

The Most Important Slide



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The Future of the Internet's Naming System:

Are we going back to Gateways*?

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Hong Kong
July 24 2009

* 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

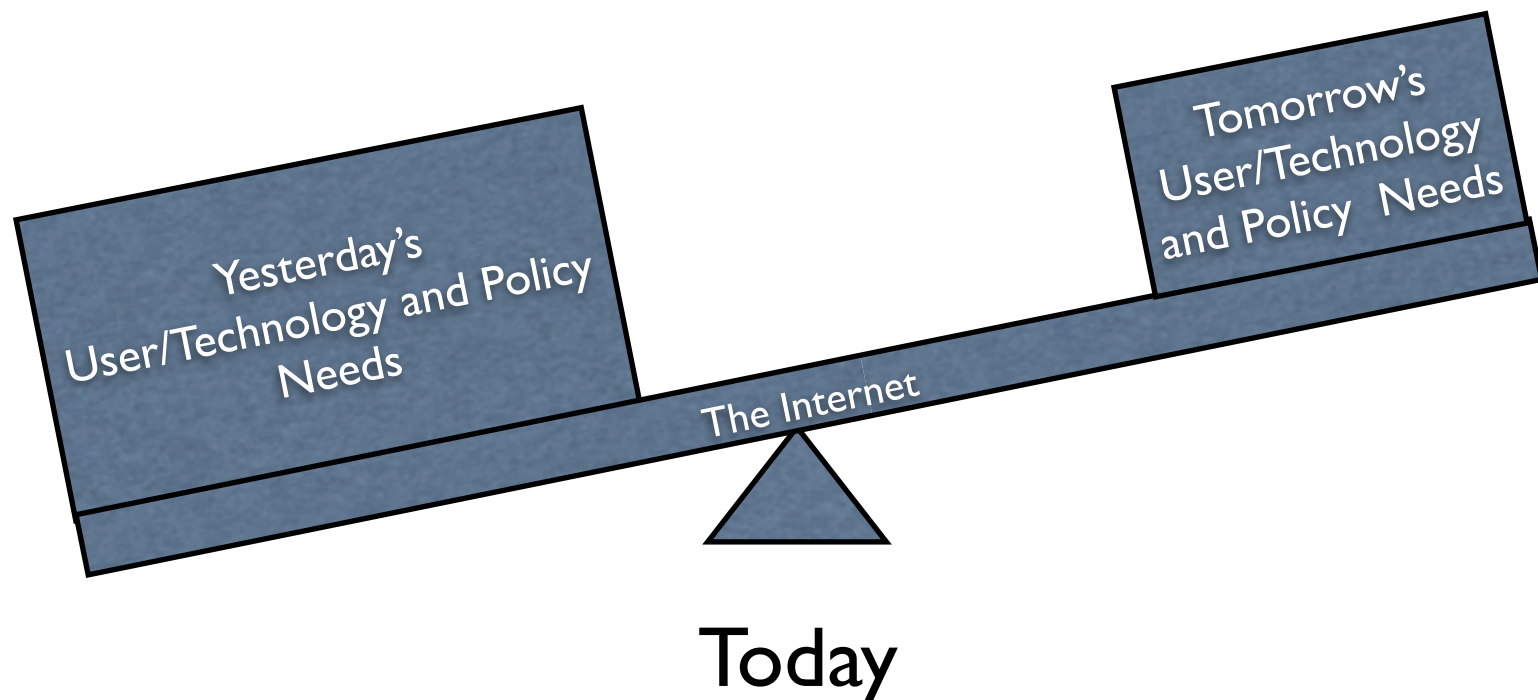
While 'Trying' not to breaking anything

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?

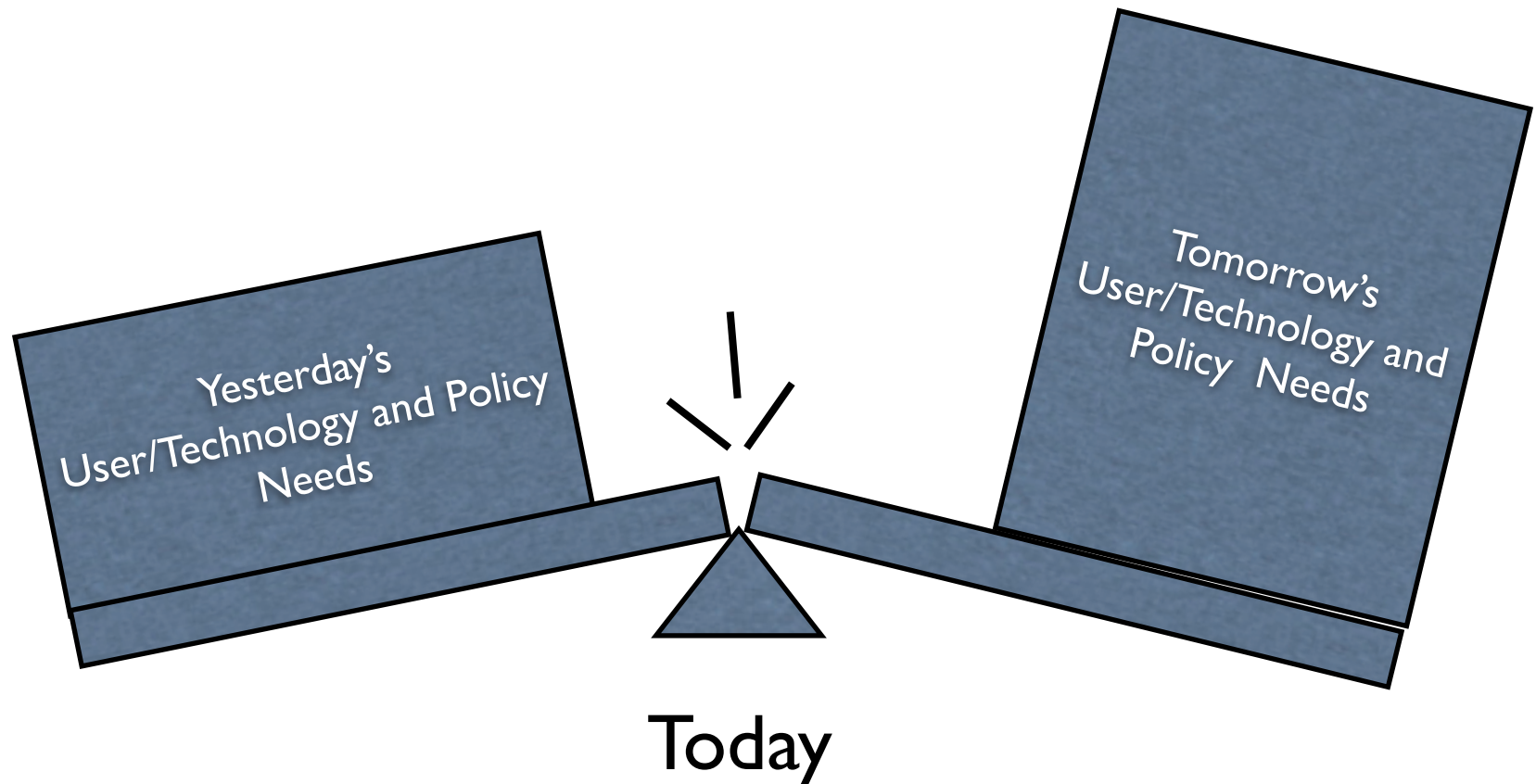
What are we really trying to do here?

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



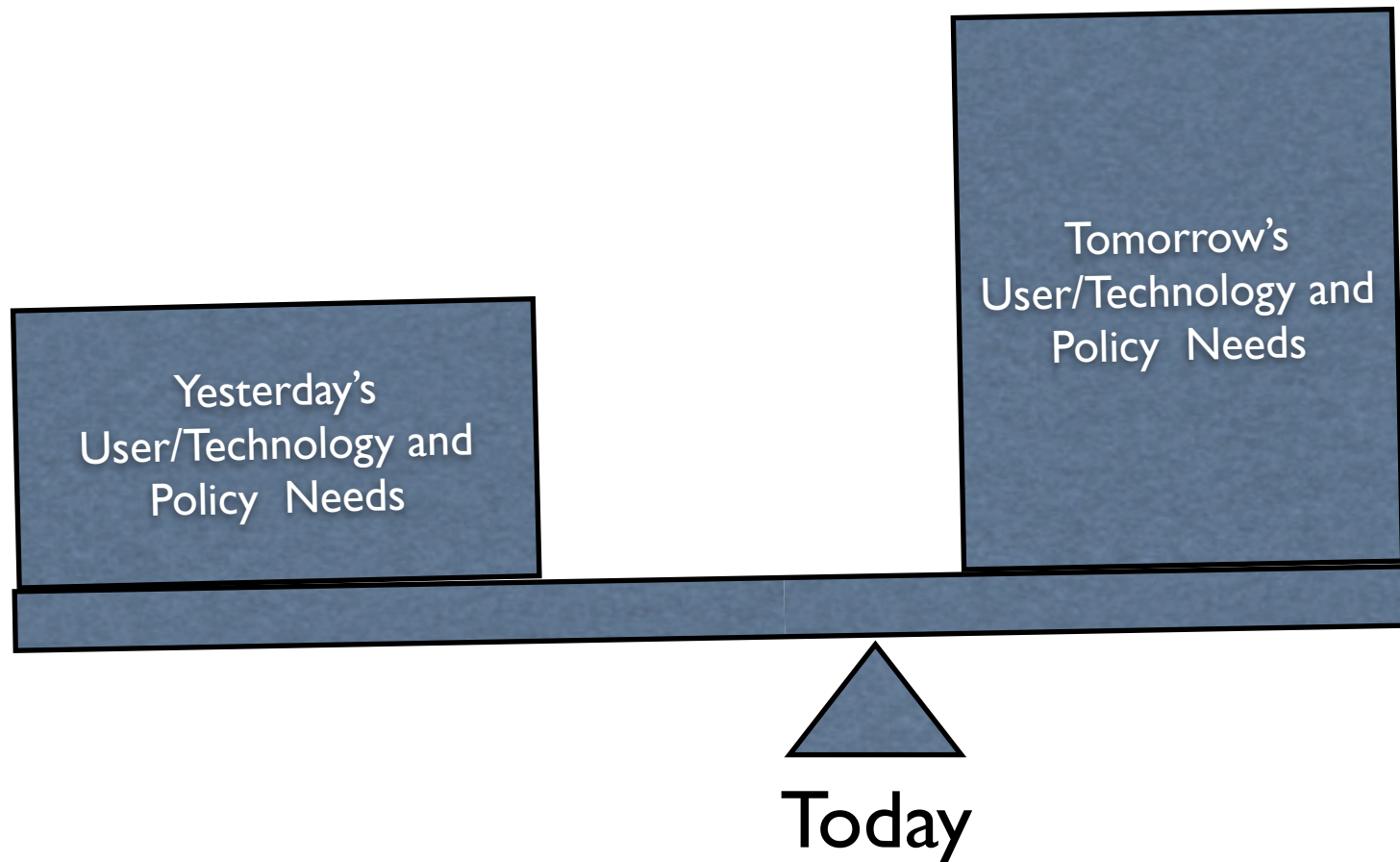
What is Failure?

Without breaking global interoperability



What is Success?

The Internet keeps growing Transparently
(i.e. without end-user notice)





Sunday, 26 July 2009

What are we really trying to do here? Part II

- Current Model (2009)

Not Internet
Governance!

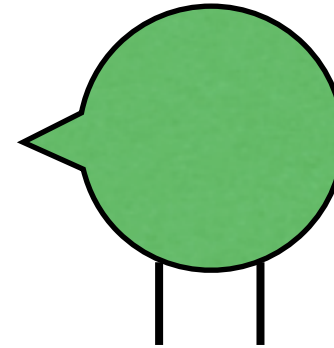
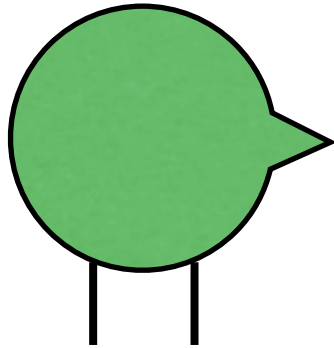
‘IP = Internet Parenting’



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

hk.super.net

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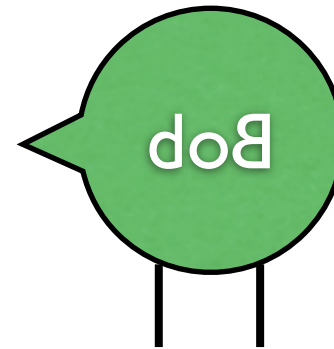
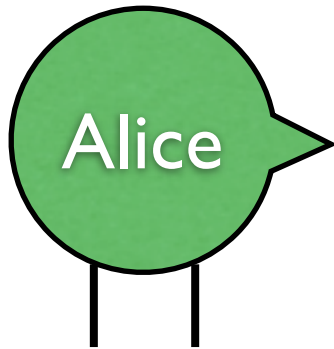
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What's in a Name?

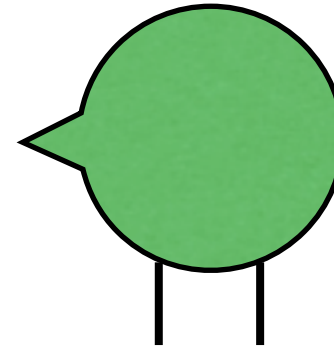
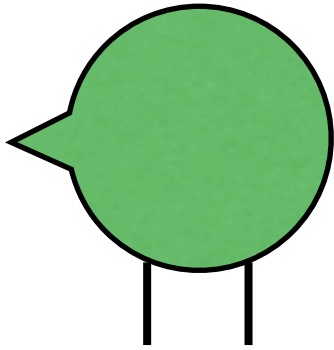
- When your child/you were born?
 - First thing! Give it an identity a label - a name.
 - Read world - name != thing
 - On the Internet it 'currently' is
 - But
 - Do 'Strings have Semantics'
 - Does 'Communication Creates Conflict'

Secondary there must be 'Trust' in the Communication



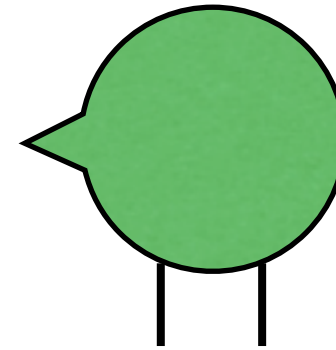
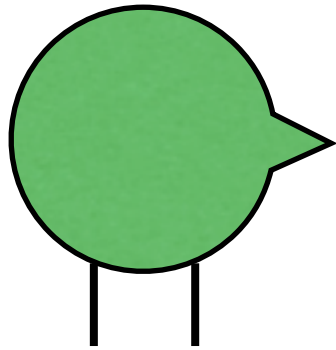
Where's Bob?

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’?

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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 accidentally 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?

- ICANN? US Government? UN? The Man?

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!

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

<http://www.potaroo.net/tools/ipv4/index.html>