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ECONOMIC AND SOCIAL COMMISSION FOR WESTERN ASIA (ESCWA)

PROMOTION OF THE ARABIC DOMAIN NAME SYSTEM

Preliminary Feasibility Study for the

ESTABLISHMENT OF THE DOMAIN NAME REGISTRY FOR THE
" arab" and "عربي."
GENERIC TOP LEVEL DOMAINS

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Preface

This Preliminary Feasibility study on *Establishment of the Domain Name Registry for the ".arab" and ".عربي" Generic Top Level Domains* was developed by ESCWA through a team comprising specialized experts in the field combining technical, business, and legal backgrounds[1]. It constitutes a core component of ESCWA's project on "Promotion of the Arabic Domain Names System" which is part of the Strategic Framework for 2007-2008; namely, expected accomplishments (a) Increased implementation of the Regional Plan of Action for building the Information Society, particularly in relation to the ICT sector and (b) Enhanced capacity of ESCWA member countries to provide e-services in Arabic targeting socio-economic development.

The objective of this study is to provide an initial assessment of the feasibility of establishing a domain name registry for the "**.arab**" and "**.عربي**" gTLDs through studying relevant technical and operational requirement and over viewing business, marketing, legal, financial and capital funding aspects related to establishing such registry.

Once endorsed by the LAS in their meeting of September 2009, the study will pave the way for subsequent steps including drafting and submitting the official application to ICANN and provision of required funding for the application itself as well as registry operation and start-up. ICANN has already published its Draft Applicant Guidebook in October 2008 which was commented on and is likely to open the door for applications during the first quarter of 2010

[1] UN-ESCWA acknowledges the input provided by Messrs. Bart Lieben and Khaled Koubaa as primary consultants to this study.

Executive Summary

The market for domain name registry services has experienced exponential growth in recent years. It has demonstrated that considerable opportunities lay for investment within the domain name industry. However, the small number of generic Top Level Domains (gTLDs) currently made available by the Internet Consortium for Names and Numbers (ICANN) has led to overcrowded registrations in one gTLD (the .com) which in some cases failed to provide desired financial returns for registrars and registries on the one hand and registrants on the other. The limited choices of gTLDs is one of the reasons the number of new TLD registrations witnessed negative growth during the second quarter of 2008 in contrast to positive growth in preceding years[2].

The introduction of new gTLDs is expected to revitalize demand particularly that the market has demonstrated its capability to accommodate new TLDs. TLDs that respond to the needs of particular communities or cultures are expected to be identified and supported. ICANN is expected to open the door for new gTLD applications during the first half of 2010 – an opportunity which this study targets. The second version of the Draft Applicant Guidebook is currently available online detailing the requirements and procedures for applying new gTLDs. A new version of this Draft Applicant Guidebook is expected to be published by the end of September 2009, and a fourth – likely the final version – is expected to be made available in December of 2009.

The idea for a gTLD that is representative of the Arab region has been in deliberation for several years now and the need to reserve "**.arab**" and its equivalent in Arabic script "**.عربي**" was in fact encouraged and pursued since the first meeting of the Arab Working Group on Domain Names (AWGDN) in early 2005.

The **.arab** gTLD is perceived as a depiction of the Arab culture, community and identity. The benefits it will bring will have implication on technological and scientific development including, for example, country registries, by reinforcing their capacity to build a local Internet space. Applying for and acquiring the **.arab** gTLD will encourage investment in the "registrar" and "reseller" sub-industries particularly that currently there are only two Arab-based registrars accredited by the ICANN, which can register domains for ICANN accredited registries.

Many stakeholders including governments and NGOs in the Arab region initiated projects to foster improved access in the Arab region to the world's network. Activities undertaken on domain names are an essential component of the development in the Arab Information Society and are driven by the importance of the domain name as identity. As multi-cultural and different communities are increasingly marking their existence on the network, the need for the Arab region to be identified as part of those communities is becoming more and more important.

In particular, between 2003 and 2008, a number of national and regional initiatives were launched in the Arab world to promote digital Arabic content and to improve penetration rates by lowering the language barrier and making the Internet easily accessible. In their meeting of July 2008, the Arab Working Group on Domain Names and Internet Issues (AWGDNII and previously AWGDN) decided to proceed with the necessary steps to apply for the **.arab** and its equivalent in Arabic script.

It is proposed that the **.arab** and **.عربي** be applied to as community-based gTLDs; they will serve the Arabic culture, community, and language around the world. Both new domain names will be associated with a registry operation. The registry's mission is to promote the Arab community's identity as well as the use of the Arabic language on the internet, by providing access to domain name registration systems that support the Arabic community and provide the members of this community with effective means to communicate with each other as well as other users of the internet using their own identities, brand names, trademarks and proprietary TLDs.

[2] Verisign. The Domain Name Industry Brief. June 2009.

The registry's main objective is to promote and operate a regional Internet namespace that has global recognition and caters to the needs of the community in the Arab region as well as Arabs worldwide.

A number of scenarios are presented and discussed regarding the establishment of the **.arab** Registry governance structure. The scenarios are devised to account for budgetary, administrative and financial constraints that may face the set-up and launch of the registry: (1) direct contractual arrangement between LAS and one of the international registries with experience in the field; (2) appointing a LAS-established organization/institution to establish the registry; (3) establishing a corporation to act as a supervisory body that establishes the registry's other functions.

The recommended third scenario implied that a non-profit corporation should be established to implement the overall policies developed by the LAS and provide guidance for the use of the **.arab** gTLD and its IDN equivalent to ensure that the TLDs are implemented in the interest of the user community and consistently with ICANN's policies and agreements as well as contracts to be signed with partners. It is recommended that this corporation is a consortium that involves the main stakeholders of ICT sector in the Arab region. This consortium is to be established by the LAS, and shall perform its functions under the authority of the LAS. The consortium will be described in the application to be submitted by LAS as responsible for the governance structure.

A closer look at the core governance structure of the .**arab** Registry reveals the need for three core components: a board, an executive core and a technical core. The technical core may be developed and implemented in house, with locally available capabilities and human resources which would preserve the benefits of capacity building and employment opportunities to the Arab region and the host country. Alternatively, the technical core may be outsourced to a well-established registry that could supply the technical operations for the new domain names. An in-between option may also be considered for a limited-duration outsourcing of operation whilst the needed infrastructure and human resources are locally built.

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ACRONYMS AND ABBREVIATIONS

ADNS	Arabic Domain Names System
APNIC	Asia Pacific Network Information Center
AfriNIC	The African Network Information Center
ASCII	American Standard Code for Information Interchange
AWGDN	Arab Workgroup on Arabic Domain Names
AWGDNII	Arab Workgroup on Arabic Domain Names and Internet Issues
BCP	Business Continuity Planning
ccTLD	Country Code Top Level Domain
DDoS	Distributed Denial of Service
DNS	Domain Name System
EPP	Extensible Provisioning Protocol
GAC	Governmental Advisory Committee
GNSO	Generic Names Supporting Organization
gTLD	Generic Top Level Domain
IANA	Internet Assigned Names Authority
ICANN	Internet Corporation for Assigned Names and Numbers
IDN	Internationalized Domain Name
IETF	Internet Engineering Task Force
IETF	Internet Engineering Task Force
IP	Internet Protocol
IRT	Implementation Recommendation Team
ISP	Internet Service Provider
LACNIC	American and Caribbean Internet Addresses Registry
LAS	League of Arab States
RFC	Request for Comment
RIR	Regional Internet Registry
RRA	Registry-Registrar Agreement
TLD	Top Level Domain
UDRP	Uniform Dispute Resolution Policy
W3C	World Wide Web Consortium
WIPO	World Intellectual Property Organization

Introduction

The Internet's impact on regions and communities over the past decade has been rapid and diverse. While it is difficult to measure this impact for each region and community separately, it is obvious that the overall influence of the Internet has been positive. However, the Internet's impact on the Arab region was relatively slowed down by a number of obstacles such as connectivity, content, and language.

During its inception phase, the Internet evolved predominantly as an English-only medium where content and information were handled and presented mainly in English in addition to a few other Latin languages. However, with the rapid increase in Internet users over the years, languages on the Internet multiplied and diversified to include non-Latin languages (such as Chinese, Japanese, Korean and Arabic) as well. Yet, wide-scale access to the Internet and online Arabic content, in specific, is still deprived from a large market potential due to the language barrier, as one of the major factors. In particular, Arabic users of the Internet are faced with obstacles in naming, locating and accessing content in their native language, by having to use Latin character-based addressing schemes. Efforts commenced in 1998 for using non-Latin script in domain names but were faced with numerous conflicts and destructive competition.

However, in 2003 and with the global move towards Internationalized Domain Names (IDNs), UN-ESCWA revived and led efforts to develop an Arabic Domain Name System, with the aim to increase Internet use amongst all strata of the Arabic-speaking communities. Furthermore, UN-ESCWA launched a project on "Promotion of the Arabic Domain Names System", which has thus far focused on standardization efforts for the use of Arabic script in domain names.

Few milestones and steps are required before the full scale deployment of domain names in Arabic characters. However, some of the important milestones are ICANN-dependent, while others are community dependent.

On ICANN's side, policies are currently being developed in order to enable the introduction of IDNs in the two types of Top Level Domains: the New gTLD Program that was announced in June 2008 will allow IDN-extensions in the *gTLDs*, whilst a so-called "Fast Track" process is being developed for *ccTLDs* where the official script is different from standard Latin script / US ASCII.

The opportunity to apply for new gTLDs in non-ASCII characters will be accompanied with the same opportunity to apply for new gTLDs in ASCII as well. Hence, local communities that do not use standard Latin script will be able to apply for a given gTLD representing their own community twice: for the ASCII and the non-ASCII versions. Submissions will be open by Q1 2010, after the approval of the implementation process for the New gTLDs by the ICANN Board. A wave of new TLD applications is expected to be received by ICANN during that period.

On the community side, the Arab language community, the League of Arab States, and the Arabic script community (representing language groups using Arabic characters in their writing systems) are getting ready to submit applications for new generic Top Level Domain Names using Arabic characters and also in ASCII. However, there are still a lot of open questions that need to be answered before such communities are able to take the decision to apply for a new gTLD, and most importantly are able to submit a comprehensive proposal to be granted ICANN's approval. Hence, this pre-feasibility study which intends to present a clear visibility of "Why"? and "How"? to prepare an application for a "**.arab**" Top Level Domain as well as for "**.عربي**".

The **.arab Registry**'s objective will be to promote the Arab community's identity as well as the use of the Arabic language on the internet, by providing access to domain name registration systems that support the Arabic community and provide the members of this community with effective means to communicate with each other and other users of the internet using their own identities, brand names, trademarks and proprietary gTLDs.

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I. GLOBAL OVERVIEW

This section provides a global overview about the Domain Name Industry at large, the degree of competitiveness within this industry, and describes latent demand for new generic Top Level Domains (gTLDs). The next chapter will describe in details requirements for new gTLDs and the evaluation process for applicants for such new gTLDs.

A. DOMAIN NAME INDUSTRY OVERVIEW

In the gTLD space, over 900 registrars operate in the domain registration business worldwide[3]. These companies function as middlemen between the gTLD registries on the one hand and the registrants – or domain name owners – on the other hand. As is the case for gTLD registries, these registrars are accredited by ICANN and have entered into an agreement for the purpose.[4] The manner in which the domain name industry is currently shaped stems from its gradual build-up since the formation of the Internet Assigned Numbers Authority - IANA (Box 1 provides a historical overview of major milestones relating to the domain name industry).

Box 1. Brief Internet Domain Name Industry History

The following is a listing of the major milestones leading to the introduction of currently used gTLDs:

- 1972: the United States Defense Systems Information Agency created the Internet Assigned Numbers Authority (IANA). IANA was responsible for assigning unique 'addresses' to each computer connected to the Internet.
- 1973: the Internet Protocol (IP) addressing system became the standard for locating all networked computers.
- 1985: the Domain Name System (DNS) was implemented and seven initial gTLD names were introduced by IANA: .com, .net, .org, .edu, .gov, .mil, and .int. In addition to the seven gTLDs, more than 200 country code TLDs (ccTLD) were also approved according to the ISO 3166 list.
- 1990s: the Internet and domain marketplace expanded with over 20 million domain name registrations. The .COM became the most popular domain name and the symbol of the online identity. It increasingly became difficult to register short, memorable domain names for new comers making it imperative to add new TLDs.
- 1998: formation of the Internet Corporation for Assigned Names and Numbers (ICANN) as a non-profit body to oversee a number of Internet-related tasks.
- 2000: ICANN released a request for proposals for new TLDs. 47 applications were received only seven were selected : .info, .biz, .name, .pro, .aero, .coop, and .museum
- 2002: ICANN introduces a new TLD: .pro
- 2005: ICANN introduces new TLDs: .jobs, .mobi, .travel, .cat
- 2006: ICANN introduces a new TLD: .tel
- 2007: ICANN introduces a new TLD: .asia

Source: http://www.icann.org/

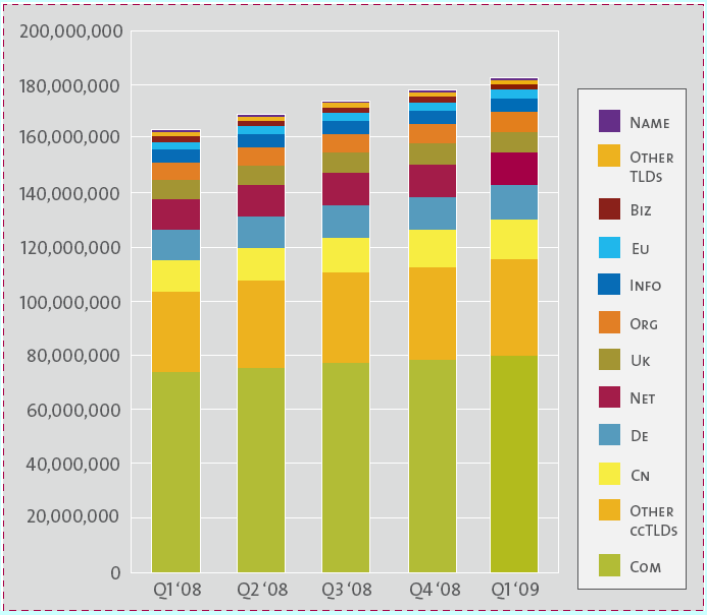
[3] *Source*: http://www.icann.org/

[4] Next to ICANN accredited registrars, there are thousands of non-ICANN accredited registrars. Many of these act as "resellers" for ICANN accredited registrars, hereby opening up the gTLD namespace to more (potential) registrants. Furthermore, many local players are only accredited with their national ccTLD registry operator, which does not require them to enter into arrangements with ICANN.

.com remains the biggest registry in terms of gTLD registrations, with over 80 million registered domain names. The largest ccTLD is .cn, which has reached this level mainly due to the fact that the .cn registry has adopted a very aggressive pricing policy since 2007[5]. Box 2 includes some figures about the growth and composition of the TLD industry.

Box 2. TLD Industry Growth and Composition

"The first quarter of 2009 ended with a total base of nearly 183 million domain name registrations across all of the Top Level Domain Names (TLDs). This represents a three percent growth over the fourth quarter of 2008 and a 12 percent growth over the same quarter of last year. The base of Country Code Top Level Domain Names (ccTLDs) rose to 74.1 million domain names, an 18 percent increase year over year and a four percent increase quarter over quarter. In terms of total registrations, .com continues to have the highest base followed by .cn (China), .de (Germany) and .net.



Nearly 11.8 million new domain names were registered across all of the TLDs in the first quarter of 2009. This reflects a 17 percent growth in new registrations over fourth quarter 2008, but a 17 percent decline from the same quarter in the previous year.

The composition of the domain name industry and rank order in terms of base size remained consistent with that of fourth quarter 2008. The largest TLDs in terms of base size were .com, .cn, .de, .net, .org, .uk, .info, .nl (Netherlands), .eu (European Union), and .biz."

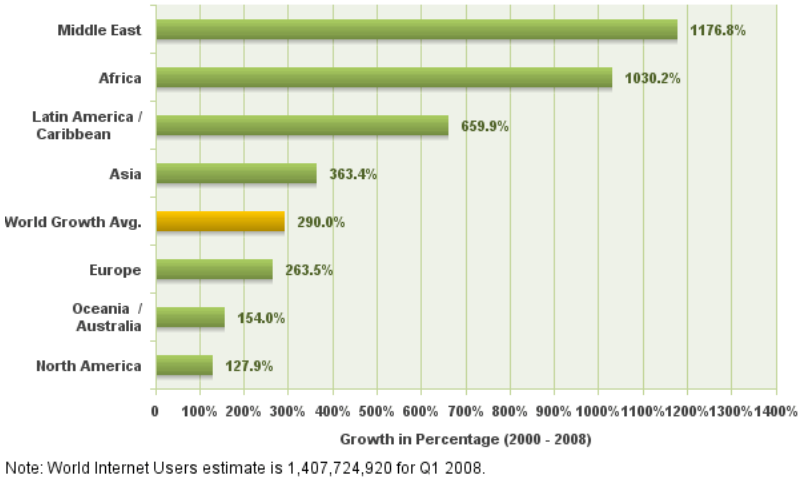
Extracted from: Verisign. The Domain Name Industry Brief. June 2009.

The manner in which the domain name industry develops also relies on an increasing user demand as indicated by the growth of Internet users worldwide. Although the Middle East region witnessed a significant

[5] The .cn Registry (CNNIC) continued to offer an aggressive price promotion with a 1 RMB (US$0.13) fee for a one-year .cn domain name registration. The .au Registry changed their transfer policy in second quarter 2008 to permit .au domain names to be sold in the secondary market, thus opening up .au to a new outlet. In Brazil, the .br registry liberalized their registration rules in May 2008 to allow consumers, and not just businesses, to register .com.br domain names.

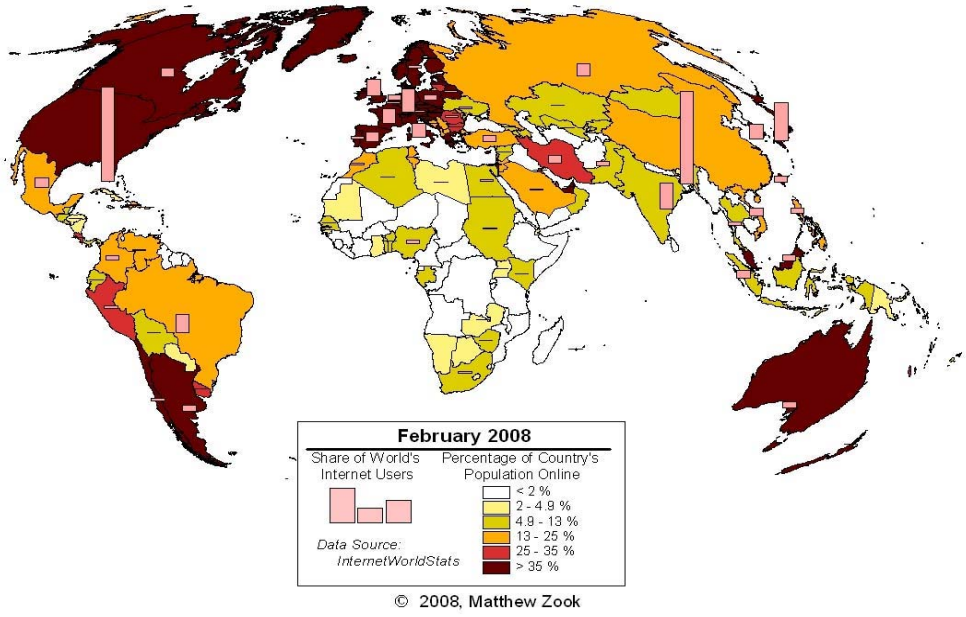
growth in the numbers of Internet users between 2000 and 2008 (Figure 1)[6], a study by Prof. Dr. M. Zook in February of 2008 indicates that most Internet users worldwide, and hence the number of registered TLDs, are located in Northern America, Europe, Eastern Asia and Oceania. The geographical map in Figure 2 shows that in the Arab countries, the percentage of Internet users, and hence the number of registered TLDs, out of the total population remains small.

Figure 1. Internet Users Growth in the World Between 2000 and 2008



Note: World Internet Users estimate is 1,407,724,920 for Q1 2008.

Figure 2. Internet Users Worldwide



Source: http://www.zook.info/

[6] Note should be made that the Middle East region within this context includes non-Arab countries.

B. Domain Name Industry Business and Operational Models

Since 1999, ICANN has made a clear distinction between the role of a registry and that of a registrar. Under this ICANN model, the registry of a gTLD is prohibited from directly selling domain name registrations to registrants; offering such registrations must take place through a registrar that has obtained an accreditation from ICANN itself. The main reason for such separation was to increase competition in the marketplace.[7] It is unlikely that ICANN will change its approach vis-à-vis its Registry/Registrar model in the near future, although it is difficult to rhyme this model in some proposed new gTLDs[8] such as brand name gTLDs, for example, which may not require separate registry and registrar operations.

Reference should also be made to the domain name "reseller" model in the gTLD namespace. A "reseller" is a party that has entered into an agreement with an ICANN Accredited Registrar, and is using such registrar's systems in order to register domain names in the name of and on behalf of the reseller's customers. In any case, there is no direct agreement between the domain name registrant and the ICANN Accredited Registrar.

According to current ICANN policies, a registry of a gTLD is not entitled to offer the registration of domain names with the extension it manages directly to the end-users (generally referred to as "registrants"); only ICANN Accredited Registrars are allowed to register domain names on behalf of their clients (see Box 3 for more details on the market structure) in the gTLDs.

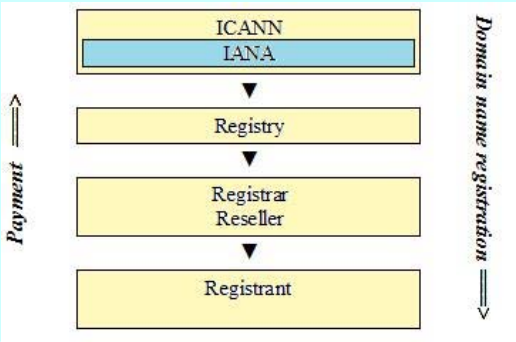
[7] One must bear in mind that before the management of the .com registry was with Network Solutions, who was also the first – and for a long time even the only – registrar for domain names under this gTLD.

[8] See the presentation given by Karen Lentz at the ICANN Meeting in New Delhi, India, in February 2008 (https://delhi.icann.org/files/Intro-gTLD-Slides-14feb08.pdf).

Box 3. Market Structure

IANA - Internet Assigned Numbers Authority
The IANA is the authority originally responsible for the oversight of IP address allocation, the coordination of the assignment of protocol parameters provided for Internet technical standards, and the management of the DNS, including the delegation of top-level domains and oversight of the root name server system.

ICANN - The Internet Corporation for Assigned Names and Numbers
ICANN is an internationally organized, non-profit corporation that is responsible for IP address space allocation, protocol identifier assignment, generic (gTLD) and country code (ccTLD) Top-Level Domain name system management, and root server system management functions. Originally, IANA and other entities performed these services within a U.S. Government contract. As a private-public partnership, ICANN is dedicated to preserve the operational stability of the Internet; promote competition; achieve broad representation of global Internet communities; and develop policy appropriate to its mission through bottom-up, consensus-based processes.



Registry
The registry is the authoritative, master database of all domain names registered in the TLD operated by such registry. The registry operator keeps the master database and also generates the "zone file" which allows computers to route Internet traffic to web servers and email services by using the domain names registered in this domain. Two main categories exist: managers of gTLDs, such as .com, and .org; and managers of ccTLDs. Generally, domain name owners don't interact directly with the registry operator; they can register available domain names through an (ICANN-Accredited) Registrar.

Registrar
A registrar is a company that registers domain names with Registries in the name and for the account of their clients. Two categories must be distinguished: ICANN Accredited Registrars and non-ICANN accredited registrars. A listing of these companies appears in the Accredited Registrar Directory available at http://www.icann.org/en/registrars/accredited-list.html.

The registrar requires contact and technical information to undertake a registration, which are then submitted to a central directory known as the "registry", which in turn provides other computers on the Internet with the information necessary to find the registered web sites. A registrar requires registrants to enter a registration contract which sets forth the terms under which the registration is accepted and maintained.

Registrant

A registrant is a holder of domain name registrations (individuals, companies, organisations).

_____

Source: http://www.icann.org/

This means that, under current ICANN policies, the Registry must enter into agreements with registrars that have been authorized by ICANN to offer domain name registration services in the gTLDs to the general public. The list of current ICANN Accredited Registrars is available on the ICANN web site under http://www.icann.org/en/registrars/accredited-list.html.

Contractual relationships between registries and registrars are laid down in so-called Registry-Registrar Agreements (or "RRA's"), which are essentially template terms and conditions that have been drawn up by the Registry and published on their web sites. In the context of generic Top Level Domains, a registrar therefore needs to have obtained an accreditation both from ICANN and from the registry in order to be able to directly offer domain name registrations in the gTLD concerned. In the past, templates of these agreements have been published on the web site of ICANN, and formed an annex to the ICANN-Registry Agreement. Generally, the following general terms and conditions are included in a RRA:

- Obligations of the Registry:
    - provide for a description and a process on how the registrar can access the Registry's systems;
    - provision of the Registry toolkit, which contains the technical specifications for the Registrar to interface with the Registry's systems;
    - maintenance of the domain names registered / sponsored by the Registrar;
    - provision of engineering and customer service support;
    - representations and warranties (Service Level Agreement);
- Obligations of the Registrar:
    - funding and payment obligations;
    - customer support;
    - provisions to be included in the Registrars' agreements with their respective registrants;
    - compliance with ICANN's Accreditation and other Registrar-specific requirements;
    - representations and warranties;

There are also other scenarios based on models that are using different DNS roots than the IANA root zone. These alternative DNS roots are shown in Annex III, but are not really relevant for the purpose of this Pre-Feasibility Study.

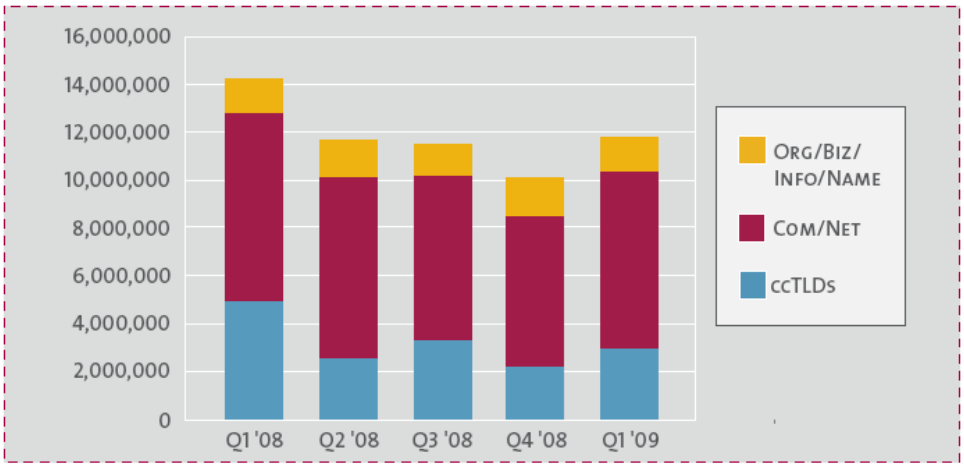
C. Domain Names Industry competitiveness

The market for domain name registry services has experienced exponential growth in recent years. In recent months during the second half of 2008, the rate of growth across all TLDs has fallen (see Figure 3), apparently as a result of the limited availability of choices for domain names. Although it increased again during the first quarter of 2009, it remains lower than the rate one year earlier. The introduction of new gTLDs is expected to re-stimulate demand.

The small number of gTLDs currently made available by ICANN has generated an overcrowded registration location (.com) which has in cases provided uneconomic financial returns for Registrars and Registries on the one hand and registrants on the other.

ICANN will thus probably be opening the door for new gTLD applications during the first half of 2010 – an opportunity which this study targets. The second version of the Draft Applicant Guidebook is currently available online detailing the requirements and procedures for applying new gTLDs. A new version of this Draft Applicant Guidebook is expected to be published by the end of September 2009, and a fourth – likely the final version – is expected to be made available in December of 2009.

Figure 3. New Registration Growth



Source: Verisign. The Domain Name Industry Brief, June 2009

D. LATENT DEMAND FOR NEW gTLDS

After the first and second rounds of introducing new TLD in the domain space, which took place in 2001 and 2003 respectively, the market has demonstrated its capability to accommodate the introduction of new TLDs, in particular to those who fill in the need of communities to be identified and supported.

When developing policy for the new gTLD Program, ICANN's Generic Names Supporting Organization (GNSO) argued that there is a need for more competition in the domain name system. Although no objective justification has been given on the demand for new gTLDs, it is obvious from the various ideas and initiatives that have been already identified in the marketplace that there is a latent demand which can be categorized as follows:

- demand from cities, regions and regional organizations for having their own gTLD, and this against the backdrop of the launch of the .cat sponsored TLD (sTLD) in 2006, which aims to promote Catalan culture and language;
- demand from countries, communities and organizations that use a different script than standard Latin script/US ASCII, and more in particular to adopt generic and country-code top level domains in Internationalized Domain Name (IDN) formats;
- demand from the domain name industry itself, and more in particular certain categories of domain name registrars and resellers;
- demand from certain companies or organizations who are planning to roll-out more innovative uses of the DNS, and this against the backdrop of the launch of the .TEL sTLD that took place at the end of 2008.

II. REQUIREMENTS FOR NEW GTLDS AND EVALUATION OF APPLICANTS

Applicants to new gTLDs in the context of ICANN's New gTLD Program will be required to submit a proposal, in electronic format, which undergoes an evaluation process. The process from application to implementation of a new gTLD can be briefly described as follows:

1. An Application Phase, consisting of a fixed time period during which applications may be submitted to ICANN;

2. An Initial Evaluation Phase, during which each proposal is evaluated with respect to the business, technical, operational and financial criteria laid down by ICANN;

3. An optional Extended Evaluation Phase, in case the proposal submitted by the applicant did not pass Initial Evaluation, during which applicants are entitled to submit additional and/or corrected information, which is subsequently reviewed by a team of experts;

4. An Objection Phase, during which objections to a proposed gTLD string made by a party (or parties) with standing on specific grounds are resolved by a Dispute Resolution Provider;

5. A Contention Phase, during which contention among applications for the same or similar strings are resolved through comparative analysis or auction;

6. A Delegation Phase, which occurs after a proposal for a new gTLD has been approved, during which a successful registry negotiates a Registry Agreement with ICANN and ICANN validates certain claims and commitments that were made by the Registry prior to approval of its proposal[9]; prior to delegation, it is possible that ICANN will verify whether or not the new Registry meets the technical criteria in practice;

7. An Operational Phase, during which the Registry will accept domain name registrations in the awarded gTLD(s), and is required to act in compliance with the contractual, technical and operational requirements and conditions laid down in the agreement entered into with ICANN.

A. REGISTRATION OPTIONS

ICANN has defined two basic types of gTLD applications to be selected at the time the application for the new gTLDs is submitted, namely an *Open gTLD* or a *Community-based gTLD*. In summary, the relevance of this distinction is as follows:

- An applicant for an ***open gTLD***:
  - must observe the technical requirements and limitations of the DNS;[10] and
  - may or may not have an exclusive registrant or user community to which it reaches out; and/or
  - may or may not put in place certain eligibility restrictions or requirements upon its domain name registrants or users.

[9] The actual delegation of a new gTLD following the determination that the proposal was successful is contingent upon the Registry's demonstration, during the Delegation Phase, that all of the claims and commitments on which the success of its proposal depended have in fact been met by the Registry. ICANN will refuse to delegate a new gTLD in case the party that has been awarded the gTLD fails to satisfy this condition.

[10] These technical requirements have been laid down in various RFCs. For instance, a domain name registered in a TLD cannot begin or end with a hyphen ("-").

- An applicant for a ***Community-based gTLD***:
    - must demonstrate an ongoing relationship with its registrant/user community;
    - must show a nexus between the string that is the object of the application and the user community it wants to reach out to or which it represents;
    - must have dedicated domain name registration and use policies; and
    - must be endorsed by an established institution representing the community.

However, both gTLD categories must observe the technical requirements explained below.

B. General Requirements

According to the Draft Applicant Guidebook, the applicant for a new gTLD must demonstrate its ability to manage a stable and sustainable registry operation from a financial, operational and technical point of view. ICANN will review the proposal bearing in mind the above criteria, which have been laid down as shown in Box 4.

Box 4. Required Information and Evaluation Categorization

The evaluation will address 59 questions categorized as follows:

- 28 general questions, which mainly relate to the identification of the applicant, and the gTLD string that is subject of the application, including:
    - its name, address, and country of establishment;
    - if different from the address and country of establishment, the address and country of the Registry's principal place of business;
    - scanned copies of its articles of association, by-laws, and certificate of incorporation;
    - the legal form of the Registry (whether it is a limited liability company, a corporation or association with or without members, a government body, an intergovernmental organization, etc.);
    - the legal status of the Registry (whether the Registry is an established company or organization, whether it is still to be established, etc.);
    - its date of establishment or incorporation of the Registry; in the event the company or organization has been acquired by its current shareholders, the date of acquisition of the shares by the current shareholders;
    - an identification and structure of its major current shareholders or members (excluding minority shareholders holding publicly traded shares), and their country of incorporation or establishment.
- 20 technical and operational questions, of which 2 are optional (only to be answered in case the applicant will implement DNSSEC and/or whether an IDN gTLD string will be applied for);
- 11 financial questions.

ICANN has proposed a scoring mechanism for the answers to the questions relating to the financial, technical and operational capabilities of the applicant, which can be summarized as follows:

- 2 points = exceeds requirement
- 1 point = meets requirement
- 0 points = fails requirement
- exception on financial Continuity question #59
- 3 points = applicant provides a financial instrument that guarantees ongoing registry operations in the event of business failure

The application passes the evaluation in case the total score obtained with respect to the technical questions is equal to or exceeds 20. The score with respect to the financial criteria must be equal to or exceed a total of 9.

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Source: http://www.icann.org/

C. TECHNICAL REQUIREMENTS

1. General

The label selected for the domain name must be a valid ASCII label [11] and host name[12]. The technical details for selecting the domain name label are included in Box 5.

Box 5. ASCII String Selection Technical Requirements

For valid ASCII:
- the label must have no more than 63 characters;
- upper and lower case characters are treated as identical.

For valid host name:
- the label must consist entirely of letters, digits and hyphens;
- the label must not start or end with a hyphen;
- there must be no possibility for confusing an ASCII label with an IP address or other numerical identifier. For example, representations such as "255", "o377" (255 in octal) or "0xff" (255 in hexadecimal) as the top-level domain can be interpreted as IP addresses.
- must not be wholly comprised of digits between "0" and "9";
- must not commence with "0x" or "x", and have the remainder of the label wholly comprised of hexadecimal digits, "0" to "9" and "a" through "f"; and
- must not commence with "0o" or "o", and have the remainder of the label wholly comprised of digits between "0" and "7".

Additionally, The ASCII label may only include hyphens in the third and fourth position if it represents a valid internationalized domain name in its A-label form (ASCII encoding as described below).

The presentation format of the domain (i.e. either the label for ASCII domains, or the Unicode label for Internationalised Domain Names) must not begin or end with a digit.

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Source: http://www.icann.org/

2. Requirements for Internationalised Top-Level Labels

These requirements apply only to prospective TLDs that use non-ASCII characters. Applicants for these internationalised top-level domain labels are expected to be familiar with the IETF IDNA standards, Unicode standards, and the terminology associated with IDNs. Box 6 includes the requirements for label selection.

[11] As specified in technical standards for domain names: Implementation and Specification (RFC 1035); and Clarifications to the DNS Specification (RFC 2181).

[12] As specified in technical standard DOD Internet Host Table Specification (RFC 952); Requirements for Internet Hosts — Application and Support (RFC 1123); and Application Techniques for Checking and Transformation of Names (RFC 3696)

Box 6. Technical Requirements for internationalized TLDs

The label must be a valid IDN, as specified in Internationalizing Domain Names in Applications (RFC 3490). This includes the following, non-exhaustive, list of limitations:

- the label must only contain Unicode code points that are defined as "Valid" in Unicode Codepoints and IDNA (Internet Draft "draft-faltstrom-idnabis tables"), and be accompanied by unambiguous contextual rules where necessary;
- the label must be fully compliant with Normalization Form C, as described in Unicode Standard Annex #15: Unicode Normalization Forms. See also examples in http://unicode.org/faq/normalization.html; and
- the label must consist entirely of characters with the same directional property.

Furthermore, the label must meet the relevant criteria of the ICANN Guidelines for the Implementation of Internationalized Domain Names. This includes the following, non-exhaustive, list of limitations:

- all code points in a single label must be taken from the same script as determined by the Unicode Standard Annex #24: Unicode Script Property;
- exceptions hereto are permissible for languages with established orthographies and conventions that require the commingled use of multiple scripts. However, even with this exception, visually confusable characters from different scripts will not be allowed to co-exist in a single set of permissible code points unless a corresponding policy and character table is clearly defined.

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Source: http://www.icann.org/

3. Contents of a domain name registration

ICANN does not impose any specific obligations on the contents of the domain name registration itself. However, according to the current version of the Draft Applicant Guidebook, new gTLD registries should accommodate certain technical requirements, including the use of EPP as a way of communication for registrars with the registry, this next to a web interface.

Each domain name registration should contain as a minimum:

- the domain name that is registered;
- the name of the registrant (optional: the name of the organization, in case the registrant is a company or an organization);
- the address of the domain name registrant;
- contact information of the administrator, billing and technical representative of the registrant; and
- the nameservers to which the domain name points, for the domain name to "resolve".

The first general obligation imposed upon a new gTLD registry is the use of EPP (Extensible Provisioning Protocol). In brief, EPP is an XML-based protocol that allows registrars and registries to interact. Although standards of the EPP protocol exist, back-end registry operators have the tendency to apply their own "version" of this standard.

The EPP protocol is a flexible protocol (the "E" stands for "Extensible"), so it can accommodate specific requirements imposed by the **.arab registry** on its registrants. One needs to take into account, however, that policy-imposed requirements should be able to be translated into technical requirements in order to be effectively implementable.

4. WHOIS

In line with recent trends, the **.arab Registry** should be operating the authoritative database for domain name contact data. In ICANN terminology, this would mean that a "thick" registry should be proposed, whereby the **.arab Registry** would retain the following information in relation to each domain

name on record: domain name, sponsoring registrar, key dates (registration, expiration, …), domain statuses, name servers, registrant contact information, administrative contact information, technical contact information, and billing contact information.[13]

The benefits of operating a "thick" registry are the following:

- the registry has full insight into the data relating to a domain name and its registrant;
- the registry operates the one, authoritative database that includes all the contact data;
- it allows for the monitoring of compliance with and enforcement of policies imposed by the registry upon its registrants;
- it increases the protection of registrants in case of registrar fail-over.

ICANN requires the registry to operate a WHOIS service, which gives the public at large access to a centralized contact database for domain names registered with the registry. Generally, the WHOIS database is made available on the web via a dedicated "Port 43", is generally dynamically updated, in near real time, and is protected by a firewall.

The Final Draft Report of the Implementation Recommendation Team suggests ICANN to adopt as a mandatory measure that each of the new gTLDs that will be operational should adopt a thick WHOIS model, which has – except for a few exceptions – become the industry standard over the past couple of years.

According to recent statements made by its staff, it is likely that ICANN will impose certain standard requirements on the operators of new gTLDs with respect to the disclosure of personal data in the WHOIS. The measures implemented by Telnic Ltd., the operator of the recently launched .TEL gTLD, will apparently function as a model for this standardised approach.

D. OPERATIONAL REQUIREMENTS

The **.arab Registry** must provide the information specified by the following registry operational criteria, which is summarized in the following paragraphs.

1. Reserved Names

From time to time ICANN publishes a list of reserved names that gTLD registries are required to withhold from general registration as second-level labels for nodes within the gTLD zone. The Registry must therefore submit a declaration that it will not register these domain names.

This does not preclude the Registry, however, of defining a number of domain names that it will:

- at all times restrict from registration; such a list could, for instance, contain a number of names that are considered to be contrary to public order or morality;
- reserve for its own use; examples hereof could contain domain names like registry**.arab**, where users can obtain access to the registry's web site; whois**.arab** which provides access to the database of domain names registered by registrants in the TLD operated by the registry; nic**.arab** ("nic" stands for "Network Information Centre", which is the abbreviation that was commonly used for a domain name registry in the past); etc.
- *optional*: only release in the context of an auction scheme, depending on the allocation scheme chosen in the context of the start-up of the new extension(s).[14]

[13] The availability of registrant, administrative, technical and billing contact information generally distinguishes "thin" from "thick" registries.

[14] A similar approach was taken in the context of the launch of, for instance, the .mobi gTLD, which was not free from criticism, absent a generally accepted list of domain names.

2. Domain Name Dispute Avoidance

The **.arab Registry** must describe how it will implement processes to avoid disputes with respect to domain names registered under their proposed gTLD. In ICANN terminology, this refers to the "Rights Protection Mechanisms" the registry should implement.

In particular, the Registry must:

- describe how it will discourage the registration of domain names that infringe intellectual property;
- in case the **.arab Registry** will be a Community-based gTLD: how the Registry will ensure that only persons or entities that belong to the targeted Community are able to register domain names in the proposed gTLD;
- how such policies will be enforced once domain names have become registered; and
- what the possible processes are to ensure registrant compliance or to cancel the domain name registration.

Also in this respect, the Implementation Recommendation Team has proposed to ICANN to implement a number of mandatory measures to be observed by all registries that will be operating a TLD following the roll-out of the New gTLD Program. In particular, the IRT recommends the establishment of a centralised IPR Clearinghouse wherein trademark owners are able to store their trademark information, which information can then be used in order to (i) support sunrise-mechanisms and (ii) an IP claims service.

A sunrise mechanism is defined as a process whereby holders of certain intellectual property rights, in particular registered trademarks, are entitled to safeguard the names for which they hold a registered trademark in the new gTLD before the registration of domain names is open for the general public. By way of an IP claims service, the IPR Clearinghouse should inform registrants of a domain name that a particular term for which a registration is submitted is protected by an intellectual property right that is stored in the IPR Clearinghouse. The IPR Clearinghouse will be operated by a party appointed by ICANN.

Insofar and to the extent the recommendations made by the IRT are implemented by ICANN, the **.arab Registry** should implement the use of such IPR Clearinghouse in order to support a sunrise process and/or an IP claims service in the context of the launch of the registry.

3. Domain Name Dispute Resolution

All gTLD registry operators are required to follow ICANN's Uniform Dispute Resolution Process (UDRP) for handling disputes with respect to the registration of domain names under the proposed gTLD. The **.arab Registry** must describe how the proposed registry will comply with the UDRP, and provide details of any other policies or procedures that will be used to resolve disputes.

In practice, the management of disputes under the UDRP must be outsourced to an organization that is acknowledged by ICANN as a UDRP domain name dispute resolution provider. The organization that has the most experience in dealing with these types of disputes is the arbitration section World Intellectual Property Organization (WIPO). As some of the experts that are accredited by WIPO are Arab native speakers, we suggest the registry to enter into an agreement with WIPO for the provision of domain name dispute resolution services under the UDRP.

4. Customer Support Arrangements

Registries are expected to supply customer support, particularly for their registrars. These arrangements include provision of technical assistance by email and/or phone, and the provision of documentation, toolkits, and testbeds for testing registry-registrar interfaces, which should as a minimum

include EPP. The **.arab Registry** must therefore describe how the proposed registry will provide support to customers, including details concerning the service levels that will be available.

5. Reporting Arrangements

Future Registries will be required to state their ability to comply with ICANN's monthly registry reporting arrangements. It may be necessary, in some circumstances, to amend the content and/or format of these reports to accommodate the inclusion of additional details about any IDNs that have been registered, or to comply with local laws on privacy or data protection, in which case the **.arab Registry** should suggest format changes that would facilitate compliance with those laws.

The **.arab Registry** is therefore required to commit in its proposal to act in compliance with ICANN's monthly registry reporting arrangements, and provide supporting documentation of any differences (e.g., to accommodate IDNs or to comply with local laws).

In addition to the publication of the zone file, containing all domain name registrations, ICANN requires current gTLD registries and sponsors to provide on a monthly basis, based on the format specified in the registry or sponsorship agreement, a report to ICANN containing information on the following categories:

- the number of accredited registrars for the TLD;
- service level agreement performance;
- TLD zone file access activity;
- WHOIS service availability;
- total number of transactions by subcategories (adds, deletes, modifies, checks, renewals, transfers and restores);
- daily transaction range;
- per-registrar activity report.

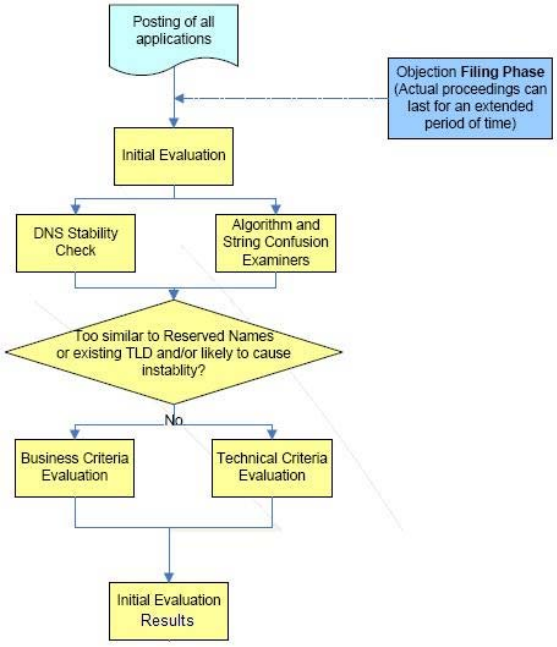
E. ICANN APPLICATION-EVALUATION PROCESS

In October of 2008, the first draft of the "Applicant Guidebook" was made available by ICANN online for review and public comment. The Draft Applicant Guidebook describes the procedure of applying for a gTLD and the evaluation process. The deadline for commenting on this draft was extended to 15 December 2008 and will thus be prepared for publishing in its final version, which is likely to take place in December 2009[15]. ICANN published a second version of the Draft Applicant Guidebook in February 2009, and has released specific reports and additions in May.

ICANN has also published a draft of the new TLD evaluation process (see Figure 4), but has up until now not released any specific details with respect to the anticipated timeline for the start of the application period. This process begins by initiating the application period which will extend for a minimum of four months. Applications received will be first of all reviewed for completeness (i.e. are answers and evidence provided for the relevant questions). Shortly thereafter, ICANN will commence the Initial Evaluation process, where all applications are evaluated against the pre-defined criteria.

[15] This information is valid as at the publication date of this study. For latest updates please visit the ICANN website.

Figure 4. Application-Evaluation Process



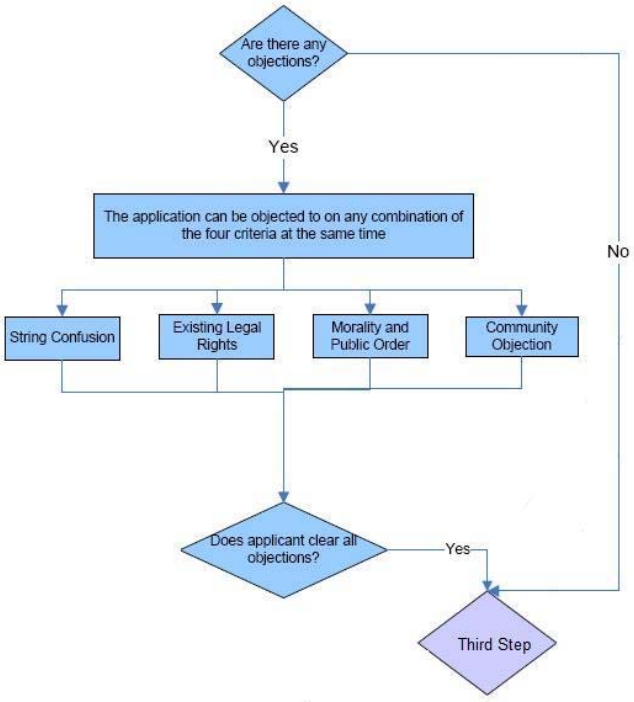
Source: New gTLD Program: Draft Applicant Guidebook (Draft RFP). http://www.icann.org/

Furthermore, ICANN will check if the requested string does not cause DNS instability. Also, ICANN's evaluators will verify whether the proposed is not identical or confusingly similar to (i) reserved names, (ii) existing gTLDs and/or other applied for gTLD strings.

ICANN will then evaluate the proposal against the so-called "business and technical criteria" referred to above. If the proposal passes the Initial Evaluation, it will proceed to the next step. If not, the applicant will be provided the opportunity to request for an Extended Evaluation, against payment of a fee, where further additions and clarifications can be provided.

As of the beginning of the Initial Evaluation, third parties can file objections against a particular proposal submitted with ICANN. Only proposals that are challenged by third parties will enter into this process; in case no objection is received, the proposal will proceed. The Objection process is depicted in Figure 5 below:

Figure 5. Evaluation of Objections



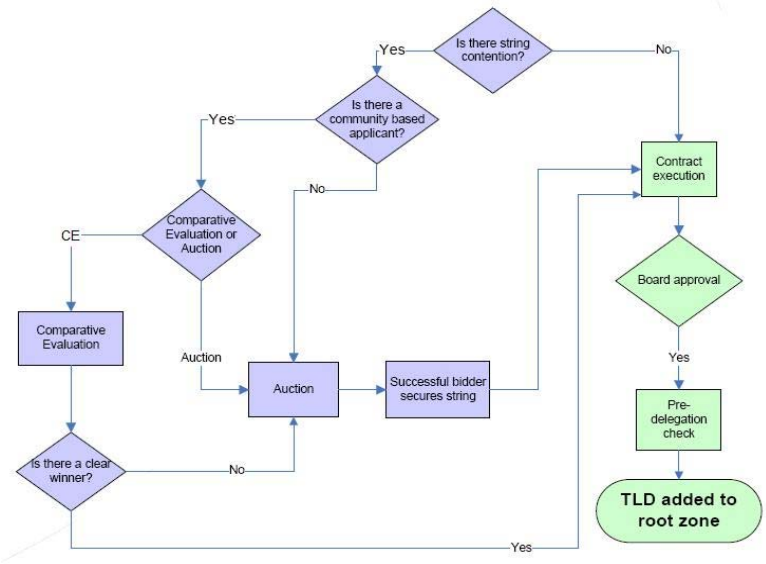
Source: New gTLD Program: Draft Applicant Guidebook (Draft RFP). http://www.icann.org/

During the Objection process, the applicant is required to resolve any objections raised against its proposal and explain issues related to string confusion, existing legal rights, morality and public order and any community objection. If resolved the application go to the third step.

The next and last step is presented in Figure 6, and is also an optional process, depending on whether ICANN has received applications for strings that are identical or confusingly similar. If no identical or confusingly similar strings have been applied for, the applicant will be invited to sign a contract with ICANN and the gTLD string applied for will be delegated to such applicant.

It is clear that there are a number of benefits for applying for a Community-based gTLD, more in particular in the context of the evaluation of the proposals that will be performed by or under the authority of ICANN when there is at least one or more competing applications for the same or confusingly similar strings. So, if the applicant is in contention with a third party that has applied for an identical or confusingly similar new gTLD string, ICANN has defined a specific process that is favourable for applicants for a Community-based extension. See Box 7 for more details about comparative evaluation.

Figure 6. String Contention



Source: New gTLD Program: Draft Applicant Guidebook (Draft RFP). http://www.icann.org/

Box 7. Comparative Evaluation

An applicant for a Community-based gTLD is allowed to opt for a comparative evaluation in case it would enter into string contention. Such selection needs to be made at the time where the application is submitted with ICANN. In case the competing applicant would have opted for an open gTLD, it will not participate in the comparative evaluation, and the applicant for the Community-based gTLD would be awarded the extension.

If ICANN proceeds with the comparative evaluation, the applicants that participate to such process are required to pay a comparative evaluation fee. The process for comparative evaluation between two or more applicants that have opted for comparative evaluation can be summarized as follows:

- Each applicant begins with a score of "0" (earlier scores not carried forward);
- Criteria (with scores of 1, 2 or 3 ; maximum score = 12):
  - evaluation of the nexus between the proposed gTLD string and the Community;
  - evaluation of Dedicated Registration Policies;
  - evaluation of the community establishment;
  - evaluation of the community endorsement.
- Decisions
  - if no applicant scores 11 or 12, there is no clear winner;
  - if only one applicant score 11 or 12, such applicant is declared the winner, and the new gTLD will be awarded to such party;
  - if more than one applicant scores 11 or 12, evaluators will consider what portion of the community is represented by the application.

If no clear winner is identified in the comparative evaluation process, all applicants in the contention set will move to the "efficient mechanism", which consists of:

- the "first efficient means"; in this process, the contending parties come to a settlement, where all applicants in direct contention withdraw except for one;
- the second "means of last resort" proposed by ICANN is the organization of an auction;

If the winner of the contention has not executed the contract with ICANN within 90 days after the end of the "efficient mechanism" that has been used, ICANN can extend an offer to the runner-up applicant.

Source: http://www.icann.org/

III. ARAB IDENTITY IN THE DOMAIN NAMES SPACE

A. THE ARAB WORLD

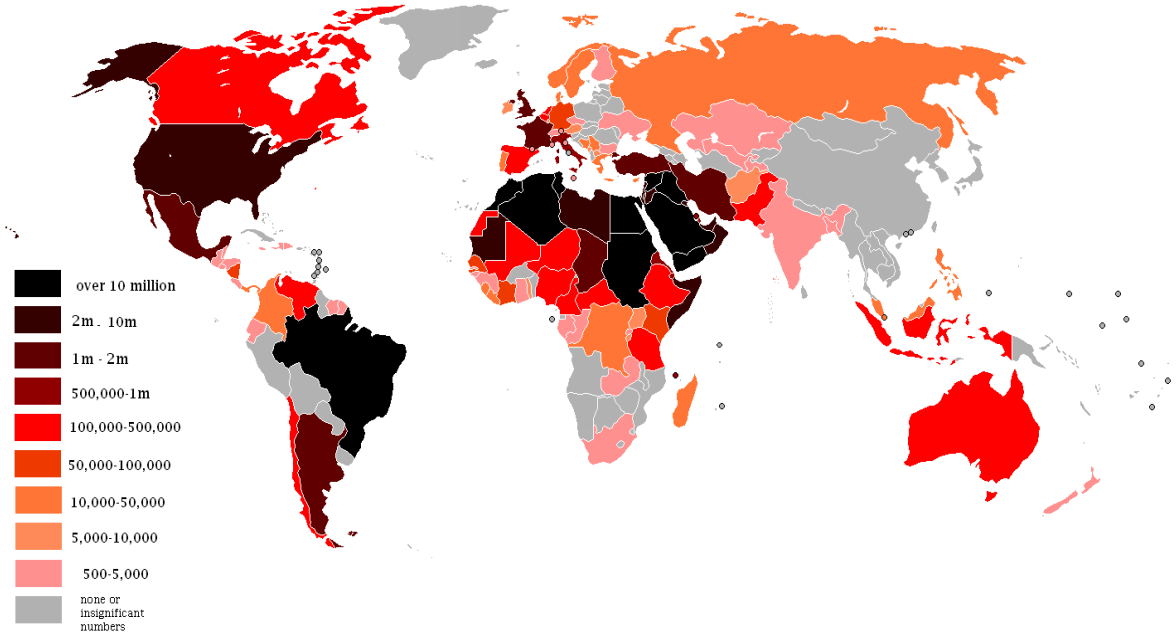
The ***Arab world*** is a term that defines all Arabic-speaking countries stretching from the Atlantic Ocean in the West to the Arabian Sea in the East, and from the Mediterranean Sea in the North to the Horn of Africa and the Indian Ocean in the Southeast. See Figure 7.

"*The Arab world enjoys such unifying factors as cultural homogeneity, linguistic oneness, common spiritual values, history and civilization. Geographically, peoples of the Arab world inhabit a region characterized by contiguity and is of immense international strategic importance. Over the centuries, this location has enabled the Arab world to make outstanding contributions to the advancement of human life and thought.*

The Arab individual was therefore destined to be a bearer and staunch advocate of a magnanimous message that contributed to the enrichment and enhancement of human thought. In modern times, he has made it the target of his struggle to accomplish of progress, national integration and unity so that the Arab nation may advance its political, economic and cultural status among nations of the world.

Since the dawn of history, the Arab world has passed through successive times of eminence and vulnerability but has nevertheless, and despite all challenges, maintained its demographic harmony, cultural homogeneity and linguistic oneness. Such factors helped the Arab world formulate its own distinguishing identity among world civilizations".[16]

Figure 7. Arabs in the World



Source: http://en.wikipedia.org/wiki/Arab

The League of Arab States (LAS) defines ***Arab*** as "*a person whose language is Arabic, who lives in an Arabic speaking country, who is in sympathy with the aspirations of the Arabic speaking people*". In the

[16] The League of Arab States: Basic Information, 1995

virtual world, out of the estimated 357,000,000 world population that speaks Arabic, only 5.4% use the Internet[17]. With this percentage, the Arabic language holds the 7th place in the top ten languages used in the web, but it holds the 5th place according to the estimated number of population.

B. The League of Arab States[18]

The League of Arab States was declared formally established when the then independent Arab countries signed the constituent instrument, the Charter, on March 22, 1945; i.e. nearly six months ahead of the setting up of the United Nations. In an historical perspective, the Charter of the League was indeed drafted in response to the common attitude of public opinion in all Arab countries.

For one full half of a century, the League of Arab States has markedly managed to serve as "the common house of Arabs" where Arabs call get together and exchange views on how best to enhance the future of the nation - a process which tacitly and in turn consolidates the functions of the League arid ensures that it be the creditable reflector of the policies of member states.

The experience and performance of the League over the fifty years of its history, together with the regional and international developments, have all prompted the broadening of the scope of joint Arab action, the diversification of its areas and the creation of new institutions and mechanisms which have in due course gained considerable effectiveness. Consequently, League activities have been so much expanded that they now cover almost all areas of essential importance for the Arab world.

Today, the number of League member states has reached twenty two (see Table 1). Each member state retains the right to withdraw from the League on condition that its intention to do so be communicated to the Council at least six months ahead of the desired date of actual withdrawal. The Council of the League has the competence to declare dissociated any state that does not live up to its obligations as are defined in the Charter. Any resolution to this effect need be unanimously approved, excluding the vote of the state concerned.

Table 1. List of Member States*

No.	Member State	Admission
01	Jordan**	22/03/1945
02	Emirates	06/12/1971
03	Bahrain	11/09/1971
04	Tunisia	01/10/1958
05	Algeria	16/08/1962
06	Djibouti	04/09/1977
07	Saudi Arabia**	22/03/1945
08	Sudan	19/01/1956
09	Syria**	22/03/1945
10	Somalia	14/02/1974
11	Iraq**	22/03/1945
12	Oman	29/09/1971
13	Palestine	09/09/1976
14	Qatar	11/09/1971
15	Comoros	20/11/1993
16	Kuwait	20/07/1961
17	Lebanon**	22/03/1945
18	Libya	28/03/1953

17 http://www.internetworldstats.com/stats7.htm

[18] The League of Arab States: Basic Information, 1995

No.	Member State	Admission
19	Egypt**	22/03/1945
20	Morocco	01/10/1958
21	Mauritania	26/11/1973
22	Yemen**	05/05/1945

* Names of member states are arranged according to Arabic Alphabetical order.

** Founding member states.

C. COMMUNITY INTEREST

Many stakeholders including governments and NGOs in the Arab region initiated projects to foster improved access in the Arab region to the world's network. Activities undertaken on domain names are an essential component of the development in the Arab Information Society and are driven by the importance of the domain name as identity. As multi-cultural and different communities are increasingly marking their existence on the network, the need for the Arab region to be identified as part of those communities is becoming more and more important.

Between 2003 and 2008, a number of national and regional initiatives were launched in the Arab world to promote digital Arabic content and to improve penetration rates by lowering the language barrier and making the Internet easily accessible.

One of these initiatives was the use of Arabic in Internationalized Domain Names, as part of UN-ESCWA's involvement and leadership in its Arabic Domain Names System (ADNS) project implemented jointly with LAS. As has been previously envisaged since UN-ESCWA started this move in 2003, the time of full scale deployment will be marked by the establishment of a pan-Arab registry associated with all Arab countries.

The idea for a gTLD that is representative of the Arab region has been in deliberation for several years now and the need to reserve "**.arab**" (including its IDN equivalent in Arabic script) was in fact encouraged and pursued since the first meeting of the Arab Working Group on Domain Names (AWGDN) in early 2005. The **.arab gTLD** is perceived as a depiction of the Arab culture, community and identity; it is an initiative "*By the Community to the Community*". The benefits it will bring will have implication on technological and scientific development including, for example, country registries, by reinforcing their capacity to build a local Internet space.

In their meeting in July 2008, and following ICANN meeting in Paris, the Arab Working Group on Domain Names and Internet Issues (AWGDNII) decided to proceed with the necessary steps to apply for the top level domains "**.arab**" and its equivalent in Arabic script "**.عربي**", which will require a registry operation to be associated with it. An example that reflects the level of interest in the use of Arabic on the Internet is the inclusion of a proposal to allow the Arabic version of UAE's ccTLD .إمارات in the strategy developed by the Telecommunication Regulatory Authority[19].

D. SIMILAR ENTITIES

Reports mention that potentially hundreds (some even estimate thousands) of new gTLD applications will be received by ICANN during the next round in early 2009. Some of these applications will be related to a location or culture or language[20]. The following Box 8 provides a quick overview of existing entities similar in nature to the envisaged **.arab gTLD** which have proven the success of a community-focused TLD.

[19] Source: http://www.arabianbusiness.com/548407-arabic-domain-names-gven-go-ahead-in-uae

[20] Such as .lat (Latin America), .africa (Africa), .eng (England), .quebec (Quebec - Canada), .berlin (Berlin – Germany), .hamburg (Hamburg – Germany), .paris (Paris – France), .nyc (New York – USA), .london (London, UK), .sco (Scottish), .cym (Welsh), .gal (Galician), .bzh (Breton), .eus (Basque), .lli (Leonese), .vla (Flanders), .ven (Venetia).

Box 8. Existing entities similar to the proposed entity

1. Dot CAT

Dot CAT is the first language- and culture-based TLD assigned by ICANN in September 2005 to serve the Catalan language and culture. The .cat domain is managed by Fundació puntCAT, which is a non profit organization open to the participation of all interested persons and entities. The origin and need for the .cat TLD was that Catalan institutions, individuals and companies were using ccTLDs of nearby countries such as .es – Spain, .fr – France, .it – Italy and .gi – Gibraltar).The .cat is not restricted to any area, region or location and granted only if the registrant belongs to one of the following categories:

- publishes online content;
- posses an ENS Code which is a special code issued by agreements with certain institutions;
- develops activities in any language to promote the Catalan culture and language;
- is endorsed by three individuals or one institution already using a .cat domain name.

"*What are we? A nation? A region? In the Internet we are a community of interest. After all, the main mean of communication in the Internet is via the written language.*" This is what Amadeu Abril I Abril[21], the Founder of "Associació puntCAT" (the Association for dotCAT), said in 2005 on redefining the community in the Internet.

2. Dot EU:

In 2002, the European Parliament adopted the implementation of the TLD ".eu" for Europe as a ccTLD as it exists in the ISO 3166 list. The European Commission appointed EURid as the operator of the .eu registry in May 2003. The .eu domain was then added to the root zone of the Internet domain name system in and. EURid began accepting applications for .eu domain names, on a limited basis, in December 2005.

EURid was incorporated under Belgian law as a private, not-for-profit organization with three founding members:

- DNS Belgium, the registry for .be (ccTDL of Belgium);
- Instituto di Informatica e Telematica, the registry for .it (ccTDL of Italy); and
- Stiftelsen för Internetinfrastruktur, IIS, the registry for .se (ccTLD of of Sweden).

There are also four ssociate members:

- The Academic and Research Network of Slovenia (ARNES), the registry for .si (ccTLD of Slovenia);
- CZ.NIC, the registry for .cz (ccTLD of the Czech Republic);
- ISOC-ECC, the European chapter of the Internet Society; and
- BUSINESSEUROPE, a confederation of 39 industry-related federations from 33 countries.

EURid contemplates to allow domain name registrations in scripts other than standard Latin script in the course of 2009.

3. Dot ASIA :

DotAsia Organization is a not-for-profit, membership-based organization incorporated in Hong Kong as a "limited by guarantee and not having a share capital" corporation. DotAsia is the sponsoring organization and registry operator for the .asia sponsored generic TLD. DotAsia oversees the policies and governance of the .asia Registry and has the following objectives[22]:

- To sponsor, establish and operate a regional Internet namespace with global recognition and regional significance, dedicated to the needs of the Pan-Asia and Asia Pacific Internet community;

[21] Amadeu Abril I Abril - a law lecturer at the Ramon Llull University in Barcelona, an attorney–at–law in competition law, IT law and distribution contracts, and has worked for the European Commission's Directorate General for Competition Policy in Brussels.

[22] Source: http://www.registry.asia/

- To contribute proceeds in socio-technological advancement initiatives relevant to the Pan-Asia and Asia Pacific Internet community and;

- To operate a viable not-for-profit initiative that is a technically advanced, world-class TLD registry for the Pan-Asia and Asia-Pacific community.

The membership of DotAsia is open for two categories of members: (1) Sponsor members which are organizations that operate ccTLD registries in Asia; and (2) Co-Sponsor Members which are Internet, information technology, telecommunications, non-profit, NGO or other relevant community organizations in Asia.

An eleven-person Board is elected by the members distributed as follows: 8 seats for sponsor members, 2 seats for co-sponsor members, and 1 seat for the CEO appointed by the Board. The CEO and the Board of Directors are advised on policy matters by an Advisory Council populated by one representative from each Co-Sponsor Member with additional experts nominated by the Board. Although communications in the Pan-Asia and Asia-Pacific region primarily take place without making use of standard Latin script (e.g. in Chinese, Japanese, Hindi, Indonesian, … script), the DotAsia Organization does currently not support domain name registrations in scripts other than standard Latin script / US ASCII.

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Sources: http://www.registry.asia/, http://www.eurid.eu/ and http://www.domini.cat/

IV. NEW ARAB TLDS: STRATEGIC POSTURE AND MARKET CONSIDERATIONS

The **new Arab TLDs**, to be launched in both Latin and Arabic scripts, are intended to be a *community and language TLD*; not restricted to a location or any other classification. It will serve the Arabic culture, community, and language around the world.

The **.arab Registry** will provide a new way of using the Internet for the Arab community at large. It will exploit the broad communities of interest and many markets that the Internet already reaches, and will offer a completely new product within the DNS, namely a full Arabic (i.e. IDN) domain name registration (i.e. before and after the "dot").

In the context of the proposal that needs to be submitted to ICANN, there must be clear understanding on:

- what the target audience for the **.arab** gTLD will be, which is in particular the case if a community-based gTLD is opted for;
- how the **.arab Registry** will approach such target audience; and
- which marketing actions the Registry will undertake in order to convince the members of such community to register domain names in the new gTLD.

A. THE PROPOSED STRING FOR THE NEW TLDS

The allocation of **.arab**, in its Latin version and Arabic counterpart ".عربي", as new TLDs and the establishment of the associated registry and corresponding registrars comes in answer to the above needs and potential. The proposed string "**.arab**" is a meaningful word and not an abbreviation. This meaning will give it popularity in the Arab Internet community and globally. The **.arab** string was selected as such since it is:

- not confusingly similar to an existing top-level domain or a reserved name;
- not infringing generally accepted and internationally recognized principles of law;
- not causing any technical instability;
- not a reserved word;
- not contrary to generally accepted legal norms relating to morality and public order that are recognized under international principles of law.

This step will also encourage investment in the "Registrar" and "Reseller" sub-industries particularly that currently there are only two Arab-based registrar accredited by the ICANN, which can register domains for ICANN accredited registries. The ICT sector will be encouraged to invest in such activity according to the demand that the **.arab** should generate. The following sections provide description of the proposed **.arab** Registry, its objectives and services.

B. THE .ARAB REGISTRY: MISSION STATEMENT

The Registry's mission is ultimately to promote the Arab community's identity as well as the use of the Arabic language on the internet, by providing access to domain name registration systems that support the Arabic community and provide the members of this community with effective means to communicate with each other as well as other users of the internet using their own identities, brand names, trademarks and proprietary TLDs. Hence, the Registry's mission should take into account the following elements:

- the community it wants to reach out to;
- its effectiveness in reaching out to such a community; and
- the power and ability of the LAS to represent the Arab community.

C. THE .ARAB REGISTRY: OBJECTIVES AND INITIAL SCOPE OF ACTIVITIES

The Registry's main objective is to promote and operate a regional Internet namespace that has global recognition and caters to the needs of the community in the Arab region as well as Arabs worldwide. It will thus contribute to building the Information Society and bridging the digital divide. The registry referred to as "**.arab Registry**" will cater for the TLDs in both standard Latin and Arabic script. The Registry's objectives to be applied for gTLDs is highly dependent on the following elements:

- its ability and power to represent the Arab language;
- its effectiveness in implementing both gTLDs within the anticipated timelines; and
- its ability to reach out to its targeted Community and effectively obtain domain name registrations from members of such Community

The **.arab** Registry's initial scope of activity is to:

a) Organize, administer and manage the **.arab** and .عربي gTLDs in the general interest and on the basis of principles of quality, efficiency, reliability and accessibility;
b) Register domain names in the **.arab** and **.عربي** gTLDs through accredited Registrars;
c) Impose fees directly related to costs incurred;
d) Implement the extra-judicial dispute resolution policy which shall provide adequate procedural guaranties for the parties concerned, and shall apply without prejudice to any court proceeding;
e) Adopt procedures for Registrar accreditation and ensure effective and fair conditions of competition among these Registrars;
f) Ensure the integrity of the databases of domain names and make domain names available from a technical and operational point of view.

The **.arab Registry** shall not act itself as Registrar, as this is prohibited by ICANN policies, which does not preclude the registry to play an instrumental role in the marketing of these gTLDs.

D. TARGET MARKET SEGMENTS

Several initial markets have been identified in which **.arab** will have immediate appeal. The following market segments were chosen because they are already using the Internet in significant ways, but with limited results based on limited addressing space:

- Government (at all levels);
- Tourism/Travel;
- Business;
- Transportation and shipping;
- Real Estate;
- Public Utilities;
- Telecom;
- Oil and Gas;
- Retail and Sales;
- Education;
- Research and Development.

Other potential markets for **.arab** are online search engines. As a demonstrative example, it will be easier to search for a domain name www.hotel**.arab** than www.**arab**-hotel.com.

E. POTENTIAL MARKET SIZE

Despite the fact that there will be intense competition for the allocation of new gTLDs by ICANN during the next round, this competition is expected to have a minimal effect on the **.arab gTLD** as it will be built on

a regional community consensus. Once obtained, the gTLD will face competition from:

- Already available gTLDs such as .com, .net, and .org as well as other new gTLDs approved by ICANN. It should be assumed that there will be a big number of them (ICANN's preliminary business anticipates 500 new gTLDs during the next round); and
- ccTLDs, in particular those who will operate their country code equivalent in Arabic script following the roll-out of the IDN ccTLD Fast Track process.

Currently, about 340 million people live within the Member States of LAS. About 23.5 million of them are using the internet. Generally, internet penetration in the LAS Member States is rather low: about 34 in 1,000 people are internet users. In order to define the target audience as a first step, the following options have been briefly investigated on the basis of public information[23]:

- **Option 1:** the target audience consists of the relevant citizens, organizations and companies residing or established in a Member State of the LAS (Community-based gTLD). Two variants can be chosen. In the first variant, the registrant of the domain name, being a private individual a company or organization must be established in a Member State of the LAS. A similar approach has been taken in the .EU ccTLD. A second variant would require the registrant of a domain name to appoint at least one contact residing or being established in one of the Member States of the LAS, although the registrant itself can reside or be established in any country of the world. This second variant was chosen by the DotAsia Organization.

  It is clear that the first variant is much more restrictive than the second variant, as the bar for registering domain names in the **.arab gTLD** is much higher. Although .EU attracts more registrants than .ASIA, we believe that – given the current situation and circumstances – the approach taken by the DotAsia Organisation is the recommended approach, as it will also allow Arab individuals, organizations and companies who are not established or residing in one of the LAS member states to register domain names in both new gTLDs to be applied for by the **.arab Registry**.

- **Option 2:** anyone can register a domain name in the .arab gTLD, in which case it will qualify as an "open gTLD". In this case, the LAS would apply for the **.arab** gTLDs as being "open" gTLDs which is not considered to be an appropriate option to support the application to ICANN, given the information available at this point.

Focusing on Option 1, the following is a rough estimate of the target market size. Given that the total number of domain names registered under ccTLDs of Arab countries (by citizens, corporations and organizations established or residing in one of the LAS Member States) is estimated to amount to about 470 thousand domain names[24], and given that there is a strong correlation between registration under ccTLDs and

[23] **Caveats:**

The list of options is not limitative, so other options could be further explored as well. However, one must take into account that in case Option 1 or 2 (or a variant thereof) is selected (i.e. if the LAS will opt for a Community-based gTLD) it must be verified whether the LAS has the power to represent the community targeted by the gTLD, as well as practical means in order to verify policy compliance.

[24] **Caveats:**

The total number of domain names registered that have been found in public resources varies significantly. Where one source refers to close to 102 million domain names registered, Verisign refers to 174 million. For the purpose of being prudent, the latter number has not been used, since this includes the domain names registered using the "drop-catch" scheme, which – some sources believe – are about 37 to 50 million domain names.

In any case, regarding the Arab region, further research is needed on the basis of accurate and independently verified numbers. Demographic numbers used as a basis for this draft research paper date back from 2007 and have not been independently verified. This number is produced as a rough estimate and is to be verified through a comprehensive survey, to be performed across all Arab countries while doing a full-fledged feasibility study

regional community based gTLD as shown in Annex I[25], and given the latent demand of those new Arab registrants who are first-time registrants, and those Arab registrants who have their domain names under other existing gTLDs, and with all the variations relating to the chosen governance structure and the parameters affecting potential demand for registrations, it was necessary to perform a best-case worst-case type of analysis.

In what follows, three scenarios were devised under a five-year window of analysis to estimate that number of registrations for a singe name; i.e one of **.arab** or **.عربي**, and for bundled registration of both names at once. A simplistic approach is adopted to assume that half the number of registrations will be for single names and the other half for both name.

The worst-case scenario aims to reach a total of 100,000 registrants in 5 years. The best-case scenario is expected to reach 300,000 registrants in 5 years. In the middle is the most likely case, see Table 2.

Table 2. Estimates of the number of registrations – 5 year forecast

Scenario I (Best Case)					
Number of Registrants	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Number of single registrations	40,000	67,500	95,000	122,500	150,000
Number of bundled registrations	40,000	67,500	95,000	122,500	150,000

Scenario II (Most Likely Case)					
Number of Registrants	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Number of single registrations	15,000	36,250	57,500	78,750	100,000
Number of bundled registrations	15,000	36,250	57,500	78,750	100,000

Scenario III (Worst Case)					
Number of Registrants	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Number of single registrations	5,000	16,250	27,500	38,750	50,000
Number of bundled registrations	5,000	16,250	27,500	38,750	50,000

F. Parameters Affecting Potential Demand for Registrations

Trying to determine what the potential demand could be in the context of the **.arab** gTLD (and its IDN equivalent) is not a straightforward task. Various issues and parameters on various levels must be carefully considered, and – when improperly addressed – could have a major impact on the ultimate result that is achieved when registrations in the **.arab gTLD**s will actually be available.

To begin with, the pricing strategy of the registry should be decided upon. It is recommended to adopt a high-volume, lower price strategy which is presented in the financial sections below.

Additionally, the following issues must be considered, more importantly, by interpreting the observations and recommendations made. In any case, it is of utmost importance to have, as soon as possible, a clear position of LAS's view on the following:

1) as will be demonstrated below, past experience shows that for "regional TLDs", there is a correlation between the number of domain names registered in the ccTLDs within the region on the one hand, and the registration of domain names in the regional TLD. However, there is very little accurate data available with respect to the actual number of domain names registered around the world in the

[25] *Annex I proposes presents the case of .EU as compared to the case of .Asia. However, the conclusions are still to be verified and must be used only with care.*

various TLDs, as well as the identity and geographic location of the registrants of the domain names concerned; only a small number of ccTLDs publish statistics with respect to the number of domain names registered in their ccTLD;[26]

2) there is a general "TLD fatigue" amongst businesses world-wide, which means that they are reluctant to register the names for which they hold rights in each and every TLD. Although the registration of domain names by companies not for speculative purposes is generally a small subset of the total number of domain names registered within a TLD – practice shows that this is about 10% of the total number of domain names registered within a particular TLD – it is vital for any registry to have the "support" of major brand owners for their new initiative;[27]

3) as already indicated, the number of domain name registrars that have been established in the region is low, which is a major issue for the LAS, since the support of a significant number of ICANN Accredited Registrars is –in the current context– enormously valuable. Also, the technical complexity of offering an IDN domain name registration should be carefully addressed and explained to registrars, since many of them will probably have little experience in registering and managing these types of domain names. The development of specific tools should be considered.

The fact that **.arab** can benefit from the support from LAS, could be a major advantage in terms of marketing and reaching out to the Arabic-speaking world, and could drive the number of domain name registrations.

G. Relationships with Registrars based on Regional Specificities

The following sections describe an important aspect which needs to be clearly addressed during the application process of the **.arab** gTLD, which is the relationship between the new **.arab Registry** and existing and new registrars. These alternative relationships represent also business scenarios for operating and promoting it.

In order to maximize the reach and success of the **.arab** gTLD, the **.arab Registry** should develop a clear plan on how this new TLD should be brought to the market. In particular, a clear distinction should be made between direct and indirect marketing initiatives.

One of the issues the **.arab Registry** will need to consider is the limited availability of ICANN Accredited Registrars that are established in the Arab region. Given the vital and essential role that ICANN Accredited Registrars play in marketing the gTLD, the **.arab Registry** will be deprived of the effective technical and marketing potential that is required in order to operate this new gTLD in a successful and sustainable manner.

Various options are therefore to be considered by the **.arab Registry** (or a combination thereof), including:

- Setting up a registrar operation that is ICANN Accredited;
- Allowing the ccTLDs to play the role of domain name resellers;
- Convince one or more ICANN Accredited Registrars to open a branch within the region;

[26] In particular, within the ccTLDs of the LAS Member States, little or no actual information on the number of domain names registered has been published, or at least no such publications have been retrieved.

[27] For instance, EURid (.EU), DotAsia Organization (.ASIA) and Telnic (.TEL) have focused specific marketing campaigns underlining the fact that their initiative has the support of major brand owners. The actual success of this marketing initiative has not been measured, although it is clear that .EU – which has the support of the European Commission – with almost 3 million domain name registrations can be considered quite successful.

- Provide operational and marketing support to ICANN Accredited Registrars abroad.

Each of these options is detailed below (Figure 8 presents a summary) and the **.arab Registry** should develop a clear marketing and outreach plan, which takes into account the recommendations explained below in order to make sure that the **.arab** gTLD is adequately promoted and a sustainable registry operation is guaranteed.

In each of the four scenarios presented below, the **.arab Registry** and Registrar are presented as two separate organizations. Selecting one of the four scenarios below does not have to be exclusive. Thus, a mixed combination of options 2, 3, and 4 is recommended for the short term. Option 1 should be opted for in the long run.

1. Setting up its registrar operation

Taking into account ICANN's Registry/Registrar Model, it is not allowed for the LAS to both perform the function of operating the **.arab Registry** and the function of registrar for this gTLD. This would imply that a new registrar operation needs to be set up outside the structure of the **.arab Registry**, with a different operational, governance and legal structure. This one or more registrar(s) may be set-up by any other stakeholder in the ICT domain including NGOs and the private sector. In the long run, this is quite an optimal scenario as it would lead to the invigoration of the registrar industry.

In brief, the following steps are to be undertaken in order to obtain a registrar accreditation with ICANN:

- Apply to ICANN for a registrar accreditation, by completing a Registrar Accreditation Application and paying a non-refundable fee of USD 2,500;
- ICANN reviews the application, and informs the applicant of its decision;
- The following financial requirements are imposed by ICANN upon its Accredited Registrars:
    a. have at least US$70,000 in working capital requirement (cash or credit), which must be demonstrated to ICANN before the applicant's accreditation becomes effective;
    b. Commercial General Liability Insurance coverage of at least $500,000. This coverage must be maintained in force throughout the term of the applicant's accreditation;
- In case the review is successful, the applicant must sign a Registrar Accreditation Agreement with ICANN;[28]

- The applicant then pays the following fees to ICANN:

    a. US$4,000 yearly accreditation fee due upon approval and each year thereafter;
    b. Variable fee (quarterly) billed once the newly accredited registrar begins registering domain names or the first full quarter following the accreditation approval, whichever occurs first. In practice, this fee ranges from US$1,200 to S$2,000 per quarter;
    c. Transaction-based gTLD fee (quarterly). This fee is a flat fee (currently $0.20) charged for each new registration, renewal or transfer.

- The Applicant must complete the preparation of its agreement with its customers, and bring it in line with ICANN requirements (in particular the Uniform Dispute Resolution Policy and the Privacy Policy).

[28] See http://www.icann.org/en/registrars/ra-agreement-17may01.htm for the current version of this standard agreement (ICANN will not allow any changes to be made hereto).

Taking into account the fact that applying for an accreditation as a registrar with ICANN may take quite some time, this might not be a viable option, in the short term. However, it is important to work on it for the long term.

2. Convince one or more ICANN Accredited Registrars to open a branch within the region

The **.arab Registry** may opt to convince a number of large ICANN Accredited Registrars, particularly those with experience in administering IDNs, to set up an operation in the region, and provide operational and marketing support to them in order to effectively reach out to its targeted Community.

This operation could consist of providing access to a web site dedicated to the **.arab** gTLDs, and having staff on the ground to promote the registration and adoption of domain names in these TLDs to businesses, organizations and individuals within the region.

It should be noted, however, that most ICANN Accredited Registrars are for-profit organizations, so the LAS could face some practical difficulties in convincing these companies to make significant investments in case no proper return can be envisaged or guaranteed.

It should also be noted that two accredited registrars actually exist in the region. KuwaitNet is a Kuwait based IT company incorporated in 1997. It mainly provides domain name registration and a number of services including website hosting, website design, server protection, electronic payment system, etc.

TAGIDomains is a subsidiary of the Talal Abu-Gazaleh Intellectual Property. It provides domain name services including domain name registrations, renewals, and transfers for a wide range of gTLD and ccTLDs. The following table[29] gives comparative between the market share of the top 5 accredited registrars and Arab based registrars.

Table 3. Arabic Registrars Comparison with Top 5 Registrars

Company	Website	Location	Total Domains	GMS[30]
GO DADDY	www.godaddy.com	USA	26,173,278	25.724%
ENOM INC	www.enom.com	USA	8,638,636	8.490%
NETWORK SOLUTINS	www.networksolutions.com	USA	6,645,246	6.531%
TUCOWS INC	www.tucows.com	CANADA	6,449,293	6.339%
MELBOURNE IT	www.melbourneit.com	AUSTRALIA	4,948,804	4.864%
KuwaitNET	www.kuwaitnet.net	Kuwait	1910	0.002%
TAGIDOMAINS	www.tagidomains.com	Jordan	797	0.001%

3. Allowing ccTLDs to play the role of a domain name reseller

In order for the **.arab** gTLD to be successful in terms of numbers of domain name registrations, the LAS might reach out to the ccTLD operators of its member states in order to support the initiative. Such support could consist of:

[29] Source : http://www.webhosting.info/registrars/

[30] GMS : Global Market Share is calculated as (Total Domains of Registrar / Total Domains Globally * 100)

- marketing the **.arab** gTLD to its customer base, by organizing seminars, sending mailings to registrars and domain name registrants;
- offering attractive registration packages such as domain names in the **.arab** gTLD together with registrations in their own ccTLD;
- actively promoting the **.arab** gTLD on its web sites.

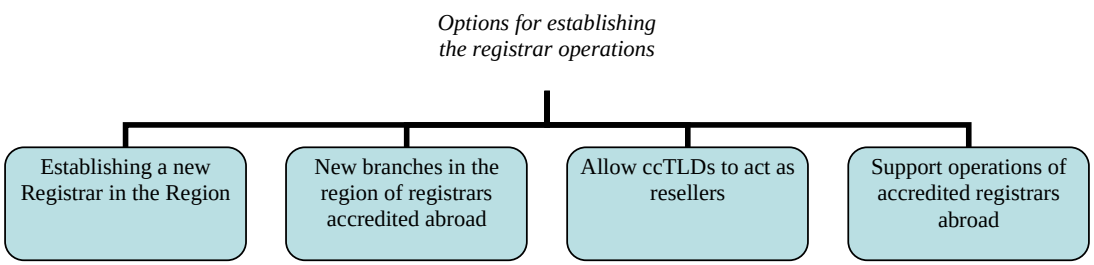
In this respect, the LAS might consider to play a liaison function between ccTLD operators on the one hand and ICANN Accredited Registrars on the other hand in order to make sure that the **.arab** gTLDs are properly marketed.

4. Provide operational and marketing support to ICANN Accredited Registrars abroad

Taking into account the fact that many members of the LAS' targeted Community (i.e. individuals, companies and organizations that are using the Arab language) may reside or be established abroad, the **.arab Registry** should effectively reach out to ICANN Accredited Registrars in order to obtain the necessary marketing support outside the LAS region.

Since most of these registrars will not master the Arab language, specific information and marketing packages and initiatives need to be developed in order to make sure that such targeted Community members obtain all the necessary information in order to effectively register domain names in the **.arab** gTLDs.

Figure 8. Options for the Registrar Operation



H. LAUNCH STRATEGY

The launch strategy for **.arab** will be based upon a rapid adoption of this new gTLD by end users. The marketing approach should be based on the classic technology-adoption curve. This approach describes the phases of a product's adoption cycle by end users and how to target them. It is also essential to focus on the early adopters in the initial period. These companies, agencies, and organizations will get one-to-one attention. Approaching early-adopter entities as partners will speed the growth of **.arab** Registry. Remaining flexible and adapting to the needs of these organizations will be an essential element of the culture that should the **.arab Registry** should nurture.

As acceptance and usage of **.arab** grows, the **.arab Registry** should employ mass marketing techniques and expand its efforts into new vertical segments, using the early adopters as communication vector.

The adoption curve will also be applied to end users - companies and individuals - that already possess content or services online and who would like it to be referenced in the Arab region. The business end users will be organized into vertical segments and will receive focused marketing efforts.

The .arab gTLD should be introduced in an orderly, transparent, and logical way, for the purpose of ensuring competition, fairness and reliability for ICANN-Accredited Registrars and registrants. The start-up

plan consists of a multiphase process that will be executed by the Registry and it is intended to provide a stable and effective registration process for the benefit of the Internet community in general.

A procedure for phased registration should be put in place. Phased registration is said to take place in two phases, with the aim of ensuring that holders of prior rights have appropriate opportunities to register the names on which they hold. The Registry should ensure that validation of the rights is performed by appointed validation agents. On the basis of evidence provided by the applicants, validation agents should assess the right which is claimed for a particular name. Allocation of that name should then take place on a first-come, first-served basis if there are two or more applicants for a domain name, each having a prior right.

It is recommended that the **.arab Registry** implement the following start-up phases:

1. **Pre-Sunrise:** Solicitation of reserved domain names from ccTLDs and governments (through GAC representatives, through the ccTLD registry operators, etc.). The duration could range from 60 days up to one year.
2. **Sunrise I:** Corresponding governments and/or relevant entities may "activate" domains from the reserved domains list obtained during Pre-Sunrise on a First-Come-First-Served basis. However, this step maybe skipped; governments can, after the launch of the gTLD, decide at any time when to activate the domains on the reserved list. Approximate duration: 60 days.
3. **Sunrise II:** Public bodies, holders/licensees of trademarks, holders of other prior rights (such as company names, trade names, business identifiers, personal names, …) may apply for domain names based on the names for which they hold prior rights. Approximate duration: 90 days, although this period can be shortened in case ICANN would decide to implement the IPR Clearinghouse that was proposed by the Implementation Recommendation Team.
4. **Quiet Period:** No registration period. Approximate duration: 30 days. The Quiet Period can be shortened or even abandoned in case ICANN would decide to implement the recommendation to set up an IPR Clearinghouse, which would automatically validate prior right claims on domain names during Sunrise II.
5. **Landrush:** Anyone that meets the charter eligibility requirements[31] may apply for any domain name. Approximate duration: 15 days.
6. **Auction:** For domains that received more than one valid application during Sunrise II and Landrush, closed auctions will be held for all competing applicants. This can run in parallel to phases 3-5. Approximate duration: 30 days.
7. **Go Live:** live First-Come-First-Served registrations commence.

The principle of “first-come-first-served” should be the basic principle for resolving a dispute between holders of prior rights after the phased registration period; for conflicting domain name applications submitted during a particular phase in the phased registration period, an auction system is proposed.[32] After the termination of the phased registration the principle of first come first served should apply in the allocation of domain names.

[31] Charter eligibility requirements are the basic requirements to register a .arab domain name.

[32] A “dispute” in this context actually means that there is more than one interested party in a particular domain name; since domain names must be – by nature – unique, a process needs to be put in place for the allocation of a particular domain name to a registrant. The two options that could be used here are an auction process (for domain name applications received during the phased registration period), and a “first-come, first-served” system as of the “Go Live” or “General Availability” phase.

V. IMPLEMENTATION-RELATED ISSUES

A. LEGAL ASPECTS

During the meeting of the representatives of the League of Arab States held in Cairo, Egypt on 10-11 November, 2008, a principle decision was taken that the League itself will be applying for the new **.arab** and ".عربي" gTLDs. Legal aspects are the most important even before starting to prepare the application to ICANN. Hence, a legal analysis needs to be made with respect to the following aspects:

- whether the articles of association of the LAS authorize this organization to perform the function of a domain name registry;
- whether a separate governance structure can be set up in order to manage the **.arab** registry;

As has been described in chapter II, while preparing the application to ICANN, 28 general questions will need to be addressed, shown in Box 9. Hence all this information needs to be ready before proceeding with the application.

Box 9. Legal-related Information

28 general questions, which mainly relate to the identification of the applicant, and the gTLD string that is subject of the application, including:

- its name, address, and country of establishment;
- if different from the address and country of establishment, the address and country of the Registry's principal place of business;
- scanned copies of its articles of association, by-laws, and certificate of incorporation;
- the legal form of the Registry (whether it is a limited liability company, a corporation or association with or without members, a government body, an intergovernmental organization, etc.);
- the legal status of the Registry (whether the Registry is an established company or organization, whether it is still to be established, etc.);
- its date of establishment or incorporation of the Registry; in the event the company or organization has been acquired by its current shareholders, the date of acquisition of the shares by the current shareholders;
- an identification and structure of its major current shareholders or members (excluding minority shareholders holding publicly traded shares), and their country of incorporation or establishment.

Source: http://www.icann.org/

It is to be noted that a preliminary legal analysis to the LAS charter was made to determine the scope of representation of LAS, as shown in Box 10. LAS is able to expand its scope to cover Arabs even outside the region.

Box 10. The reach of the LAS goes beyond the member states

- p. 12: the League is entrusted with the tasks of **defending the supreme interests and national causes of the Arab world** through the implementation of joint action plans at both regional and international levels as well as through the coordination of the relations of member-states with regional and international organizations;
- p.14: Since its inception fifty years ago, the League has sought to invigorate economic, social and cultural action **with a view to achieving all-Arab integration**, collective self-reliance, the introduction of reciprocal, preferential treatment and the coordination of member-state policies on economic, social, cultural, educational, environmental and scientific matters ...
- p.15: Plans for **joint Arab action in the economic field now focus on the realization of such integration and solidarity** among member states as would enable the Arab society to overcome the challenges of

development **so that it can solidify its independence, protect its rights and freedoms**, thereby creating the factors and conditions deemed appropriate for the Arab nation to positively contribute to the promotion of human civilization;

- p. 17 (on the powers of the Council): the Council is mainly concerned, inter alia, with pursuing the realization of the objectives of the League and following up the implementation of plans and programmes that the member-states draw up **with respect to joint Arab action**;
- p. 27 – Article 2: The League has as its purpose the strengthening of the relations between the member-states, the coordination of their policies in order to achieve co-operation between them and to safeguard their independence and sovereignty, **and a general concern with the affairs and interests of the Arab countries**.

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Source: Charter of the League of Arab States – Basic Information – Golden Jubilee (1945-1995)

B. LOCATION CONSIDERATIONS

The **.arab Registry** shall be a non-profit organization, to be formed in accordance with the law of the host country. Accordingly, selecting a host country should take into consideration the feasibility and rapidity of establishing and managing non profit organizations.

The non profit organization law in the candidate country should permit existence of foreign citizens (persons or organizations) to establish such organization. In all cases, the host country of the Registry's main office must be in the Arab region.

Since a principle decision has been taken that the League itself will be applying for the new **.arab** and ".عربي" gTLDs. In such a case, the host country should be Cairo.

It is not clear yet whether ICANN will require a back-up data centre, although the establishment of such back-up data centre is clearly a best industry practice. This could be mentioned in the coming ICANN Request for Proposal. If ICANN requires a back-up data–centre, such back-up data centre should preferably be located several hundred kilometres away from the primary data centre. The primary data centre should be placed in a location with well established infrastructure including connectivity and logistics. Business and operational activity should be placed in a location with a high level "Doing Business" environment.

The geographic specification of the Arab region made it divided to two parts: the East and the West. It is recommended to establish a Registry office on each side, this in order to accommodate, for instance, an expeditious treatment of customer service requests from different time zones.

C. GOVERNANCE STRUCTURE

The governance structure of the new **.arab** gTLD will largely depend on the manner LAS administratively and financially prefers to handle such a project, so the information below is subject to confirmation following consultation with the LAS.

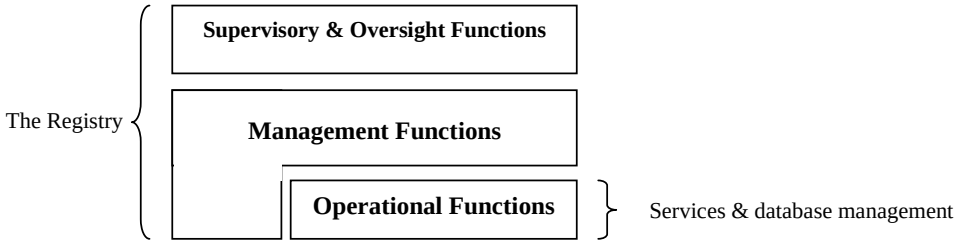
The **.arab Registry** shall have as its primary mission statement the management of the **.arab** Top Level Domain, in Latin and Arabic script, by allowing individuals, organisations and businesses to register domain names in such gTLDs. In order for the **.arab Registry** to focus on its mission and core tasks, it is preferable to establish a fully dedicated organization and not allocate this function to an old existing one.

Generally, the business setting that has proven its operational and financial feasibility involves the formation of two constituencies within the **.arab Registry** (as an organization):

- the first has the responsibility of overseeing the sale and use of the TLD in cooperation with ICANN, and becomes the authority organization of the "zone file" and database of all domain name registered under the **.arab gTLD**;
- the second provides registry services and database management.

The core governance structure of the **.arab Registry** will have three core components: a board, an executive core and a technical core. See the figure below.

Figure 9. Core Governance Structure

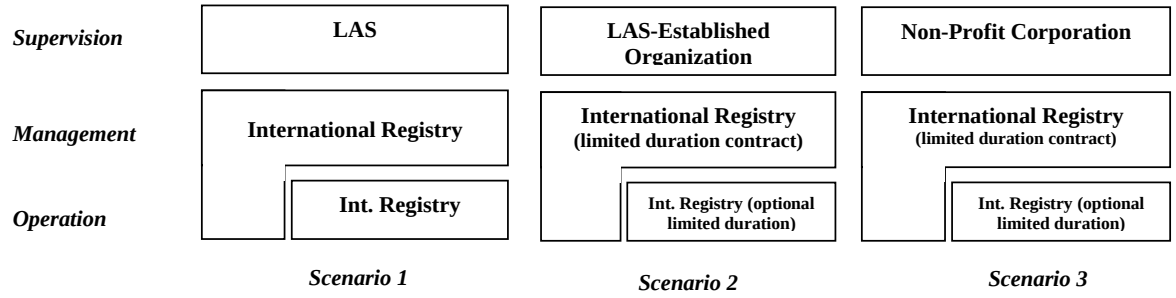


Under the overall supervision of its board of directors as well as the agreement to be signed with ICANN and the **.arab Registry** operator, the **.arab Registry** has the following basic functions:

(a) Management of the overall operational and commercial activities;
(b) Enabling selected registrars to register users of the new domain name to registrars;
(c) Identifying potential new registrars and assist them in the ICANN-accreditation process;
(d) Engaging in extensive regional and international marketing activities to acquaint potential users with the new TLDs;
(e) Possibly contracting an internationally renowned partner as an operator to provide database management and other services.

A number of scenarios are presented and discussed regarding the establishment of the **.arab Registry** governance structure. The scenarios are devised to account for budgetary, administrative and financial constraints that may face the set-up and launch of the registry, see Figure 10. The scenarios are then described, followed with Figure 11 which summarizes the advantages and disadvantages of each.

Figure 10. Details of scenarios for establishment of governance structure



1. *Scenario 1: Direct contractual arrangement between LAS and one of the international registries with experience in the field*

In such as scenario, LAS will outsource all management and operational functions to a selected registry with proven experience but will however maintain its supervisory role. The following activities will be in effect:

- Developing the requirements of selection. A consultancy firm could be approached to assist in this task;
- Announcement of the requirements and inviting relevant companies to bid;
- Selection of the best offer on technical, financial and contractual merit;

- The contract specified the percentage of profit for each signatory party.

2. Scenario 2: Appointing a LAS-established organization/institution to establish the registry

In this scenario, LAS will be assigning the supervisory function to one of its already established organization/institutions. The latter will then assume the role of the board; it will be a LAS intermediary for managing the **.arab Registry**. It may then outsource activities relating to both of the executive and technical functions or only the technical one. The same steps listed in scenario 1 will be in order; however they will be preceded with:

- Establishing a approval on the side of the organization and LAS for the former to assume responsibility of contracting a registry;
- Devising an agreement between LAS and the organization including the terms and conditions for the organization's responsibility.

Outsourcing operations to a third party maybe for a limited duration only, such as one year, while capacities and technical infrastructure are built locally for future handover.

3. Scenario 3: Establishing a corporation to act as a supervisory body that establishes the Registry's other functions

Scenario 3 requires the formation of a non-profit corporation (NPC). The NPC will require the formulation of rules and conditions that govern its operations and criteria of membership. It will essentially be the "Consortium of Stakeholders" which will undertake the same activities listed in scenario 1. The establishment of this NPC or consortium will be based on the dynamic initiatives of stakeholders interested in funding and supporting the registry. These stakeholders may involve the private sector and NGOs with ICT-related activities.

To be awarded membership in the consortium, a stakeholder should provide financial, operational, technical, political, or any other type of support to the **.arab Registry** especially during the formation of the organization and in the phase where the proposal to be submitted to ICANN is finalised. As part of its functions, the consortium will develop general registry policies that provide a framework for the general operations of the .arab including documents such as ".arab" Sunrise Policies, ".arab" Charter Eligibility Requirement Policies, and pricing and technical specifications.

The NPC may then outsource activities relating to both of the executive and technical functions or only the technical one. Outsourcing operations to a third party maybe for a limited duration only, such as one year, while capacities and technical infrastructure are built locally for future handover.

Figure 11. Scenarios for establishment of governance structure

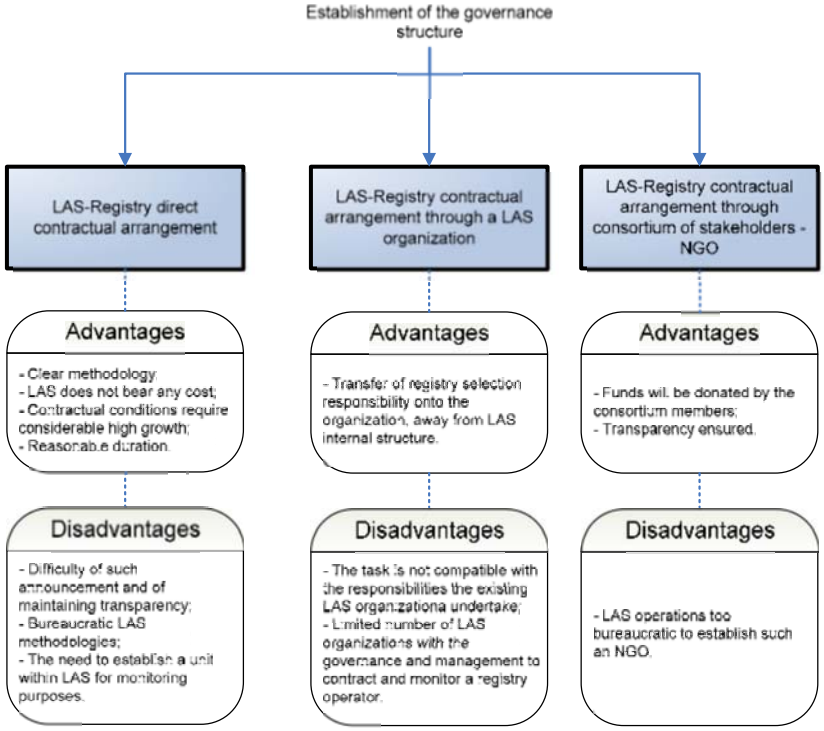
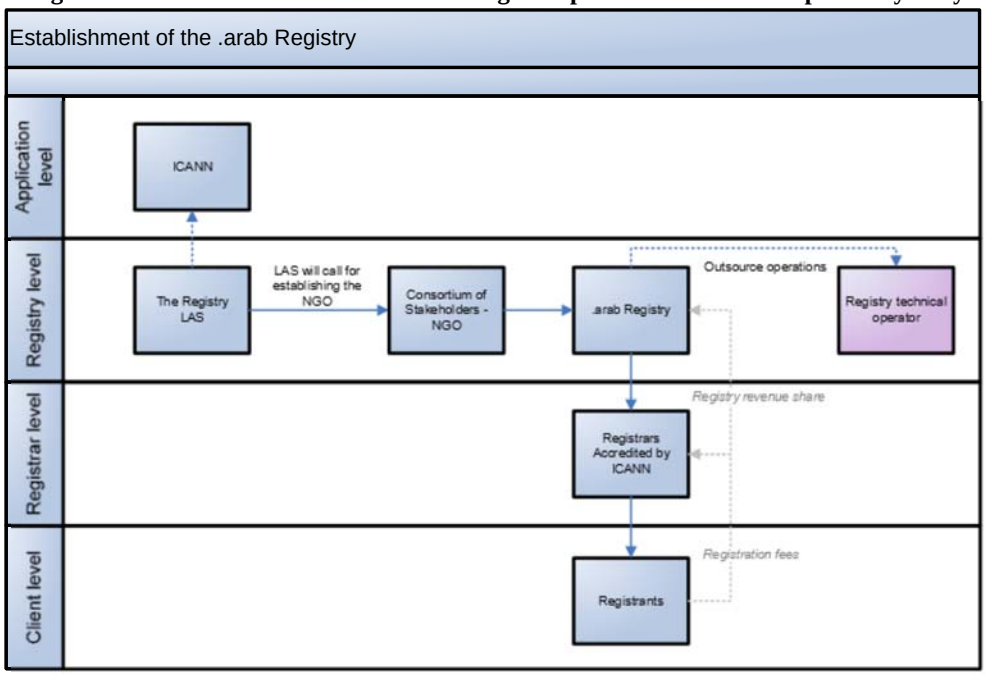


Figure 12. Details of Scenario 3: Establishing a corporation to act as a supervisory body



This means that a non-profit organization should be established to implement the overall policies developed by the LAS and provide guidance for the use of the **.arab gTLD** to ensure that the TLD is implemented in the interest of the user community and consistently with ICANN's policies and agreements as well as contracts to be signed with partners. It is recommended that this organization is a consortium that

involves the main stakeholders of ICT sector in the Arab region. This consortium is to be established by the LAS, and shall perform its functions under the authority of the LAS. The consortium will be described in the application to be submitted by LAS as responsible for the governance structure.

It is worth noting that the public interest focus of the organization should be driven by the respect of general principles of good governance[33] irrespective of the choice of governance scenario:

- *Transparency:* bringing visibility to the management and operation of the service;
- *Effectiveness and Efficiency:* enabling optimal use of resources for the delivery of services;
- *Inclusion and Participation:* empowering users to participate in policy-making as well as service delivery to ensure optimal quality of service;
- *Equality:* providing to users the service on an equal, non-discriminatory basis;
- *Rule of Law:* ensuring that the laws and regulations governing the service are applied in an impartial and independent way;
- *Accountability:* creating standards against which the individuals and/or organizations providing the service and the service delivery can be held accountable;
- *Responsiveness:* serving all users in a consistent and predictable way;
- *Consensus Orientation:* proceeding with the management and operation of the service within overall principles of consensus decision making among stakeholders and collaborating with residents, local government, and other organizations.

D. ORGANIZATIONAL STRUCTURE, MANAGEMENT AND STAFFING

The **.arab Registry** is to be governed by a Board of Directors. An external Board of Trustees will provide advice and counselling. This will be in effect under scenarios 2 and 3. However, under the 1st scenario, there will be no Board of Directors since LAS will undertake supervision and oversight.

1. Board of Directors

In a non-profit organization, the Board of Directors (BoD) is usually representative of the main user communities which are targeted by the TLD in question such as the Internet Society, ISPs, and internet user groups. The BoD is generally responsible for taking the key decisions with respect to the registry's operation and functioning. The BoD also approves the budgets and appoints the CEO.

It is proposed that the BoD should be made up of 15 individuals, including at least three persons who have a strong background in the formation and development of the Internet, at least three who are chosen to represent the user community, at least three who have a background in international law, international economic development or international relations, and at least three who are chosen because of their exceptional background in serving the public interest either in the public sector or in the non-profit community. Candidates for the first board should be nominated by the consortium of stakeholders.

2. Policy Advisory Board/Board of Trustees

Given the fact that various registries have a specific focus, a Policy Advisory Board or a Board of Trustees is put in place in order to make sure that the registry's policies are and remain in line with the mission statement and the target audience.

33 As defined by the United Nations Development Programme for example. United Nations Development Programme (UNDP). (1997). Governance for sustainable human development: A UNDP policy document. Retrieved March 25, 2005, from The UNDP Web site: http://magnet.undp.org/policy/

This Board of Trustees is constituted of high level personalities in the Arab World who provide by their involvement guidance and value to the **.arab** Registry.

3. Senior Management Team

The **.arab Registry** should begin operations with a Senior Management Team, see Table 4, made up of highly qualified, proven staff members; namely, the Chief Executive Officer (CEO), the Legal Counsel, Chief Financial Officer (CFO), Chief Technical Officer (CTO), Chief Operations Officer (COO).

Each functional group is responsible for providing a distinct set of services shown in Table 4. Staff number may be increased or decreased according to such factors as:

- Increase in the number of registrars;
- Higher than anticipated system activity;
- Higher than anticipated demand;
- Increase in the complexity of services;
- Increase in newly defined work that requires an increase in management and/or administrative staff.

All the officers/directors report to the CEO, and are to be considered full time positions. However, some registries outsource a number of these functions to third parties, which keeps the number of dedicated, full-time resources low. The registries that have launched over the past few years typically have between three to five executives and between three to ten staff members (all to be considered full time equivalents). Initial and additional staff requirements will be met through a rigorous recruitment process.

Table 4. Roles and Responsibilities

Functional Group	Roles	Key Responsibilities
Board of Directors	Oversight	• Oversee all business operations at a high level • Provide assistance and guidance as required. • Provide additional subject matter expertise
Senior Management Team: the executive and technical cores		
	Chief Executive Officer	• Provide company leadership • Responsible for ensuring the success of all business
	Chief Operational Officer	• Manage all operational aspects of the business
	Chief Technical Officer	• Manage all technical aspects of the business
	Chief Financial Officer	• Manage all financial aspects of the business
	Legal Counsel	• Manage all legal aspects of the business • Advise on matters of policy compliance and supervision

Key responsibilities and functions under the supervision of the senior management team include the following:

- **Engineering:** product development, standards engineering, project management, system engineering;
- **Administration:** human resources, billing and collections, financial analysis;
- **Business Relationship Management:** account management, marketing, customer support;
- **Operations:** production support, database administration, network administration;
- **Quality Assurance.**

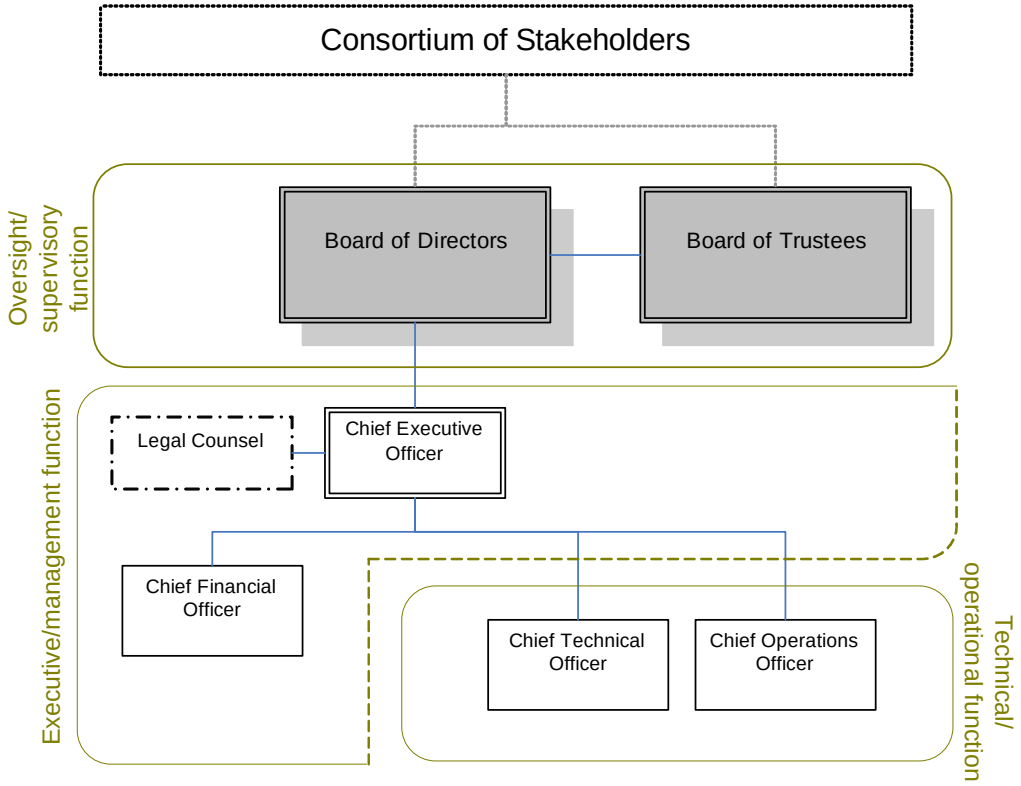
In general terms, the **.arab Registry** staff should:

- Be dedicated, highly qualified personnel to ensure a timely implementation to effective ongoing operations,

- Be reliable, skilled, competent, and experienced,
- Embody the qualities of true customer service, teamwork, and innovation,
- Be customer-focused and perform their job in a results-oriented manner,

In addition to technical skills, staff should have such qualities as capacity to learn, motivation, and a customer-service orientation. The **.arab Registry** should be staffed as any technology-based industry. The proposed organizational structure organization is presented in Figure 13.

Figure 13. Organizational structure of .arab registry



E. TECHNICAL SETUP

At the time of submission of the application(s), the **.arab Registry** must demonstrate that it meets the technical and operational criteria set forth by ICANN, and must provide information about how the **.arab** gTLD registry is to be organized, its expected registration model, the applicant's commitment to match or exceed ICANN's specifications for protocol conformance and performance, and other aspects of registry operation.

First of all, the **.arab Registry** should provide the name and a full description of all the **.arab Registry** Services it will provide. Box 11 shows Registry Services as defined in ICANN's current gTLD registry agreements.

Box 11. Definition of Registry Services

(a) those services that are both:
  (i) operations of the registry critical to the following tasks:
    - the receipt of data from registrars concerning registrations of domain names and name servers;
    - provision to registrars of status information relating to the zone servers for the TLD;
    - dissemination of TLD zone files;
    - operation of the registry zone servers; and dissemination of contact and other information concerning domain name server registrations in the TLD as required by this Agreement; and
  (ii) provided by the Registry Operator for the .com registry as of the Effective Date;

(b) other products or services that the Registry Operator is required to provide because of the establishment of a Consensus Policy;
(c) any other products or services that only a registry operator is capable of providing, by reason of its designation as the registry operator; and
(d) material changes to any Registry Service within the scope of (a), (b) or (c) above.

The gTLD registry agreements also provide that registries shall make access to Registry Services, including the shared registration system, available to all ICANN-accredited registrars.

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Source: ICANN's Current gTLD registry agreements, section 3.1(d)(iii)

It is not required to have deployed an actual registry which satisfies these criteria in order to meet ICANN's requirements. It will be sufficient for the **.arab Registry** to document its intention and binding commitment to satisfy these criteria before the completion of the delegation of the applied for gTLD(s), and to demonstrate a clear understanding of the key technical, operational and management aspects of running a gTLD registry. These include the provision of robust IT systems and network infrastructure that can sustain continuous registry operations as well as all its ancillary functions: backups, secure access, audit trails, adequate redundancy, and customer support.

ICANN will make, in the course of its evaluation of the submitted proposal, a preliminary assessment to determine if there may be possible security or stability issues with the proposed registry service. If so, the application will be flagged for a review by the Registry Services Technical Evaluation Panel (RSTEP).[34]

The Applicant Guidebook provides for little detail on how a gTLD domain name registry should function.

There are three options available to the Registry:

1. develop its own registry system, in conformity with ICANN requirements;
2. rely, in whole or in part, on the registry systems and operations of one or more of the ccTLDs of countries that are member of the LAS;
3. rely, in whole or in part, on third parties that are currently managing gTLDs or regional TLDs.

Reference is made to the experience obtained from the two current "regional" TLDs, being .EU (operated by the not-for-profit organization EURid) and .ASIA (managed by the DotAsia Organization Ltd.).

[34] See Draft Evaluation Criteria, Question 28, p. A-9.

1. Develop its own registry system, in conformity with ICANN requirements

The development of a registry system and operation that is compliant with ICANN's requirements is a task that cannot be underestimated. Arguments in favour and against are shown in Table 5:

Table 5. Developing a Registry System Arguments

Arguments in favour	Arguments against
- when the registry decides to implement and manage its own registry system, it will be able to operate independently from third parties; - the registry will be able to control and monitor its operational costs in a more effective way than would be the case if it would rely on one or more third parties; - a proprietary system would enable the registry to roll-out its systems for other, future domain name registry operations within the region.	- the time to develop, implement and test such a system is substantial, as is the development cost attached thereto; - ICANN is likely to subject new systems to additional evaluation; - the timing for the roll-out of the program that is anticipated by ICANN; ICANN expects registries to launch their operations within a timeframe of one year after having entered into the ICANN-registry agreement.

Taking into account the above arguments, we consider it unlikely for the LAS to develop and set up a proprietary registry system, taking into account the substantial costs attached thereto, as well as the limited timeframe wherein such systems can be developed and implemented.

None of the two regional TLDs have selected this option.

2. Rely on ccTLDs within the LAS region

Reference can hereby be made to .EU, operated by the Belgian-based not-for-profit organization EURid, who has relied on the registry systems of the .BE (Belgium) ccTLD DNS.be. Before the implementation of the .EU registry systems, development teams of the .BE and .EU operators have adapted the system in order to meet the requirements laid down by the European Commission and the various laws and regulations of the now 27 Member States of the European Union.

Taking into account the fact that no information with respect to the functioning and operations of ccTLDs within the LAS region was available at the time of this draft report, the research team was not able to assess whether the LAS could rely on these legacy registry systems and technologies.

3. Rely on third parties currently operating gTLDs or regional TLDs

As stated above, there are two TLDs currently operating registry systems that have been proven to support regional TLDs:

- .EU is operated by EURid, a Belgium-based not-for-profit organization;
- .ASIA is operated by DotAsia Organization Ltd., a limited not-for-profit company established in Hong Kong, SAR.

Box 12 shows registry systems used by those gTLDs.

Box 12. Registry Systems Used by Regional gTLDs

- ***EURid***

As stated above, the current registry systems of EURid have been based on the registry systems and operations of the Belgian ccTLD operator, DNS.be. Although the core back-end registry system was the same, various additional features have been built in in order to support:

- multiple languages and multi-faceted domain name registrations;
- registrar and end-user support in various countries;
- ticketing, tracking and tracing of domain name registrations (including historical data);
- a system that supports a multi-country sunrise process;
- the registry system supports IDNs, and DNSSEC.

- ***DotAsia Organization Ltd.***

DotAsia Organization Ltd. is relying on the registry systems of Afilias Limited, established in Dublin, Ireland.A specific sunrise-supporting system has been developed by DotAsia Organization, which functions on top of Afilias' general domain name registration platform.

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Source: www.eurid.eu and www.dotasia.org

F. INFRASTRUCTURE

The **.arab Registry** should be able to invest in infrastructure (hardware, software, and networking systems) especially if it intends to establish the highest quality and most reliable registry system possible.

In all cases, the **.arab Registry** should be able to handle customer support using an industry recognized call center management system. The **.arab Registry** technical infrastructure should be securely protected by the use of advanced firewall devices. The infrastructure should also be fully fault tolerant and consists of multiple parallel databases, clustered web servers, and redundant order processing equipment. If a data center needs to be built by the **.arab Registry** (or to be outsourced), it is recommended that this center should be compliant with industry recognized specifications:

- ATM/IP Network Infrastructure : A multi-service next-generation intelligent network and hosting infrastructure using Internet protocol (TCP/IP), ATM (Asynchronous Transfer Mode) and Gigabit Ethernet technology;
- Bandwidth: The network can offer a high capacity;
- Power: The center's electrical system should be fed from three separate and diverse power source grids;
- Security: The center's facilities should be protected by the building security system and guards including: internal card key access, security video surveillance and recording systems, and security guards;
- Fire Protection: A fire and smoke detection systems should be implemented;
- Seismic Stabilization: The entire facilities should be protected against seismic activity.

G. SUCCESS FACTORS

In order to succeed in the launch of the **.arab** as a new TLD, a combination of factors is needed that include:

- ✓ The concept: The **.arab** stands for a meaningful word for the target audience. It is a simple concept that will help gain immediate and swift end user acceptance and usage. There is no need for

resources or efforts to make the TLD understandable.

- ✓ The Distribution Channel: As a product, the domain has a specific distribution channel through the ICANN Accredited Registrars. The acceptance and support of this channel is crucial for its success. Distribution should be global and the user should not spend time searching for a registrar and its resellers that market the TLD.
- ✓ The technology: The respect of the distribution channel technical requirements is also crucial. A registrar prefers not to invest in new technologies or spend money and time in customizing its technologies. Registry technological choices must prevail reliability and security.
- ✓ The marketing: The registrar network should offer multiple and adaptive marketing packages such as rebates, customized marketing material and promotional ideas. The cost of such marketing programmes should be well studied within the boundaries of the revenues that a registry could make.
- ✓ The price: The pricing strategy should be formulated according to the timing. For example, the price should be higher during the first period (Sunrise and First Days). Usually the Registry price should be approved by the Registrar. The Registry needs to take into consideration the Registrar pricing strategies as its annual revenue per customer is typically around $10.

VI. FINANCIAL ESTIMATES

The financial projections and budget for the **.arab Registry** are based on an estimated minimum profit per domain name registration of $3. These numbers are highly speculative due to the nature of the registry activity. The sections below explain the expected expenditures and revenues.

A. EXPECTED COSTS

The costs relating to the operation of a gTLD registry can be categorized as follows:

- ICANN fees;
- Operational expenses (about 30% of the budget in year 1, about 35% as from year 2);
- Capital expenses (about 10% of the budget);
- Back-end registry operator fees (about 10% of the budget in year 1, about 30% as from year 2).

However, the budgeting can vary significantly on the basis of the operational model that has been selected by the Registry, where the technical management of the back-end registry systems as well as the salaries payable to staff and executives are the main cost drivers.

Of course, certain cost elements can be mitigated to a large extent in case two gTLDs are applied for by the Registry, which will result in an overall higher cost, but less proportional in relation to each gTLD (economies of scale). In particular, savings are possible at the level of the capital expenditures and the salary costs.

1. ICANN Fees

According to the information published by ICANN at the end of October 2008, the following fees are payable to ICANN:

1. Application and evaluation fee: $185,000 (one time); depending on the outcome of ICANN's current work on establishing evaluation panels, this fee may change (i.e. lowered) in the next months to come;
2. Optional additional fees:
    a. Objection fees: $1,000 – 5,000
    b. Dispute resolution adjudication: $2,000 – 8,000
    c. Registry audit fees (RSTEP review): $50,000
    d. Auction fees
3. Annual fees: $25,000 for the first 50,000 registrations and $0.25 for every new registration thereof.

The ICANN fees listed above are in relation to the application for one TLD. Thus, applying to **.arab** and **.عربي** implies double the figures listed above. However, the Implementation Recommendation Team has proposed to ICANN to have only one fee (of $185,000) in case the applicant also applied for one or more IDN variants of the same string. It is unclear, however, whether this recommendation will be adopted by the ICANN Board.

2. Operational expenses

These operational expenses mainly relate to:

1. Salaries of executives and staff (depending on the number of staff and executives as well as seniority);
2. Travel and facilities;
3. Systems and software;
4. Connectivity and hosting;
5. Supplies;
6. Registry fail-over;
7. Marketing (which could be a significant cost component, taking into account the limited availability of ICANN Accredited Registrars within the region);
8. Other expenses.

3. Capital expenditures

Capital expenditure will include costs of facilities and items to furnish the Registry's premises such as computer hardware and office furniture.

4. Back-End Registry Operator Fees

In case the **.arab Registry** will rely on a third party to manage the technical aspects of the domain name registry, such party will charge the **.arab Registry** for its services. At this stage, there is no real reliable data available on the amounts such back-end registry operators would charge for their services. Various models are proposed by various players in the industry, but it is in any case recommended to rely on experienced companies or institutions offering their services to the market. In most of the back-end registry operator fees, specific pricing is included on geo-diversity of the location of the servers, or the use of any cast technology.[35]

B. REVENUES AND FUNDING

The following three categories are to be taken into account: (Initial) funding; Revenues from Registry Services; and Loans.

1. Initial Funding

On the basis of rough projections, an initial funding of around $1million is to be considered the minimum. Reference is made to the next financial statement table for more details.

However, the capital/funding requirements greatly depend on the operating model and structure selected by the Registry.

2. Revenues from Registry Services

A distinction needs to be made between the domain name registration fees charged during the start-up period and the fees that will apply during general registration. The main aim of the **.arab Registry** should be to use the revenues obtained during the Start-up period to cover the start-up costs and investments incurred during the first year.

- Start-up (Sunrise): on average, a fee of $20 is charged for a sunrise domain name registration (excluding fees to be paid to third parties who manage the verification processes);
- Start-up (Landrush): various models have been implemented in the past, including:

[35] Anycast is a networking and routing scheme whereby data is routed to the "nearest" or "best" destination as viewed by the routing topology. Since anycast provides for automatic failover, it is normally regarded as highly reliable; by using anycast, registries can help to distribute DDoS (distributed denial of service) attacks and reduce their effectiveness.

- Higher registration fee than during general availability: higher prices are charged during a limited period of time following the Sunrise period;
- Auction fees: highest bidder for a particular domain name is awarded the name;

- General availability: on average, an annual registration fee between $6 to $15 is charged per domain name.

The following table[36] lists the prices of selected TLDs and shows that the price differs from one to the other as each registry has its own strategy.

Table 6. Public Price for Selected TLDs

TLD	Total Domains	Public Price (US$)
.COM	77621200	10
.NET	11880297	13
.ORG	7275966	15
.INFO	4719202	5
.EU	3016795	15
.BIZ	1987675	15
.ASIA	193882	20

The price strategy for the **.arab** could depend on the demand during different phases. The demand will be very high during the first period: Sunrise Period, Challenge Period, Pioneers Period, and so should the price. However, various recommendations made by the Implementation Recommendation Team suggest that domain name registration fees during the Sunrise Period should be lowered, taking into account the fact that a centralized mechanism (the IPR Clearinghouse) is proposed in order to remove the complexities of managing such launch processes. For example, the **.arab** price may begin as high as US$300 per domain name and decrease to US$20 during the second year, and as low as US$10 per domain after that. However, US$10 would be a reasonable price in the long run as it is close to the price of most sold TLD domain names. The registry will thus launch with a pricing of US$10 for a single domain name registration (either **.arab** or **.عربي**) and a reduced price of US$15 for a bundled registration of both domain names.

3. Loans

In case sufficient capital cannot be raised, the **.arab Registry** might obtain part of the initial funding on the basis of loans (debts). For instance, the .EU Registry has been funded exclusively on the basis of loans, as a Belgian not-for-profit organization does not have any capital.

C. Financial Statement

The following financial statements are based on the exploratory market size estimates presented in this study. It is thus required in future phases to develop a detailed financial analysis based on a comprehensive market study. The numbers below give a rough estimate.

For developing the statements below, two options are taken into consideration; as described in previous sections: (1) undertaking all executive and technical/operational activities of the .arab Registry in house; and (2) outsourcing technical operations of the registry. The distinction between these two options will affect the human resources needed as well as technical infrastructure.

[36] Source : http://www.webhosting.info , http://www.eurid.eu/ and The Dot Asia Organization Registry Operator's Report – June 2008

Table 7. Option I statement of earnings: registry operations in-sourced

Market Share

	Year 1	Year 2	Year 3	Year 4	Year 5	Accumulated
Single domain name selling price	$10	$10	$10	$6	$6	-
Bundled domain name price	$15	$15	$15	$9	$9	-

Scenario I (Best Case)						
Number of Registrants						
Number of single registrations	40,000	67,500	95,000	122,500	150,000	-
Number of bundled registrations	40,000	67,500	95,000	122,500	150,000	-

Scenario II (Most Likely Case)						
Number of Registrants						
Number of single registrations	15,000	36,250	57,500	78,750	100,000	-
Number of bundled registrations	15,000	36,250	57,500	78,750	100,000	-

Scenario III (Worst Case)						
Number of Registrants						
Number of single registrations	5,000	16,250	27,500	38,750	50,000	-
Number of bundled registrations	5,000	16,250	27,500	38,750	50,000	-

Simplified Income Statement

Revenues: Summary of the 3 scenarios						
Scenario I	**$1,000,000**	**$1,687,500**	**$2,375,000**	**$1,837,500**	**$2,250,000**	**$9,150,000**
Scenario II	**$375,000**	**$906,250**	**$1,437,500**	**$1,181,250**	**$1,500,000**	**$5,400,000**
Scenario III	**$125,000**	**$406,250**	**$687,500**	**$581,250**	**$750,000**	**$2,550,000**

Expenses

ICANN Expenses						
Scenario I	$370,000	$88,125	$108,750	$129,375	$150,000	
Scenario II	$370,000	$64,688	$80,625	$96,563	$112,500	
Scenario III	$370,000	$50,000	$58,125	$66,563	$75,000	

Expenses						
Technical consulting/operations	*$100,000*	*$50,000*	*$25,000*	*$0*	*$0*	*$175,000*
Business and legal support	*$100,000*	*$0*	*$0*	*$0*	*$0*	*$100,000*
Staff payroll	*$432,000*	*$475,200*	*$522,720*	*$574,992*	*$632,491*	*$2,637,403*
Communications / Facilities	*$60,000*	*$40,000*	*$40,000*	*$40,000*	*$40,000*	*$220,000*
Marketing/PR	*$125,000*	*$75,000*	*$40,000*	*$40,000*	*$40,000*	*$320,000*
Other	*$40,000*	*$20,000*	*$20,000*	*$20,000*	*$20,000*	*$120,000*

Total Expenses						
Scenario I	**$1,227,000**	**$748,325**	**$756,470**	**$804,367**	**$882,491**	**$4,418,653**
Scenario II	**$1,227,000**	**$724,888**	**$728,345**	**$771,555**	**$844,991**	**$4,296,778**
Scenario III	**$1,227,000**	**$710,200**	**$705,845**	**$741,555**	**$807,491**	**$4,192,091**

Profit/Loss

Profit/Loss = Revenues - Total expenses						
Scenario I	($227,000)	$939,175	$1,618,530	$1,033,133	$1,367,509	$4,731,347
Scenario II	($852,000)	$181,363	$709,155	$409,696	$655,009	$1,103,222
Scenario III	($1,102,000)	($303,950)	($18,345)	($160,305)	($57,491)	($1,642,091)

** Expenses like Interest, Depreciation, Ammortization and Taxes are not included*

Capital Expenditure and Funding Requirements

Capital requirements						
Location & Network infrastructure	*$180,000*	*$80,000*	*$0*	*$0*	*$0*	*$260,000*
Registry HW/SW & infrastructure	*$200,000*	*$100,000*	*$50,000*	*$0*	*$0*	*$350,000*
Project mng (ESCWA/UNESCO/LAS)	*$180,000*	*$0*	*$0*	*$0*	*$0*	*$180,000*
Other expenditure	*$100,000*	*$20,000*	*$10,000*	*$0*	*$0*	*$130,000*
Total capital expenditure	**$660,000**	**$200,000**	**$60,000**	**$0**	**$0**	**$920,000**

Investment (initial funding) = Total capital expenditure - Profit/Loss						
Scenario I	887,000					887,000
Scenario II	1,512,000	18,638				1,530,638
Scenario III	1,762,000	503,950	78,345	160,305	57,491	2,562,091

Total funding required till break even = positive investment			Surpluss
Scenario I	$887,000		$4,698,347
Scenario II	$1,530,638		$1,713,859
Scenario III	$2,562,091		

Table 8. Option II statement of earnings: registry operations outsourced

Market Share

	Year 1	Year 2	Year 3	Year 4	Year 5	Accumulated
Single domain name selling price	$5	$5	$5	$3	$3	-
Bundled domain name price	$8	$8	$8	$5	$5	-

Scenario I (Best Case)						
Number of Registrants						
Number of single registrations	40,000	67,500	95,000	122,500	150,000	-
Number of bundled registrations	40,000	67,500	95,000	122,500	150,000	-

Scenario II (Most Likely Case)						
Number of Registrants						
Number of single registrations	15,000	36,250	57,500	78,750	100,000	-
Number of bundled registrations	15,000	36,250	57,500	78,750	100,000	-

Scenario III (Worst Case)						
Number of Registrants						
Number of single registrations	5,000	16,250	27,500	38,750	50,000	-
Number of bundled registrations	5,000	16,250	27,500	38,750	50,000	-

Simplified Income Statement

Revenues: Summary of the 3 scenarios						
Scenario I	**$500,000**	**$843,750**	**$1,235,000**	**$918,750**	**$1,125,000**	**$4,622,500**
Scenario II	**$187,500**	**$453,125**	**$747,500**	**$590,625**	**$750,000**	**$2,728,750**
Scenario III	**$62,500**	**$203,125**	**$357,500**	**$290,625**	**$375,000**	**$1,288,750**

Expenses

ICANN Expenses						
Scenario I	$370,000	$88,125	$108,750	$129,375	$150,000	
Scenario II	$370,000	$64,688	$80,625	$96,563	$112,500	
Scenario III	$370,000	$50,000	$58,125	$66,563	$75,000	

Expenses						
Technical consulting/operations	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Business and legal support	*$200,000*	*$50,000*	*$50,000*	*$0*	*$0*	*$300,000*
Staff payroll	*$210,000*	*$231,000*	*$254,100*	*$279,510*	*$307,461*	*$1,282,071*
Communications / Facilities	*$30,000*	*$20,000*	*$20,000*	*$20,000*	*$20,000*	*$110,000*
Marketing/PR	*$25,000*	*$15,000*	*$8,000*	*$8,000*	*$8,000*	*$64,000*
Other	*$40,000*	*$20,000*	*$20,000*	*$20,000*	*$20,000*	*$120,000*

Total Expenses						
Scenario I	**$875,000**	**$424,125**	**$460,850**	**$456,885**	**$505,461**	**$2,722,321**
Scenario II	**$875,000**	**$400,688**	**$432,725**	**$424,073**	**$467,961**	**$2,600,446**
Scenario III	**$875,000**	**$386,000**	**$410,225**	**$394,073**	**$430,461**	**$2,495,759**

Profit/Loss

Profit/Loss = Revenues - Total expenses						
Scenario I	($375,000)	$419,625	$774,150	$461,865	$619,539	$1,900,179
Scenario II	($687,500)	$52,438	$314,775	$166,553	$282,039	$128,304
Scenario III	($812,500)	($182,875)	($52,725)	($103,448)	($55,461)	($1,207,009)

**Interest, Depreciation, Ammortization and Taxes are not included*

Capital Expenditure/Funding Requirements in case of office co-location

Capital requirements						0
Location & Network infrastructure	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Registry HW/SW & infrastructure	*$0*	*$0*	*$0*	*$0*	*$0*	*$0*
Project mng (ESCWA/UNESCO/LAS	*$180,000*	*$0*	*$0*	*$0*	*$0*	*$180,000*
Other expenditure	*$100,000*	*$20,000*	*$10,000*	*$0*	*$0*	*$130,000*
Total capital expenditure	**$280,000**	**$20,000**	**$10,000**	**$0**	**$0**	**$310,000**

Investment (initial funding) = Total capital expenditure - Profit/Loss						
Scenario I	655,000					655,000
Scenario II	967,500					967,500
Scenario III	1,092,500	202,875	62,725	103,448	55,461	1,517,009

Total funding required till break even						Surpluss
Scenario I	655,000					2,245,179
Scenario II	967,500					785,804
Scenario III	1,517,009					

Table 9. Total Funding Required Till Break Even and Expected Accumulated Surplus in Five Years

	In-sourced registry operations		Outsourced registry operations	
	Required Funding	Returns in 5 years	Required Funding	Returns in 5 years
Scenario I – Best Case	$887,000	$4,698,347	$655,000	$2,245,179
Scenario II – Most Likely Case	$1,530,638	$1,713,859	$967,500	$785,804
Scenario III - Worst Case	$2,562,091		$1,517,009	

Given the current uncertainties in information regarding the establishment of the registry and whether operations will be conducted internally or outsourced, a capital investment is required in the range of $800,000 to $2.5 million . Roughly speaking, and according to the most-likely scenario, it can be said that $1.5 million are required as seed fund. This funding could be provided by the potential partners in the consortium of stakeholders. In the worst case scenario, extra 1.0 Million to 1.5 Millions US dollars, may be required as additional loans at a later stage, if there is a justifiable need, and growth rates that verifies the ability to repay those extra loans.

VII. PROPOSED MILESTONES AND TIME-PLAN

The **.arab Registry** implementation plan should follow principles for starting a new technology business. This plan is based on a phased approach where each phase needs the successful implementation of each prior stage.

A. PHASES

PHASE 1 . Pre-Feasibility Study

- An overview of regional context and needs;
- Proposed modalities of implementation;
- Framework of operation of the **.arab** Registry/Registrar/Registrant network;
- Funding strategies;
- A description of potential partners.

Timescale: February 2009

Challenge: Studying marketing, technical, financial and legal aspects of the feasibility of establishing an Arab registry for the Top Level Domain Name "**.arab**".

PHASE 2 . Organization Creation

- Establish the consortium of stakeholders and create governance procedures and advisory board from founders;
- Recruit CEO/leader and establish business development team;
- Create the consortium;
- Interact with ICANN/RFP announcement;
- Define a business plan for the establishment of the **.arab** Registry.

Timescale: 4th Quarter 2009

Challenge: Obtain full agreement from the founding consortium of stakeholders to continue developing the business plan and fund the initial set-up and the first year operating costs.

PHASE 3 . Establish the .arab Registry

- Establish registry operations:
  * ICANN Application;
  * Outsource contract with registry operator;
  * Establish registrar procedures;
  * Establish operational procedures.

Timescale: 1st Quarter 2010

Challenge: Operations are robust and future business plan for the **.arab Registry** approved by founding board in order to move forward.

B. SCHEDULING AND MILESTONES

Taking into account the fact that ICANN has not revealed at this time further details with respect to the planning of the roll-out of the New gTLD Programme, it is difficult to provide for a detailed implementation plan and project milestones at this stage.

The estimates below in Table 9 are based on the information that is currently available, and takes into account possible options the LAS might face during the evaluation process with ICANN.

Table 9. High level milestones

#	High-Level Action	By	Estimated timeframe
1.	Presentation of the .ARAB Project and Pre-Feasibility Study	Project Team	August 2009
2.	Publication of the Third Draft Applicant Guidebook	ICANN	September 2009
3.	Approval of the .ARAB Project, including implementation timelines	LAS, Council of Ministers	September 2009
4.	Secure funding for the set-up of the .arab Project	Project Team, LAS	December 2009
5.	ICANN meeting in Seoul (Korea), where update is given on New gTLD Program and timelines	ICANN	October – November 2009
6.	Publication of the Final Applicant Guidebook	ICANN	December 2009
7.	Announcement of date on which the New gTLD application period opens	ICANN	December 2009
8.	Start drafting application(s) for ICANN	Project Team	December 2009
9.	Contact candidate back-end registry operators	Project Team	January 2010
10.	Establish not-for profit organization	Project Team, LAS	January 2010
11.	Start negotiations with back-end registry operator	Project Team	February 2010
12.	Sign agreement with back-end registry operator	Project Team, LAS	February 2010
13.	Detail technical, operational, business and financial requirements	Project Team	March 2010
14.	Finalize business plan and proposal for ICANN	Project Team	March 2010
15.	Approval of business plan and ICANN proposal	Project Team, LAS	April 2010
16.	Submit proposal with ICANN (subject to ICANN's confirmation of the roll-out of the New gTLD Program)	Project Team	May 2010 (tentative)
17.	Evaluation of proposals	ICANN	June – September 2010
18.	(Optional: opposition against proposals for competing strings)	Project Team	August – November 2010
19.	(Optional: technical evaluation)	ICANN, Project Team	Oct. – Nov. 2010
20.	(Optional: string contention)	ICANN, Project Team	Oct. – Nov. 2010
21.	Signature of ICANN-Registry Agreement	Project Team	November 2010
22.	Delegation of TLDs	Project Team	as of March 2011

Annex I

MARKET EXPLORATORY RESEARCH: REGIONAL DOMAINS AND CCTLD CORRELATION[37]

The objective of this basic exploratory research is to provide a lower limit and a higher limit estimates for the size of the addressable market and the size of the potential demand.

1. Information sources

Information has been gathered from the following web sites and pages[38]:

- Registrations of domain names in selected gTLDs and ccTLDs have been taken from http://www.hosterstats.com/DomainNameCounts2008.php;[39]
- Statistics of domain name registrations in the .EU top level domain per EU Member State, available via http://www.eurid.eu/en/about/facts-figures/statistics;
- The Verisign Domain Name Industry Brief, edition of December 2008, available via http://www.verisign.com/static/044349.pdf;
- The Internet World Stats web site: http://www.internetworldstats.com/.

2. Parameters that have been considered

In this section, the following parameters have been considered:

1) Total population for each of the potential target countries;[40]
2) Internet penetration in each country;
3) Number of domain names registered by citizens, companies and organizations within a particular territory;
4) Categorization of countries in LAS Member State.

3. Adopted methodology – correlation with domain name registrations in ccTLDs

Studying the quantitative data listed in the above information sources, it appears that there is a correlation between the number of domain names that have been registered in a ccTLD on the one hand, and the interest the individuals, companies and organizations from such country have in domain names in general.

- The .EU experience

Reference is made to the current pattern of domain name registrations in .EU, which is somehow similar to the proposed **.arab gTLD**. As can be clearly seen in the table below, from the countries in the top 10 of the number of domain names registered in their ccTLD, 8 are also in the top 10 of the countries in respect of numbers of domain names registered by their citizens, companies or organizations in the .EU ccTLD.

[37] The methodology presented in this Annex is based on the consultancy by Mr. Bart Leiben.

[38] The accuracy of this information has not been independently verified.

[39] The number reflected here is the number published by HosterStats.com as per the beginning of the month December 2008, although some of the data might be less recent.

[40] This number only reflects the total number of physical persons published on the web sites mentioned in this §; it does not, however, take into account the number of companies or organizations who also have a legal personality that is recognized by law.

Country	# of ccTLD registrations	# of .EU registrations	% of total EU MS ccTLD registrations	Rank ccTLD registrations	% of .EU registration	Rank .EU registrations	# ccTLD / .EU
Aland Islands		217			0,01	30	
Austria	794.144	72.837	2,43	**10**	2,44	**10**	10,90
Belgium	852.049	89.706	2,61	**9**	3,00	**7**	9,50
Bulgaria		8.828			0,30	23	
Cyprus		52.963			1,77	13	
Czech Republic	482.932	77.102	1,48	**12**	2,58	**9**	6,26
Denmark	965.866	44.089	2,96	**8**	1,47	**14**	21,91
Estonia		7.949			0,27	24	
Finland	194.748	14.357	0,60	14	0,48	20	13,56
France	1.292.378	241.312	3,96	**6**	8,07	**4**	5,36
French Guyana		19			0,00	33	
Germany	12.320.700	910.497	37,77	**1**	30,45	**1**	13,53
Gibraltar		4.532			0,15	27	
Greece		24.238			0,81	17	
Guadeloupe		171			0,01	31	
Hungary		27.854			0,93	15	
Ireland	114.837	58.981	0,35	15	1,97	12	1,95
Italy	1.610.010	160.746	4,94	**4**	5,38	**6**	10,02
Latvia		7.220			0,24	25	
Lithuania	94.236	8.985	0,29	16	0,30	22	10,49
Luxembourg	41.923	27.007	0,13	17	0,90	16	1,55
Malta		2.624			0,09	28	
Martinique		81			0,00	32	
Poland	1.319.704	170.753	4,05	**5**	5,71	**5**	7,73
Portugal	240.424	11.392	0,74	13	0,38	21	21,10
Réunion		276			0,01	29	
Romania		19.884			0,67	18	
Slovakia		17.478			0,58	19	
Slovenia		5.971			0,20	26	
Spain	1.076.561	67.482	3,30	**7**	2,26	**11**	15,95
Sweden	779.602	80.099	2,39	**11**	2,68	**8**	9,73
the Netherlands	3.164.153	406.317	9,70	**3**	13,59	**2**	7,79
United Kingdom	7.277.705	368.013	22,31	**2**	12,31	**3**	19,78
TOTAL	32.621.972	2.989.980					10,91

Although not all ccTLD operators publish domain name registration statistics, it is clear that the factor of .EU domain name registrations versus total ccTLD registrations in the EU Member States is less than 8%. We will refer to this figure as the ".EU factor".

- The .ASIA experience

It is difficult, to draw a parallel between the .EU experience and the .ASIA experience, since there are major differences between the two initiatives:

1) the number of domain name registrations in each of the TLDs: .ASIA currently has less than 10% of the total number of domain names that have been registered in .EU (i.e. 237,279 as per end of December 2008 versus almost 3 million in .EU);

2) although the .ASIA sTLD is primarily focused on the Asian market (i.e. the 73 countries and economies that are considered by ICANN to be the Asia-Pacific region, basically including every country between Cyprus, the Middle-East, the Far East, Australia and New-Zealand) domain name registrations in the .ASIA sTLD are not limited to residents, companies and organizations of or established in the region: anyone can register a .ASIA domain name, but must appoint a contact (admin, billing, tech, …) in one of the countries in the Asia-Pacific region (which many .ASIA registrars are offering); domain name registrations in .EU are limited to *"(i) undertakings having their registered office, central administration or principal place of business within the Community, or (ii) organizations established within the Community without prejudice to the application of national law; or (iii) natural persons resident within the Community"*;[41]

   In practice, this means that a U.S. company is entitled to register a .ASIA domain name, but is not allowed to register a .EU domain name. Correctly and adequately defining the target audience for the **.arab** gTLD is therefore critical, as will be further explained below.

3) there is no "supervising authority" for and hence no "official, governmental endorsement" of the .ASIA initiative. In .EU, this function is performed by the European Commission, which liaises with the registry operator, EURid, on an ongoing basis. Insofar and to the extent the LAS will perform the registry function for **.arab**, this could mean an advantage for this initiative, since there is some kind of official, governmental backing of the **.arab** gTLDs;

4) the .ASIA registry is only allowed to register domain names through ICANN Accredited Registrars, whereas the .EU registry – technically operating a ccTLD – has its own accreditation system, where it is not a prerequisite for the registrars to be accredited by ICANN. We believe this to be one of the key drivers for the current number of domain names registered in the .EU TLD;

5) .ASIA does not publicly release domain name registration information per country wherein the registrant resides or is incorporated; .EU makes this information available almost in real time (see reference above);

   Non-official information proves that about half of the total number of domain names currently registered in the .ASIA sTLD have been registered by companies, organizations and individuals within the region. In the context of the drafting of the final business plan, attempts should be undertaken in order to obtain this information in an official way from the registry.

[41] Article 4(2)(b) of Regulation (EC) No 733/2002 of the European Parliament and of the Council of 22 April 2002 on the implementation of the .eu Top Level Domain, OJ L, 113, p. 1 – 5.

Annex II
TECHNICAL SET-UP DETAILS

A. *Typical Set-Up of a Domain Name Registry Operation*

1. Introduction

Most of the current gTLD registries are managing the TLD under their management by using a so-called Shared Registration System (SRS), the software (clients and servers) provided by a registry to facilitate the registration of domain names, updates to nameservers, contact information and overall management of a registry. The SRS is used by registrars to connect to the registry's systems, with the purpose of creating an environment conducive to the development of robust competition among domain name registrars.[42]

Since all accredited registrars share the registration system, an SRS allows for the coordination of the assignment of domain names so that duplicate domain names will not be assigned.

All domain names registered within the SRS are contained in the so-called zone-file, which is maintained in mirrored databases on root domain name servers which are distributed around the world. A zone file typically contains information that defines mappings between domain names on the one hand and IP-addresses on the other hand, and is organized in zone resource records (RR).[43]

2. Technical Overview

When submitting the proposal with ICANN, the Registry must provide a technical overview of the proposed registry, including details concerning the type of registry that will be operated and the interfaces that will be provided for registration transactions.

Furthermore, the proposal must provide details on whether or not the proposed gTLD will use DNSSEC, and if so, how the proposed registry will handle this.[44]

Finally, information must be provided on whether or not the proposed registry will support the registration of IDN labels in the proposed gTLD, and if so, how the proposed registry will handle them. This includes details on the scripts and code points that will be supported, and how these will be incorporated into the design of the registry's database. If the proposed gTLD will support IDNs, the technical overview must also explain how other aspects of the registry will be affected, such as the display of WHOIS data, or changes to "standard" EPP templates and other data schemas.

3. Description of the Technical Architecture

ICANN requires applicants to provide details of the system and network architecture that will support the operation of the registry for the proposed gTLDs. These will include but are not limited to architecture and network diagrams, details of hardware and software platforms, network bandwidth provision, IPv6 connectivity, firewalls, and the intended physical location of systems, operations centers, and other infrastructure.

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[42] http://www.icann.org/en/registries/reports/registry-failover-01jun07.htm#anchor3.3.

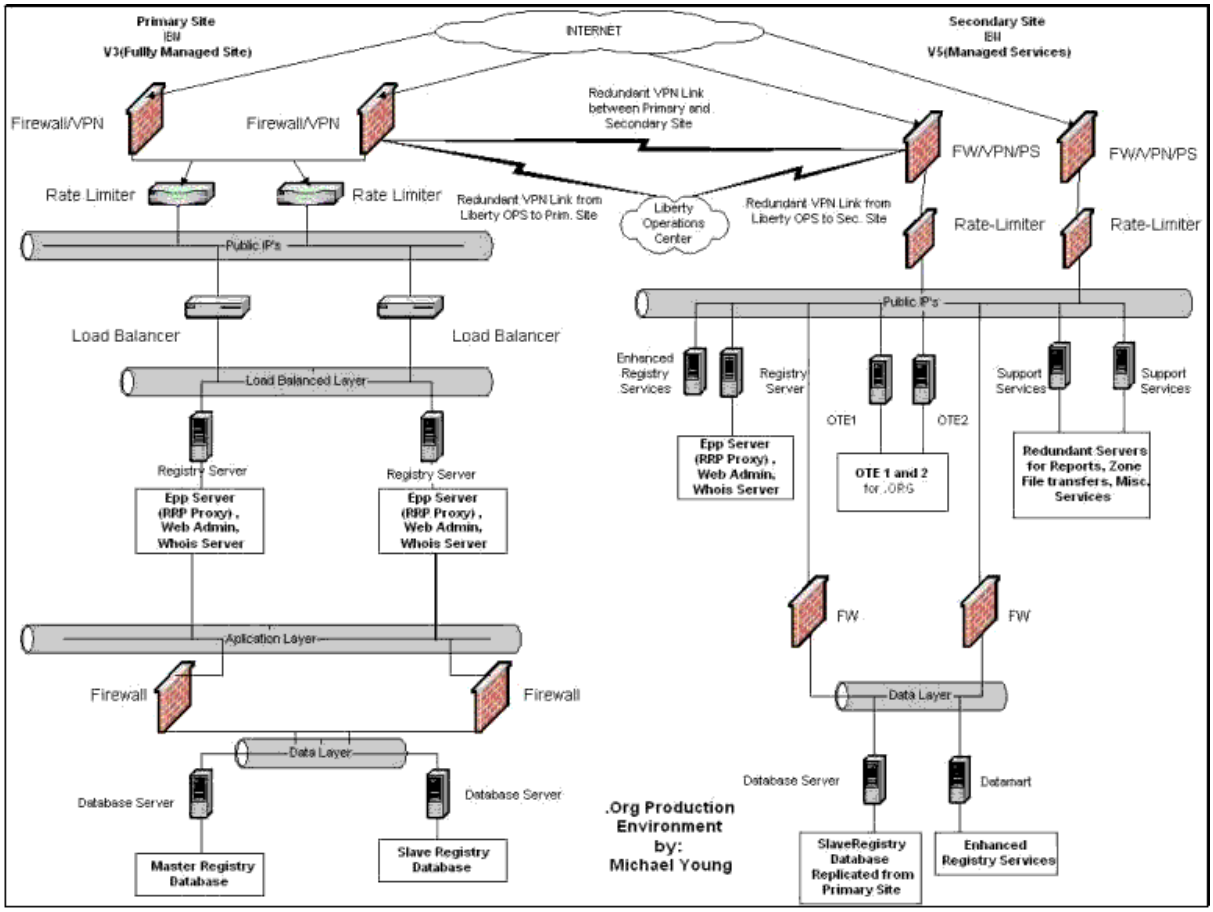
[43] The format of a zone file is defined in RFC 1035, see http://tools.ietf.org/html/rfc1035.

[44] The DNS Security Extensions (DNSSEC) enable DNS administrators and registry operators to digitally sign their zone data using public-key cryptography. This provides a layer of security to the zone and is designed to provide origin authentication of DNS data, data integrity and authenticated denial of existence.

ICANN expressly acknowledges that some or all aspects of registry operations, such as DNS hosting and monitoring, may be outsourced.

Furthermore, a description of any plans for outsourcing, including details of likely or actual outsourcing partners and the technical aspects of any agreements that may be in place (for example, service-level commitments, response times, compliance with ICANN technical and operational requirements, and security arrangements) must be provided.

Please find below an example of the hardware architecture proposed by IBM for PIR's back-end registry services provider, Afilias, in the context of the bid for .ORG:[45]



Source: http://www.icann.org/en/tlds/org/applications/isoc/section3.html

4. Description of the EPP Schemas and Templates

Detailed description of the Extensible Provisioning Protocol templates and schemas that will be used must be provided in the proposal. EPP is the standard protocol that is used in communications between the registry and the registrars over the SRS.

When submitting the proposal with ICANN, the Registry must state that it will support the Registry-Registrar model, submit a written statement demonstrating its familiarity with such model and a commitment to comply with the requirements of the EPP. The proposed registry's EPP interfaces must be consistent with

[45] http://www.icann.org/en/tlds/org/applications/isoc/section3.html.

the output formats required by ICANN, notably for WHOIS and data escrow purposes. Furthermore, all EPP state transitions and registry transactions must be consistent with the proposed registration life-cycles (see below).

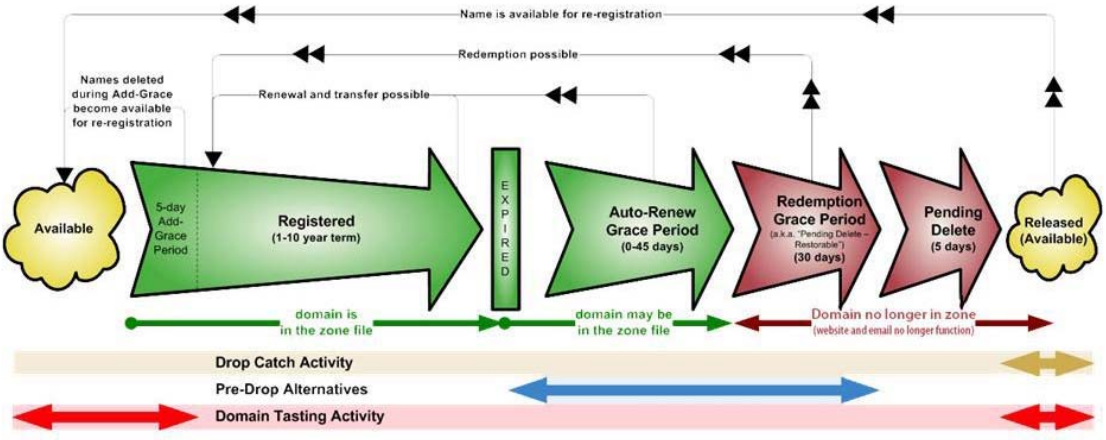
5. Registration Life Cycle

A detailed description of the registration life-cycle for domain names in the proposed gTLD must be provided when submitting the proposal with ICANN. This description must explain the various registration states as well as the criteria and procedures that are used in order to change the state of a domain name. Furthermore, a detailed description of the typical registration life-cycle of create/update/delete of domain names must be provided, as well as all intervening steps such as pending, locked, expired, and transferred that may apply, including time elements that are involved.

In case the Registry will support transfers between registrars, it must provide for a detailed description of the transfer process and all related registry object state transitions.

Furthermore, the Registry must provide detailed launch plans, and indicate if any Sunrise or Landrush phases are anticipated for the new gTLD. If this would be the case, the Registry must provide a description on how these are expected to be handled. If these phases introduce extra steps or additional state changes to the proposed registration life-cycle, these must be explained.

An example of a domain name life cycle is included in the graph below:[46]



Source:

Also here, the registration life cycle can be freely determined by the Registry, only taking into account the specific requirements laid down by ICANN.

6. Escrow arrangements

ICANN requires gTLD registries under contract with ICANN to escrow registry data. Registry data escrow helps to ensure continuity of service for registrants in the event of a registry failure. For the purposes of this report, registry data escrow is included with other measures employed by the registry to provide security and stability for the TLD.[47]

[46] http://www.icann.org/en/registrars/gtld-lifecycle.htm.

[47] http://www.icann.org/announcements/announcement-05mar07.htm.

Together with the proposal, the Registry must submit a written commitment to comply with the registry data escrow arrangements laid down by ICANN. Furthermore, a clear indication must be given on which changes, if any, may be required to these arrangements. Such changes could include, for instance, the need to amend the data schemas in order to accommodate Internationalized Domain Names or for compliance with local laws on privacy or data protection.

Furthermore, the following escrow requirements and recommended best practices have been suggested by SSAC, data escrow providers and gTLD registries:

- escrow of all information that would be required to recreate the registration and restore service to registrants;
- escrow of all data fields specified in EPP 1.0 (Extensible Provisioning Protocol, see RFC 4930);
- status of the name registration;
- any registration "features" (locks, domain proxy, etc.);
- transactional data;
- use of a standard, non-proprietary electronic file format, such as XML;
- stored data encryption and data transmission encrypted;
- data signing;
- digitally signed deposits;
- verification of incoming data deposits;
- escrow agent certification and annual certification test;
- a requirement in the data escrow agreement that escrow agent notify the registry (and registry services provider, if applicable) if an escrow deposit is not received; and
- data placed in escrow should be tested to ensure that the data can be used to restore registry operations.

7. Zone file access

ICANN requires registries of gTLDs to make their TLD zone files available to interested parties, for instance for academic and research purposes. When submitting the proposal with ICANN, the Registry must indicate that it will meet such requirement.

8. Description of Change / Test / Audit Controls

In its proposal, the Registry must provide details of the processes and access controls that it will use for changes to the registry systems and supporting infrastructure. These changes should include information on any test or pre-operational environments, regression testing, change control procedures for upgrading, patching, or replacing hardware and software, and audit trails.

9. Description of Change / Test / Audit Controls

When submitting its proposal with ICANN, the Registry must provide a description of the proposed (or actual) arrangements for monitoring critical registry systems (including SRS, database systems, DNS servers, WHOIS, network connectivity, routers, and firewalls). This description should explain how these systems are monitored and the mechanisms that will be used for fault escalation and reporting, and should provide details of the proposed support arrangements for these registry systems.

10. Business Continuity Planning (BCP)

A description of the plans that will be put in place (or have been implemented) for business continuity must be provided to ICANN when submitting the proposal. These plans must include, but are not limited to, failures of equipment and supporting infrastructure such as power and network connectivity. Furthermore, these plans should also take account of hazards such as fire or flooding at data centers and/or the registry's main place of business. Where appropriate, details of hot standby systems and/or recovery data centers should be provided. Information should also be given about how frequently exercises or drills are carried out to test the effectiveness of these arrangements.

11. Registry Failover Plans

The Applicant must agree to follow ICANN's recommendations concerning registry failover planning. ICANN's current thinking with respect to Registry Failover has been described in a document that was posted in October 2007.[48]

B. The Registry in compliance with Internet standards

1. Introduction

The Registry shall be required to document its compliance with the Internet protocol standards, and specify (in each case) how compliance will be achieved and how it will be measured. Therefore, the Registry should provide a written statement describing its plans to comply with the mandatory Internet protocol standards.

The standards referred to in this Section 8.3.5 are mandatory standards, imposed by ICANN. Most, if not all of the current gTLD and ccTLD registries comply with these standards.

2. DNS Protocol Compliance

The Domain Name System (DNS) is a distributed database that translates domain names (computer hostnames) to IP addresses. Domain names are defined in RFC 1034;[49] RFC 1035 describes the domain system and protocol.[50]

- The DNS consists of resource records, zones, nameservers, and resolvers. Programs such as BIND, that respond to queries about the domain namespace via the DNS protocol, are called nameservers;
- The data associated with domain names are contained in resource records. There are several types of resource records, corresponding to the varieties of data that may be stored in the domain namespace, including Start of Authority records, NS (nameserver) records, Address records, and PTR (pointer) records;
- A zone is an autonomously administered piece of the name space;
- Nameservers load data from zone datafiles. These files contain resource records that describe the information within a particular zone. Resource records describe the hosts within the zone and delegation of subdomains;
- Resolvers are the clients that access nameservers, and handle queries and responses.[51]

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[48] http://www.icann.org/registries/failover/draft-plan-best-practices-20oct07.pdf.

[49] ftp://ftp.rfc-editor.org/in-notes/rfc1034.txt.

[50] ftp://ftp.rfc-editor.org/in-notes/rfc1035.txt.

[51] See http://www.icann.org/en/registries/reports/registry-failover-01jun07.htm.

First of all, all name servers used by the Registry to support the proposed gTLD must be operated in compliance with the DNS protocol standards defined in RFCs 1034, 1035, 1101, 1996, 2181, 2182, 2308, 3596, 3597, and 3671, as defined by the IETF.[52] Also, name servers for the new gTLDs should support Incremental Zone transfer (IXFR) as defined in RFC 1995, NOTIFY as defined in RFC 1996, and Dynamic DNSas defined in RFC 2136.

Where appropriate, the Registry's name servers should also support TSIG and SIG(0) for authentication of DNS transactions, as defined in RFCs 2845 and 2931.

In case the Registry intends to support the registration of IDN labels within the proposed gTLD, it must comply with the core standards for IDNs documented in RFCs 3490, 3491, and 3492. Furthermore, the Registry should follow the guidelines contained in RFCs 3743, 4290, and 4690 insofar and to the extent it will apply for an IDN gTLD.

In case the Registry also opts to deploy DNSSEC, it must comply with the core DNSSEC standards defined in RFCs 4033, 4034, and 4035. RFC 4641 is the most current draft of the DNSSEC Operational Practices.[53]

Finally, the Registry will be required to commit to compliance with any subsequent Internet standards that update or supersede the documents listed above, and indicate their expected time-lines for deploying revised standards in the new gTLD after ICANN has approved their use.

3. WHOIS Protocol Compliance

Any gTLD registry is required to operate a WHOIS service; in practice, most of the ccTLD registries are also operating WHOIS, albeit not always in compliance with the standards set out below.

WHOIS is a query/response protocol which is used for querying an official database, operated by the domain name registry, in order to determine the owner of a domain name, an IP address, or an autonomous system number on the internet. WHOIS lookups can be done by using a specific command line interface, or via a simplified web interface.

Any WHOIS service must comply with the protocol standard documented in RFC 3912.

In its proposal, the Registry must describe the way in which the proposed WHOIS service for the proposed Top-Level Domain complies with this standard.

Furthermore, the Applicant must commit to compliance with any subsequent Internet standard for WHOIS that updates or supersedes RFC 3912, and indicate their expected time-lines for deploying revised standards in the new gTLD after ICANN has approved their use.

Also, the Registry should take into account ICANN's WHOIS specifications for data objects, bulk access, and lookups, which have been separately defined. Changes to the existing specifications could be required in specific circumstances because of factors such as the use of Internationalized Domain Names, displaying output in scripts other than those using a Latin alphabet, or local laws on privacy or data protection.

4. SRS Protocol Compliance

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[52] All these RFCs (Request for Comments) are available on the web site of the Internet Engineering Task Force: http://www.ietf.org.

[53] ftp://ftp.rfc-editor.org/in-notes/pdfrfc/rfc4641.txt.pdf.

In principle, the Registry must support EPP as documented in RFCs 3730, 3731, 3732, 3733, 3734, and 3735.

C. Compliance with ICANN's Performance Metrics

ICANN requires any gTLD registry to comply with ICANN's performance mandates; the Registry must therefore indicate in its proposal the extent to which it will comply with such performance mandates.

These metrics relate to each and every specific and mandatory service to be offered by the Registry, and includes requirements for the operation of name servers, registry systems, Whois, data escrow, reporting requirements, DNS service availability, performance levels, location of data centers and, in some registry agreements, fail over practice requirements and use of EPP (Extensible Provisioning Protocol).

1. DNS Performance

Name servers for the proposed Registry must meet or exceed ICANN's Cross Network Name server Performance (CNNP) tests, and the Registry is required to confirm that the DNS infrastructure for the proposed gTLD will pass the CNNP tests.

2. SRS Performance

The SRS for the proposed gTLD must meet or exceed ICANN's as yet unpublished performance requirements. The Applicant must confirm that the SRS will meet these requirements once they have been published, or provide a valid reason for its expected failure to do so.

3. WHOIS Performance

WHOIS servers for the proposed gTLD are required to meet or exceed ICANN's WHOIS performance specifications. In its proposal, the Applicant must confirm that the WHOIS servers will meet these specifications.

D. Statement of Compliance with Relevant Industry Standards

At the time of submission of the proposal(s), the Registry must demonstrate that it meets the technical and operational criteria set forth by ICANN, and must provide information about how the Applicant's **.arab** gTLD registry is to be organized, its expected registration model, the Applicant's commitment to match or exceed ICANN's specifications for protocol conformance and performance, and other aspects of registry operation.

E. Internationalized Domain Names

In case the Registry opts to apply for an IDN gTLD, this must be specified in the proposal that will be submitted to ICANN.

Furthermore, the Registry will be required to identify the IANA-registered IDN Language Reference Table in which all of the characters comprising the proposed gTLD string appear. Finally, the Registry should provide a phonetic representation (or, if applicable, more than one phonetic representation) of the proposed string in the International Phonetic Alphabet.

Annex III

ALTERNATIVE SCENARIOS AND MODELS

New.net:

The idea of this scenario was to provide a bridge that goes over the ICANN control. Some companies have chosen to develop software that can be installed at the ISP level or at the individual PC level to help the browser find its way to the new domain names. A US-based registry called New.net has offered during its launch 20 top-level domains: .shop, .mp3, .inc, .kids, .sport, .family, .chat, .video, .club, .hola, .soc, .med, .law, .travel, .game, .free, .ltd, .gmbh, .tech and .xxx. This business model was not successful as it didn't succeed to find sufficient ISPs and users to support it and purchase its names. Another US-based Internet company offered common words as TLD. Without the software, the user needs only to enter a keyword in his browser instead of the “http://www.” prefix. This was not successful either due to the complexity of the process for the common user.

OpenNIC:

OpenNIC is an alternate Network Information Center/Alternative DNS root which lists itself as an alternative to ICANN and its registries. As of 2006, users of the OpenNIC DNS servers are able to resolve all existing ICANN TLD as well as their own. Like all alternative root DNS systems, OpenNIC-hosted domains are unreachable to the vast majority of Internet users. Only specific configuration in one's DNS resolver makes these reachable, and very few Internet service providers have this configuration. Currently, OpenNIC supports the following TLDs: .bbs, .fur, .free, .geek, .glue, .indy, .ing, .mud, .null, .oss, .parody, and .s

ORSN:

The Open Root Server Network (ORSN) is working on the task of guaranteeing the Internet supply in form of an additional DNS server-network with a legacy root zone for ISP networks in Europe.

Unified Root:

UnifiedRoot is an independent, privately owned company which makes corporate and public TLDs available worldwide. UnifiedRoot enables viewing all existing TLDs and allows new TLDs to be registered at a cost of €750 each (plus annual maintenance fees of €250). On the user side, it works by modifying the user's DNS settings to point at UnifiedRoot's servers; it also offers a downloadable tool on Windows. UnifiedRoot have also made agreements with ISPs to enable access to the provided TLDs.

Annex IV

Glossary[54]

AfriNIC - The African Network Information Center
AfriNIC is a Regional Internet Registry (RIR), and is a non-profit membership organization responsible for the administration and registration of Internet Protocol (IP) addresses in the Africa region.

APNIC - The Asia Pacific Network Information Center
APNIC is a Regional Internet Registry (RIR), and is a non-profit membership organization responsible for the administration and registration of Internet Protocol (IP) addresses in the Asia-Pacific region, including Japan, Korea, China, and Australia.

ARIN - American Registry for Internet Numbers
ARIN is a Regional Internet Registry (RIR), and is a non-profit membership organization established for the purpose of the administration and registration of Internet Protocol (IP) addresses in North America, parts of the Caribbean, and sub-Saharan Africa.

ccTLD - Country Code Top Level Domain
Two letter domains, such as .uk (United Kingdom), .de (Germany) and .jp (Japan) (for example), are called country code top level domains (ccTLDs) and correspond to a country, territory, or other geographic location. The rules and policies for registering domain names in the ccTLDs vary significantly and ccTLD registries limit use of the ccTLD to citizens of the corresponding country.

Some ICANN-accredited registrars provide registration services in the ccTLDs in addition to registering names in .biz, .com, .info, .name, .net and .org, however, ICANN does not specifically accredit registrars to provide ccTLD registration services.

Domain Name Resolvers
Scattered across the Internet are thousands of computers - called "Domain Name Resolvers" or just plain "resolvers" - that routinely cache the information they receive from queries to the root servers. These resolvers are located strategically with Internet Service Providers (ISPs) or institutional networks. They are used to respond to a user's request to resolve a domain name - that is, to find the corresponding IP address.

DNS - Domain Name System
The Domain Name System (DNS) helps users to find their way around the Internet. Every computer on the Internet has a unique address - just like a telephone number - which is a rather complicated string of numbers. It is called its "IP address" (IP stands for "Internet Protocol"). IP Addresses are hard to remember. The DNS makes using the Internet easier by allowing a familiar string of letters (the "domain name") to be used instead of the arcane IP address. So instead of typing 207.151.159.3, you can type www.internic.net. It is a "mnemonic" device that makes addresses easier to remember.

EPP[55]
The Extensible Provisioning Protocol (EPP) is a flexible protocol designed for allocating objects within registries over the Internet. The EPP protocol is based on XML - a structured, text-based format. The underlying network transport is not fixed, although the only currently specified method is over TCP. The protocol has been designed with the flexibility to allow it to use other transports such as BEEP, SMTP, or SOAP.

54 http://www.icann.org/en/general/glossary.htm

55 http://en.wikipedia.org/wiki/Extensible_Provisioning_Protocol

gTLD - Generic Top Level Domain
Most TLDs with three or more characters are referred to as "generic" TLDs, or "gTLDs". They can be subdivided into two types, "sponsored" TLDs (sTLDs) and "unsponsored TLDs (uTLDs).

IDNs - Internationalized Domain Names
Internationalized Domain Names, or IDNs, are web addresses in your own language. Many efforts are underway in the Internet community to make domain names available in character sets other than ASCII. These "internationalized domain name" (IDN) efforts were the subject of a 25 September 2000 resolution by the ICANN Board of Directors, in which it recognized "that it is important that the Internet evolve to be more accessible to those who do not use the ASCII character set," but stressed that "the internationalization of the Internet's domain name system must be accomplished through standards that are open, non-proprietary, and fully compatible with the Internet's existing end-to-end model and that preserve globally unique naming in a universally resolvable public name space."

IETF - Internet Engineering Task Force
The IETF is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual.

IP - Internet Protocol
The communications protocol underlying the Internet, IP allows large, geographically diverse networks of computers to communicate with each other quickly and economically over a variety of physical links. An Internet Protocol Address is the numerical address by which a location in the Internet is identified. Computers on the Internet use IP addresses to route traffic and establish connections among themselves; people generally use the human-friendly names made possible by the Domain Name System.

ISP - American and Caribbean Internet Addresses Registry
An ISP is a company, which provides access to the Internet to organizations and/or individuals. Access services provided by ISPs may include web hosting, email, VoIP (voice over IP), and support for many other applications.

LACNIC - Latin American and Caribbean Internet Addresses Registry
LACNIC is a Regional Internet Registry (RIR) for Latin America and the Caribbean.

Phishing
Phishing attacks use both social engineering and technical subterfuge to steal consumers' personal identity data and financial account credentials. Social engineering schemes use spoofed emails to lead consumers to counterfeit websites designed to trick recipients into divulging financial data such as credit card numbers, account usernames, passwords and social security numbers.

Hijacking brand names of banks, e-retailers and credit card companies, phishers often convince recipients to respond. Technical subterfuge schemes plant crimeware onto PCs to steal credentials directly, often using Trojan key logger spy ware. Pharming crime ware misdirects users to fraudulent sites or proxy servers, typically through DNS hijacking or poisoning.

RIR - Regional Internet Registry
There are currently five RIRs: AfriNIC, APNIC, ARIN, LACNIC and RIPE NCC. These non-profit organizations are responsible for distributing IP addresses on a regional level to Internet service providers and local registries.

RIPE and RIPE NCC - Réseaux IP Européens
RIPE is an open and voluntary organization, which consists of European Internet service providers. The RIPE NCC acts as the Regional Internet Registry (RIR) for Europe and surrounding areas, performs coordination activities for the organizations participating in RIPE, and allocates blocks of IP address space to its Local Internet Registries (LIRs), which then assign the addresses to end-users.

Root Servers
The root servers contain the IP addresses of all the TLD registries - both the global registries such as .com, .org, etc. and the 244 country-specific registries such as .fr (France), .cn (China), etc. This is critical information. If the information is not 100% correct or if it is ambiguous, it might not be possible to locate a key registry on the Internet. In DNS parlance, the information must be unique and authentic.

TLD - Top-level Domain
TLDs are the names at the top of the DNS naming hierarchy. They appear in domain names as the string of letters following the last (rightmost) ".", such as "net" in "www.example.net". The administrator for a TLD controls what second-level names are recognized in that TLD. The administrators of the "root domain" or "root zone" control what TLDs are recognized by the DNS. Commonly used TLDs include .com, .net, .edu, .jp, .de, etc.

UDRP - Uniform Dispute Resolution Policy
All ICANN-accredited registrars follow a uniform dispute resolution policy. Under that policy, disputes over entitlement to a domain-name registration are ordinarily resolved by court litigation between the parties claiming rights to the registration. Once the courts rule who is entitled to the registration, the registrar will implement that ruling. In disputes arising from registrations allegedly made abusively (such as "cybersquatting" and cyberpiracy"), the uniform policy provides an expedited administrative procedure to allow the dispute to be resolved without the cost and delays often encountered in court litigation. In these cases, you can invoke the administrative procedure by filing a complaint with one of the dispute-resolution service providers.

W3C - World Wide Web Consortium
The W3C is an international industry consortium founded in October 1994 to develop common protocols that promote the evolution of the World Wide Web and ensure its interoperability. Services provided by the Consortium include: a repository of information about the World Wide Web for developers and users; reference code implementations to embody and promote standards; and various prototype and sample applications to demonstrate use of new technology.

WIPO - World Intellectual Property Organization
WIPO is an intergovernmental organization based in Geneva, Switzerland responsible for the promotion of the protection of intellectual rights throughout the world. It is one of the 16 specialized agencies of the United Nations system of organizations.

WHOIS
Information about who is responsible for domain names is publicly available to allow rapid resolution of technical problems and to permit enforcement of consumer protection, trademark, and other laws. The registrar will make this information available to the public on a "Whois" site. It is however possible to register a domain in the name of a third party, as long as they agree to accept responsibility -- ask your registrar for further details.

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