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The future of registries

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Only the start of the journey

Change is coming

- New technologies all the time
- Always a registry opportunity
- Some will embrace this
- Some will be left behind

Disclaimer

- My own personal analysis
- Crystal ball gazing
- Make your own minds up

Being prepared

Start from a position of strength

- Central position
- Trusted authority
- Reseller/distribution channel
- Public policy engagement
- High volumes and high reliability

Identify some trends

- From pull to push
- Generic registry objects
- Technical standards - leader or follower?
- Under attack

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From pull to push

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VoIP - the biggest game in town

ENUM - our small part in that game

- Telcos have expectations
 - only dependent on themselves
 - deterministic technology
 - quickest call resolution time
- Not the technology that needs to change
 - BIND is fine - we have stats to prove it
- Our assumptions of registry model that need to change
 - how we deliver data
 - how we charge
 - how we stand in relation to others

The standard registry model

Tackling assumptions one by one

- The normal DNS 'pull' model
 - We publish data, they come and get it
 - Critical path to data has lots of owners
 - Not deterministic - can be fast, but can be slow
- The normal registry charging model
 - Pay to have your data publishing
 - Consumer of data gets it for free
- We all stand alone - together
 - Manage our branch of the tree
 - Different types of relationship - and they all work(ish)

New business, new models

The only way to make ENUM fly?

- Deliver the data direct to telcos
 - On their network
 - Resolution time guaranteed
- Why give them this for free
 - Charge them for the feed?
 - Charge them per access?
- Does a telco want 200+ contracts for an ENUM feed?
 - One registry supplies data of many (competition?)
 - Registry confederations
- May need to give them more than NS records!

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Generic registry objects

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Generic operations

So what exactly do we do with domains?

- Register
- Modify
- Renew
- Publish
 - To DNS servers, to WHOIS servers
- Cancel
- Transfer
 - Resellers are good
- Enable verification
 - From WHOIS lookup to revocation server

What else could be reusable?

Look at the business model

- Provisioning interface
 - Same automated systems - Email, RRP, EPP etc
- Registrar channel
 - Some might want more than domains to sell
 - Unified billing
- Policy development process?

Generic objects + reusable processes = new products

- ENUM we all know about
- What else matches this model?

A contrived example

PGP Keyserver

- An add-on to domains
- Restrict registration to registrant of corresponding domain
- Key is signed by registry (enables verification) and published to registry keyserver
- Domain name cancellation means key is removed and signature revoked (another sig)
- Sell through same registrars - linked to domains
- OK - I know PGP isn't quite like this
 - You get the idea

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Technical standards - leader or follower?

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The approach to technical standards

How well do emerging standards fit your way of working?

- DNSSEC is a good example for us
 - Late to get involved
 - Saw a total showstopper - zone file enumeration
 - Lots of time and money to get it corrected
- EPP is another example
 - We were never involved at all
 - Now our customers expect it of us
 - But the data model is a world away from ours
 - The technology is awkward
 - We really should have been involved from the start

Moving into this space

Registries need to get there first

- Those that do will start to dominate
- They will develop protocols that
 - suit their business
 - suit their infrastructure
 - suit their skills and people
- They will see the edge first
- Beware creeping commoditisation
 - More and more of things we do will be sold in a box
 - so what is so special about running a registry?

Moving away from a home grown industry

Smell the money

- In the beginning was BIND
 - open source, open standards (mostly)
 - but new companies bring new business models
- Manufacturers looking for an edge
 - proprietary interfaces
 - vendor lock-in
 - excessive complexity - home grown solutions impossible
- New open standards can change the entire landscape
 - swap vendors
 - regain the right to write your own code

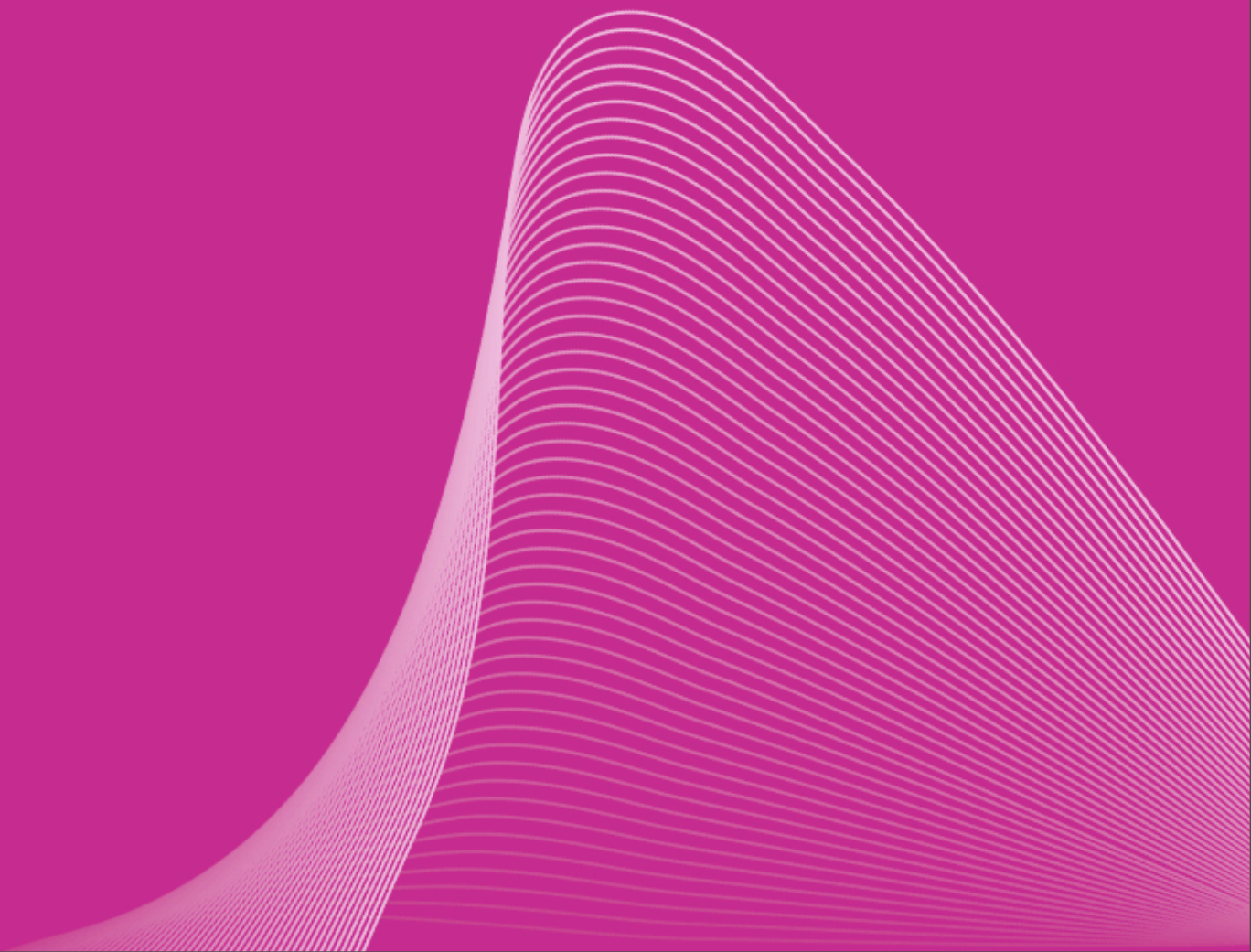
Three steps to success

Building a Centre of Technical Excellence

- Give your people the time
 - Time to learn the process
 - Time to get involved - start small
 - Time to have the ideas
- Establish wider credibility
 - Technical blog - viral, personalised, huge scope
 - Presentations
 - Open source - write it or support it
- Get into the right mindset
 - Think in terms of protocols
 - Aim high
 - “If you build it we will come”.

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Under attack

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The impact of Pay-Per-Click (PPC)

Speculators don't sell domains any more

- All the money is in PPC
- Registering then cancelling before billing
- All that matters is names with traffic
 - Typo-squatting
 - Finding defunct companies
 - Start-ups that miss a trick
- Generic terms are best
 - Follow popular culture
- Some registries already seeing lots of this

Pushing the limits

Speculator mindset

- If it is not explicitly forbidden ...
 - What edge does it give?
- Finding loopholes in the system
 - Shell companies
 - Buying other people's access
 - Playing with the data

Other mindsets

- Harvesting a natural resource
- Exploiting asymmetry

What does this mean?

Expectations and planning

- Continual struggle
 - almost like an arms race
- Economic models
 - re-stocking fee for domains
- Technical survival
 - Anti-abuse technology in every service
 - Extensive monitoring and alerting
- Learn how the enemy thinks

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Summary

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The essential points

Registries are changing

- We start from a position of strength
- ENUM, telcos and VoIP means huge changes
 - From pull to push
 - New charging
 - Confederations
- Lots of things smell like domains
 - Same basic operations
 - Reusable business process
- Technical standards will become more strategic
- But barbarians are at the gates!

Finish

Thank you for listening

- Any questions?

For later reference

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