

# Introduction to an IDN Revision

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# History

- IDNA adopted in 2003
- Significant controversy started 2+ years ago
  - Some unsolvable issues
    - Domain names don't map well onto languages
    - Unicode is best we have, but not ideal for this
    - Characters look alike
  - Some others
  - RFC 4690

# Evolution

- IAB effort and RFC 4690
  - Extensive discussion
  - Extensive review
- Current effort
  - Design team starting over two years ago
  - Previous BOF
  - Open mailing list, thousands of messages, many revisions and adjustments
- *How many have read docs ??*

# Some Key Issues I

- Some important characters and scripts excluded
  - To a user of a script, it is important
  - To a user of a language, the entire orthography is important
    - Most long-lasting arguments have been about one character at a time
    - DNS is about mnemonics, not writing novels
    - IETF has no real way to resolve those arguments
  - Globally-dangerous characters
- Some characters *not* excluded – back to LDH-extended?

# Some Key Issues II

- Some scripts perceived as badly handled for this purpose
  - Very passionate arguments
  - Threats about alternate roots or worse
  - IETF has no good way to resolve these either, but we need to listen carefully and try
- Confusing terminology

# Some Key Issues III

- Structure of IDNA2003 definition
  - Unicode version dependency
    - Applications don't know, regardless of what standard says
    - Looking up code points that aren't defined
  - Poor ability to understand
    - What is permitted
    - What happens to it.
  - Poor extensibility and ability to check
    - In some ways, any change at all is incompatible
    - List of label separators

# Some Key Goals

- Get a standard that
  - Unicode version agnostic
  - Easier to understand
  - More predictable wrt what happens
  - More adaptable to local conditions – realistic interoperability
  - Deals with issues discussed earlier to extent possible

# Current Structure

- Several documents
  - Organization is somewhat opportunistic
    - Reflects division of labor rather than fundamental, necessary, logic
  - Rationale and explanation
    - No real correspondence to IDNA2003 documents
    - People need to understand IDNA or they will make their own adjustments – some experience with that already
  - Protocol
  - Tables
  - Bidi



# DNS Internationalization

- Not just IDNA
- Many areas of responsibility to make things work well
  - Standard Protocol
  - Registries and Registry Restrictions
  - Registrants – Increasing or decreasing confusion
  - Lookup implementors and Applications
  - Common sense by users and others
- Still mnemonics, not literature
- Can't *solve* confusion, but can provide better tools

# Issues and Rationale

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- draft-hoffman-idna200x-topics is an attempt at a summary
- Not a substitute

# Address Primary Issues

- Unicode relationships
- Registration-Lookup
  - Mostly about explanation
  - Some substantive changes, but subtle
- Characters
  - Internationalize LDH, not “everything possible, somehow”
  - Make to/from ACE more symmetric
  - Cannot get elegance of ASCII model without server-side matching... still making compromises

# New Terminology

- Much confusion in IDNA2003
- Standard about labels, not FQDNs...
  - Still some Right-to-left (bidi) questions
  - Hard issues with label separators
- U-label, A-label, LDH label
  - And all kinds of invalid stuff

# The Front End

- What does mapping mean/do
- A minimal-variation on-the-wire form
- Compatibility and transition

# Summary

- Trying to move ahead to make IDNs far more useful and predictable as mnemonics
- No big-jump revisions in future
- Still can't write literature