The Most Important Slide
The Future of the Internet’s Naming System:
Are we going back to Gateways*?

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* I really hope not

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Keynote

• Welcome
• Big Title for a Big Day!
• I’ve more modest goals
  • Stimulate some thoughts and provide some context for today’s Discussion
  • By sharing some ‘observations’, ‘speculations’ and ‘travel tips’ for the journey
  • GOAL: Encourage ‘Internet Volunteers’ to contribute to ICANN and I* Organisations (Internet Society, ISOC Chapters, IETF etc ).
Welcome!

- Financial Times, July 16 ...

‘Imminent Liberalisation!’

‘Tug-of-War over cyber gatekeeper!’

‘Showdown between ICANN and Trademark Owners’
What’s Happened Since Yokohama 2000?

• Some things haven’t changed
• But many important things have ... some very material changes such that

  I think this time it’s very different!

  Important milestones? Past & Future ...
IMHO Important Milestones

- July 2003 - IPv6 public ‘debut’
- AAAA for .jp and .kr cctld
- Jan 9 2008 - Midterm Review of the Joint Project Agreement (JPA)
- Feb 4 2008 - Full IPv6 Internet connections a reality (AAAA records for IPv6 of six root name servers)
- 8/8/08 - Summer Olympic Games - IPv6 Showcase
- 15/10/08 - RDFa made a W3C Recommendation
- June 2 2009
  - DNSSEC - 1st Open TLD to sign zone
    - PIR .org
- June 26 2009 - New CEO Rod Beckstrom
Milestones

- Obviously there’s September 2009
- AND ...
  - 24/6/2011 ?
  - 4/4/2012 ?
IPv4 Address Exhaustion

• 24/6/2011 (June 24th 2011) - IANA
  Unallocated IPv4 Address Pool Exhaustion

• 4/4/2012 (April 4th 2012) - RIR
  Unallocated IPv4 Address Pool Exhaustion

‘Houston, I think we have a deadline’

‘Expect some disruption’
Today’s Talk: The Journey

- Where are we
- Where we’re going and
- Why?
- What are we really trying to do here?
- Why is this so hard?
- Why can’t Internationalized domain Names (IDNs) wait?
- Who decides?
‘Hot’ off the press: Forrester July 21

• Over the next 5 years ... Total Number of People Online to grow 45% to 2.2 billion
  Much of the growth occurring in Asia
  17% of online population in China
  What about India? etc.
  ‘organization must understand the dynamics of the global shifting global online population’
Where are we?

- Are we at a strategic inflection point? ‘Grove’
- My sense is ‘Yes!’
- Both Technically (IPv4 Address Exhaustion)
- and Politically (Conclusion of the JPA)
- Maximum Opportunity, also
- Maximum Risk
Where are we going?

Independence
Continue to Provide a Useful Namespace
Evolving the DNS Namespace: Utility and Size
While ‘Trying’ not to breaking anything
Why?

- ‘Because we must’ or ‘It depends’
- Current dominant identifier for current internet access paradigm for current IPv4 Internet and for IPv6 Internet
- Access paradigm changing?
  - Desktop/Laptop + Browser
  - Smart Phone
- Do we access the Internet by
- Pressing a Button / Talking to it?
What are we really trying to do here?

Old Model (2000): Finding a balance of the needs and wants of internet users (or those who claim to represent them or speak on their behalf) ... if one can be found
What is Failure?

Without breaking global interoperability
What is Success?

The Internet keeps growing Transparently (i.e. without end-user notice)
What are we really trying to do here? Part II

- Current Model (2009)

  Not Internet Governance!

  ‘IP = Internet Parenting’
Why is DNS evolution so hard?

• Because it mirrors and amplifies age-old problems with human communication.
The Age Old Communication Problem

1) Speaking and Listening: Mouth and Ears
2) Reading and Writing: Hands and Eyes

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Sunday, 26 July 2009
What’s in a Name?

• When your child/you were born?
  • First thing! Give it an identity a label - a name.
  • Read world - name != thing
  • On the Internet it ‘currently’ is
  • But
    • Do ‘Strings have Semantics’
    • Does ‘Communication Creates Conflict’
Secondary there must be ‘Trust’ in the Communication
Thirdly: Desire to Communicate

- e.g. Spam
No Corruption of the Communication

- ‘I need an Iron’
- ‘Your parents told you to come with me’
Why so hard? ‘Make No Mistakes!’

- Is this reasonable?
  - Parenting involves making mistakes
  - Innovation involves making mistakes

- What is the priority?
  - Preventing Failure at all costs for existing users?
  - Detecting Failure early and take active steps to
    - Ensure the failures which do occur are ‘small’
    - Focus on quick recovery i.e. rapid evolution
Why can’t IDNs wait?

‘Imagine your mobile phone address book is in Martian’

• Remember Forrester?

• ‘For all mankind’

• But are we merely mirroring and multiplying all the issues we’ve experienced thus far?

• cctld hacking etc. etc.
New gTLD Big ‘!’

- Go! but manage the ‘blackswan’ downside risk
- Remember the ‘bad old days’?
  - e.g. Email Gateways? ! %
  - Bitnet, Fidonet, CCmail etc.
- What are the implications of ‘carrier-grade’ Network Address Translators (NATs)?
- Are ‘Green Gateways’ coming back?
  - if so, should they be also be in ‘blue’ or ‘red’?
The Most Important Slide
Are we Playing the Right Game?

- Business of Naming
- Business of Finding
  - e.g. RDFa influence creating the semantic web
- Will we require ‘Search Gateways’ between IPv4 and IPv6 networks?
- To save the golden goose, are we accidently and slowly kill it?
I don’t know

• I think the approach should be about ‘parenting model’ not ‘governance model’

• i.e. Educate, Guide and Nurture an ‘Independent’ Internet for which we are all responsible.

• Do we focus on preventing ‘bad’ behaviour or fostering ‘good’ ones? Both

• Do we regulate/administer because ‘we can’ or because ‘we should’

• ‘Failure’ should be an option and must be expected and planned for.

• Please Keep the Internet ‘OPEN’

• To People and Innovation?
No Gateways Please

- To save us or the Internet
- Why must we keep it open? Who decides?
Who Decides?


I believe you do.
By expressing your beliefs and values through your use and co-creation of the Internet ...
By Participating
Your Internet needs you

• What we need:
  • More volunteers, especially from the Asia Pacific
  • Informed participation
  • Substantive contributions
  • Best and Brightest
  • The Internet is a work in progress
  • Minimize the effects of failure
  • Early Detection and Tested Recovery Methods
2nd Most Important Slide

- Internet to produce 20% of World’s Green House Gases in 10 years?
- Plan and Power Down
- IP Address Exhaustion?
  - Reduce/Re-cycle: IPv4 addresses
  - Plant an IPv6 network
    - Move to IPv6
      - No procrastination please … do it!

Sunday, 26 July 2009
Thank you!
Questions?

Resources:
The Internet Protocol Journal, Vol 11, No.3
http://www.cisco.com/web/about/ac123/ac147/archived_issues/ipj_11-3/113_ipv4.html

Geoff Huston’s IPv4 Address Report