

nominet[®]

ENUM in the UK

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The Market for ENUM in the UK

ENUM in the UK to date

The market / vision of UK ENUM

UK ENUM approach

What's actually happening with UK ENUM?

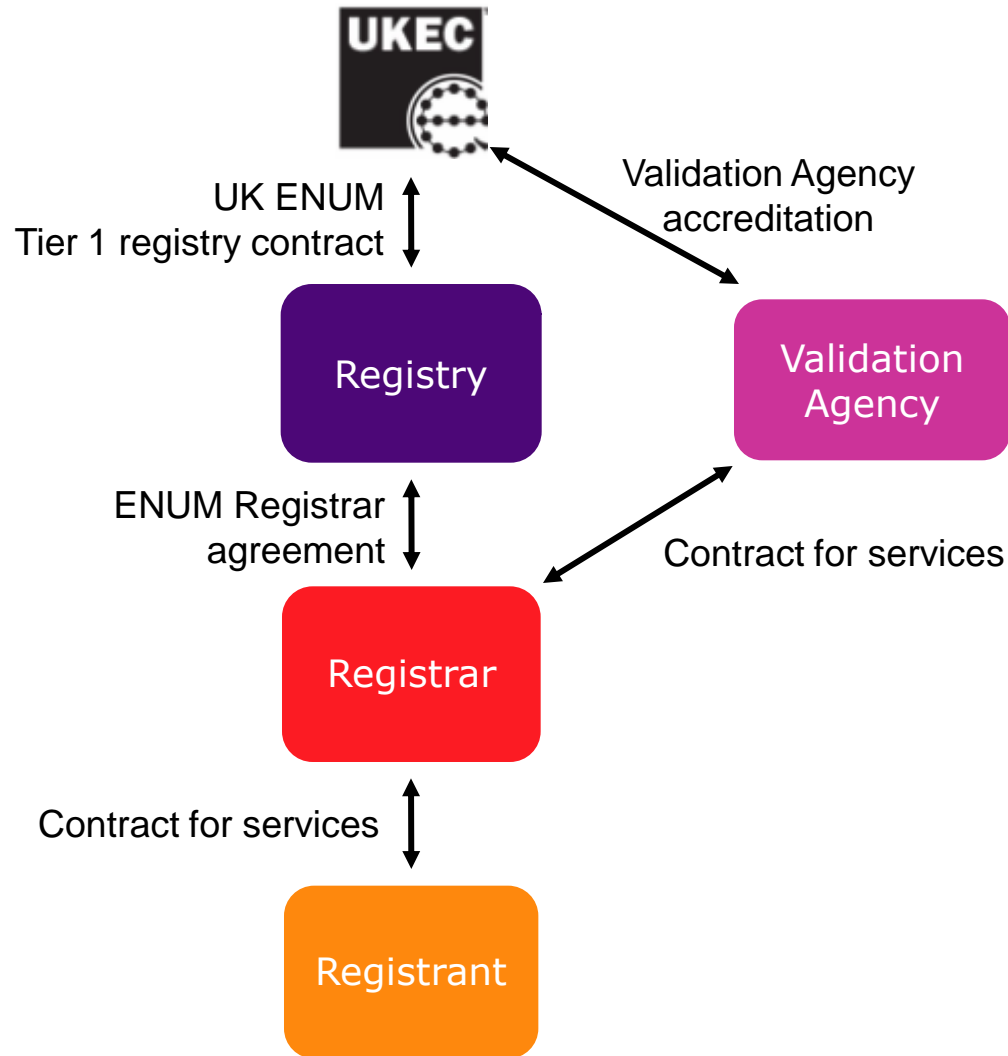
Where now?

UK ENUM status Oct 09

- Previously
 - DTI setup UK ENUM Consortium (UKEC)
 - UKEC completed a trial and awarded Nominet the contract to run the Tier 1 registry for Uk ENUM
- Activities in the past year
 - Registry went live in March 09 with a Registrar and Validation agency
 - 3 Registrars and 4 Validation agencies are live and we are actively speaking to more
 - 1st registrations have been made and enabled calls have been placed
 - Now engaged with various parties in both the Registrar and Registrant spaces to start populating and using the registry



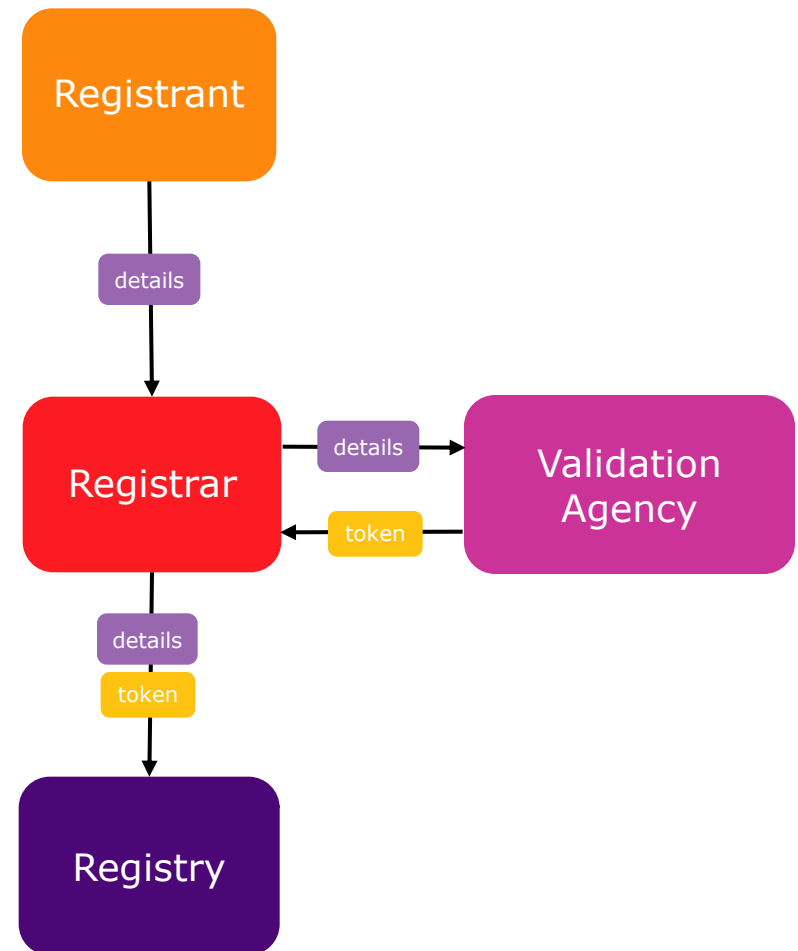
ENUM sales model in the UK





ENUM registration process in the UK

- 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



Market - colliding worlds

- Old
 - Telephone
 - Operator
 - PSTN
 - Per minute usage
- New
 - VoIP (SIP, H323,), IP Telephone, IM, Instant Messaging, MSN, GoogleTalk, Skype, Gizmo, Facebook, FoIP, Video, Softphone, SIP phone
 - Registrars/Registrants/delegations/validations/VoIP provider
 - Internets, VPNs, IPSec, MPLS
 - Subscriptions, 'least cost routing', free
- ENUM

The vision for ENUM in the UK



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Our vision is of a world where people's communications
are enabled and enhanced by ENUM

What opportunities does ENUM present in the UK?



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- Bypass the PSTN and enable new business models
 - including removing the per minute business model
 - enable new entrants to reach end points easily
 - ability to create new applications at internet speeds that can improve and support communications
- A recognised single identifier for people for their communications needs
 - connecting many new types communications - email, VoIP, IM, telephones, mobiles...

Who might use it?

- Residential – Joe Public
 - Used to the existing model - you build it, we'll use it... perhaps
- Business users - small and medium enterprises
 - Often curious - likely they will understand it and use it to their advantage but only if everyone else is and it works
- Large corporates
 - Often don't make decisions quickly
- Government departments
 - Fragmented and often slow changing world.
- Communication Service Providers
 - Protectionist approach by some to existing business models
 - Opportunity for others but at the expense of understood business models
 - Playground for Internet entrants

Strategy approach

- General
 - Improve the overall buzz of the VoIP communications world Back it with ENUM
 - Approach all key players in the market in a coordinated way
- Target key opportunities
 - Resource is scarce
 - Promote Examples and setup examples where possible
 - Support commercial offerings when they arise
- Understand private ENUM implementations especially in regulated spaces
 - Public ENUM vs others
 - Back with Government & regulatory support

Key Opportunities

- IP Telephony market
 - Key areas to target are supply chains and communities with multiple points
 - Approach via the service providers
- Innovators
 - These are the companies who either provide new technology services or are looking to create something new using ENUM as the enabler
 - Create a club where innovation can be nurtured, encouraged and supported
- Hardware and Software
 - Key to one half of the equation is having equipment with the capability to look up ENUM records and perform IP communication
 - Work with the manufacturers with the help of the Internet communities
- Disruptor
 - There are a number of key IP communication communities with large user bases
 - Identify and engage in uses case investigations
- General awareness IP comms world
 - Promote and support the VoIP industry
 - Support events and encourage discussion of non cost related benefits of ENUM



ENUM-enabled solutions: “enumdroid” application for Google Android



- Developed by Nominet
 - published as open source
 - Available on the Android Marketplace
- Dial the number of your contact
- Application performs an ENUM query and presents the user with the available contact methods
- Caller makes choice of contact method and places the call.
- Presents a number of options
 - Detects IP connectivity
 - Can be disabled if 3G/EDGE service prohibits VoIP

ENUM-enabled solutions: “enumdroid” application for Google Android



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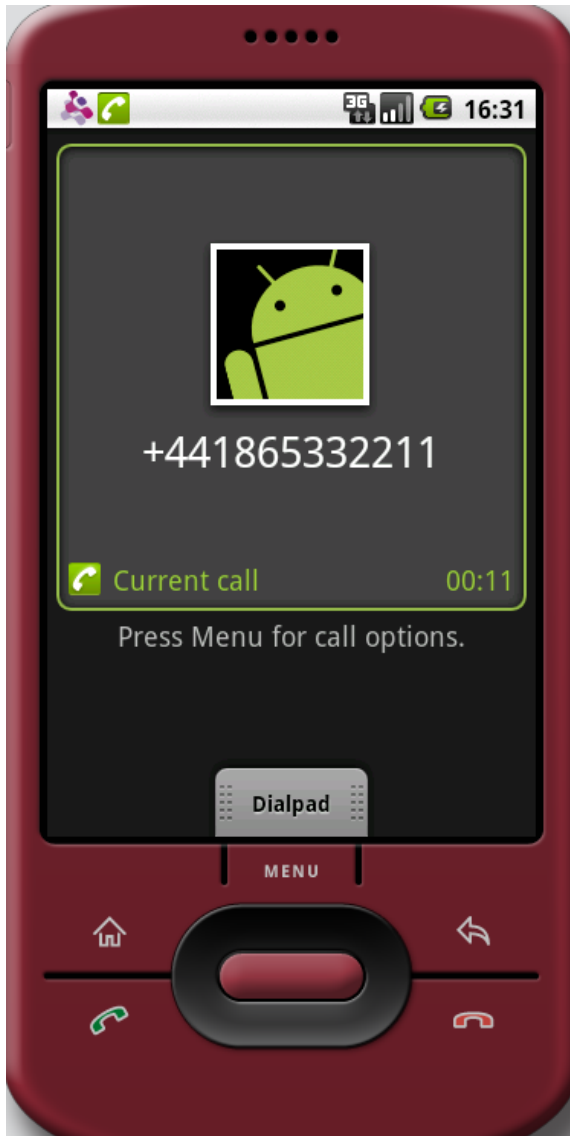


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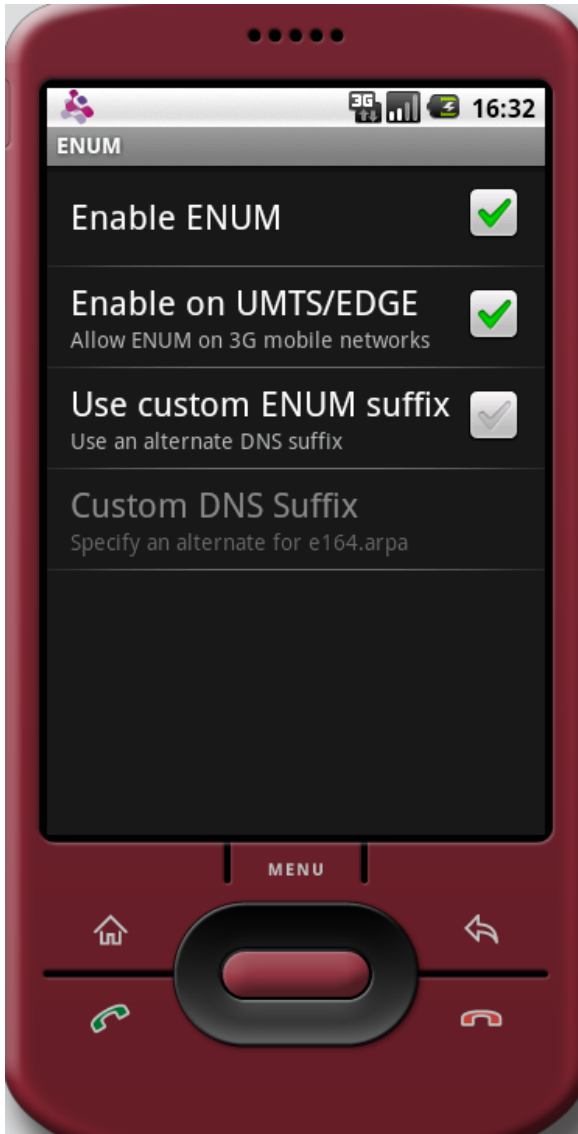


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What's actually happening?

- Free phone calls
 - VoIP to VoIP without the PSTN
 - VoIP doesn't yet deliver the full promise
- Users
 - Gain control but do they need it / want it
 - We've given it to them but they don't know
 - Don't understand the technologies never mind the solution
 - It is hard to perceive the benefits without everyone using it
- Closed communities
 - Struggling with a business case - multiple costs for new services vs cost savings. Made harder as users can't transfer completely away from PSTN so multiplying the comms rather than converging

What's actually happening?

- Communications providers
 - Understand it but can't make it pay...
 - Lose control over the customer although this is coming they won't be able to comprehend it before it happens
- Equipment – if there is demand then ok, otherwise they have longer lead times for product roadmaps
- Single central number database
 - Utopia every number is recorded in one ENUM tree
 - Open market approach rather than enforced final solution means this isn't going to be the case
- ENUM isn't going to solve the problems it's going to be the people in the industry that will solve the problems perhaps by using ENUM



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Where next for ENUM in the UK?

- Public ENUM - It's built, deployed and live
 - We're engaged with registrars, registrants & other European countries.
 - Developing business cases and supporting the channel
 - Speaking to software and hardware vendors
 - Working with UKEC and the ENUM Federation to promote ENUM
 - Working with SIDN on the ENUM Developer's Portal and Lab
- Public ENUM is an enabler, it offers cost savings and efficiencies by
 - enabling VoIP communications – connecting "islands of VoIP"
 - facilitating unified communication applications
- We are actively working on developing the number of registrars and registrations