



**NREN.net**

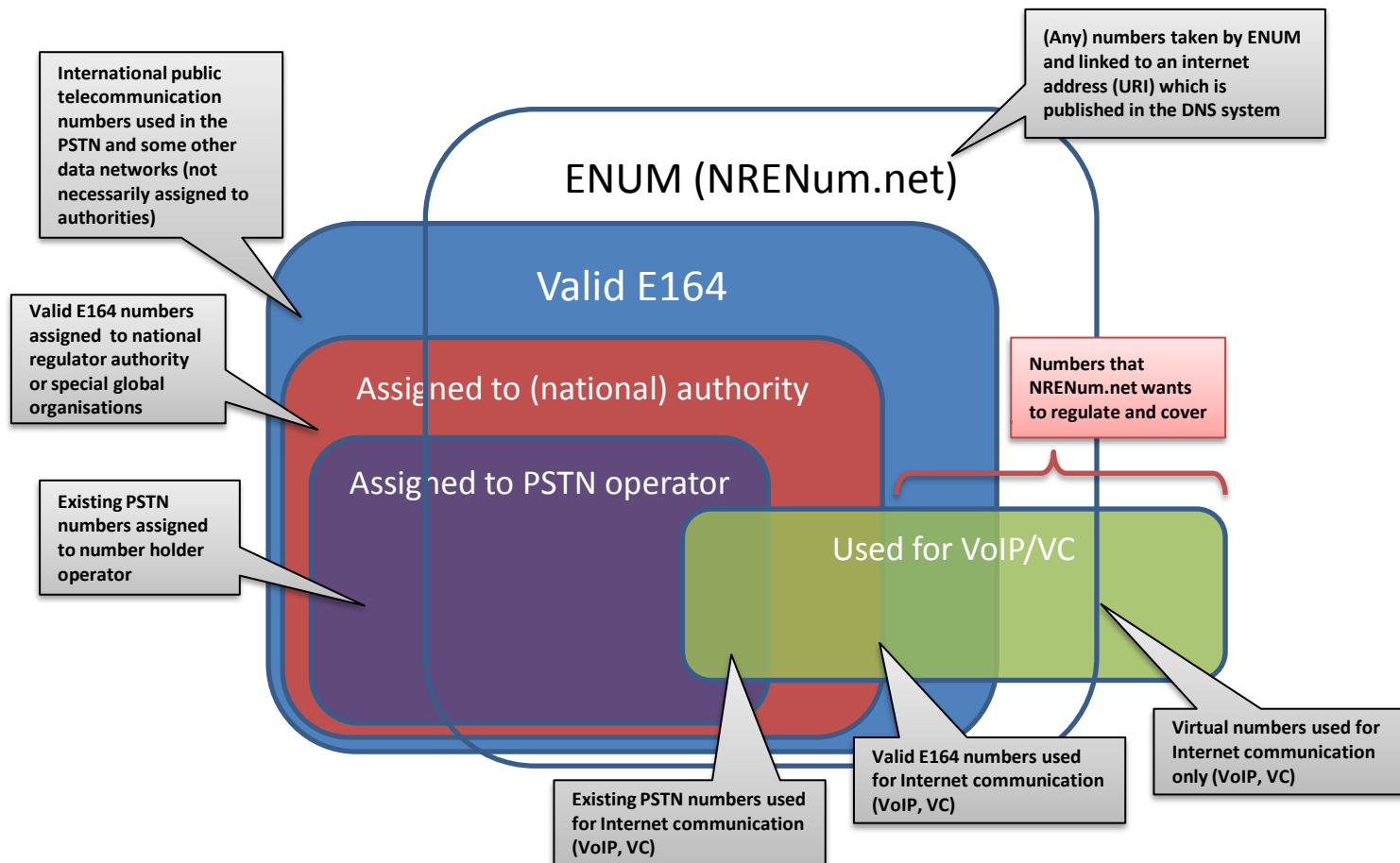
Unified Communications

# Topics to discuss...

1. **Handling of virtual numbers**
  - GDS – NRENum.net migration
2. **Service Policy update:**
  - Implications by RENATER and NORDUnet
  - Implications by virtual numbers
  - Recommendations for National Policy
3. **Operations Team vs. Global Governance**
4. **Distribution of DNS slaves**
5. **Infrastructure testing (led by AARnet)**
6. **Hands-on training at TNC2013**
7. Crawler fixes and developments
8. Security and misuse (DNSsec)
9. Collecting contact information
10. New service ideas:
  - IPv6 with ENUM
  - SIP server as NRENum.net proxy
  - NRENum.net diallig in LOLA and DVTS
11. Sustainability

# 1. Handling of virtual numbers

## *Numbering Plan*



# 1. Handling of virtual numbers

Do you or your users already use virtual numbers in the communication infrastructure (Videoconferencing, VoIP, other)?



END

Where do you think virtual numbers should be populated under?

In a separate ENUM tree, dedicated only to virtual numbers 15.78%

Inside the existing NRENum.net tree 63.15%

What do you think the domain of the separate virtual NRENum tree should be?

To access the virtual NRENum tree, should users dial a specific selector?

END

Assuming that the NRENum.net tree will be used to populate virtual numbers, where do you think virtual numbers should be delegated?

Outside the national dialling plans; a globally unique, worldwide virtual "country code" prefix should be selected 10.52%

Inside each national dialling plan; a non-clashing virtual "area code" prefixes should be selected 84.21%

How do you think a worldwide virtual country code prefix should be selected?

How do you think the virtual number delegation under the worldwide prefix should be managed?

END

Please, express your view on the possibility of creating such a prefix (i.e. sandbox) within your national dialling plan.

Please, express your view on the possibility of creating such a long virtual numbers within your national dialling plan.

END

# 1. Handling of virtual numbers

1. Off-tree: Create and populate a separate tree for VN  
<4.3.2.1.virtual.nrenum.net>
  
2. On-tree: Use nrenum.net
  - A. Outside NDP (pick a virtual country code e.g., +83)
    - i. Flat numbering plan (central administration!)  
<4.3.2.1.3.8.nrenum.net>
    - ii. Reproduce country code structure  
<4.3.2.1.CC.3.8.nrenum.net>
  - B. Inside NDP (where possible)
    - i. Unused/reserved area codes (sandbox)  
<4.3.2.1.AC.CC.nrenum.net>
    - ii. Number extension with additional digits (wild-card)  
<4.3.2.1.x.x.x.x.x.x.x.x.6.3.nrenum.net>

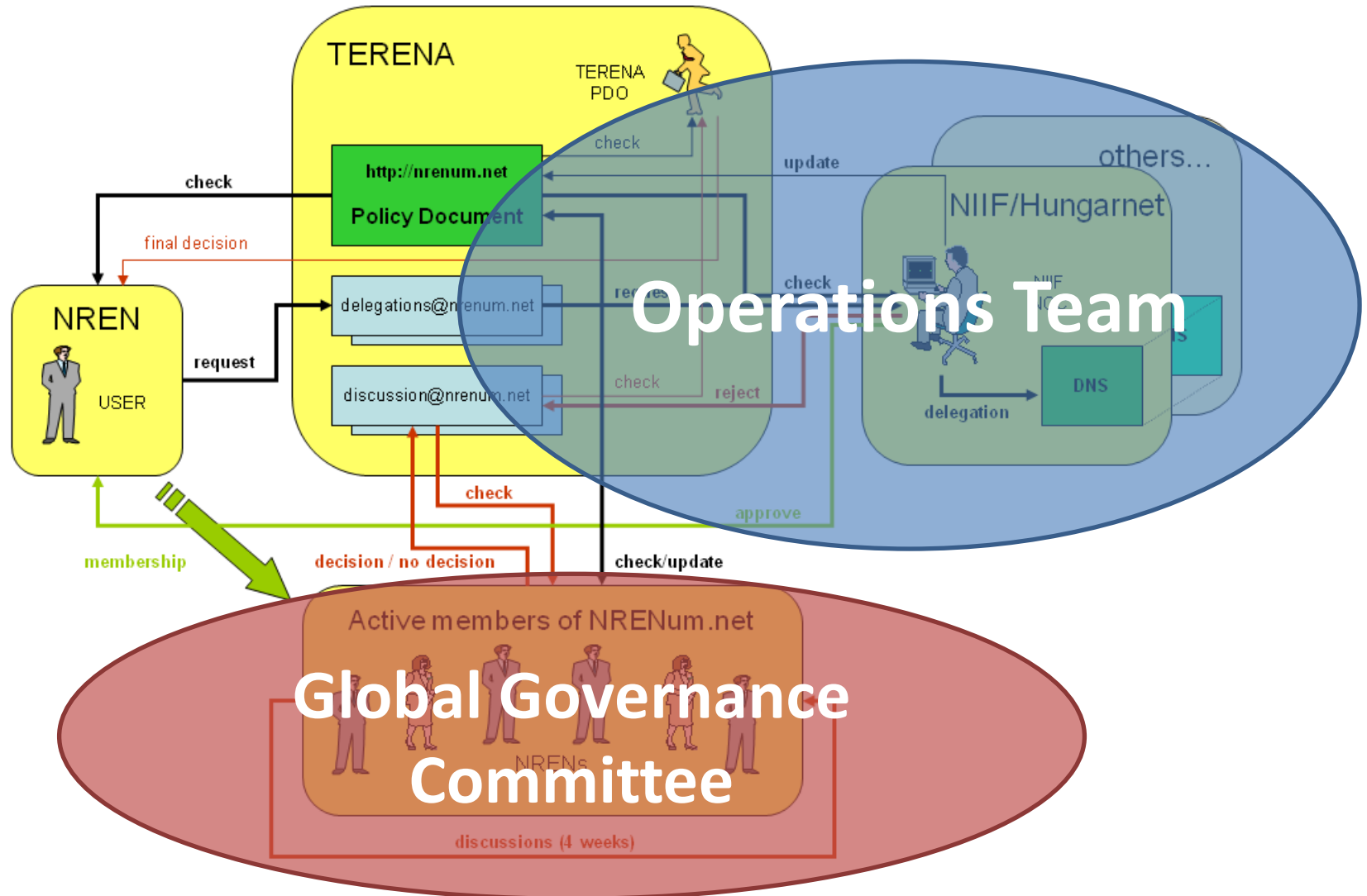
# Conclusions

- Do not change the NRENum.net policy!
- Try to make the virtual numbers legitimate, instead.
- NREN recommended roadmap:
  1. Initiate discussion with your national regulator about using a sandbox/superspace inside your national dialling plan to populate VNs;
    - try and get permission to use,
    - alternatively, promote the use.
  2. NRENum.net Operations Team picks an unused CC at the global level to populate VNs;
    - Create a pilot tree (separate) that gets the NRENum.net data and populates the global CC with virtual numbers

## 2. Service Policy update

- Already discussed:
  - C.1.3. in case a country has agreed to be represented by an other NREN or international organisation, the two entities have to clarify their individual roles with regards to NRENum.net.
  - C.4. The NREN (entity) agrees to fully support a future transition and provide all data when requested to ensure a swift re-delegation should NRENum.net decide to re-delegate a country prefix to a different entity.
- New changes:
  - **No!**

# 3. Operations Team vs. Global Governance





# 4. Distribution of DNS Slaves

- Top level DNS (Tier-0)
  - Master: NIIF, Hungary
  - Slaves: CARNet, Croatia & SWITCH, Switzerland
- Global distribution for a global service
  - Master: Central Europe (NIIF)
  - Slaves:
    - Internet2, US
    - AARnet, Australia
    - NORDUnet, Nordic countries
    - Existing slaves...

# 5. Infrastructure testing

- Contact information
- Infrastructure
- Procedures
- Certification...

# 6. Hands-on training at TNC2013

- On Sunday, 02/06 @ 9.00-17.30
- **Tutorial & training: SIP-based video calling via NRENum.net**
  - *The objective of the training is to provide NREN representatives with the technical knowledge and hands-on experience necessary to set up their own SIP communication infrastructure. As part of the workshop we step through setting up an open source Asterisk and SIP servers, configuring SIP peering service and querying the NRENum.net ENUM/DNS infrastructure.*

*Outline:*

- *Introduction to SIP (Session Initiation Protocol)*
- *Introduction to SDP (Session Description Protocol)*
- *Introduction to SIP peering and NRENum.net service and what is driving the project.*
- *Configuring AsteriskNOW using FreePBX*
- *Cisco CUBE configuration overview*
- *Acme Packet SBC configuration overview*

*Please bring your laptops with wireless access to participate in this hands on tutorial!*

- **Bill Efthimiou (AARnet)**
- Mihaly Meszaros (NIIF)
- Rui Ribeiro (FCCN)
- Peter Szegedi (TERENA)

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