Resolution of Bundled Names

ICANN 60

Ning Kong
CNNIC
30 Oct. 2017
Use Cases

• V-label.TLD
  – different labels ending with the same TLD
    • color.com == colour.com
    • 清华大学.cn == 清華大学.cn

• LABEL.V-tld
  – same label ending with different TLDs
    • example.com == example.net
    • example.ong == example.ngo
.GR use cases

• All of Greece male names end at a final sigma (about 30% of Greece IDN domain names)

• .GR bundled domain names,
  ✓ The upper case (ends at a normal sigma, without tonos)
  ✓ The lower case (ends at a final sigma, has a tonos sign)
  ✓ The lower case with a final sigma, without a tonos as a bundle.

• Use DNAME for bundled domain names under .GR
  ✓ ΝΙΚΟΣ.gr (xn--uxachku.gr)
  ✓ Νίκος.gr (xn--kxawhkp.gr)
  ✓ Νικος.gr (xn--uxachkp.gr)
Godaddy Use Cases

Today
• ricksrestaurant.com
• ricksrestaurant.com/menu
• ricksrestaurant.com/asia
• ricksrestaurant.com/jp
• ricksrestaurant.com/tokyo
• ricksrestaurant.com/yokohama

Tomorrow
• ricksresraurant.com
• ricks.restaurant
• ricks.menu
• ricks.asia
• ricks.jp
• ricks.tokyo
• ricks.yokohama
Requirements

• Option 1:
  – Mapping finite number of activated domain names

• Option 2:
  – Mapping Infinite number of domain names or variants
Problem Statement

• In band solution
  – CNAME
    • Mapping itself
  – DNAME
    • Mapping its children

• Out of band solution
  – Manual configuration
    • Inefficiency
    • Error prone
Possible Solution

• BNAME
  – Redirect one name itself and its children to the other name

Pls see https://www.ietf.org/internet-drafts/draft-yao-dnsext-bname-06.txt
Possible Solution

• Zone Clone
  – Replicate the content of a DNS zone into one or more other DNS zones
  – The problem for zone clone is that it can not deal with the children names which are delegated

Pls see https://tools.ietf.org/html/draft-vixie-dnsext-dnsshowdow-00
Possible Solution

• C+D
  – Manually Configure CNAME and DNAME together

Pls see https://tools.ietf.org/html/draft-sury-dnsext-cname-dname-00
General Questions

• If two names are purposed to be used in the same way, do we need to make DNS identical resolution?

• Is it possible to make one name be identical to another in DNS resolution?
  – If not in old system, is it possible to design a new naming system? The new naming system focuses on solving issues of bundled DNS name?

• Do we need to a mechanism to tell applications that two names are bundled?
Questions for future Work

• Is this a problem ICANN community cares for?
  – If yes, should this problem be solved in ICANN or IETF?
• Which kind of companies and organizations are interested in this work?
• Any interests from the room?
Any Other Questions?

Thanks