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# ENUM projects in Poland

## RIPE47 ENUM BoF



**EPP**

# EPP for ENUM



## ***BACKGROUND***

- NASK is the admin & tech contact for 8.4.e164.arpa
- R&D unit
- State organization
- NASK follows the guidelines raised by the Office of Telecommunications and Post Regulation.



## ***BACKGROUND***

- It's the first attempt,
- Present registration policy is based on the administrative decisions:
  - Experience with “traditional” domain names (.PL)
  - Several implementations of Registrar software available
  - Guidelines from Office of Telecommunications and Post Regulation.



## ***ADMIN decisions***

- No direct registrations.
- Registration via the Telecom Operators (officially approved by the Regulator) ONLY (REGISTRAR = OPERATOR)
- Registrar (Operator) MUST NOT register the numbers administered by the other Operators
- NASK DOES NOT verify the rights to the particular telephone number



## ***ADMIN decisions cont.***

- Transfer only if ported, but NASK does not verify whether the number is ported or not
- NASK delegates ONLY the ENUM domain names to Operators' NSs



# ***EPP adaptation for ENUM***

<http://www.ietf.org/internet-drafts/draft-bartosiewicz-enum-48tld-00.txt>

Internet Draft  
draft-bartosiewicz-enum-48tld-00.txt  
October 17, 2003  
Expires in six months  
Intended status: Informational

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EPP parameters for 8.4.e164.arpa Registry



## ***EPP Modified Elements***

- A transfer of a domain or a contact does not require a confirmation of sponsoring client of that object.
- Options of the <domain:transfer> and <contact:transfer> commands other than request are not supported.





## ***EPP Modified Elements***

- It is possible to delete a host using the `<host:delete>` command, even if there are domains delegated to that host, on the condition that the host is not configured for any domain which is delegated to this host. A side effect of a removal of a host is removal of all delegations to that host.



## ***EPP Modified Elements***

- A change of a host's name is forbidden.
- A providing of the <host:chg> element in the <host:update> element causes failure of the <host:update> command.



## ***EPP Modified Elements***

- The `<domain:info>` command returns full set of information only for sponsoring client of a domain and client which provided a correct authorization information in the `<domain:authInfo>` element.
- In other cases command fails.



## ***EPP Modified Elements***

- The `<contact:info>` command returns full set of information only to sponsoring client of a domain and to client who provided a correct authorization information of domain in the `<contact:authInfo>` element.
- Furthermore, if contact represents a private person who consents to publish his/her personal details (`consentForPublishing=1`) then information is returned to the others clients. In other cases command fails



<http://www.c.pl>

# Cost optimization based on ENUM entries

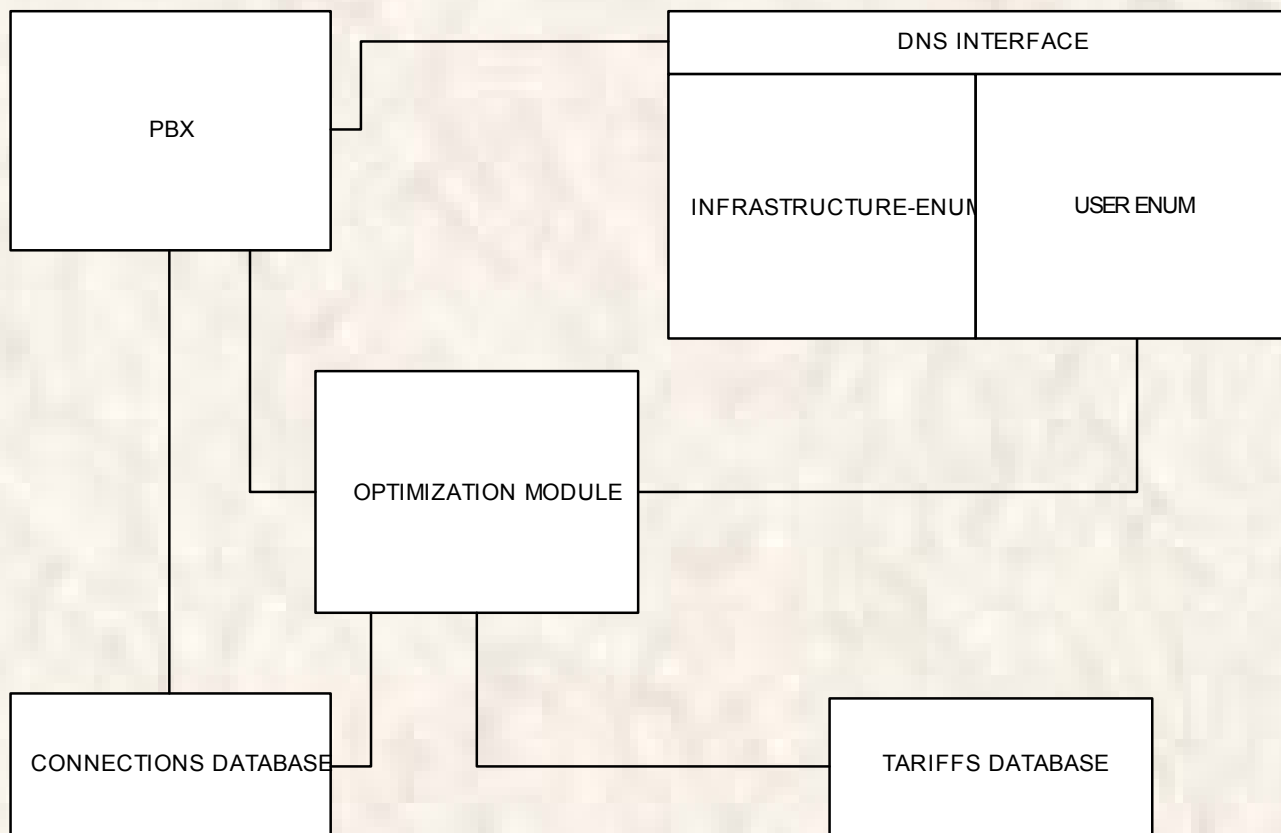


***Parts***

- PBX (i.e. ASTERISK)
- Optimization module
- DNS interface
- User-ENUM (public DNS)
- Infrastructure ENUM (private/local DNS)
- Tariffs' database (up-to-date, valid telecom. rates)
- Connections' database (history of the connections)



***Schema***





## ***NAPTR extension***

- [ORDER] Preferences of the calling party (NOT the preference of the called party stored in user-ENUM); Preference is based on the analyses of data stored in the CONNECTIONS DATABASE & TARIFFS DATABASE)
- [PREFERENCE] Probability of the connection (the probability value is based on the analyses of the data stored in the CONNECTIONS DATABASE); [PREFERENCE] = 100 – probability(connection)





## ***NAPTR extension***

- [QUALITY] Quality of the connection (FLAG; number within range 0..9)
- [Additional FLAG: O] Indicates that NAPTRs are including the additional information (mentioned above)



## ***Downgrade compatibility***

- PBX “standard” extensions using the ENUM database, can use the modified INFRASTRUCTURE-ENUM database without problems.



## ***Example of the User-ENUM***

- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR 100 10 "up" "tel+E2U" "!^.\*\$!tel:+4860624157!"
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR 200 10 "up" "tel+E2U" "!^.\*\$!tel:+48225231395!"
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR 300 50 "up" "sip+E2U" "!^.\*\$!sip:2006@obelix.nask.waw.pl!"
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR 300 100 "up" "sip+E2U" "!^.\*\$!sip:3006@obelix.nask.waw.pl!"



## ***Example of the Infr.-ENUM***

- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR **100 50** "o5up" "sip+E2U" "!^.\*\$!sip:2006@obelix.nask.waw.pl!"
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR **100 100** "oup" "sip+E2U" "!^.\*\$!sip:3006@obelix.nask.waw.pl!"
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR **200 50** "o9up" "tel+E2U" "!^.\*\$!tel:+48225231395!" .
- 7.5.1.4.2.6.0.6.8.4.e164.arpa 86400 IN NAPTR **300 10** "o7up" "tel+E2U" "!^.\*\$!tel:+ 4860624157!" .



## ***Contacts***

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