

# CIRA IDN EPP Extension

## draft-wilcox-cira-idn-eppext-00

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# CIRA IDN POLICY AND BUSINESS REQUIREMENTS

- CIRA offers French character IDNs within the .CA Registry.
- French characters include:
  - é, è, ë, ê, à, â, î, ï, ù, ü, û, ö, ô, ç, œ, æ, and ÿ
- Need to support easily adding new character sets in the future – referred to as **repertoires**.
- Administrative bundling – discussed later
- Production early January 2013

# About .CA

**2,359,605** .CA domain names registered.

## .CA Domain Features:

- IPv6 Glue Records `2620:10a:80ec::2`
- French IDN domains `viagénie.ca` ← **651**
- DNSSEC support  DS or DNSKEY
- Registry lock  ← check it out!!!

# THE CIRA ADMINISTRATIVE BUNDLE

- Not a registration bundle: registered variants are registered and managed independently, and are only administratively linked by the following criteria :
  1. All registered domain variants with the **same canonical representation** make up a bundle
  2. Domains in a bundle are sponsored by the **same registrar**
  3. All domains in a bundle have the **same registrant contact id**

# DOMAIN VARIANTS

- Domains having the same canonical form
- To obtain canonical form, convert Unicode character points to their ASCII equivalent
- Simple algorithm: convert to NFD form, and remove diacritics
- Example:
  - **oeuvre.ca**      **(canonical form)**
  - **œuvre.ca**      **(variant)**
  - **oeuvré.ca**      **(variant)**

# U-Label Support

- Business requirement that CIRA web interfaces (eg. web WHOIS, registrar portal) support u-labels AND a-labels for display and input
- Business requirements that EPP optionally accept u-label on check and registration as suggested in [section 4.1 of RFC 5891 - IDNA2008 Protocol](#)

# Technical Challenges – Domain Transfers and Registrant Updates

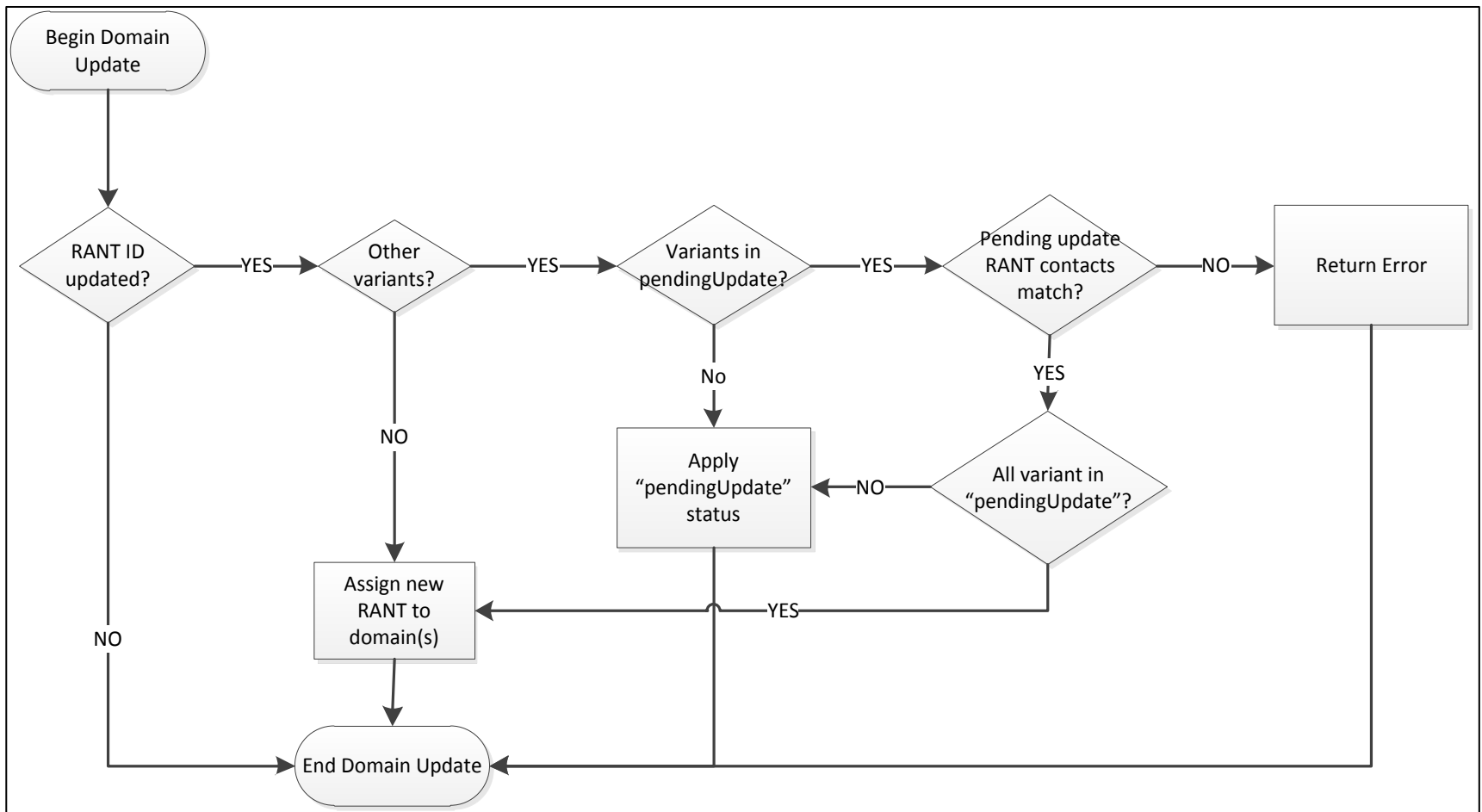
- Most significant design issue - same problem for both operations
- Requirement that all variants be registered to same registrant contact id and registrar BUT domains are managed independently

# Technical Challenges – Domain Transfers and Registrant Updates

- Two options:
  1. Apply transfers and rant updates to all variants automatically
  2. Use pending actions as described in EPP RFCs 5730/5731 until all domains have been consistently transferred or registrant updated
- CIRA has selected to use option 2. This prevents data from being changed under registrar's feet.



# Domain Update Logic



# EPP Extensions in support of IDN

- Domain Check:
  - Repertoire ID (“fr”)
  - This is not strictly necessary to check availability but allows us to validate Unicode character points
  - Uses two-characters language code

# EPP Extensions in support of IDN

- Domain Create:
  - Repertoire ID (“fr”)
  - Optional u-label for validation of user intent (as recommended in RFC 5891)
  - Recommendation has not been applied by many other registries
  - UTF-8 encoding does not render legibly on most editors. Worried about registrar confusion.

# EPP Extensions in support of IDN

- Domain Info:
  - Because transfer/update actions must be carried out on all variants, registrars need a way to tell which other variants are part of a bundle.
  - Adding an extension to domain info that returns all other variants:

```
<cira-idn:ciraIdnInfo>  
  <cira-idn:repertoire>fr</cira-idn:repertoire>  
  <cira-idn:domainVariants>  
    <cira-idn:name>xn--lve-6lad.ca</cira-idn:name>  
    <cira-idn:name>xn--leve-9oa.ca</cira-idn:name>  
    <cira-idn:name>eleve.ca</cira-idn:name>  
  </cira-idn:domainVariants>  
</cira-idn:ciraIdnInfo>
```

# IANA Considerations

The CIRA IDN EPP extension is to be added to the EPP extension registry as specified in [RFC7451].

Below is the registration template. (informational vs standard track?)

**-----BEGIN FORM-----**

**Name of Extension:** "CIRA IDN EPP Extension"

**Document Status:** Informational

**Reference:** draft-wilcox-cira-idn-eppext

**Registrant Name and Email Address:** .CA Registry Operations, regops@cira.ca

**TLDs:** .ca

**IPR Disclosure:** TBD

**Status:** Active

**Notes:** None

**-----END FORM-----**