



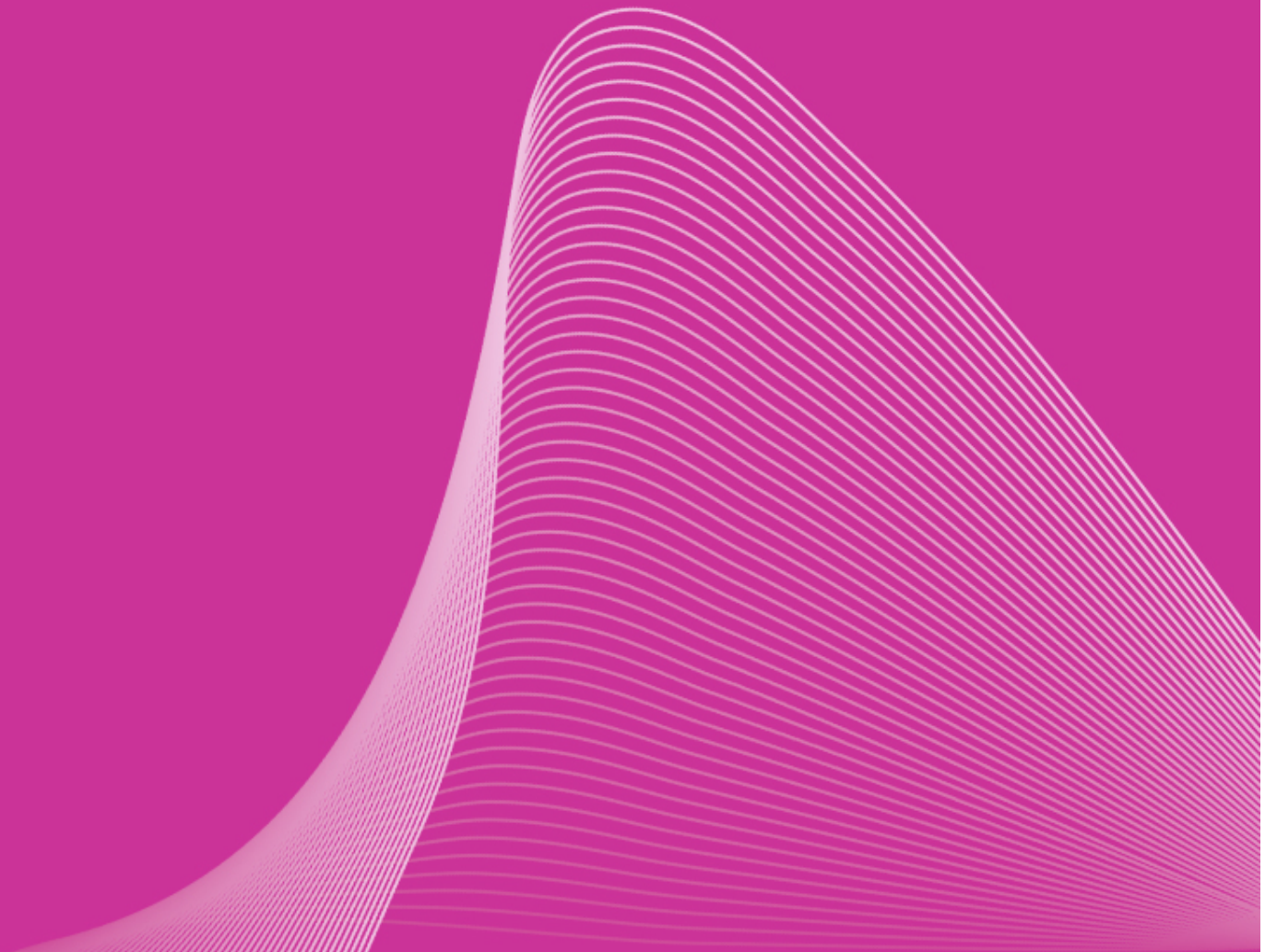
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## UK ENUM - Update and impact

Jay Daley, Nominet UK

UK ENUM - update and impact  
Update

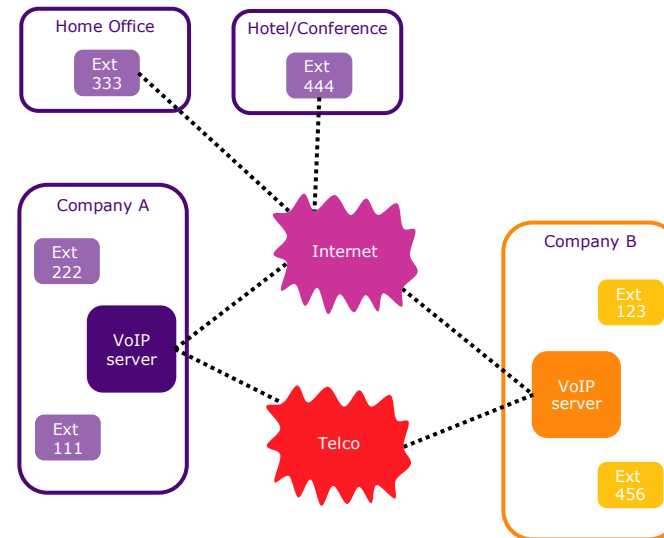
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# Quick reminder on ENUM

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- Company A wants to talk VoIP to company B. It needs to know
  - Does B have a VoIP server?
  - What protocols does it support?
  - What is its IP address?
- With that info:
  - call across the Internet
  - no call charges, just line rental.
- Without it:
  - has to call via a CP
  - pays call charges
- Can pre-configure server, but does not scale.
- Need one way to look this up, for all telephone numbers.



## Technical details

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- ENUM solves problem by
  - turning telephone numbers into domain names:
  - finding available services associated with those numbers
- So the number
  - 01865 332211 becomes
  - 1.1.2.2.3.3.5.6.8.1.4.4.e164.arpa
- Special DNS entries describe available services
  - So to say we have can be contacted by SIP on this number:
  - NAPTR 10 10 "u" "E2U+sip"  
"!^.\*\$!sip:441865332211@nominet.org.uk!" .
- These domain names and entries are not meant to be directly used by people.

## ENUM market structure

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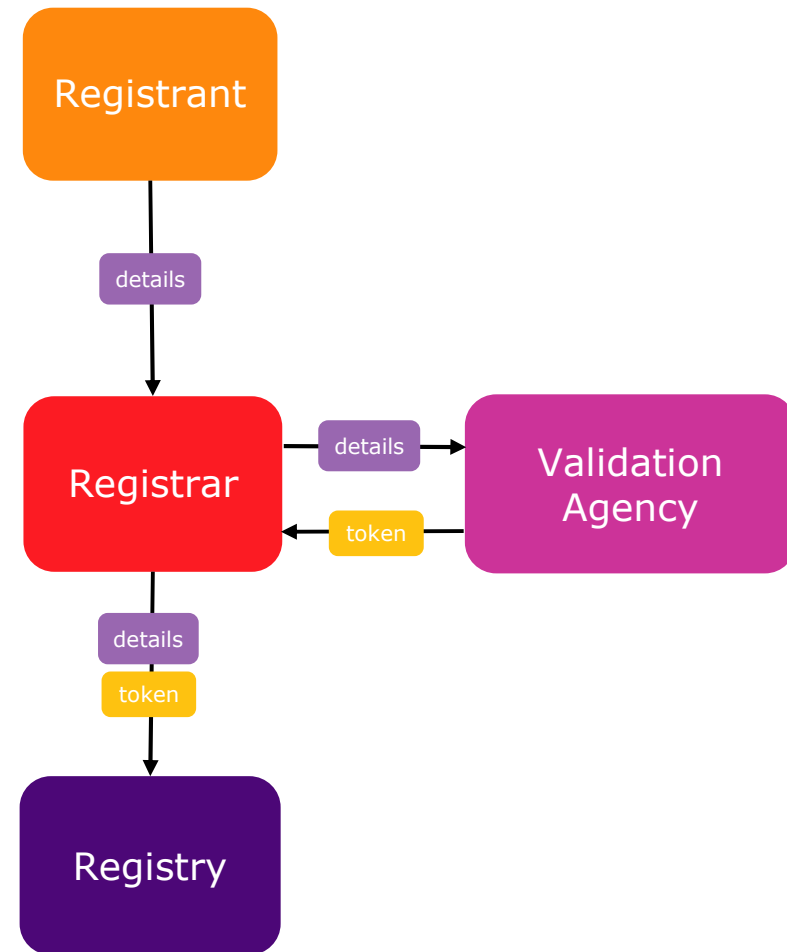
- UK ENUM Consortium (UKEC)
  - Not for profit, member owned, private company
  - Overall control of ENUM in UK, approved by BERR
  - Issue tender for the registry every five years
  - Run disputes and accreditation of validation agencies
- Nominet UK
  - Not for profit, member owned, private company
  - Won tender for first five years
  - Core business has been running .uk domain names
- Registrars
  - Sell the domains to end customers
  - May also do validation
- Validation agency
  - Validate the end customer is the customer for that number
  - Could be logical function in a registrar
  - Could be part of a CP

# UK ENUM - update and impact

## Registration process

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- Registrant supplies details to Registrar
- Registrar forwards them to Validation Agency (VA)
- VA checks ownership of number - replies with token
- Registrar sends request to Registry with VA token
- Registry creates registration - for one or more numbers
- Registry delegates numbers in 4.4.e164.arpa zone



## Current position

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- Our service
  - Testbed launched earlier this week - can sign up to use it now.
  - Technical specifications published
  - Business processes published
  - Consultation under way on all of this (run by UKEC)
- Next phase
  - Full launch in August
  - Registrar fee is £350 per year
  - Wholesale price agreed - £5 per registration and first number, 50p per additional number (discounted to 10p initially).
- Outstanding
  - UKEC to publish Validation Agency contract
  - Disputes process to be agreed
  - No opportunity yet for CPs to register numbers directly



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# Impact

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## Possible types of customers

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- Many preconditions already in place
  - Lots of businesses have VoIP internally
  - Internet connectivity is cheap
  - Acceptance of lower quality for a much lower price
- Call centres
  - Like to use an 0800/0845 number? - publish your ENUM instead
- Large supply chains
  - Lots of suppliers to deal with? - Mandate the use of VoIP and ENUM.
- Multiple sites
  - Is provisioning each site costly and complex? - Use ENUM for each site and they can automatically find each other.

## ENUM and the CP Market

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### Last mile strategy

- You want
  - Customers to switch from PSTN to ADSL
  - Buy more products on top of that - Voice, TV, VoD, even Backup!
  - Control over 'difficult' applications - streaming content, P2P etc
- Customers want
  - Keep their existing telephone number
  - Not feel they're missing out because they don't use Skype
  - More and more free calls
- ENUM is a crucial part
  - A way of providing ever more 'free' calls
  - A way of providing free calls beyond your network
  - An entry level built on ENUM gives you the edge

## Other opportunities

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- VoIP providers
  - Already have a model based on free intra-network calls
  - ENUM allows that to expand to inter-network
  - Allows smaller players to enter market and compete
  - Can be their own Validation Agency very simply
- Hosting companies
  - Big players in the domain name market
  - Considering adding VoIP to their portfolio of ADSL, web, email, backup, hosted applications (like Google Docs)
  - Provide complete service for the small office
- Closed communities
  - NHS has VoIP all over, large private network, multiple sites
- Suppliers to suppliers
  - Third party Validation Agencies - similar to outsourced billing
  - White box market for all of these functions

## Marketing support

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- Establish fledgling market
  - Provide resources to help with customer acquisition
  - Co-marketing funds
  - Case studies of successful usage
- Raise awareness
  - Speaking at trade shows/conferences/consumer shows
  - Briefing analysts - Gartner, IDC etc
  - Placing stories in the press
    - ENUM listed by BBC News web site as top ten technology for 2008
- Increasing support for ENUM in products
  - Identify, test and publish
  - Otherwise add support if needed
  - Publish full details on a dedicated site
- Cross EU working - ENUM Federation
  - Several countries all working together on marketing ENUM
  - 'Supports ENUM' logo and self-accreditation process
  - Shared database of supported products

## Summary

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ENUM is almost here now

- Aim to make VoIP as simple as email.
- For some people quite an opportunity
- For some quite disruptive

Any questions?

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