Minutes: MODERN BoF; March 24, 2015; IETF 92; Dallas, TX

Note: This file contains official meeting minutes at the top, which capture those points that had non-trivial bearing on the proposed charter and questions around whether to form a working group. These official minutes are followed by the raw notes provided by the two scribes who took notes during the meeting.

Chairs: Administration and Agenda

Agenda:
10m Administration – Chairs
45m Telephone Numbering in an IP Environment – Henning Schulzrinne
45m draft-peterson-modern-problems-00 – Jon Peterson
45m Charter – Chairs

No substantive discussion ensued.

Henning: Schulzrinne: Telephone Numbering in an IP Environment

See meeting slides for considerations regarding telephone numbering in an IP environment.

Ensuing discussion addressed needing solutions that can support different policies and not being limited by current processes that limit entities that can access numbers today.

Jon Peterson: draft-peterson-modern-problems-00

See meeting slides for considerations regarding migrating telephone routing and directory services to the Internet.

Ensuing discussion addressed the issue of whether new protocols would be needed. Jon suggested that solutions would most likely borrow from existing protocols with new data models. Henning suggested there could be protocol work for a solution that used a mesh and tree registry model.

Ensuing discussion addressed whether what was being proposed was a business model or a solution architecture.

Chairs: Charter Discussion

See meeting slides for charter text presented at BoF.

It was asked whether the charter intended to limit telephone numbers to E.164 numbers, the co-chair answered that it was.

There was discussion of whether the charter should expand the scope beyond telephone numbers to other identifiers.

There was discussion of whether the scope should be limited by defining an architecture that focuses issues addressed by any potential work group.

Chairs: BoF Questions

Q1: Is there support to form a WG from the proposed charter?

Consensus: Yes (slightly more support)

Q2: Does the community think that the problem statement is clear, well-scoped, solvable, and useful to solve?

Consensus: No (slightly more against)

Q3: Can I see a show of hands of folks willing to review documents?

Twenty people were willing.

Q4: Who would be willing to serve as an editor for the Working Group documents?

About five to six people were willing.

Q5: Does the community think that, given the charter discussion, a WG should be formed?

Consensus: Yes, but charter needs work.

Q6: How many people feel that a WG should not be formed?

Question was not posed because Q5 answered it.

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Raw Notes
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Scribe 1:

Managing, Ordering, Distributing, Exposing and Registering Telephone Numbers (MODERN)
IETF 92 - Thursday 0900

Agenda:

10m Administrative – Chairs

45m Telephone Numbering in an All-IP Environment - Henning Schulzrinne Henning

- only personal opinions, not opinions of the commissioners of the FCC

Phone number evolution has changed incrementally but fundamentally
-Started as instructions to motors in electromechanical switch
-Became an identifier, not a locator
-Number hasn't changed but role has changed
-Remnants of locator model still exist for historical reasons

Keith Drage - New roles have been added, roll hasn't necessarily changed

Communications identifiers
- list of aspects of communications identifiers
- Need identifier that works on different media

- can be conveyed orally
- internationally usable
- portable
- geography - to avoid calling in middle of night, for instance

Andrew Allen - geography also gives a hint on cost of call

Eric Burger - Vanity phone numbers exist, not all phone numbers are advertised as numbers; trademark issues
Chris ? - If phone numbers are easy to remember, why doesn't facebook use them; people use email addresses
Richard Shockey - phone numbers are linguistically neutral

- Alternatives
  - all app-world - use identifiers in individual apps
  - cryptographic identifier

Phone numbers for machines
- use of sim cards, billing systems that use billing numbers

Andrew Allen - 3GPP is working on m2m work item; number exhaustion is considered a potential problem

Phone numbers are valuable

- yesterday an article in NYT about 212 numbers, can buy 212 numbers because they are considered more valuable

Meta assumptions

- Implementations don't adjust well to policy changes
- Example of using IVR systems to validate number portability
- Goal of a platform that will enable quicker policy changes that don't depend on technology changes
- Overlap in number spaces - tool free numbers, sms short codes, CICs, etc

Out of scope
- short term changes to numbering administration
- global "root" with uniform policies
- changing numbering policies, contracts
- if we do our job right we might enable easier implementation of new policies

Jon Peterson - IETF cannot change policies but we will talk about architectures to enable new policies
Henning - Nothing precludes entities from getting access to phone numbers
Jon - Don't constrain ourselves to entities that have access to numbers today
Martin Dolly - can we design tools without understanding the requirements? need direction from policy to know how to build tools.
Henning - Yes, but this doesn't impact the who part of who gets the numbers
Jon - Will talk about tools interaction with future policies
John Levine - outside of US, numbers and charges are different than US; mobile numbers are different from landline numbers because of charging and service differentation

Henning - Its about who can get what numbers - policy decision; technology needs to support multiple policies, not make the policies

Number administration is baroque
- US is likely the most complicated

Reconsider assumptions?
- NANP,LNP,LERG,RespOrg, separation?
- evolved for historical reasons, difficult to merge because they have different techs

Sample policy variables
- Don't necessarily apply to tech discussion

Who are the actors?
- need to converge on terminology
- entities that provide service; entities that manage numbers; third party verifiers; property validators; consumers; regulators; etc

Additional numbering uses?

- Validated or asserted attributes - for instance, prison calls

Role of MODERN
- "Title registry"
- create a clear record of number use and history associate attributes with numbers

Big pictures
- SP (add modify delete)--> MODB (Mother of all Databases) --> access (query and push) protocols

State transitions
- spare, working, expired, reserved

Martin Dolly - Another subcategory - dirty or quarantined)
Henning - falls into reserved category)

Country dialing codes

- Don't want to solve problem of handling global root

International routing

- Number of country codes is modest (230 or so)
- Don't change much

Architecture 1: tree
- two architecture might apply
- similar to domain name model; registry; service providers competing for customers are given right to modify entries
- domain name case 100s can change

Architecture 2: mesh + tree
- no single master registry, rather multiple registries
- difficult to determine who gets to be MODB
- distribute trusted entities that have a uniform and logically identity view; all can preform all operations

- same state within small amount of time

How to ensure correction
- distribution
- allocation
- recovery

Paxos assumptions
- even when things fail nothing bad happens

Record granularity

Number meta-data (examples)

LERG
- example of database content

Validation

Role of caller location in numbering
- is there a geographic differentiation- different record for different locations for same numbers

Data elements

Whois re

Record access model

Alex M - DRINKS produced protocol about provisioning of phone number, groups should look at work

Number porting
- porting numbers is the most messy requirement because of complexity

Porting: end user initiated
- just moved the problem to handle moving number between users

Porting: confirmation-based

Caching
- need ability to cache data
- number databases don't change a lot but do need to make sure there is no expired data

Fair assumptions?
- JSON? HTTPS, REST-style
- do we need pub/sub?

Open issues (selection)

Questions:
Kieth Drage - does database expose or hide numbers - are there blocks or individual records
Adam - non charter questions to the list
Jon - not going to get to that level of detail in this meeting

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45m draft-peterson-modern-problems-00 - Jon Peterson
<https://urldefense.proofpoint.com/v2/url?u=https-3A__tools.ietf.org_html_draft-2Dpeterson-2Dmodern-2Dproblems-2D00&d=AwICaQ&c=MOptNlVtIETeDALC_lULrw&r=4Klm32iB7HufveeIDcLextZ1ooNcfp01IYIaVqsORjI&m=uG_P0L2oTHobz5C-ChvPItvp1yYMcOEdSEh6krT4HVw&s=qUq6tNu_Srm-eXcdtzWi7Brwv76eLBIoWufdZTpXlZw&e= >

- draft-peterson-modern-problems
- draft-peterson-terq

- presentation isn't about chevy chase movie "modern problems"

Telephone and the Internet
- never would have guessed that telephone numbers haven't gone away
- mobile phones one of the reasons

Andrew Allen - also because of legacy reasons

What if...
- telephones are just internet identifiers?
- FCC workshop because of acceleration of move to IP telephony

Not just what if
- Can get google voice phone number
- administrative model already being pushed

Sensitivity training
- MODERN absolutely will not set TN policy
- IETF does not want to do this
- Numbering policy is a sensitive and polarizing topic
- Not our decision whether or not policies changes
- Tools need to be useful independent of the specific policy

Eric Burger - could end up creating protocol that no one uses; example of system that was based on knowing policies in advance
Jon - looking to community to inform group on possible policies

Richard Shockey - NANC will not be able to provide input in a timely fashion

Moving parts

Richard Shockey - How do i add and delete meta data associated with numbers
Jon: we'll talk about that

- Not new protocol design: just data models, not inventing a new transport

Henning: Just application layer protocols; challenge notion that we don't need to do any protocol work; need pub/sub mechanisms; need interoperable protocol between multiple registries; may do a little protocol work
Jon: yes
Dave Crocker: confused by bottom statement; what do we have that is deployed and working, currently deployed; in scale that would work

Jon: A lot of http based;
Dave: HTTP is just a transport request
Adam: sementic argument about what protocol means

Taxonomy
- number authority
  - root authority is not necessarily a gov agency; no "golden root" assumption
- number users
- CSPs (communications service providers)
  - csp may act as authorities or may not
- Government entities

Delegation and authority

Pat Tarpy - is there a relationship between this and stir
Jon - yes, in a couple of slides

Acquisition

Acquiring a number
- new phone gets number and credential

Eric Burger - use case not clear; is this about a phone requesting numbers from pbx
Cullen Jennings - enterprise has to manage number space, might be pbx requesting number, might be phone getting number from pbx
Henning - web site access requests for 800 numbers

- Also want ability to request blocks of numbers; should be able to scale up to that

Martin Dolly - making requests for number is the easy part; security, policy, authentication, authorization is the more difficult part; having a tool to get number is not interesting
Jon - authorization is important; don't think policy issues are intractable
Richard Shockey - doesn't like any of this conversation; postulates a policy; just wants to build tools; want to get away from this discussion; we don't do policy or business models, we build tools; say we may do this, not must
Jon- purpose of use cases is to see there is work to be done
Richard Barnes - slide sways need for allocation of blocks

Customer to CSP
- phone should be able to communicate directly with CSP

Acquisition mechanism scope
- build tools that will work irrespective of policy models
- flexibility is the important thing

Chris Lamb - it is vastly different scope; provisioning interface to CSP
is difficult; disagree with the premise
Chris - making it much more complex
Jon - near term problem isn't what is being addressed
Chris - ok
Richard Shockey - Tools could enable mechanism but tool must be

flexible
enough to also prohibit if that is the policy
Jon - Is ok if that is a requirement
Richard - we are not globally enabling a technology

Provisioning today
- CSPs take care of everything

Provisioning
- enterprise gets number from root authority and goes to CSP with the number
- similar to SIP registrar

Andrew Allen - do these get tied to IP addresses
Jon - not really

- could extend to a single user getting a single number
- similar to the DNS model

Henning: All registrars have developed private APIs to handle domain name case
Andrew Sullivan: there is one protocol - epp, extensions exist
Adam: not relevant
Henning: didn't mean registrar to registrar, meant consumer to registrar
Richard Barnes: CSP is like web service provider; use cases where messaging ap uses phone numbers could take advantage of this
Jon: job today is to see if this is an interesting problem
Dave Crocker: it sounds like what is proposed is an identifier administration system; others exist like domain names; seems reasonable; looking at other similar work is important
Jon: yes, there is a beg borrow and steal

Querying
- not enum bashing

The TeRQ architecture
- routing data and administrative data
- approved in dispatch
- deferred working group
- waiting on stir
- could use terq here
- might include http or binary protocol

About data models
- not much protocol design here
- reuse as much as possible
- MODERN will deliver an architecture

Somebody special
- government entities will want special access
- follow weirds lead

Direction for modern-problems draft
- hopefully helped focus discussion

Eric Burger - in the context of charter, terq assume MODB and in real time data path; is charter going to assume terq?

Jon - TERQ does not assume MODB; likely to be multiple databases
Eric - second half - middle of call path
Jon - terq handles this case for transactions that need it; need to compare to enum in performance
Eric - it is a totally different architecture
Henning - useful to call out the two models (realtime, versus not); highlight important distinction, jon's slides had architecture based on tree structure; we add value in defining non trivial protocols
Jon - No objection to mesh style architecture; thinks it is a hard problem; no objection to it being a deliverable
Martin Dolly - Looks more like a solution than tools; is it a solution in search of a policy decision?
Jon - it is an architecture, not a solution
Richard Barnes - think Jon has the correct break down of problem, first and third components are the important ones; provisioning number might be separated out
Jon - there because information received in allocation is needed by CSP
Andy Nunan? - beg, borrow and steal protocol are very diverse; to much stealing makes an ugly specification
Jon - yes, need to be careful
Chris Went - Agrees with Martin that this looks like a solution; webservices developer could code this up quickly; ATIS has done some of this built on web tools; tools out there for authentication; tools exist
to build
Jon - expect to coordinate with ATIS; if there is new protocol work it should be done in US
Chris - arguing about scope
Cathy - consumers union, is this group making it harder to spoof
Jon - no that is STIR
Cathy - isn't that also related to allocation of phone numbers
Henning - if we do our job will it will be easier to store stir credentials which will help to address spoofing and related problems
Cathy - can this be expedited?
Adam - we can discuss offline
Cullen Jennings - Cisco would definitely use something like this if it existed for enterprise systems, expects other vendors in this space would also use it as quickly as possible
Peter Thacher - how do we avoid situation that we build a tool that is not used; how realistic is it that people will use tools
Jon - carriers and regulators in room can give input

45m Charter - Chairs

Slide 1

Barry Lieba - nothing presented here says this should be limited to telephone numbers, might want to broaden scope to general identifiers
Jon - Oceans, boiling versus pressing problem with push for fast resolution
Ben Campbell - need to avoid boiling ocean, might depend on size of ocean, have situation that is specific to telephone numbers; counter argument is you won't need it; concerned with size
Eric Burger - thing that is unique to TNs is the level of government policy associated with them
Barry - already need to deal with different regulations in different places
Eric - yes

Keith Drage - does Barry want a database for each identifier or a single
databases; do we mean e.164 numbers only

Clarification for charter - just e.164

Dave Crocker - absence of definition of what makes phone number different from domain names is needed in charter; what is specific to this task that is different from other identifiers
Adam summarized
Dave - saying boil the ocean is deflecting from need for more detail
Pete Resnick - why aren't we doing less; goal might be to chop down architecture to what is really needed;
Martin Dolly - this looks like a solution; other solutions exist as pointed out by Chris; we're talking business models and solutions waiting for regulations; should be be defining a solution the favors others

Slide 2

Pete Resnick - first paragraph is a concern, mixing framework and protocol, doesn't mention architecture; do framework and architecture then do protocols
Adam - third slide addresses deliverables

Slide 3

Jon - no deliverable on business models and solutions; not expecting such suggestions
??? - can we take Hennings architecture
Andrew Sullivan - it is a rat hole if we need to but sentence in charter
that we don't to business models; do need to be clear that IETF is not about setting policy
Pete Resnick - Understand deliverables include arch doc; is everybody ok
we are deciding an new architecture?
Eric Burger - not saying anything about business models, not saying about being in call path, have we decided we are going to do thing in realtime in the call path
Cullen - standardization is needed, companies have build proprietary rest based solutions; people building both ends of this already, need it
sooner than later
Peter Rolfdinic? - Policy survey needed in deliverables
Jon - trying to create tools; don't want to do policy survey and using that as requirements
Richard Shockey - It would be nice to have information and would be available as a consultant :-); I have the knowledge; not sure how to do it
Henning - Think it would be useful to understand porting methods used;
Richard Barnes - who is consumer for this? tools will be helpful

Questions

is there support to form WG - a little heavier on support side
is problem statement clear - close but extra loud hummers
reviewers - 20

editors - 5-6
feel a wg is needed - yes

Ben - people want a WG but charter is not right

Scribe 2:

Notes on MODERN BOF

Telephone Numbering in an All-IP Environment - Henning Schulzrinne
http://www.ietf.org/proceedings/92/slides/slides-92-modern-1.pdf
- evolution of numbers from a physical locator to also be a logical identifier
- desiderata for identifiers, location, rough time zone, hint about how much it costs to call
but numbers are often harder to remember than names but are linguistically neutral
questions about who can get numbers to assign
access protocols: RDAP, DRINKS, others?

draft-peterson-modern-problems-00 - Jon Peterson

- http://www.ietf.org/proceedings/92/slides/slides-92-modern-2.pdf
- E Berger, Henning: different models of terq which is in the call path, something else that isn't
- Various in Jabber: this looks a lot like DNS registrations, EPP could do all this, but existing providers like proprietary schemes with customer lock in
- R Barnes: provisioning seems less urgent
- CU person: distinction between MODERN and STIR? These are related, don't conflict.
- C Jennings: Cisco would implement a good protocol, much better than current faxes, etc. Expect other vendors feel the same.
- Questions about how long this process will take, months, years?

Charter - Chairs

- Background
- Barry Leiba: don't limit this to phone numbers, allow more general phone identifiers
- Jon Peterson: ocean boiling issues re more generality, this is for PSTN IP transition
- Ben Campbell: transition and TNs is a specific issue with a problem to solve
- E Berger: TNs have a bunch of unique historical and policy issues
- Keith: does Barry one one mechanism for two databases, or a combined database? do phone numbers mean E.164 or more general?
- Chairs: E.164 only
- D Crocker: TNs defines sandbox with many unstated assumptions. Need to identify things that make TNs different from domain names in charter.

- P Resnick: current architecture is going away, do we need to reinstantiate all of the current complex parts?
- Martin D: this is business models: do queries go to provider or to a central database? Should IETF define something that forces specific biz model

- Goals and Deliverables
- Jon P: it's just tools
- C Glenn: use Henning's architecture? uh. no
- A Sulllivan: if we need to say we don't do business models we're already down a rathole, need to be very clear that IETF is not inventing a new policy forum
- P Resnick: we're deciding on a possibly different archictecture. Is that OK?
- E Berger: not business models, not necessarily in the call path?
- C Jennings: companies are doing proprietary stuff now, we need to avoid fragmentation and soon
- P Koch: policy flexibility not in the deliverables, could end up with something too flexible. Or this only for NANP?
- Jon P: don't do policy survey, make tools for architectures that people will build anyway
- R Schockey: regulators outside the US are struggling, their systems are old and awful
- Henning: understand porting models, be sure we can handle them, build tools others can use
- R Barnes: who will consume this? consider unified phone and other systems, e.g. google voice
- E Berger: national number allocation vs Cisco application to multi-campus business

- The hums
- Support to form a WG with roughly this charter? slightly more support
- 2. clear and useful to solve? less support
- 3. review docs? about 20
- editor? about 5
- form WG? favor but not loudly, people in favor but charter needs work