

Useful Flexibilities for African Regional RENS

UbuntuNetConnect 2015, Maputo

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The UbuntuNet Region

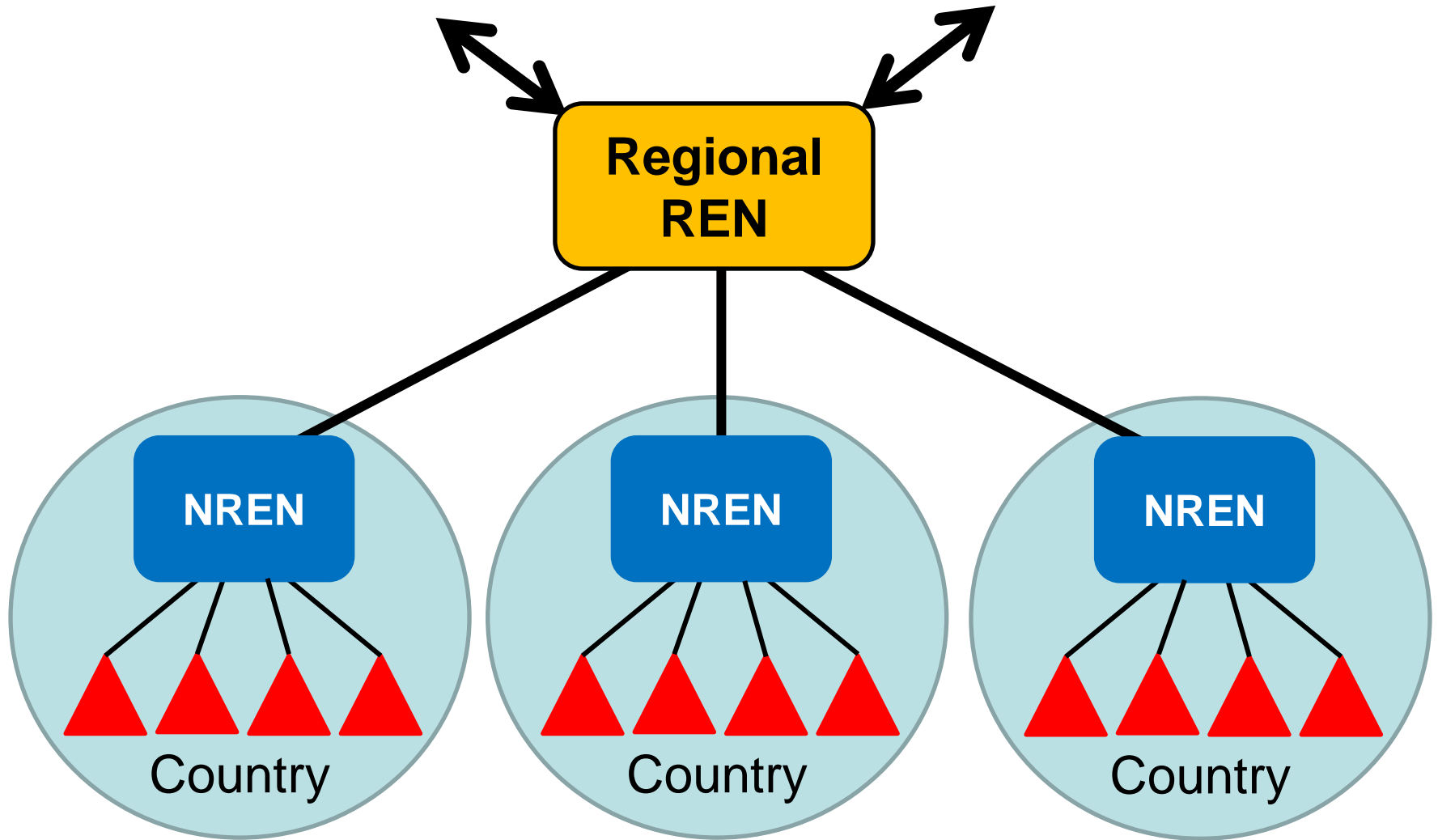



- **26** countries in the Region; *of which...*
- **15** have member NRENs of UbuntuNet; *of which...*
- **10** NRENs are operational; *of which...*
- **6** NRENs connect to UbuntuNet's network.

UbuntuNet's Reach

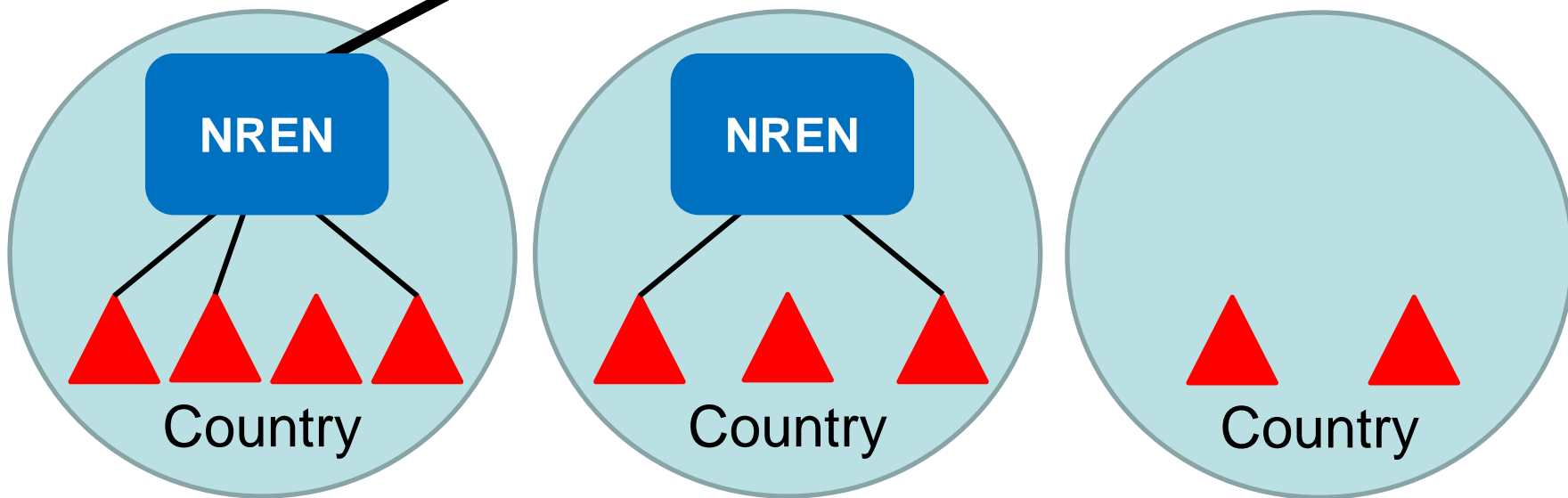
		Countries	AAU Member Universities
A	UbuntuNet Region	26	141
B	Countries w operational NRENs	10	98
	NRENs' Reach ($B \div A$)	38%	69%
C	Countries w NRENs connected to UbuntuNet	6	56
D	UbuntuNet's Reach ($C \div A$)	23%	40%


The Standard REN Model



 = a university or research institution

Patchy reach in a developing region



 = a university or research institution

Deviations from the Standard REN Model

- It's only a conceptual business model!
 - *Not “enforced” anywhere by law or authority*
- Many deviations exist
 - *China and Egypt each have two NRENs*
 - *Internet2, CERNET are NRENs and Regional RENs*
 - *Regional RENs NorduNet and Géant overlap*
 - *Direct interconnection between SurfNet and DFN*
 - *NUL and UNISWA used to be served by TENET*
- UbuntuNet follows Standard REN Model
 - *so far...*

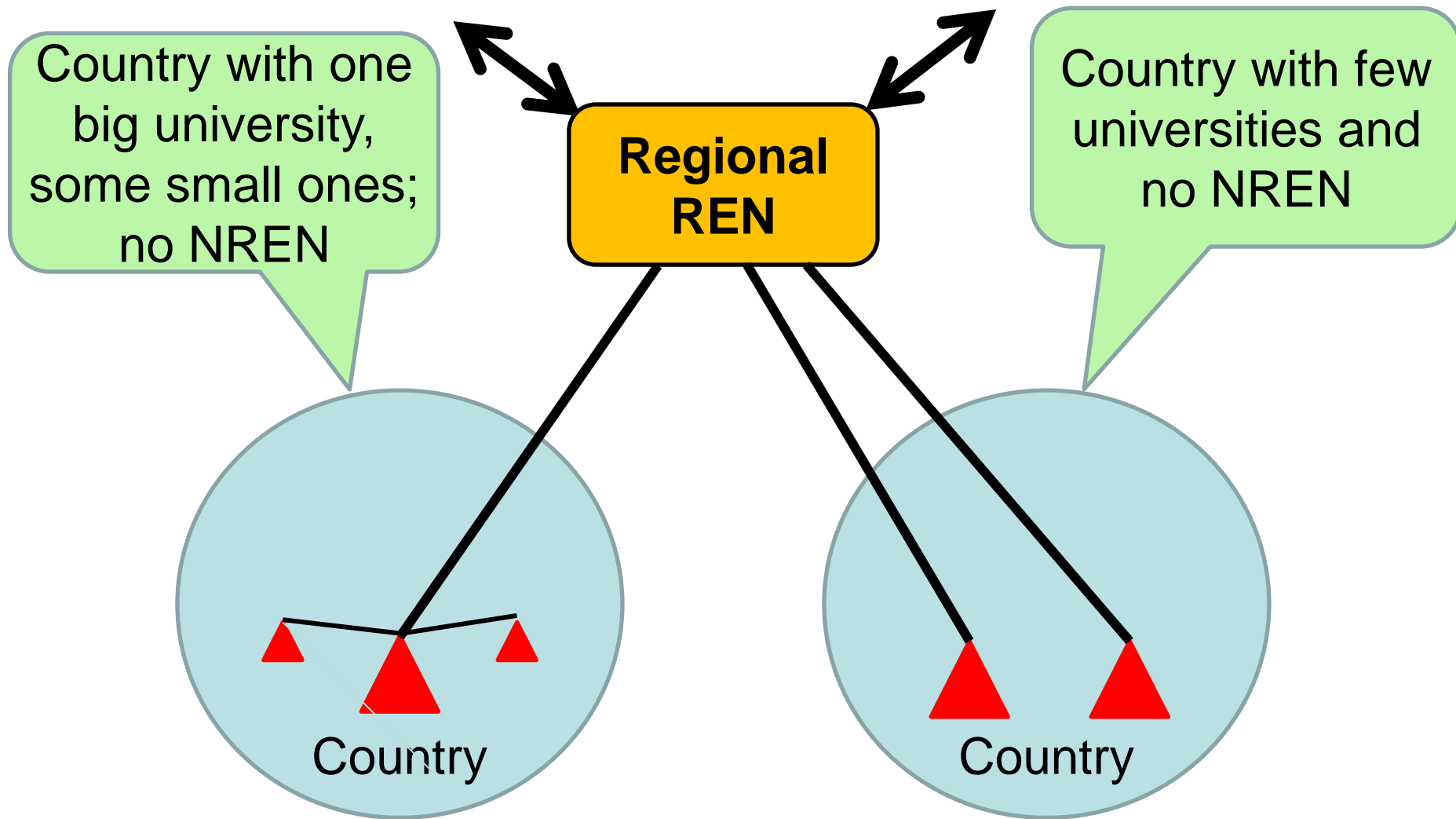
Hindrances to NREN formation

- Too few universities to justify an NREN
 - *Botswana? Lesotho? Malawi? Namibia? Swaziland?*
- Overly powerful incumbent telco
 - *Botswana? Namibia? Rwanda?*
- Lack of seeding resources
 - *Zimbabwe?*
- Failure to evolve beyond the govt project
 - *Rwanda?*

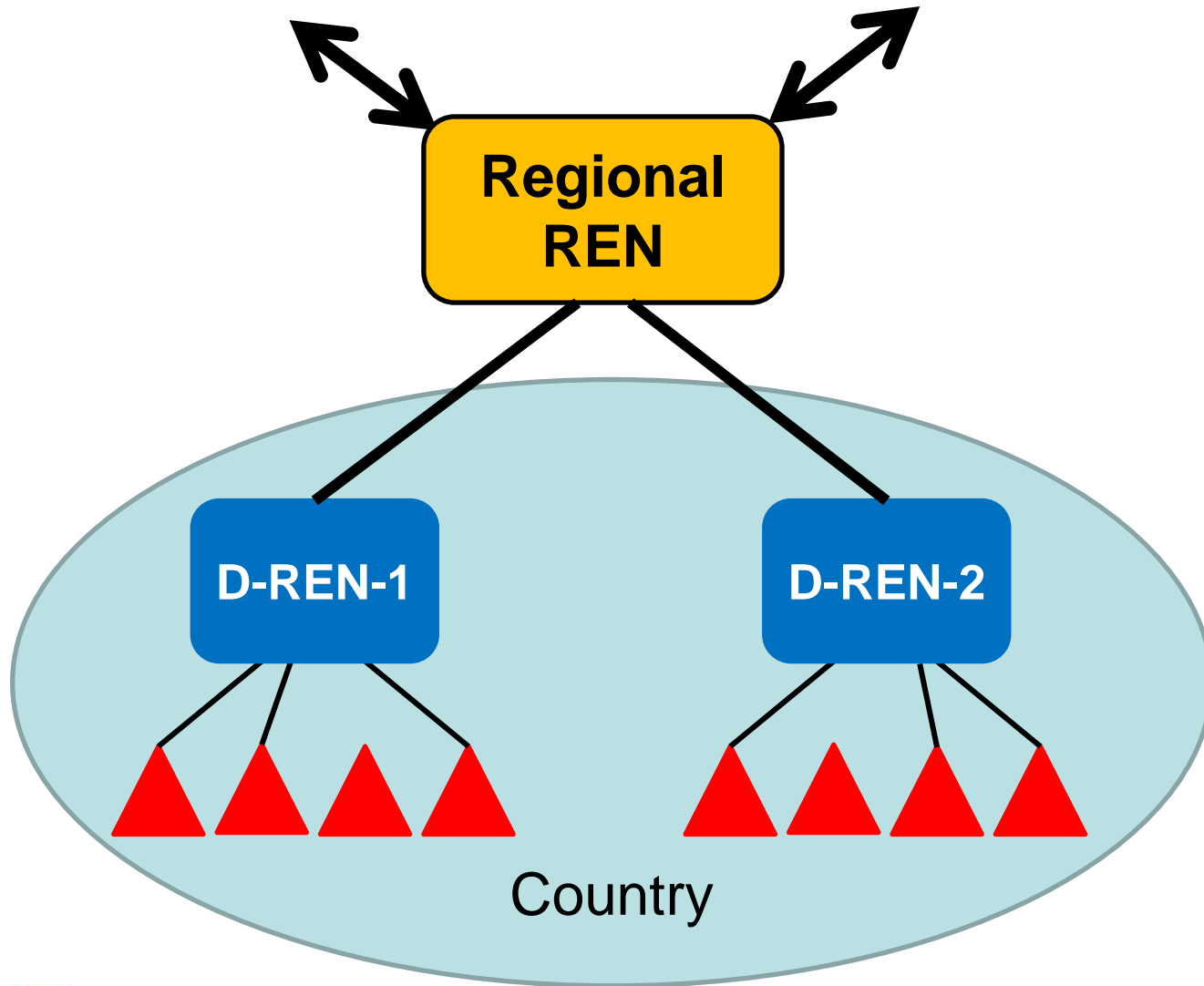
Some Useful Flexibilities

Sensible deviations
from the Standard Model

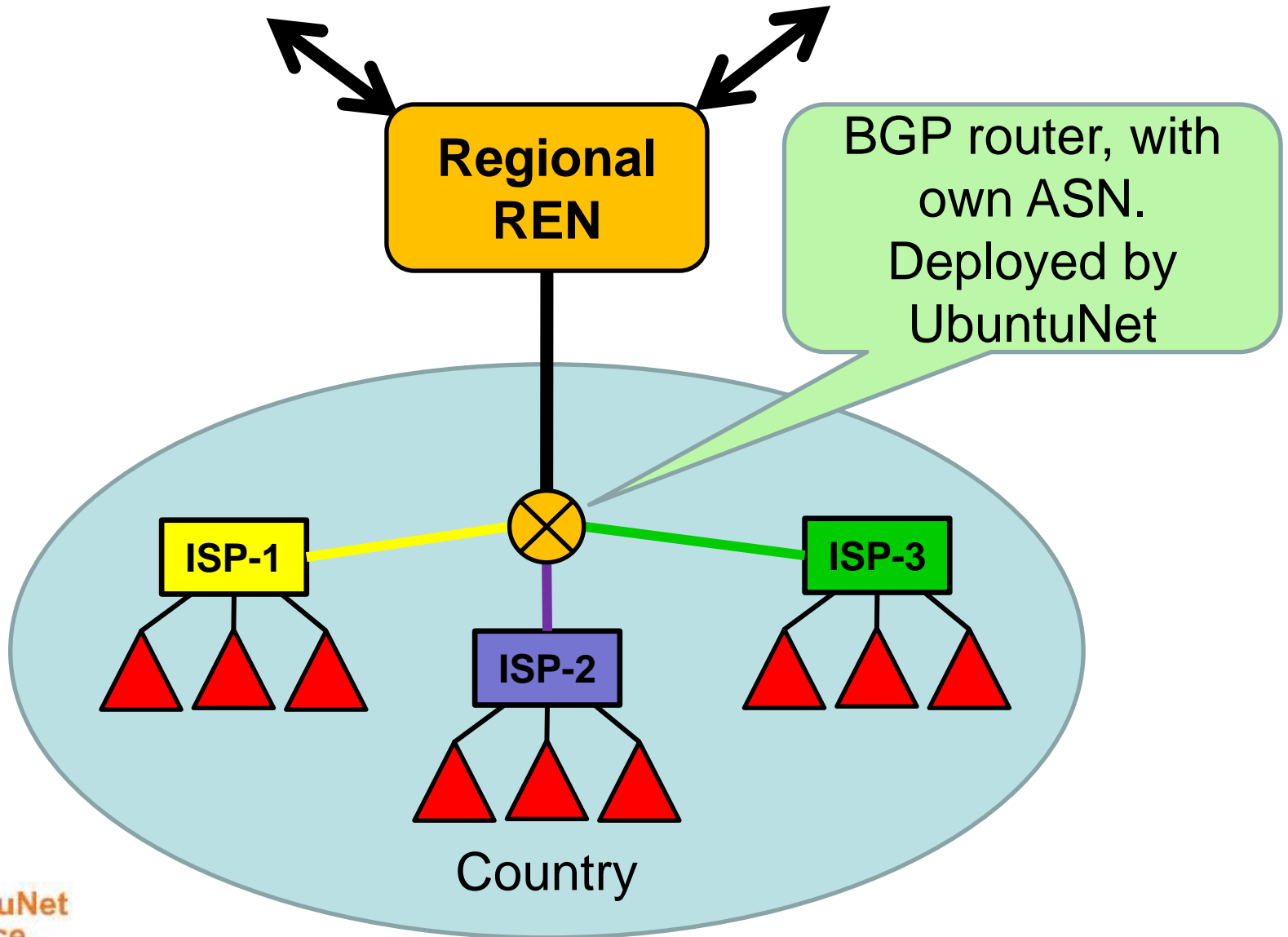
“Catch-All” service?



District RENs?



Proxy-NRENs?



Implementation considerations

- Organisational issues
 - 1st Prize is a normal NREN
 - In-depth consultation with local leaders
 - Include clauses that enable evolution to NREN
- Network and pricing issues
 - New cross-border connections required
 - Work with local ISPs
 - Consider GRE tunnelling
- Modify pricing model
 - Take account of cross-border costs borne by NRENs
 - spread benefit of AfricaConnect

Thanks for listening
and...



***Have
fun!***