may be revised.
- We will parse EPP messages using a XML Namespace-aware parser.
- We will purge unused host and contact objects. Host and contact objects will be considered unused if they have not been updated within, or linked to a domain name for, a period of and exceeding three (3) months.
- We will provide notice to Registrars of objects that have been purged due to inactivity, via an EPP poll message.
- In order to ensure a fair and equitable service to all, we will limit the number of sessions that can be established to the EPP Service. Each Registrar will be able to establish five (5) sessions with the EPP interface.
- We will not use the Contact DCP element as described in RFC5733 Extensible Provisioning Protocol (EPP) Contact Mapping.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Plan to accept and process EPP data units (typically responses) that are at least twice the size of the message size accepted by us.
- Parse EPP messages using a namespace aware XML Namespace-aware parser.
- Ensure that any EPP commands they are sending to the EPP Service are schema valid before sending
- Are aware of the maximum number of sessions they may establish, and use a session pooling approach, where a single session is not needlessly assigned to a long running business transaction for the entire duration of the transaction, thus allowing it to be used by other resources.

Registrar toolkits

We provide Registrars with a client library (Registrar Toolkit) to facilitate integration of Registrar software with the EPP Service.

Our implementation

Our Registrar Toolkit implementation:

- Is provided in Java.
- Has a fully documented API as well as example code.
- Supports all the extensions implemented by our EPP Service including IDNs and DNSSEC.

- Is available under the AusRegistry banner from GitHub at the following link https://github.com/AusRegistry.

Our Registry implementation supports:

- The Net::DRI Perl library 'Domain Registration Interface' for domain name registries/registrars/resellers which can be found at the following link, http://search.cpan.org/dist/Net-DRI/, and
- The open source Universal Registry/Registrar Toolkit which can be found at the following link, http://sourceforge.net/projects/epp-rtk/ to be used in conjunction with an add-on supporting our extensions, located at the following link http://ausregistry.github.com.

Contact objects

Contact objects reference contact information for a domain by retaining contact information pertaining to administration, finance and technical requirements in the registry database. We use standard object models for domain names, hosts and contact objects.

Our implementation

Our Registry implementation:

- Supports contact objects as defined in RFC5733 Extensible Provisioning Protocol (EPP) Contact Mapping.
- Enforces that user supplied contact IDs are unique across the entire Registry, not only on a per account basis. This implementation facilitates simplified contact transfers.
- Currently limits contact IDs to ASCII code points only.
- Where Unicode is supported, they are converted to Normalization Form C (NFC) before comparison occurs.
- Compares contact IDs in a case-insensitive manner.
- Has the following mandatory fields for contact IDs:
    - Contact name
    - Contact email address
    - Internationalised address

Our recommendations for Registrar implementation

We recommend that Registrars:

- Exclusively use ASCII code points in the creation of:
    - Contact IDs
    - authInfos
- Prefix or postfix the contact ID with a 'Registrar unique' string. This will help to ensure that you generate a contact ID that does not overlap with another Registrar's identifier sequence.

Host objects

Host objects represent the domain names of name servers that are to be associated with domains.

Our implementation

Our Registry implementation:

- Supports host objects as defined in RFC5732 Extensible Provisioning Protocol (EPP) Host Mapping.
- Compares host names in a case-insensitive manner.
- Only accepts host names in the LDH format (IDN host names need to be encoded in ACE format).
- Allows the creation of host objects by any Registrar regardless of the sponsorship of the parent domain name.
- Will enforce the assignment of sponsorship of:
    - Hosts created that are subordinate to domain names that exist within the Registry to the sponsor of the parent domain.
    - Hosts that are external to the Registry system to the 'system' account.
- Will prevent the creation of host objects that we can determined will not resolve hosts that would be subordinate to a zone managed by us and the parent domain does not exist, or host names subordinate to a TLD that has not been allocated by ICANN. Host name resolution will not occur.
- Will reject the use of IP addresses for glue records where those IP address are not globally routable.
- Does not:
    - Support host attributes.
    - Implement updating (rename) of hosts.
    - Restrict the deletion of domain names having subordinate hosts acting as name servers. In these cases the delete is performed, and the name servers for this domain name are removed from the DNS. All subordinate hosts used as name servers for other domain names are not be removed from the DNS when this domain name is finally purged from the Registry. The sponsors of affected domain names are notified by poll messages.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Exclusively use ASCII code points in host names.
- Use ACE encoding for IDN host names.

Domain objects

Domain objects represent domain name registrations within the Registry.

Our implementation

Our Registry implementation:

- Supports domain objects as defined in RFC5731 Extensible Provisioning Protocol (EPP) Domain Name Mapping.
- Enforces complexity requirements on domain name authInfo, whereby it must:
    - Contain at least one alpha code point.
    - Contain at least one numeral code point.
    - Contain at least one punctuation code point.
    - Be at least eight (8) code points in length.
- Rejects the use of contact authInfo for the purpose of authorisation of domain name transfer and access to full domain information utilising the Domain <info> command.
- Not require authInfo to be supplied to approve, reject or query a transfer for which the Registrar is the losing participant.
- Not require authInfo to be supplied to cancel or query transfers for which the Registrar is the gaining participant.

Our recommendations for Registrar implementation

We recommend Registrars:

- Exclusively use ASCII code points in the authInfo field.

Extending domain objects

When configuring certain TLDs in the Registry, the Registry operator may require that additional information is collected from Registrants, along with all of the standard information that is collected. We may also implement further extensions in the future for reasons such as:

- Integration with the Trademark Clearinghouse.
- Internationalised Domain Names.
- Premium Names.

Where we implement such extensions they will adhere to all relevant RFCs and be published at our GitHub repository.

Our implementation

Our extensions to EPP:

- Conform with extensions to EPP as defined in and in compliance with RFC3735 Guidelines for Extending the Extensible Provisioning Protocol (EPP).
- Are fully documented
- Are available under the AusRegistry banner from GitHub at the following link https://github.com/AusRegistry.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Review and provide comment on our draft extensions as soon as practical.

Error messages

We understand that error messages are important to the efficient daily operations of Registrars. Our implementation of the Registry provides standardised and consistent error messaging.

Our implementation

Our implementation of the Registry provides error messages that are:

- Documented in our *Registrars Reference Guide*.
- In the English language.
- Clear and descriptive.
- Include a reference to the failing or invalid field(s) to avoid any ambiguity.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Log error messages so that they may perform their own investigations, and/or have the necessary information needed to escalate the problem to Registry technical support staff if required.

Registrar notifications

Registrar notifications

Throughout our management of a TLD we will communicate various 'events' that occur in the Registry to Registrars.

Our implementation

We will provide two types of notification mechanisms, as follows:

- Poll messages
- Email messages

Poll messages are to be used for automated 'system-to-system' notifications, whereas emails are intended to be human consumable. Registrars can choose if they want to receive email or poll messages.

EPP poll messages

Our EPP Service implements the message queuing system as described in RFC5730 Extensible Provisioning Protocol (EPP).

Our implementation

We will provide EPP poll messages that:

- Will notify the sponsoring Registrar of any action that causes the details of an object to change, where such action was not requested by that Registrar. This includes, but is not limited to, such changes required for situations such as:
  - Uniform Rapid Suspension (URS), or other abuse situations.
  - Beginning and ending of grace periods.
  - Auto renewals.
- Will be in a defined format, easily machine parse-able and will convey sufficient information to identify what has happened, and the objects that were affected.
- Where multiple objects are affected by an action, one poll message for each object that was affected will be queued.
- Uses a standard set of poll message templates defined in our *Registrars Reference Guide*.

We will provide the ability for Registrars to access acknowledged EPP poll messages to facilitate external processes such as transfer dispute mechanisms.

Note	EPP poll messages that are not read within six months will be deleted. EPP poll messages will not include all information about the object that has changed. Registrars should use the EPP <info> command for this purpose.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Make full use of the EPP poll messages provided, and update their local copies of data based on information received.

Email messages

We will provide the following features in our implementation to provide email messages:

- Email messages templates as described in our *Registrars Reference Guide*.
- Email messages that will recognise and accept multiple email recipients at Registrars for various message types (eg billing, system maintenance, transfers, sales and promotions, and abuse).

Registrar management

Registrar grouping

There are a number of entities that own and control multiple ICANN Registrar accreditations—a 'Registrar Group'. In order to assist those entities we have made the following implementations. This grouping relates to access to Registry data only, financial data is tracked on a per Registry accreditation basis.

Our implementation

We will:

- Allow a Registrar to identify that they are part of a Registrar Group.
- Assign one EPP credential per Registrar within the Registrar Group. Each EPP credential will be subject to the same restrictions as a single Registrar—for example, any command rate limits.
- Allow a single web-based interface credential to be used to:
    - Manage objects sponsored by any Registrar within the Registrar Group.
    - Manage financials for the Registrar Group.
    - Perform cross Registrar Group, object searches and reports.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Make use of the Registrar grouping feature when enabled in OTE, anticipated to be at end of April 2013.
- Familiarise themselves with the functions and feature available in the Registry.

Domain name lifecycle

Domain name lifecycle

The domain name lifecycle refers to the stages a registration will progress through during its life. In order to maintain uniformity, we will (where possible) maintain a 'standard' lifecycle for TLDs using the Registry.

Our implementation

In order to provide greater certainty for Registrars, we have implemented the following in relation to the domain name lifecycle. This implementation will apply except where expressly varied by a Registry Operator for a TLD.

We will:

- Enforce the ICANN Consensus Policy on the prohibition of transfer in the first 60 days.
- Allow a five day Add-Grace Period.
- Transition domain names between states, for example from Registered to Redemption, as close as reasonably possible to the date and time the transition becomes applicable.
- Use the Registry Grace Period mapping described in RFC3915 Domain Registry Grace Period Mapping for the Extensible Provisioning Protocol (EPP). In doing so, we will:
    - Use status values to describe the state.
    - Include EPP formatted dates in the status elements content that depict the date and time that the period associated with the current state will end.
- Remove client-supplied status values when domain names are deleted and transferred. The status values that may be removed are:
    - clientUpdateProhibited
    - clientDeleteProhibited
    - clientRenewProhibited
    - clientTransferProhibited
    - clientHold

Our recommendations for Registrar implementation

We recommend that Registrars:

- Ensure prohibition of transfer of a domain name in line with ICANN Consensus Policy on the prohibition of transfer, which is at present within 60 days of creation, or the most recent successful transfer.

Reserved names / words / labels

Reserved names / words / labels

ICANN requires that Registry Operators prohibit the registration of certain names / words / labels. Registry Operators may also elect to prevent the registration of other names / words / labels that they select. These names / words / labels may be reserved by the Registry Operator for a number of reasons including:

- Not to be used in the TLD because:
  - They are deemed offensive; or
  - Otherwise not welcome by the Registry Operator.
- Held back for later release, which may be in the form of an:
  - Auction' or
  - Some other release process such as a Premium Names release (further described in section 0.

Names / words / labels may be reserved at one or more levels of registration in a TLD.

Our implementation

Our implementation of the Registry will provide the following.

- Where approved by the Registry Operator:
  - We will make available to Registrars a list of the names / words / labels which are reserved.
  - For each list of names / words / labels we will indicate the level(s) at which they are reserved.
  - Where possible we will provide to Registrars updates to a list of names / words / labels, as and when they are modified by the Registry Operator.
- In response to a WHOIS query, and EPP <check> and EPP <create> commands issued by Registrars we will indicate if the name / word / label:
  - Is reserved.
  - Where possible, the reason why it is reserved.
- Where possible attempt to distinguish between those reserved names / words / that are being reserved:
  - For release at a later date.
  - For the use of the Registry.
  - Reserved due to restrictions such as those that are ICANN mandated, or not considered 'acceptable' for the TLD.
- Ensure that the <check> command uses the same availability logic as used by the <create> command.

Release of reserved names / words / labels

From time to time names / words / labels may be released by a Registry Operator.

Our implementation

The release of reserved names / words / labels may happen in one or more of the following ways.

Removal from list at a specific time

- Where possible we will attempt to advise Registrars in advance the date and time at which the names / words / labels will be released.
- At the time at which the names / words / labels become available for registration, Registrars may actively attempt to register them, subject to any restrictions of the Registry Operator.

Applications for reserved names / words / labels

- Where possible we will
    - Notify Registrars of domains names / words / labels the Registry Operator will be accepting applications for, any requirements of the application and the time that the application window will be open.
    - Accept applications for the names / words / labels on the list. This will be similar to how Sunrise and Landrush applications work, except that applications will only be accepted for names / words / labels that match the list of names / words / labels that are being released.
- Where this process is applied the Registry continues to function as normal for normal registrations with the domain names on the list continuing to show up as not available in normal <check> commands
- The availability of a domain name in a particular 'release' can be identified utilising the <check> command extensions defined in our application EPP extension document. Note: we are investigating the possibility of a revised <check> command that will perform multiple types of checks at once.
- Once the period is closed any contention resolution that is necessary will be performed (if auctions are used they will work as described below) and we will perform allocation of domain names.
- Any unallocated domain names may be released using another methods or remain on the reserved list of names / words / labels.
- This will be facilitated by our Domain Name Application and Key-Value Pair EPP extensions.

Direct auctions

- In this scenario the right to register a domain name is conducted independently of Registrars.
- At the completion of the auction the winning participant is supplied with a token that they can use to register the domain name.

- The winning participant then provides their preferred Registrar with the token which allows the Registrar to register the domain name bypassing the reserved list check.
- This is facilitated by our Key-Value Pair EPP extension.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Review the Registry operator supplied policy regarding names / words / labels.
- Take note of the specific reasons as to why a negative response would be returned to a domain name availability check, a as registrant may still be able to register the names / words / labels by an exception process.

DNSSEC

DNSSEC

We will make available to Registry Operators our DNSSEC Practice Statements, so that they may make these available to Registrars, ICANN and the public.

Our DNSSEC Practice Statements describe security controls, procedures for key material storage, access, usage for TLD keys, and the secure acceptance of a Registrant's public-key material.

Our DNSSEC Practice Statements are in accordance with the proposed format described in RFC6841 DNSSEC Policy & Practice Statement Framework.

The Registry and our DNSSEC implementation are compliant with:

- RFC4033 DNS Security Introduction and Requirements
- RFC4034 Resource Records for the DNS Security Extensions
- RFC4035 Protocol Modifications for the DNS Security Extensions
- RFC4509 Use of SHA-256 in DNSSEC Delegation Signer (DS) Resource Records (RRs)

Our implementation

We will:

- Implement the DNSSEC EPP extension as documented in RFC5910 Domain Name System (DNS) Security Extensions Mapping for the Extensible Provisioning Protocol (EPP) (support of secDNS-1.1 extension and maybe support of secDNS-1.0 extension).
- Ensure all IDN zones in the Registry require the provision of key data, to facilitate the proper operation of variants.
- Provide for non-IDN zones the choice of Key Data or DS data.
- Not change delegation information on receipt of a transfer request until industry discussions regarding the transfer of DNS providers for signed domain names suggest otherwise. We have also committed to being actively involved in the ongoing discussions that are seeking to solve this question.
- Restrict the use of digest algorithms to those that have been allocated by IANA Delegation Signer (DS) Resource Record (RR) Type Digest Algorithm.
- Generate DS data using SHA-256 digest.
- Ignore the DNSSEC 'urgent' attribute.
- Not accept the maxSigLife parameter, and will explicitly reject commands that specify a maxSigLife.

Internationalised Domain Names

Internationalised Domain Names (IDNs)

We allow for creation of Internationalised Domain Names (IDN), as required by our Registry Operators and their TLD(s). The implementation conforms to the following in relation to IDNs:

- RFC5890 Internationalized Domain Names for Applications (IDNA): Definitions and Document Framework
- RFC5891 Internationalized Domain Names in Applications (IDNA): Protocol
- RFC5892 The Unicode Code Points and Internationalized Domain Names for Applications (IDNA)
- RFC5893 Right-to-Left Scripts for Internationalized Domain Names for Applications (IDNA)

Our implementation

We will:

- Only allow Domain name slots appearing in elements in standard EPP to contain A-labels (and non-internationalised labels.
- Provide proprietary extensions to the EPP Service for the provisioning and management of IDNs, more fully described in section 0.
- Require a language tag to be provided with each domain name registration.
- Ensure that the domain name being registered is IDNA 2008 valid and only uses code points from the language table referenced from the language tag.
- Manage variants as properties of a primary domain name registration, not as a separate object. These variants will:
    - Retain the same contact and delegation information as the primary registered domain name.
    - Simply be ‘properties’ of the primary domain name, not additional objects that required extra management.
- Only recognise subordinate host relationships where the host names are directly subordinate to the primary domain name used.
- Allow Registrants, via their Registrars, to request the activation of domain name variants that are considered canonically equivalent to the primary domain name.
- Automatically activate preferred domain name variants at time of creation, as described in the Registry Operators policy.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Exclusively use ASCII code points in the creation of host names.
- Encode IDN host names in ACE format.
- Review our IDN EPP Extension and IDN variant extensions that have been created to facilitate these requirements.

Financial operations

Financial operations

In the past, financial processes between a TLD Registry and a Registrar have traditionally been based on a 'prepay' model. Given that most Registries have a requirement for a minimum balance to be available; this model has proven burdensome for Registrars.

With the introduction of many new Registries into the market, this approach is becoming impractical, and most Registrars are becoming reluctant to lock their money away with the many Registries. While we understand that Registries and Registrars will negotiate their own commercial terms we have provided the following suggestions.

Our implementation

We support:

- Payment in arrears for completed transactions.
- Providing Registrars with access to a daily Comma Separated Values (CSV) file that includes all billable transactions for the day. These reports are available on a secure File Transfer Protocol (FTP) or Secure Copy Protocol (SCP).
- Only charging Registrars once transactions become non-refundable. This includes invoicing for auto-renewed domain names at the end of the Auto-Renew Grace Period.

A Registry Operator may:

- Request a bond / letter of credit, or other financial instrument before a Registrar is able to transact in the Registry.
- Prevent a Registrar from performing fee-incurring transactions in response to non-payment.

Managing Registrar limits:

- The Registry will track the fee incurring transactions of a Registrar (spend) against a limit determined by a Registry Operator.
- Should a Registrar's fee spend be equal to or greater than their limit, the Registrar is no longer able to conduct billable operations (with the exception of Auto Renew).
- A Registry Operator may alter the limit at any time. If this change means that the Registrar's spend is greater than their limit, the restrictions described above apply. If this change results in the Registrar's spend having a lower value than their limit, the Registrar will be able to conduct fee incurring operations.
- All fee-incurring transactions cause a Registrar's spend to increase. For example:
    - Create
    - Renew
    - Auto-renew
    - Restore (report)
    - Transfer (where the registrar is the gaining registrar)

- Operations are added to the spend total as they occur, before any grace periods expire; which means that subsequent operations may cause the spend value to be reduced by the amount of any cancelled operations, if such cancellations would result in refund.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Implement and monitor their financial process according to the implementation.
- Provide payment of their invoices on time and ensue that they are aware of the potential ramifications to them and their customers as a result of non-payment of invoices.

TLD launch

TLD launch

Registry Operators are required by ICANN to implement a Sunrise period for each TLD. A Landrush period is optional. Registrars may choose if they participate in one or both of these phases.

In our offering to Registry Operators we allow the selection of the number of 'phases' that they wish to include in both the Sunrise and Landrush 'period'.

Each of the 'phases' may have differing participation or eligibility criteria. These criteria may be implemented on a per TLD basis and will be described in the Registry Operator's policy. Phases may also overlap with another phase in the TLDs launch.

At the conclusion of each phase and after any required validation has occurred we will allocate the domain names.

Our implementation

Our delivery of the Registry:

- At a minimum, the first Sunrise phase will require the use of the Signed Mark Data (SMD) for the Trademark Clearinghouse. Refer to section 0 for further information relating to Trademark Clearinghouse integration.
- Each Sunrise and Landrush phase will be assigned a 'phase' identifier.
- Any additional information required to be collected for the purpose of validating an application for a domain name will be transmitted to the Registry using the simple key value pair EPP extension—described and explained further in section 0.
- Applications will be submitted to us by Registrars via the EPP Service using the Mark and Signed Mark Objects Mapping EPP extension or the web-based interface, and will be tagged with the phase to which the application relates.
- Sunrise and Landrush applications may involve an Application Fee (the domain name registration fee will not be charged at this time).
- Applications will require acknowledgement of any Premium Name fees that are applicable should the application be successful.
- Contention between applications will usually be resolved by auction; however this is at the discretion of the Registry Operator. Where an auction takes place the auction will be for the right to register the domain name, and does NOT include the registration fee. For further information refer to section 0.
- Once a clear 'winner' is identified, either by auction or at the determination of the Registry Operator, the corresponding Registrar will be notified by us. We will supply a token that is required to affect the registration of the domain name in the Registry.
- With the token the Registrar may then create the domain name, and the registration fee (including any Premium Name fee) is charged with the transaction.
- Registrars may receive staggered results for applications. We provide results as they become available to us—that is, all valid applications with single applicants may be released before any auctions are resolved.
- Registrars may request that we create the domain names on their behalf. Where we do so we will create the domain names at a time that is agreeable to both parties; will also do

so with reference to any credit or spending limits that are specified by a Registry Operator. We do however recommend that Registrars perform the registration requests as they receive payment of registration fees from Registrants.

- Where a domain name is not registered within a certain time frame (defined by the Registry Operator) the applicant may lose their right to register the domain name. The domain name may then be released by the Registry Operator, in any manner that they may choose. The time frames will be documented by the Registry Operator however they should be no less than 30 days after notice to the Registrar.

Our recommendations for Registrar implementation

We recommend that as a Registrar you should note the following when considering your implementation:

- You have the choice between collecting the registration fee along with the application fee at the time of application, or to collect the registration fee after you are notified that the applicant was successful.
- Where you collect the registration fee at time of application, and whether or not you make the registration fee refundable is at your discretion.
- For Premium Names that may have higher than normal registration fees it may not be practical to collect this fee at time of application. You may consider collecting the registration fee once the applicant is successful. It is for this reason that you are given control over the registration process, so that you can ensure that you collect the registration fee at an appropriate time.

Domain name auctions

Domain name auctions may be used by the Registry Operator to resolve contention between two applicants for a domain name, or in the release of Premium Names. To facilitate Auction Services we have engaged a provider (the Auction Service Provider) for our Registry Operators.

Our implementation

In our delivery of the Registry:

- Auctions are handled external to Registrars on a website hosted by the Auction Provider that is branded with the Registry Operators branding for the TLD.
- Specific information about auction process will be provided at a later date; however the Registry Operator provides the necessary credentials for the auction website directly to applicants in contention.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Familiarise themselves with a Registry Operator's policy with regard to auctions, and information that we provide about the auction service.

Trademark Clearinghouse integration

The Registry will be integrated with the Trademark Clearinghouse as implemented by ICANN, subject always to any rules and requirements of ICANN for such integration.

We will exchange and provide standard communications and information with the Trademark Clearinghouse service provider.

Note	At the time of publishing this document the final implementation of the Trademark Clearinghouse had not been determined by ICANN. As such any references to the Trademark Clearinghouse and services that may depend on its implementation are subject to publication of the final specification and contingent changes.

Our implementation

Our delivery of the Registry:

- Is to be advised.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Familiarise themselves with the proposed information and documentation regarding the Trademark Clearinghouse.
- Become involved in the ongoing conversations in the ICANN community on this topic.

Uniform Rapid Suspension

The Uniform Rapid Suspension system (often referred to as 'URS') is a dispute resolution mechanism adopted by ICANN; designed to provide rapid relief to trademark holders for the most clear-cut cases of trademark infringement, and to offer cheaper and faster responses than the Uniform Dispute Resolution Policy (UDRP).

ICANN requires that that both Registry Operators in the management of the TLD, and Registrars follow the Uniform Rapid Suspension system.

As with the Trademark Clearinghouse the exact details of the Uniform Rapid Suspension system are not yet known. When ICANN provides more information on the implementation we will update this document accordingly.

Our implementation

We will:

- Act on instruction from a Uniform Rapid Suspension provider. We will not make any determinations about a domain name or its use in relation to Uniform Rapid Suspension.
- Communicate with the approved Uniform Rapid Suspension provider(s) on a Registry Operators behalf, subject always to any rules and requirements of ICANN

- Coordinate and communicate the Uniform Rapid Suspension provider(s) with regard to the locking of domain names which are subject of the Uniform Rapid Suspension complaint.

Our recommendations for Registrar implementation

We recommend Registrars:

- Familiarise themselves with the requirements of the Uniform Rapid Suspension system, and understand how this will affect Registrants.

Note	At the time of publishing this document the final implementation of Uniform Rapid Suspension had not been determined by ICANN. As such any references to the Uniform Rapid Suspension and services that may depend on its implementation are subject to publication of the final specification and contingent changes.

Premium Names

Premium Name refers to a process by which the Registry Operator may sell domain names for a price that is different (generally more expensive) than the normal registration fee for that TLD. These Premium Names will have a different initial registration fee, and may have a different renewal fee.

Our implementation

Our delivery of the Registry:

- Provides a mechanism for Registrars to look up the price of a domain name in real time.
- Where possible makes available to Registrars a list of Premium Names along with their create and renew fees.
- Documents the process to calculate transaction fees and makes such documents available to Registrars.
- Ensures Registry Operators pass on the obligation for Registrars to ensure that Registrants expressly agree in its registration agreement with the Registrar, to higher renewal fees at the time of the initial registration of the domain name.
- Where possible, ensures that the Registry Operator gives Registrars the required notice of change of fees associated with Premium Names.
- Requires explicit acknowledgement from Registrars when they are creating/renewing and transferring (with renewal) a domain name (or applications if Premium Name fees are applied during a non-First Come First Served, Sunrise / Landrush period) that is subject to a premium price for that transaction. This acknowledgement should be in the form of the Registrar telling us the fee they expect to be charged for the transaction.
- Uses the Premium Name Pricing EPP extension to facilitate these requirements.

Our recommendations for Registrar implementation

We recommend that Registrars:

- Notify Registrants of the creation and renewal fees prior to allowing them to register a Premium Name, and ensure that the registration agreement expressly states this.
- Use the Premium Name list provided by us for an initial lookup, however Registrars must either:
    - Perform a real time lookup to confirm the fees prior to allowing the registration to proceed; or
    - Expect and handle the error message associated with a <create> command failing due to the incorrect (or complete lack of) fee specified with the command.

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