Improving Macedonia internet connectivity with RIPE Atlas

How a Idea could become reality ...
About me

- Programmer by heart
- 5 years ago was asked to be part of the HPC project on FCSE
- Experience in networking for 10+ years
- Started exploring the RIPE Atlas project 2 years ago
Basic idea

- The idea started before RIPE SEE4 (Belgrade 2015)
- Main objective: provide relevant information about nation wide status of ISP connectivity
- RIPE Atlas looked like the first (and only) solution
The idea

- Use existing RIPE probes (2 in University Networks, 7 in ISP)
- Install Probe in Every Medical center in MK (7 in Skopje, 43 in Other cities)
- Create a map and provide regular reports for the public
- Show to ISP the need to peer
Current RIPE Atlas status - MK

- 9 disconnected (and probably abandoned)
- 14 connected
- No RIPE Atlas Anchor
The idea (part 2)

- Distribute probes to Medical facilities (legal support from the Ministry of Health), 50-100 probes
- Change the rulebook for quality of service imposed by the Law for communications to force ISP to have 3+ probes if they are in more than one city and 2+ probes in one city. (around 30 probes)
- Help MARNET in the creation of MATRIX (the Macedonian internet exchange (we have the collocation space, have power and cooling, missing switches and legal framework))
The idea (part 3)

- Improve the University Fiber network and join MATRIX (upgrade to 10G capacity)
- Install RIPE Atlas Anchor (probably in FCSE)
- Bring in the content player (Google, Facebook,...)
- Bring root DNS instances (DNS service for MK users is terrible – most advanced users use Google dns or OpenDNS)
Possible risks

- Problem with probe distribution (shipping/import costs, people forget about probes, USB drives get stolen, ISPs disconnect probes as possible “trouble makers”)
- Procurement procedures are difficult and lengthy – Council of experts for procurements, lowest price criteria, vendor neutrality
- Funding – University does not care for IT infrastructure, exploring possible donations in equipment, network equipment is 10+ years old
- Political decisions
Possible game changers

- The Faculty (FCSE) has the staff (experts, engineers) for the project
- Some of us are very influential in ISP industry and can help bring ISP to the MATRIX
- Big companies can see the benefit and help with donations
- Cooperation with other projects: GEANT, eduroam, RIPE Atlas...
- Cooperation with the industry: Big transit providers, hardware vendors, Content providers ...
Questions?

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