IDN ccTLD Fast Track process
Section 3.5 technical String criteria

Meeting all the technical string requirements in this section does not guarantee acceptance of a prospective top-level string, since the following subsections do not contain an exhaustive list of all requirements or restrictions.

Technical requirements for IDN ccTLD strings and IDN gTLD strings are equivalent and are established by technical standards developed by the IETF. In August, 2010, the IETF finalized the current specification for the IDNA protocol.

This specification, sometimes referred to as "IDNS2008", differs from the earlier "IDNA2003" version of the protocol. It changes the list of characters that may be included in an IDN, reflecting additions made to Unicode standard and eliminating a number of symbols and other marks that are not used for writing words in any language (and which were invalid characters in an IDN per the IDN Guidelines). The following remarks are intended to clarify for prospective requesters the key differences between the original and current versions of the protocol, particularly as they relate to TLDs.

The main technical detail that a name holder needs to address is the conversion of a name from its U-label form (as displayed using Unicode characters) to its A-label form (as stored in the DNS with a sequence of ASCII characters). ICANN requires both such strings in a request for an IDN ccTLD. Tools are available that permit this conversion to be done using the current version of the protocol.

One particularly noteworthy distinction is that IDNA2003 can change a U-label during the round-trip conversion from U-label to A-label and back to U-label, whereas IDNA2008 never "maps" any character in a U- label to some other character.Only labels that are valid under IDNA2008 will be allowed.

The implementation of IDNA2008 in the broader software applications environment is occurring gradually.
During this time, TLD labels that are valid under IDNA2008, but not under IDNA2003, may have limited functionality. Conversely, labels that are valid under IDNA2003 but not under IDNA2008 will become increasingly dysfunctional. Labels of the latter type will therefore not be permitted for TLDs and requests for such strings will be declined.

Requesters are strongly advised to note that the duration of the transition period between the two protocols cannot presently be estimated
nor guaranteed in any specific timeframe.

From Terms and Conditions of Submission Fast Track requests (page 42)

ICANN expects that IDN ccTLDs will be established and operated in the manner described below:

b.IDN domain names are to be registered in accordance with a publicly available registration policy that shall comply on an ongoing basis with relevant applicable standards to IDNs, such as the IDNA Protocol, and with the IDN guidelines as updated and published from time to time
on the ICANN website, all subject to and within the limits of relevant applicable national law and public policy. This includes, but is not limited to, adherence to RFCs 3490, 3491, 3492, 3454 and their successors;

IDN Guidelines
The latest version of IDN Guidelines see:
https://www.icann.org/en/system/files/files/idn-guidelines-10may18-en.pdf

2. References in proposed overall IDN ccTLD policy

H. The selected IDN ccTLD string must abide by all Technical Criteria for an IDN TLD string.
In addition to the general requirements for all labels (strings), the selected IDN ccTLD string must abide to the normative parts of RFC 5890, RFC 5891, RFC 5892 and RFC 5893.

All applicable technical criteria (general and IDN specific) for IDN ccTLD strings should be documented as part of the implementation plan. For reasons of transparency and accountability they should be made public prior to implementation of the overall policy and endorsed by the ccNSO.

Validation that a string meets the technical criteria is a process step and shall be conducted by an external, independent panel. The recommended procedure is described in Section 2.1.3, Processes and Documentation.

The method and criteria for the technical validation should be developed as part of the implementation plan and are a critical part of the review process. For reasons of transparency and accountability they should be made public prior to implementation of the overall policy and endorsed by the ccNSO.

From part 2:
Stage 2: Validation of IDN ccTLD string

1. General description
The String Validation stage is a set of procedures to ensure all criteria and requirements regarding the selected IDN ccTLD string (as listed in Section 3 of the Report) have been met. Typically this would involve:
- The IDN ccTLD string requester. This actor initiates the next step of this stage of the process by submitting a request for adoption and associated documentation.
- ICANN staff. ICANN staff will process the submission and coordinate between the different actors involved.
- Independent Panels to review the string (Technical and Similarity Panels).

The activities during this stage would typically involve:
1. Submission of IDN table.

2. Submission of selected string and related documentation.
3. Validation of selected IDN ccTLD string:
   a. ICANN staff validation of request. This includes
      i. Completeness of request
      ii. Completeness and adequacy of Meaningfulness and Designated Language documentation
      iii. Completeness and adequacy of support from relevant public authority
      iv. Completeness and adequacy of support from other Significantly Interested Parties

   b. Independent Reviews.
      i. Technical review
      ii. String Confusion review
4. Publication of selected IDN ccTLD string on ICANN website

5. Completion of string Selection Process

6. Change, withdrawal or termination of the request.

2. Detailed aspects String Validation Stage
1. Submission of IDN Table
As part of the validation stage an IDN Table needs to be lodged with the IANA IDN Repository of IDN Practices, in accordance with the policy and procedures for the IANA IDN Practices Repository[1].

2. Submission procedure for selected string and related documentation
This part of the process is considered a matter of implementation.

3. Validation of selected string
a. ICANN staff validation of the request
After the requester has submitted a request for an IDN ccTLD string, ICANN should at least validate that:
- The selected IDN ccTLD refers to a territory listed on ISO 3166-1 list
- The selected string (A-label) does not exist in the DNS, nor is approved for delegation to another party,
- The selected string (U-label) contains at least one (1) non-ASCII character.
- The required A-label, U-label, and corresponding Unicode points to designate the selected IDN ccTLD string are consistent.
- Documentation on meaningfulness is complete and meets the criteria and requirements.
- Documentation on the Designated Language is complete and meets the criteria and requirements.
- Documentation to evidence support for the selected string is complete and meets the criteria and requirements and is from an authoritative source.

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[1]   http://www.iana.org/procedures/idn-repository.html

If one or more elements listed are not complete or deficient, ICANN shall inform the requester accordingly. The requester should be allowed to provide additional information, correct the request, or withdraw the request (and potentially resubmit at a later time). If the requester does not take any action within 3 months after the notification by ICANN that the request is incomplete or contains errors, the request may be terminated by ICANN for administrative reasons.

If all elements listed are validated, ICANN shall notify the requester accordingly and the Technical Validation Procedure will be initiated.

If ICANN staff anticipates issues pertaining to the Technical and String Confusion Review during its initial review of the application, ICANN staff is advised to inform the requester of its concerns. The requester will have the opportunity to either:
1. Change the selected string, or
2. Tentatively request two or more strings as part of the application including a ranking of the preference to accommodate the case where the preferred string is not validated.
3. Withdraw the request, or
4. Continue with the request as originally submitted.

Details of the verification procedures and additional elements, such as the channel of communication, will need to be further determined. This is considered a matter of Implementation planning.