ISSUES PAPER
Selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes

Background: In the DNS, a ccTLD string (like .jp, .uk) has been defined to represent the name of a country, territory or area of geographical interest, and its subdivisions (hereinafter referred to as 'territory' or 'territories') as identified in ISO 3166[1], and is represented by 2 US-ASCII characters. This method of identification was adopted for use in the Internet through RFC 920, dated October 1984, and reaffirmed through RFC 1591, dated March 1994. All ccTLDs in use today are taken directly from the ISO 3166-1 list[2] or from the list of exceptionally reserved code elements defined by the ISO 3166 Maintenance Agency. There are two sources used by ISO to develop the 3166 list; the United Nations Terminology Bulletin *Country Names* or the *Country and Region Codes for Statistical Use* Of the UN Statistics Division.

The implementation of Internationalized Domain Name (IDN) ccTLDs introduces the (apparent) use of symbols outside the US-ASCII character set (for example characters in Cyrillic, Chinese, Arabic, and other scripts) for domain name strings. It has been generally accepted that the implementation of such proposed IDN ccTLDs must be in compliance with the IDNA protocol standards, RFC 3454, 3490, 3491, and 3492[3]. For more information on these standards see http://www.icann.org/general/idnguidelines-22feb06.htm and the references therein to RFCs 3454, 3490, 3491, and 3492.

To help clarify the issues related to the use of IDNs in the ccTLD space, the ICANN Board has asked the ccNSO and the GAC to produce an issues paper relating to the introduction and selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes[4].

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[1] http://www.iso.org/iso/en/prods-services/iso3166ma/04background-on-iso-3166/what-is-iso3166.html
[2] http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html
[3] The IDNA protocol is currently undergoing revision, as such the mentioned RFC's may be updated accordingly
[4] ICANN Board resolution of 8 December 2006 at http://www.icann.org/minutes/resolutions-08dec06.htm#_Toc27198296

In response the ccNSO and the GAC have formed a joint working group and have considered a non-exhaustive list of questions detailed below. Note that a number of the issues below are interrelated and the answer to one may potentially be dependant on the outcome of another.

To facilitate understanding and further discussion, the different questions are grouped in four clusters: 1) General, 2) Introduction, 3) Delegation and 4) Operation.

1. General issues regarding IDN ccTLDs

Which 'territories' are eligible for a IDN ccTLD?

The existence of IDNs as ccTLDs assumes a direct relationship between an IDN TLD string and a 'territory' as in ASCII ccTLDs.

a) Should this relationship be maintained?

b) If so, should the 'territories' which are potentially eligible for IDN ccTLDs be exactly the same as the 'territories', that are listed in the ISO-3166-1 list?

c) If not, should another list be used or should another mechanism be developed?

Should an IDN ccTLD string be "meaningful"?

An ASCII ccTLD string 'represents' the name of a 'territory' based on its entry into the ISO 3166-1 list.

a) Is there an obligation to make the IDN ccTLD string 'meaningful' in its representation of the name of a 'territory'? For example, whereas .uk is 'meaningful' because it is a commonly used abbreviation for United Kingdom, .au is not 'meaningful' because the commonly used abbreviations for Australia are Oz or Aus.

b) If so, how is "meaningful" determined and by whom?

How many IDN ccTLDs per script per 'territory'?

Apart from some exceptions, there is one single ASCII ccTLD per listed 'territory'.

a) Should there similarly be only a single IDN ccTLDs for a given script for each 'territory' or can there be multiple IDN ccTLD strings? For example, should there be only one equivalent of .cn in Chinese script for China or .ru in Cyrillic for Russia?

b) Could there be several IDN strings for a 'territory' in a script? If so, who would determine the number and what are the criteria?

c) If an IDN ccTLD string is not applied for, for whatever reason, should a IDN ccTLD string that could be associated with a particular 'territory', be reserved or protected in some way?

How many scripts per 'territory'?

a) Can a 'territory' apply for more then one IDN ccTLD string in different scripts if in that 'territory' more than one script is used to represent languages spoken in that location? For example in Japan more then one script is used to represent the Japanese language.

b) Can a 'territory' apply for an IDN ccTLD string even if the script is not used in a language with any 'official status' in that 'territory'? For example, if the Kanji script is accepted under the IDNA protocol, can Australia apply for a representation of Australia in that script even though neither the script nor any language deriving from it has any 'official' status in Australia?

c) If 'official status' is required who will define it and who will determine it in each case?

Number of characters in the string?

Currently, ccTLD strings are limited to 2 US-ASCII characters and gTLDs to 3 or more. It is understood that abbreviations can be problematic for internationalized TLDs as abbreviations used in US-ASCII are not used on a global basis in all scripts. The underlying nature of IDN makes the actual string inserted in the DNS always longer than two characters when expressed in Unicode (due to the IDNA requirement to prefix internationalized labels with 'xn—'). However, it is how the string appears in its non US-ASCII character set that is important. In this context:

a) Is limiting IDN ccTLD strings to 2 symbols workable across all scripts?

b) Is there any reason to maintain the 2 symbol string restriction for IDN ccTLD strings?

c) Should all IDN ccTLD strings be of a fixed length or can they be of variable length? If a variable string length is introduced for IDN ccTLDs, should it also be introduced for ASCII ccTLDs?

d) Does moving outside the current 2 symbol limitation create any security, stability or integrity issues?

Are there any 'rights' attached to a given script?

In purely technical terms, a script is a collection of symbols. However, each of those collections of symbols when put together in particular ways produce the 'languages' of groups of people sometimes defined by borders, although very

often not. These groups are often referred to as language communities.

a) Should such groups (or their governments) have special rights regarding those scripts? For example, once the Hangul script is adopted for use under the IDNA protocol, should the Korean language community be entitled to restrict its use or be required to consent to its use as a (cc)TLD?

b) Can anyone get acceptance of a script under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji script accepted under the IDNA protocol? Should that use be vetted/approved by Japan? If yes, would the same requirement apply if a script is used in more then one 'territory'

c) Should it be possible to adopt two or more 'versions' of a script with only minor differences for use under the IDNA protocol and are there issues or concerns should this occur?

2. Introduction of IDN ccTLDs

Should a list of IDN ccTLD strings be mandated?

In the US-ASCII case, ccTLD strings are currently primarily based on the ISO 3166-1 Alpha 2 list. If a similar mechanism were adopted for IDN ccTLDs, this could mean that every ISO 3166 entry would have an equivalent IDN ccTLD string(s) to represent it.

a) Is such a list necessary?

b) Who would develop such a list?

c) Should such a list be mandated?

d) If yes, by whom?

e) Who would develop the criteria and relevant policies for identifying IDN ccTLDs?

f) Under what policy or authority would the list be created?

g) If additional criteria and or policies are required, who is responsible for formulating that policy?

Who selects the IDN ccTLD string in the absence of a mandated list?

If IDN ccTLD strings are not going to come from a mandated list then, once a script is adopted for use under the IDNA protocol, how does an IDN ccTLD string become designated as the string for a particular 'territory'?

a) What are the criteria and policies to determine who can submit a request for the designation of an IDN ccTLD?

b) Who will develop the criteria and policies for determining the designation of an IDN ccTLD?

c) How will such issues as competing requests (both domestic and international) be dealt with?

d) What will happen if 2 'territories' are eligible for the same or confusingly similar strings for IDN ccTLD?

What coordination should exist between the different actors?

The deployment of IDN ccTLDs will require coordination among various actors. Irrespective of the methodology employed, some coordination questions must be addressed, such as :

a) Who are the appropriate actors?

b) What are their roles?

3. Delegation of IDN ccTLDs

Do existing ccTLD delegation policies apply to the delegation of IDN ccTLDs? If not:

a) Who can apply to have the IDN ccTLD delegated or to be the delegate for that ccTLD?

b) Who decides on the delegation and in particular:

> Is consent/involvement/knowledge of government required?

> Is consent/involvement/knowledge of incumbent ccTLD manager required?

> Is there any presumptive right of the ASCII ccTLD manager over a corresponding IDN ccTLD?

c) Who will formulate the policy for these processes?

d) Do existing US-ASCII ccTLD delegation policies for dealing with multiple applications, objections to applications or disputes apply to the same issues in the delegation of IDN ccTLDs? If not who will formulate the policies for these issues?

4. Operation of IDN ccTLDs

Is the operation and management of an IDN ccTLD different to that of an existing US-ASCII ccTLD such that there are specific global technical requirements, in addition to the general IDN standards, needed for the operation of an IDN ccTLD? If so, how are those requirements developed and who would develop them?

ANNEX 1
Comments table

Introduction

The tables provide an overview of the comments and suggestions received regarding the questions raised in the draft Issues Paper. The tables are organized according to the Sections in the Draft Issues Paper by the ccNSO-GAC IDN Working Group. Each (main) Issue as identified in the draft paper has been assigned a Issue number (Issue #). Per Issue number the issues are collated. In case a new question or issue was raised, they have been assigned an index number 0. The answers to some of the questions which were contained in (some parts) of the comments are not included.

Refinement of Questions, Clarification needed regarding the questions Section 0. **Background**

Issue #	Draft paper GAC-ccNSO	Submitted by	Comment
A 0		Hilde Thumen (.NO)	Is mandating a list: a) choosing what entries belong on the list and which form they should take; or b) choosing which list to use for a specific purpose If a), then the current list of ASCII strings that are used for ccTLDs are mandated by ISO, not ICANN, and the paragraph in the background starting with "currently, a ccTLD string is..." should be re-written. Suggestion for clarification: "Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the two characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6)." to be replaced by something like: "Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory, and are assigned according to the ISO 3166 list. The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6)." If b) (mandating is picking which list to use) then I have problems seeing how anyone else than ICANN can mandate a list of IDN ccTLDs - and then question b) in section 2 under "Should a list of IDN ccTLD strings be mandated?" is superfluous.

			The issue paper should perhaps mention the tension between needing a solution As Soon As Possible and getting a solution that can handle the complexity. While this is not a question as such it is the core challenge of the issue.

Refinement of Questions, Clarification needed regarding the questions **Section 1. General Issues regarding IDN ccTLDs**

Issue #	Draft paper GAC-ccNSO	Submitted by	Comment
B 0	**Additional question /Issue**	Hilde Thumen (.NO)	Are the territories covered by the .IDNs exactly the same territories as the ASCII ccTLDs (as noted in the ISO list)? This can partly be seen as a follow-up to the question of whether an IDN ccTLD string should be "meaningful". Some territories may consist of distinct separate areas that speak different languages. Should these be divided up in some manner when introducing one or more .IDNs? And example of this is .sj (Svalbard and Jan Mayen). Svalbard and Jan Mayen are two separate islands; on Jan Mayen Norwegian is the main (only) language, while on Svalbard there is a large Russian community in addition to the Norwegian speaking one. Should there be a Cyrillic version of .sj? Or if a Cyrillic version should exist, should it be a translation of Svalbard?
B 1	**Should string be "meaningful"?**	NTIA (USG)	Would this be in lieu of a mandated list? If so who would determine if the selection was "meaningful" and how would that be determined?
B 2	**How many IDN ccTLDs per character set?** Should there similarly be a single or several IDN ccTLDs for a given character set for each territory? For example, should there be only one equivalent of .cn in chinese characters or .ru in cyrillic? Or could there be several IDN strings for China in a chinese character set?	Hilde Thumen .NO	If a territory are not allowed to (or currently do not wish to) apply for IDN strings in languages that currently does not have "official" status in the territory, should there be some protection against others registering the relevant string?
		NTIA (USG)	Who would determine? Would there be criteria developed or would this be a sole decision of the country, territory or area of geographical interest being

			represented? Is this a technical or policy issue? Or both?
B3	**Number of characters sets per territory?** Restrict IDN string to two code points? Does it work across all character sets? Does this create any security, stability or integrity issues?	Hilde Thumen .NO	If the .IDN ccTLD strings are not limited to 2 characters, shouldn't also the ASCII versions be allowed more letters? For example if you can have the Greek version of "Greece" written in the Greek alphabet or .norvége as an .IDN, shouldn't you also allow .norge/.noreg? And if so, do differentiating between ccTLDs and gTLDs become a problem? Or do we just stick with the territories from the ISO list when deciding what is a ccTLD? (Provided that the decision has been made that the territories covered by the .IDNs are exactly the same territories as for the ASCII ccTLDs.) How do we avoid inflation in ccTLDs? Is it really useful for the domain name holders or the users of the Internet that there is a .no, .nor, .norge, .noreg, .norvége, .norwegen, .norway etc? Or will this just create confusion?
		NTIA (USG)	Same issue as above. (Editor: B2)
		Japan	It seems that there are two issues described under this heading, that is, "the number of character sets a territory can have" and "the requirement of the official status for a character set in a territory for the limitation of the use". We assume that the issue of the right of character set arise because, where a territory/country use a character set in a language with official status, some other territory/country is examining the use of such a character set that is not used in such a way for its IDN-ccTLD string. Rather than being handled as an element of "number" issue, the official status issue might better be discussed along with the right issue.

		Egypt	[I'm not really sure if the below question holds] On the other hand, can a territory apply for an IDN ccTLD string of another territory using the character set of its official language? i.e. can China apply to register Egypt in Chinese or Egypt apply to register China in Arabic?
B4	**Number of Characters in a String** it is how the string appears in its non-ASCII character set that is important. In that respect : a) Is there any reason to maintain the 2 character string restriction for IDN ccTLD strings? b) Is limiting IDN ccTLD strings to 2 characters workable across all character sets? c) Does moving outside the current 2 character limitation create any security, stability or integrity issues?	NTIA (USG)	The first 2 questions seem moot since the technical answer to b) is no then a) is no by default.
		Olivier Guillard	"It is how the string appears in its non-ascii character set that is important" which name would be delegated, the ascii xn--something form or the idn one ?

			Also, and as already pointed out, re you sure that, for example, following the encoding algorithm you will never produce names such as "xn-cocacola" (for coco island in wolof for example). In that case, what would say the coca cola company?
B5	**Are there "rights" attached to a given character set?** a. Can anyone request a string in every set of codepoints, or are there restrictions? b. Ownership rights over code points? Can two "versions" of set of code points be accepted	Minjung Park (.KR)	[revised version] : Are there any rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should the Korean online language community be required to consent to its use as a TLD?
		NTIA (USG)	a) Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan? Although this is phrased as a gTLD question it would seem to be applicable for the ccTLD environment.
		Egypt	a.)Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan? If yes, what about languages spoken by more that one country? Are there any language authorities who should be part of the acceptance process?
		Hilde Thumen .NO	Are the territories covered by the .IDNs exactly the same territories as the ASCII ccTLDs (as noted in the ISO list)?

			This can partly be seen as a follow-up to the question of whether an IDN ccTLD string should be "meaningful". Some territories may consist of distinct separate areas that speak different languages. Should these be divided up in some manner when introducing one or more .IDNs? And example of this is .sj (Svalbard and Jan Mayen). Svalbard and Jan Mayen are two separate islands; on Jan Mayen Norwegian is the main (only) language, while on Svalbard there is a large Russian community in addition to the Norwegian speaking one. Should there be a Cyrillic version of .sj? Or if a Cyrillic version should exist, should it be a translation of Svalbard?
		Japan	Questions a) and b) seem to ask the same question. A country's ownership right over a character set means that the use of the character set is required to get an approval of the country. Moreover, this issue paper is dealt with IDN-ccTLD, an example of gTLD in Question a) seems not appropriate. If these are the case, we do not need a).

Refinement of Questions, Clarification needed regarding the questions **Section 2. General Issues regarding IDN ccTLDs**

Issue #	Draft paper GAC-ccNSO	Submitted by	Comment
C 0	**Newly added questions/ issues**	Japan	In the case of the current ccTLD, Japan understands that, when John Postel designated the string of ccTLD for each country, ISO-3166 list had already been there, and had been used long and wide. (A term 'wide' could be arguable). On the other hand, in the case of IDN-ccTLD, there is no such list. Therefore, it seems to us that when we discuss the issues related to whether a list should be mandated, following type of questions might be discussed as first step: · Who makes a list of IDN ccTLD strings? · How is a list compiled?

| | | | After these kind of questions, we can proceed to following questions like "Should such a list be mandated?", "If yes, by whom?" and "Under what policy?" etc.

Of course, we could have a question of "Do we need a list?" before entering the entire list issue. |
|---|---|---|---|
| **C 1** | **Should a list of IDN ccTLD strings be mandated?**

Examples of related questions include :

a) Should such a list be mandated? (If no, see below)
b) If yes, by whom?

c) Under what policy?

d) If new policy is required, who is responsible for formulating that policy? | Hilde Thumen (.NO) | Irrespective of whether there is a mandated list or not collisions will have to be dealt with:

How do you deal with "translations" that look identical but are different (Latin versus Cyrillic being one of the more obvious examples)?

What happens if several territories claim the same string as a translation of their ccTLD? |
| **C 2** | **Who picks a string for a territory in the absence of a mandated list?**

Related questions include : | NTIA (USG) | How would the selection criteria for determining IDN ccTLDs be developed absent a "list" |

	a) Who will formulate the policy for this process? b) Who can 'apply' for a string to be designated as a ccTLD for the territory (this is different to applying for the delegation or to be the manager). For example, does such an application have to come from the government of the territory? If so, which department of the government? What happens if there are competing 'claims'? c) Should the string applied for be "meaningful" (see above) with respect to the territory ? if so, how is it to be determined that it does?		
C 3	**What coordination between the different actors?** Some coordination questions must be addressed, such as : a. What areas of the policy or process should be the subject of global policy and what areas should be the	NTIA (USG)	Who are the actors, what are their roles?

	autonomous responsibility of the relevant territory level? b) How will interaction between actors using a same character set be organised?		
		Egypt	How to organize interaction between actors using a same character set ? and actors using overlapping character sets (such as Arabic, Farsi, Urdu, ….)?

Refinement of Questions, Clarification needed regarding the questions Section 3. Delegation of IDN ccTLDs

Issue #	Draft paper GAC-ccNSO	Submitted by	Comment
D 0	**Additional questions**	NTIA (USG)	Do existing ccTLD delegation/redelegation policies apply to IDN ccTLDs?
		Hilde Thumen (.NO)	Delegation and re-delegation of an ASCII ccTLD is a national issue and should be resolved nationally and in accordance with national laws, taking into account the views of all local stakeholders and the rights of the existing ccTLD registry. Does the same apply to an IDN ccTLD? If not, which stakeholders should be taken into account when delegating an IDN ccTLD? If the delegation of an IDN ccTLD is a national issue, how will ICANN know whether an authoritative local decision has been made?

D 1	**Who can apply to have the IDN ccTLD delegated or to be the delegate for that ccTLD?**		No Comments
D 2	**Who decides on the delegation?** In particular : a. Is consent/ involvement/ knowledge of government required? b. Is consent/ involvement/ knowledge of incumbent ccTLD manager required? c. Is there any presumptive right of the ASCII ccTLD manager over the IDN ccTLD?	Egypt	c. Is there any presumptive right of the ASCII ccTLD manager / the government over the IDN ccTLD? What happens if there are competing 'claims'?
D 3	**Who will formulate the policy for these processes?**		No comments
D 4	**Should there be a mandated policy/process for dealing with multiple applications, objections to applications or disputes?**		No comments

Refinement of Questions, Clarification needed regarding the questions **Section 4. Operation of IDN ccTLDs**

Issue #	Draft paper GAC-ccNSO	Submitted by	Comment
E 0	Additional questions / issues	Egypt	What rules for the accreditation of registrars? [New paragraph] Prevention of cybersquatting [Added paragraph from J. Karklins comments]: In order to protect well established and running domains, should there be sunrise periods when registration priority of new IDN ccTLDs would be given to existing domain name holders on voluntary basis ?
E 1	Is the operation and management of an IDN ccTLD different to that of an existing ccTLD such that there be specific global technical requirements related to running the IDN ccTLD?		

ANNEX 2

Full Text of Comments

Comments Japan

ccNSO-GAC IDN Working Group
DRAFT FOR DISCUSSION

ISSUES PAPER
Selection of IDN ccTLDs associated with
the ISO 3166-1 two letter codes

Background

A ccTLD string (like .de, .uk) is deemed to 'represent' a territory in the DNS and by extension on the World Wide Web.

Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the 2 characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list[5]. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6).

The introduction of Internationalized Domain Names ccTLDs requires the use of non-ASCII "character sets" (such as cyrillic, chinese, arabic, etc...). These character sets have to respect the two following conditions :

- be included in the Unicode tables and,

- be included in the list of characters that are valid IDN characters pursuant to the IDNA protocol requirements.

For more information on these conditions see http://www.icann.org/general/idn-guidelines-22feb06.htm and the references therein to RFCs 3454, 3490, 3491, and 3492. [Remark : this could be put in a footnote]

To help clarify the issues related to IDNs in ccTLD space, the ICANN Board has asked the ccNSO and the GAC to produce an issues paper relating to the introduction and selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes.

The ccNSO and the GAC have formed a joint working group and on 5 February 2007, ccNSO Chair Chris Disspain emailed a non-exhaustive list of questions for the joint GAC/ccNSO IDN Working Group to consider. Set out below is an

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[5] URL for the ISO list

expansion of some of those questions which form the starting point of the requested issues paper. The original questions appear in Appendix A. Note that a number of the issues below are interrelated and potentially the answer to one may be dependant on the outcome of another.

To facilitate understanding and further discussion, the different questions are grouped in four major clusters, following the logical order : 1) General issues, 2) Introduction, 3) Delegation and 4) Operation of IDN ccTLDs.

1. General issues regarding IDN ccTLDs

Should an IDN ccTLD string be "meaningful" ?

Is there an obligation to make the IDN ccTLD string 'meaningful' as a representation of the territory or is it sufficient for it to be in the character set and to accept that the 'meaning' will be learned? For example, whereas .uk is 'meaningful' because it is a commonly used abbreviation for United Kingdom, .au is not 'meaningful' as the commonly used abbreviations for Australia are Oz or Aus.

How many IDN ccTLDs per character set ?

Apart from some exceptions, there is one single ASCII ccTLD per territory. Should there similarly be a single or several IDN ccTLDs for a given character set for each territory ? For example, should there be only one equivalent of .cn in chinese characters or .ru in cyrillic ? Or could there be several IDN strings for China in a chinese character set ?

Number of character sets per territory ?

Should there be limitations on the number of IDN ccTLD strings a territory can have and should there be a requirement for some level of 'status' for a character set in the territory? In particular, can a territory apply for an IDN ccTLD string even if the character set is not used in a language with any official status in the territory? For example, if the Kanji character set is accepted under the IDNA protocol, can Australia apply for something representing Australia in that character set even though neither the character set nor any language deriving from it has any 'official' status in Australia?

It seems that there are two issues described under this heading, that is, "the number of character sets a territory can have" and "the requirement of the official status for a character set in a territory for the limitation of the use".

We assume that the issue of the right of character set arise because, where a territory/country use a character set in a language with official status, some other territory/country is examining the use of such a character set that is not used in such a way for its IDN-ccTLD string.

Number of characters in the string ?

Currently, ccTLD strings are limited to 2 characters and gTLDs to 3 or more. The underlying nature of the Internationalized Domain Names makes the actual string inserted in the DNS always longer than two characters when expressed in Unicode : [xn--....]; however, it is how the string appears in its non-ASCII character set that is important. In that respect :

a) Is there any reason to maintain the 2 character string restriction for IDN ccTLD strings?

b) Is limiting .IDN ccTLD strings to 2 characters workable across all character sets?

c) Does moving outside the current 2 character limitation create any security, stability or integrity issues?

Are there any 'rights' attached to a given character set ?

In purely technical terms, a character set is merely a collection of symbols. However, each of those collections of symbols when put together in particular ways produce the 'languages' of groups of people sometimes defined by borders, although very often not. Should these groups (or their governments) have special rights regarding those character sets ? Examples of related questions include :

a) Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan?

b) Are there any 'ownership' rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should Korea be entitled to restrict its use or be required to consent to its use by another ccTLD?

c) Is it possible that two or more 'versions' of a character set with only minor differences could be accepted under the IDNA protocol and are there issues or concerns in that event?

Moreover, this issue paper is dealt with IDN-ccTLD, an example of gTLD in Question a) seems not appropriate.

If these are the case, we do not need a).

2. Introduction of IDN ccTLDs

In the case of the current ccTLD, Japan understands that, when John Postel designated the string of ccTLD for each country, ISO-3166 list had already been there, and had been used long and wide. (A term 'wide' could be arguable). On the other hand, in the case of IDN-ccTLD, there is no such list.

Therefore, it seems to us that when we discuss the issues related to whether a list should be mandated, following type of questions might be discussed as first step:
- *Who makes a list of IDN ccTLD strings?*
- *How is a list compiled?*

After these kind of questions, we can proceed to following questions like "Should such a list be mandated?", "If yes, by whom?" and "Under what policy?" etc.

Of course, we could have a question of "Do we need a list?" before entering the entire list issue.

Should a list of IDN ccTLD strings be mandated ?

In the ASCII case, ccTLD strings are mandated based on the ISO 3166 list. If the same methodology were applied for IDN ccTLDs, some authoritative body would, for each character set approved under the IDNA protocol, mandate a ccTLD string in that character set to represent each territory currently on the ISO list. This would mean that every territory would have a mandated ccTLD string to represent it in every character set and such string would, presumably remain reserved until delegated to the territory.

Examples of related questions include :

a) Should such a list be mandated? (If no, see below)

b) If yes, by whom ? (NOTE that it is understood that ISO has been previously asked and declined such a role)

c) Under what policy?

d) If new policy is required, who is responsible for formulating that policy?

Who picks a string for a territory in the absence of a mandated list ?

If IDN ccTLD strings are not going to come from a mandated list then, once a character set is accepted, how does an IDN ccTLD string become designated as the string for a particular territory?

Examples of related questions include :

a) Who will formulate the policy for this process?

b) Who can 'apply' for a string to be designated as a ccTLD for the territory (this is different to applying for the delegation or to be the manager). For example, does such an application have to come from the government of the territory? If so, which department of the government? What happens if there are competing 'claims'?

c) Should the string applied for be "meaningful" (see above) with respect to the territory ? if so, how is it to be determined that it does?

What coordination between the different actors ?

Irrespective of the methodology employed, some coordination questions must be addressed, such as :

a) What should be the balance between general common rules and autonomous responsibilities by the territory level ?

b) How to organize interaction between actors using a same character set ?

3. Delegation of IDN ccTLDs

Once a string has been designated as an IDN ccTLD for a territory, by whatever method, the processes for delegation raise, among others, the following questions :

Who can apply to have the IDN ccTLD delegated or to be delegate for that ccTLD?

Who decides on the delegation ?

In particular :

a) Is consent/involvement/knowledge of government required?

b) Is consent/involvement/knowledge of incumbent ccTLD manager required?

c) Is there any presumptive right of the ASCII ccTLD manager over the IDN ccTLD?

Who will formulate the policy for these processes?

Should there be a mandated policy/process for dealing with multiple applications, objections to applications or disputes ?

4. Operation of IDN ccTLDs

Is the operation and management of an IDN ccTLD different to that of an existing ccTLD such that there be specific global technical requirements related to running the IDN ccTLD.

ccNSO-GAC IDN Working Group
DRAFT FOR DISCUSSION

ISSUES PAPER on IDN ccTLDs

Background

A ccTLD string (like .de, .uk) is deemed to 'represent' a territory in the DNS and by extension on the World Wide Web.

Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the 2 characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list[6]. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6).

The introduction of Internationalized Domain Names ccTLDs requires the use of non-ASCII "character sets" (such as cyrillic, chinese, arabic, etc...). These character sets have to respect the two following conditions :

- be included in the Unicode tables and,

- be included in the list of characters that are valid IDN characters pursuant to the IDNA protocol requirements.

---

[6] URL for the ISO list

For more information on these conditions see http://www.icann.org/general/idn-guidelines-22feb06.htm and the references therein to RFCs 3454, 3490, 3491, and 3492. [Remark : this could be put in a footnote]

To help clarify the issues related to IDNs in ccTLD space, the ICANN Board has asked the ccNSO and the GAC to produce an issues paper relating to the introduction and selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes.

The ccNSO and the GAC have formed a joint working group and on 5 February 2007, ccNSO Chair Chris Disspain emailed a non-exhaustive list of questions for the joint GAC/ccNSO IDN Working Group to consider. Set out below is an expansion of some of those questions which form the starting point of the requested issues paper. The original questions appear in Appendix A. Note that a number of the issues below are interrelated and potentially the answer to one may be dependant on the outcome of another.

To facilitate understanding and further discussion, the different questions are grouped in four major clusters, following the logical order : 1) General issues, 2) Introduction, 3) Delegation and 4) Operation of IDN ccTLDs.

1. General issues regarding IDN ccTLDs

Should an IDN ccTLD string be "meaningful" ?

Is there an obligation to make the IDN ccTLD string 'meaningful' as a representation of the territory or is it sufficient for it to be in the character set and to accept that the 'meaning' will be learned? For example, whereas .uk is 'meaningful' because it is a commonly used abbreviation for United Kingdom, .au is not 'meaningful' as the commonly used abbreviations for Australia are Oz or Aus.

How many IDN ccTLDs per character set ?

Apart from some exceptions, there is one single ASCII ccTLD per territory. Should there similarly be a single or several IDN ccTLDs for a given character set for each territory ? For example, should there be only one equivalent of .cn in chinese characters or .ru in cyrillic ? Or could there be several IDN strings for China in a chinese character set ?

Number of character sets per territory ?

Should there be limitations on the number of IDN ccTLD strings a territory can have and should there be a requirement for some level of 'status' for a character set in the territory? In particular, can a territory apply for an IDN ccTLD string even if the character set is not used in a language with any official status in the territory? For example, if the Kanji character set is accepted under the IDNA protocol, can Australia apply for something representing Australia in that

character set even though neither the character set nor any language deriving from it has any 'official' status in Australia?

Number of characters in the string ?

Currently, ccTLD strings are limited to 2 characters and gTLDs to 3 or more. The underlying nature of the Internationalized Domain Names makes the actual string inserted in the DNS always longer than two characters when expressed in Unicode : [xn--....]; however, it is how the string appears in its non-ASCII character set that is important. In that respect :

d) Is there any reason to maintain the 2 character string restriction for IDN ccTLD strings?

e) Is limiting .IDN ccTLD strings to 2 characters workable across all character sets?

f) Does moving outside the current 2 character limitation create any security, stability or integrity issues?

Are there any 'rights' attached to a given character set ?

In purely technical terms, a character set is merely a collection of symbols. However, each of those collections of symbols when put together in particular ways produce the 'languages' of groups of people sometimes defined by borders, although very often not. Should these groups (or their governments) have special rights regarding those character sets ? Examples of related questions include :

d) Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan? If yes, what about languages spoken by more that one country? Are there any language authorities who should be part of the acceptance process?

e) Are there any 'ownership' rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should Korea be entitled to restrict its use or be required to consent to its use by another ccTLD?

f) Is it possible that two or more 'versions' of a character set with only minor differences could be accepted under the IDNA protocol and are there issues or concerns in that event?

2. Introduction of IDN ccTLDs

Should a list of IDN ccTLD strings be mandated ?

In the ASCII case, ccTLD strings are mandated based on the ISO 3166 list. If the same methodology were applied for IDN ccTLDs, some authoritative body would, for each character set approved under the IDNA protocol, mandate a ccTLD string in that character set to represent each territory currently on the ISO list. This would mean that every territory would have a mandated ccTLD string to represent it in every character set and such string would, presumably remain reserved until delegated to the territory.

Examples of related questions include :

e) Should such a list be mandated? (If no, see below)

f) If yes, by whom ? (NOTE that it is understood that ISO has been previously asked and declined such a role)

g) Under what policy?

h) If new policy is required, who is responsible for formulating that policy?

Who picks a string for a territory in the absence of a mandated list ?

If IDN ccTLD strings are not going to come from a mandated list then, once a character set is accepted, how does an IDN ccTLD string become designated as the string for a particular territory?

Examples of related questions include :

d) Who will formulate the policy for this process?

e) Who can 'apply' for a string to be designated as a ccTLD for the territory (this is different to applying for the delegation or to be the manager). For example, does such an application have to come from the government of the territory? If so, which department of the government? What happens if there are competing 'claims'?

f) Should the string applied for be "meaningful" (see above) with respect to the territory ? if so, how is it to be determined that it does?

What coordination between the different actors ? [*New paragraph*]

Irrespective of the methodology employed, some coordination questions must be addressed, such as :

    c) What should be the balance between general common rules and autonomous responsibilities by the territory level ?

    d) How to organize interaction between actors using a same character set ? and actors using overlapping character sets (such as Arabic, Farsi, Urdu, ...)?

3. Delegation of IDN ccTLDs

Once a string has been designated as an IDN ccTLD for a territory, by whatever method, the processes for delegation raise, among others, the following questions :

Who can apply to have the IDN ccTLD delegated or to be delegate for that ccTLD?

Who decides on the delegation ?

In particular :

    d) Is consent/involvement/knowledge of government required?

    e) Is consent/involvement/knowledge of incumbent ccTLD manager required?

    f) Is there any presumptive right of the ASCII ccTLD manager / the government over the IDN ccTLD? What happens if there are competing 'claims'?

Who will formulate the policy for these processes?

Should there be a mandated policy/process for dealing with multiple applications, objections to applications or disputes ?

4. Operation of IDN ccTLDs

Should there be specific technical requirements related to running the IDN ccTLD ?

What rules for the accreditation of registrars? [New paragraph]

Prevention of cybersquatting [Added paragraph from J. Karklins comments]

In order to protect well established and running domains, should there be sunrise periods when registration priority of new IDN ccTLDs would be given to existing domain name holders on voluntary basis ?

Comments United States of America

ccNSO-GAC IDN Working Group DRAFT FOR DISCUSSION

ISSUES PAPER
Selection of IDN ccTLDs associated with
the ISO 3166-1 two letter codes

Background

A ccTLD string (like .jp, .uk) is deemed to 'represent' a territory in the DNS and by extension on the World Wide Web.

Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the 2 characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list[1]. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6).

The introduction of Internationalized Domain Name ccTLDs requires the use of non-ASCII "character sets" (such as cyrillic, chinese, arabic, etc...). These character sets have to respect the two following conditions :

   -be included in the Unicode tables and,

   -be included in the list of characters that are valid IDN characters pursuant to the IDNA protocol requirements.

For more information on these conditions see http://www.icann.org/general/idnguidelines-22feb06.htm and the references therein to RFCs 3454, 3490, 3491, and 3492.

To help clarify the issues related to IDNs in the ccTLD space, the ICANN Board has asked the ccNSO and the GAC to produce an issues paper relating to the introduction and selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes.

The ccNSO and the GAC have formed a joint working group and a non-exhaustive list of questions has been considered by the working group. Set out below is an expansion of those questions which can form the starting point of the requested issues paper. The original questions appear in Appendix A. Note that a number of the issues below are interrelated and potentially the answer to one may be dependant on the outcome of another.

To facilitate understanding and further discussion, the different questions are grouped in four clusters: 1) General issues, 2) Introduction, 3) Delegation and 4) Operation of IDN ccTLDs.

1. General issues regarding IDN ccTLDs

B 1Should an IDN ccTLD string be "meaningful"?

Given that a ccTLD string 'represents' the territory, is there an obligation to make the IDN ccTLD string 'meaningful' as a representation of the territory or is it sufficient for it to be in the character set and to accept that the 'meaning' will be learned? For example, whereas .uk is 'meaningful' because it is a commonly used abbreviation for United Kingdom, .au is not 'meaningful' because the commonly used abbreviations for Australia are Oz or Aus. Would this be in lieu of a mandated list? If so who would determine if the selection was "meaningful" and how would that be determined?

B2 How many IDN ccTLDs per character set?

Apart from some exceptions, there is one single ASCII ccTLD per territory. Should there similarly be a single or several IDN ccTLDs for a given character set for each territory? For example, should there be only one equivalent of .cn in chinese characters or .ru in cyrillic? Or could there be several IDN strings for China in a chinese character set? Who would determine? Would there be criteria developed or would this be a sole decision of the country, territory or area of geographical interest being represented?   Is this a technical or policy issue? Or both?

B3 Number of character sets per territory?

Should there be limitations on the number of IDN ccTLD strings a territory can have and should there be a requirement for some level of 'status' for a character set in the territory? In particular, can a territory apply for an IDN ccTLD string even if the character set is not used in a language with any official status in the territory? For example, if the Kanji character set is accepted under the IDNA protocol, can Australia apply for something representing Australia in that character set even though neither the character set nor any language deriving from it has any 'official' status in Australia? Same issue as above.

B4 Number of characters in the string?

Currently, ccTLD strings are limited to 2 characters and gTLDs to 3 or more. The underlying nature of Internationalized Domain Names makes the actual string inserted in the DNS always longer than two characters when expressed in Unicode ([xn--….]). However, it is how the string appears in its non-ASCII character set that is important. In that respect :

a) Is there any reason to maintain the 2 character string restriction for IDN ccTLD strings?

b) Is limiting IDN ccTLD strings to 2 characters workable across all character sets?

c) Does moving outside the current 2 character limitation create any security, stability or integrity issues?

==The first 2 questions seem moot since the technical answer to b) is no then a) is no by default.==

Are there any 'rights' attached to a given character set?

In purely technical terms, a character set is merely a collection of symbols. However, each of those collections of symbols when put together in particular ways produce the 'languages' of groups of people sometimes defined by borders, although very often not. Should these groups (or their governments) have special rights regarding those character sets? Examples of related questions include :

a) Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan? ==Although this is phrased as a gTLD question it would seem to be applicable for the ccTLD environment.==

b) Are there any 'ownership' rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should Korea be entitled to restrict its use or be required to consent to its use by another ccTLD?

c) Is it possible that two or more 'versions' of a character set with only minor differences could be accepted under the IDNA protocol and are there issues or concerns in that event?

2. Introduction of IDN ccTLDs

Should a list of IDN ccTLD strings be mandated?

In the ASCII case, ccTLD strings are mandated based on the ISO 3166 list. If the same methodology were applied for IDN ccTLDs, some authoritative body would, for each character set approved under the IDNA protocol, mandate a ccTLD string in that character set to represent each territory currently on the ISO list. This would mean that every territory would have a mandated ccTLD string to represent it in every character set and such string would, presumably remain reserved until delegated to the territory.

Examples of related questions include :

a) Should such a list be mandated? (If no, see below)

b) If yes, by whom?

c) Under what policy?

d) If new policy is required, who is responsible for formulating that policy?

Who picks a string for a territory in the absence of a mandated list?

If IDN ccTLD strings are not going to come from a mandated list then, once a character

set is accepted, how does an IDN ccTLD string become designated as the string for a particular territory?
Examples of related questions include :

a) Who will formulate the policy for this process?

b) Who can 'apply' for a string to be designated as a ccTLD for the territory (this is different to applying for the delegation or to be the manager). For example, does such an application have to come from the government of the territory? If so, which department of the government? What happens if there are competing 'claims'?

c) Should the string applied for be "meaningful" (see above) with respect to the territory ? if so, how is it to be determined that it does?

How would the selection criteria for determining IDN ccTLDs be developed absent a "llist"

What coordination between the different actors?

Irrespective of the methodology employed, some coordination questions must be addressed, such as :

a) What areas of the policy or process should be the subject of global policy and what areas should be the autonomous responsibility of the relevant territory level?

b) How will interaction between actors using a same character set be organised?

Who are the actors, what are their roles?

3. Delegation of IDN ccTLDs

Once a string has been designated as an IDN ccTLD for a territory, by whatever method, the processes for delegation raise, among others, the following questions :

Who can apply to have the IDN ccTLD delegated or to be the delegate for that ccTLD?

Who decides on the delegation?

In particular :

a) Is consent/involvement/knowledge of government required?

b) Is consent/involvement/knowledge of incumbent ccTLD manager required?

c) Is there any presumptive right of the ASCII ccTLD manager over the IDN

ccTLD?

Who will formulate the policy for these processes?

Should there be a mandated policy/process for dealing with multiple applications, objections to applications or disputes?

Do existing ccTLD delegation/redelegation policies apply to IDN ccTLDs?

4. Operation of IDN ccTLDs

Is the operation and management of an IDN ccTLD different to that of an existing ccTLD such that there be specific global technical requirements related to running the IDN ccTLD?

Slovakia comment
Slovakia's comments on the issue

1. General issues regarding IDN ccTLDs

1.1 Should an IDN ccTLD string be „meaningful" ?

Under the current restrictions, this question is irrelevant as most of the country codes are „meaningless" in relation to what is used as a country „abbreviation". On the other side due to the same rules, it is perfectly clear where to find the „meaning" of the used letters for ccTLD (ISO 3166) and I recommend to keep it like that.
Generally, the reason to have IDN is to have domain names nationaly / culturaly localized, therefore root server domain should be "meaningful" to reflect this fact.

1.2 How many IDN ccTLDs per character set?

We recommend to keep only one as to have several characters can cause dualities which are useless – what sense could there be for having .cn in two different sets except for register business and confusion for the people using it ? (a common user question should be „I remember it was www.ministryofchina. but was it <first character set> or <second character set> on the end ?").
Another reason to keep only one is to don't force users to buy and keep their DN again (to protect important trademarks, government prohibited / requested DNs etc.)
We recommend to your attention the consideration if mixing the sets should be allowed (one for ccTLD, another one for 2nd level TLD).

1.3 Number of character sets per territory ?

We are strictly against usage of the character sets that are not officialy agreed in the country (official languages). In this case, we'll give a counterquestion for our country - what reason there should be to maintain for example Kanji ccTLD in Slovakia while there are not even PCs and keyboards that can defaultly use it ?

1.4 Number of characters in the string ?

a) As for the question 1.1 – the currently used system based on ISO 3166 is a good solution. The meaning of ccTLDs is "Country Code Top Level Domains", which says everything. I don't see any such resctriction necessary for gTLDs.

b) We recommend it.

c) No.

1.5 Are there any "rights" attached to a given character set?

A) It's a matter of view. There is no reason for Slovakia to restrict usage of its character set in gTLD where it is not represented as a country (i.e. .org, .net etc.). However,

using its set under gTLD could be considered purely speculative, as it gives you more variations of registration of the same domain name depending on which combination of accents / punctuation in the word will you use. For example, you can ask for www.hobby.gTLD but using slovak, you can also register pretty the same with a punctuation on "y".
On the other side, Slovakia is represented also under .eu and there we are strongly against usage of our character set for the above mentioned reasons and also because the whole .eu Sunrise period would become useless in this way.

B) Generally no, but if the country is geographically / otherwise represented under the given ccTLD (.eu, .asia etc.), it should have a veto status.
And another example to consider – to ask for example for ".slovaque" ccTLD as an IDN under french territory / ccTLD (it is slovakia in french) is absurd and highly sensitive for the country and we would strongly oppose to have such a possiblity within the rules.

C) As in the point A).

2. Introduction of IDN ccTLDs

A) Yes
B) By the current ccTLD registry (or current ccTLD model) with acceptation of the government and local internet community to avoid dualities and speculations.
C) Under the same policy as for the original ccTLD model.
D) Because it is clearly a sensitive topic, I recommend responsible government and ccTLD registry.

2.1 Who picks a string for a territory in the absence of a mandated list?

Same parties as in 2B.

2.2 What coordination between the different actors?

A) The basic principles should be set globally (how to ask for IDNA change, delegation of new TLD in a different character set, resctrictions, responsibility etc.), all decisions should follow the same rules and processes as it is now for the english character set.

B) This question needs a clarification – is there supposed to be a different interaction from the one used now for english (common ASCII) character set ? The principles are pretty the same.

3. Delegation of IDN ccTLDs

3.1 Who can apply to have the IDN ccTLD delegated or to be the delegate for that ccTLD

We recommend to keep the same process of the current ccTLD.

3.2 Who decides on the delegation?

   A) Strictly recommended.
   B) Recommended.
   C) It depends on the territory model.

3.3 Who will formulate the policy for these processes?

There should be a global policy, probably prepared by GAC (in a similar way to re-delegation principles) / ICANN.

3.4 Should there be a mandated policy / process for dealing with multiple applications, objections to applications or disputes ?

Yes. TLDs management have to be stable and therefore it needs a strict rules. We should follow the current process model of delegation / redelegation.

4. Operation of IDN ccTLDs

No, but the operation of new IDN ccTLD should be preceded by a functionable implementation of IDN within the existing ccTLD.

Comments on Draft Issues Report on IDN ccTLDs

Olivier Guillard, .fr:

Personal comments:

- It would be good for readybility to have a section dedicated to documentation and references (rather than adding ref in different places in the text);

- Page two:

   Q:" number of characters in the string ? "
   ...
   "It is how the string appears in its non-ascii character
    set that is important"
   ...

Question is: are you sure ?

BTW, legally speaking, which name would be delegated, the ascii xn--something form or the idn one ?

Also, and as already pointed out, re you sure that, for example, following the encoding algorithm you will never produce names such as "xn-cocacola" (for coco island in wolof for example). In that case, what would say the coca cola company ?

As a fact, delegating a single idn name produce the delegation of TWO references: the raw xn-- one (that could be used as such), and the non ascii one, as interpreted by applications.

I don't say that what you say is wrong, I say that it may need more explanation (may need to be prooved).

Minjung Park .kr

Comments on behalf of NIDA(National Internet Development Agency of Korea), the country code top level domain registry for .kr.

2. Introduction of IDN ccTLDs :

b) Suggestion for clarification

[current version] : Are there any 'ownership' rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should Korea be entitled to restrict its use or be required to consent to its use by another ccTLD?

[revised version] : Are there any rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should the Korean online language community be required to consent to its use as a TLD?

Hilde Thunem, .no

Comments on behalf of Norid, the country code top level domain registry for .no.

The issue of .IDN ccTLDs is challenging, mostly because the different parts of the global Internet community may have different needs in respect to the timetable. There are ccTLDs with local Internet communities that already have a real need for .IDNs to be implemented as soon as possible. This need should be respected. At the same time, as the draft issue paper shows, the issues connected to .IDN ccTLDs are fairly complex. The main challenge will therefore be to find an acceptable balance between the need for the solution to be quick, and the need for it to be robust and handle all the complexity.

Suggestions for questions not covered in the current draft

Under 1. General issues regarding IDN ccTLDs:

Are the territories covered by the .IDNs exactly the same territories as the ASCII ccTLDs (as noted in the ISO list)?
This can partly be seen as a follow-up to the question of whether an IDN ccTLD string should be "meaningful". Some territories may consist of distinct separate areas that speak different languages. Should these be divided up in some manner when introducing one or more .IDNs? And example of this is .sj (Svalbard and Jan Mayen). Svalbard and Jan Mayen are two separate islands; on Jan Mayen Norwegian is the main (only) language, while on Svalbard there is a large Russian community in addition to the Norwegian speaking one. Should there be a Cyrillic version of .sj? Or if a Cyrillic version should exist, should it be a translation of Svalbard?

A follow-up to the question of number of character sets per territory:
If a territory are not allowed to (or currently do not wish to) apply for IDN strings in languages that currently does not have "official" status in the territory, should there be some protection against others registering the relevant string? So if the future the population using Kanji in Australia becomes large enough for it to gain status as a "official" character set of Australia, the Kanji IDN string for the territory would still be available.

A follow-up to the questions regarding number of characters in the string:
If the .IDN ccTLD strings are not limited to 2 characters, shouldn't also the ASCII versions be allowed more letters?
For example if you can have the Greek version of "Greece" written in the Greek alphabet or .norvége as an .IDN, shouldn't you also allow .norge/.noreg? And if so, do differentiating between ccTLDs and gTLDs become a problem? Or do we just stick with the territories from the ISO list when deciding what is a ccTLD? (Provided that the decision has been made that the territories covered by the .IDNs are exactly the same territories as for the ASCII ccTLDs.)

How do we avoid inflation in ccTLDs? Is it really useful for the domain name holders or the users of the Internet that there is a .no, .nor, .norge, .noreg, .norvége, .norwegen, .norway etc? Or will this just create confusion?

Under 2. Introduction of IDN ccTLDs:

Irrespective of whether there is a mandated list or not collisions will have to be dealt with:

How do you deal with "translations" that look identical but are different (Latin versus Cyrillic being one of the more obvious examples)?

What happens if several territories claim the same string as a translation of their ccTLD?

Under 3. Delegation of IDN ccTLDs:

I believe that section 7 in GAC's "Principles and guidelines for the delegation and administration of country code top level domains" sets a basic principle in regards to delegation of a ccTLD that might be a useful framework also for IDN ccTLDs. According to the principles "Delegation and re-delegation is a national issue and should be resolved nationally and in accordance with national laws, taking into account the views of all local stakeholders and the rights of the existing ccTLD registry. Once a final formal decision has been reached, ICANN should act promptly to initiate the process of delegation or re-delegation in line with authoritative instructions showing the basis for the decision."

Currently the draft paper mentions only government and incumbent ccTLD manager in particular as stakeholders (subquestions a-c). I would suggest that instead of trying to mention each stakeholder group separately, we ask the question at a more basic level:

Delegation and re-delegation of an ASCII ccTLD is a national issue and should be resolved nationally and in accordance with national laws, taking into account the views of all local stakeholders and the rights of the existing ccTLD registry. Does the same apply to an IDN ccTLD? If not, which stakeholders should be taken into account when delegating an IDN ccTLD?

If the delegation of an IDN ccTLD is a national issue, how will ICANN know whether an authoritative local decision has been made?

This approach ensures that we don't forget one group when listing them.
(In the original a-c list, there was no mention of businesses, consumers and other users that together with the government makes up the local Internet community in the territory.)

Suggestion for clarification

I have trouble understanding the use of "mandated" in the second paragraph in the background section.

Is mandating a list
a) choosing what entries belong on the list and which form they should take
or
b) choosing which list to use for a specific purpose

If a), then the current list of ASCII strings that are used for ccTLDs are mandated by ISO, not ICANN, and the paragraph in the background starting with "currently, a ccTLD string is..." should be re-written.

Suggestion for clarification:

"Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the two characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6)."

to be replaced by something like

"Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory, and are assigned according to the ISO 3166 list. The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6)."

If b) (mandating is picking which list to use) then I have problems seeing how anyone else than ICANN can mandate a list of IDN ccTLDs - and then question b) in section 2 under "Should a list of IDN ccTLD strings be mandated?" is superfluous.

A final suggestion

The issue paper should perhaps mention the tension between needing a solution As Soon As Possible and getting a solution that can handle the complexity. While this is not a question as such it is the core challenge of the issue.

ANNEX 3
Original Draft Paper

ccNSO-GAC IDN Working Group
DRAFT FOR DISCUSSION

ISSUES PAPER
Selection of IDN ccTLDs associated with
the ISO 3166-1 two letter codes

A Background

A ccTLD string (like .de, .uk) is deemed to 'represent' a territory in the DNS and by extension on the World Wide Web.

Currently, a ccTLD string is a 2 letter (ASCII character) representation of the territory where the 2 characters are 'mandated' by ICANN and the actual characters used are taken from the ISO 3166 list[7]. [Essentially, therefore, the current ccTLD strings are mandated and each ccTLD accepts the 2 letter code assigned by ICANN from the ISO list.] The decision to use this list was made with the knowledge that the ISO has a procedure for determining which entities should be or should not be on that list (RFC 1591, pg 6).

The introduction of Internationalized Domain Names ccTLDs requires the use of non-ASCII "character sets" (such as cyrillic, chinese, arabic, etc...). These character sets have to respect the two following conditions :

- be included in the Unicode tables and,

- be included in the list of characters that are valid IDN characters pursuant to the IDNA protocol requirements.

For more information on these conditions see http://www.icann.org/general/idn-guidelines-22feb06.htm and the references therein to RFCs 3454, 3490, 3491, and 3492. [Remark : this could be put in a footnote]

To help clarify the issues related to IDNs in ccTLD space, the ICANN Board has asked the ccNSO and the GAC to produce an issues paper relating to the

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[7] URL for the ISO list

introduction and selection of IDN ccTLDs associated with the ISO 3166-1 two letter codes.

The ccNSO and the GAC have formed a joint working group and on 5 February 2007, ccNSO Chair Chris Disspain emailed a non-exhaustive list of questions for the joint GAC/ccNSO IDN Working Group to consider. Set out below is an expansion of some of those questions which form the starting point of the requested issues paper. The original questions appear in Appendix A. Note that a number of the issues below are interrelated and potentially the answer to one may be dependant on the outcome of another.

To facilitate understanding and further discussion, the different questions are grouped in four major clusters, following the logical order : 1) General issues, 2) Introduction, 3) Delegation and 4) Operation of IDN ccTLDs.

1. General issues regarding IDN ccTLDs

B 1 Should an IDN ccTLD string be "meaningful" ?

Is there an obligation to make the IDN ccTLD string 'meaningful' as a representation of the territory or is it sufficient for it to be in the character set and to accept that the 'meaning' will be learned? For example, whereas .uk is 'meaningful' because it is a commonly used abbreviation for United Kingdom, .au is not 'meaningful' as the commonly used abbreviations for Australia are Oz or Aus.

B 2 How many IDN ccTLDs per character set ?

Apart from some exceptions, there is one single ASCII ccTLD per territory. Should there similarly be a single or several IDN ccTLDs for a given character set for each territory ? For example, should there be only one equivalent of .cn in chinese characters or .ru in cyrillic ? Or could there be several IDN strings for China in a chinese character set ?

B 3 Number of character sets per territory ?

Should there be limitations on the number of IDN ccTLD strings a territory can have and should there be a requirement for some level of 'status' for a character set in the territory? In particular, can a territory apply for an IDN ccTLD string even if the character set is not used in a language with any official status in the territory? For example, if the Kanji character set is accepted under the IDNA protocol, can Australia apply for something representing Australia in that character set even though neither the character set nor any language deriving from it has any 'official' status in Australia?

B 4 Number of characters in the string ?

Currently, ccTLD strings are limited to 2 characters and gTLDs to 3 or more. The underlying nature of the Internationalized Domain Names makes the actual string inserted in the DNS always longer than two characters when expressed in Unicode : [xn--….]; however, it is how the string appears in its non-ASCII character set that is important. In that respect :

g) Is there any reason to maintain the 2 character string restriction for IDN ccTLD strings?

h) Is limiting .IDN ccTLD strings to 2 characters workable across all character sets?

i) Does moving outside the current 2 character limitation create any security, stability or integrity issues?

B 5 Are there any 'rights' attached to a given character set ?

In purely technical terms, a character set is merely a collection of symbols. However, each of those collections of symbols when put together in particular ways produce the 'languages' of groups of people sometimes defined by borders, although very often not. Should these groups (or their governments) have special rights regarding those character sets ? Examples of related questions include :

g) Can anyone get acceptance of a character set under the IDNA protocol or are there restrictions? For example, can a gTLD registry get the Kanji character set accepted under the IDNA protocol? Does that need to be vetted/approved by Japan?

h) Are there any 'ownership' rights over a character set? For example, once the Korean character set is accepted under the IDNA protocol, should Korea be entitled to restrict its use or be required to consent to its use by another ccTLD?

i) Is it possible that two or more 'versions' of a character set with only minor differences could be accepted under the IDNA protocol and are there issues or concerns in that event?

2. Introduction of IDN ccTLDs

C 1 Should a list of IDN ccTLD strings be mandated ?

In the ASCII case, ccTLD strings are mandated based on the ISO 3166 list. If the same methodology were applied for IDN ccTLDs, some authoritative body would, for each character set approved under the IDNA protocol, mandate a ccTLD string in that character set to represent each territory currently on the ISO list. This would mean that every territory would have a mandated ccTLD string to represent it in every character set and such string would, presumably remain reserved until delegated to the territory.

Examples of related questions include :

i) Should such a list be mandated? (If no, see below)

j) If yes, by whom ? (NOTE that it is understood that ISO has been previously asked and declined such a role)

k) Under what policy?

l) If new policy is required, who is responsible for formulating that policy?

C 2Who picks a string for a territory in the absence of a mandated list ?

If IDN ccTLD strings are not going to come from a mandated list then, once a character set is accepted, how does an IDN ccTLD string become designated as the string for a particular territory?

Examples of related questions include :

g) Who will formulate the policy for this process?

h) Who can 'apply' for a string to be designated as a ccTLD for the territory (this is different to applying for the delegation or to be the manager). For example, does such an application have to come from the government of the territory? If so, which department of the government? What happens if there are competing 'claims'?

i) Should the string applied for be "meaningful" (see above) with respect to the territory ? if so, how is it to be determined that it does?

C 3 What coordination between the different actors ?

Irrespective of the methodology employed, some coordination questions must be addressed, such as :

e) What should be the balance between general common rules and autonomous responsibilities by the territory level ?

f) How to organize interaction between actors using a same character set ?

3. Delegation of IDN ccTLDs

Once a string has been designated as an IDN ccTLD for a territory, by whatever method, the processes for delegation raise, among others, the following questions :

D 1Who can apply to have the IDN ccTLD delegated or to be delegate for that ccTLD?

D 2Who decides on the delegation ?

In particular :

g) Is consent/involvement/knowledge of government required?

h) Is consent/involvement/knowledge of incumbent ccTLD manager required?

i)   Is there any presumptive right of the ASCII ccTLD manager over the IDN ccTLD?

D 3 Who will formulate the policy for these processes?

D 4 Should there be a mandated policy/process for dealing with multiple applications, objections to applications or disputes ?

4. Operation of IDN ccTLDs

E 1 Is the operation and management of an IDN ccTLD different to that of an existing ccTLD such that there be specific global technical requirements related to running the IDN ccTLD.

APPENDIX A

Questions for consideration re IDN ccTLDs

1. How is it determined that the string represents the territory?
2. Does there have to be a connection with existing "ASCII TLD".
3. Who is responsible for picking the string?
4. Should there be a mandated process for picking the string?
5. Should there be a certain status of the use of the character set in the corresponding territory? For example does the character set have to be an official language?
6. Who can apply for a string (sponsoring organization, government, others)?
7. Should there be a requirement that the manager of the new idn ccTLD be connected to the entity that runs the existing TLD?
8. Are there any requirements on the number of characters in the string?
   - guidance on 63 character maximum length.
   - connection to current 2-character limited ccTLDs.
   - consideration of existing TLD acceptance issue where internet service providers need to "accept" the introduction of a new string in order for it to be useful to market. ICANN have previously provided information to various companies, but cannot require ISPs or other internet service companies to adopt the use of new strings.
9. How many idn ccTLDs can a territory have?
10. Should there be specific technical requirements related to running the idn ccTLD?
11. Should there be a policy/process for handling disputes between parties such as incumbent ccTLD manager, government, other applicant?
12. Should there be a policy/process for dealing with multiple applications or objections to applications?