



**RIPE NCC**  
RIPE NETWORK COORDINATION CENTRE

# Working With Our Arab Stakeholders

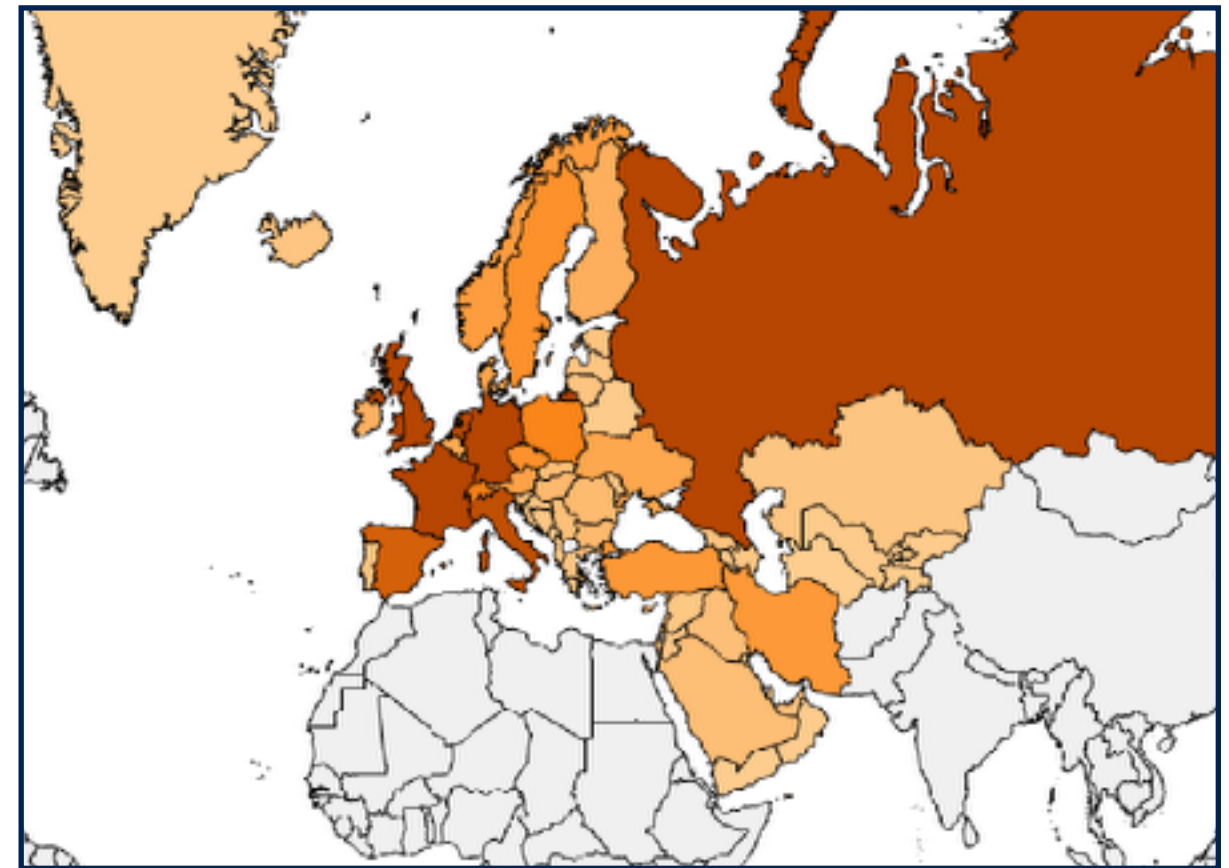
Paul Rendek  
Director of External Relations  
RIPE NCC

# Meeting Regional Needs



A diverse service region requires a diverse approach

- RIPE NCC needs to engage with stakeholders in all regions
- Roughly 1000 members in Middle East Arab states



*RIPE NCC membership heat map, January 2017*

# Membership: Numbers & Trends



	2015	2016	2017	% Growth
<b>UAE</b>	60	64	72	20
<b>Bahrain</b>	18	18	17	-6
<b>Iraq</b>	72	91	103	43
<b>Jordan</b>	36	37	40	11
<b>Kuwait</b>	32	38	40	25
<b>Lebanon</b>	80	102	118	48
<b>Oman</b>	9	9	11	22
<b>Palestine</b>	27	29	30	11
<b>Qatar</b>	13	13	14	8
<b>Saudi</b>	85	101	116	36
<b>Syria</b>	17	34	63	270
<b>Yemen</b>	5	5	5	0

- General growth in membership numbers
- Notable growth in Syria, while the number of Bahraini members has slightly decreased

# Membership: Numbers & Trends



	2015	2016	2017	% Growth	IPv4 addresses per capita
<b>UAE</b>	60	64	72	20	0.420
<b>Bahrain</b>	18	18	17	-6	0.323
<b>Iraq</b>	72	91	103	43	0.017
<b>Jordan</b>	36	37	40	11	0.086
<b>Kuwait</b>	32	38	40	25	0.476
<b>Lebanon</b>	80	102	118	48	0.096
<b>Oman</b>	9	9	11	22	0.195
<b>Palestine</b>	27	29	30	11	0.135
<b>Qatar</b>	13	13	14	8	0.357
<b>Saudi</b>	85	101	116	36	0.272
<b>Syria</b>	17	34	63	270	0.060
<b>Yemen</b>	5	5	5	0	0.005

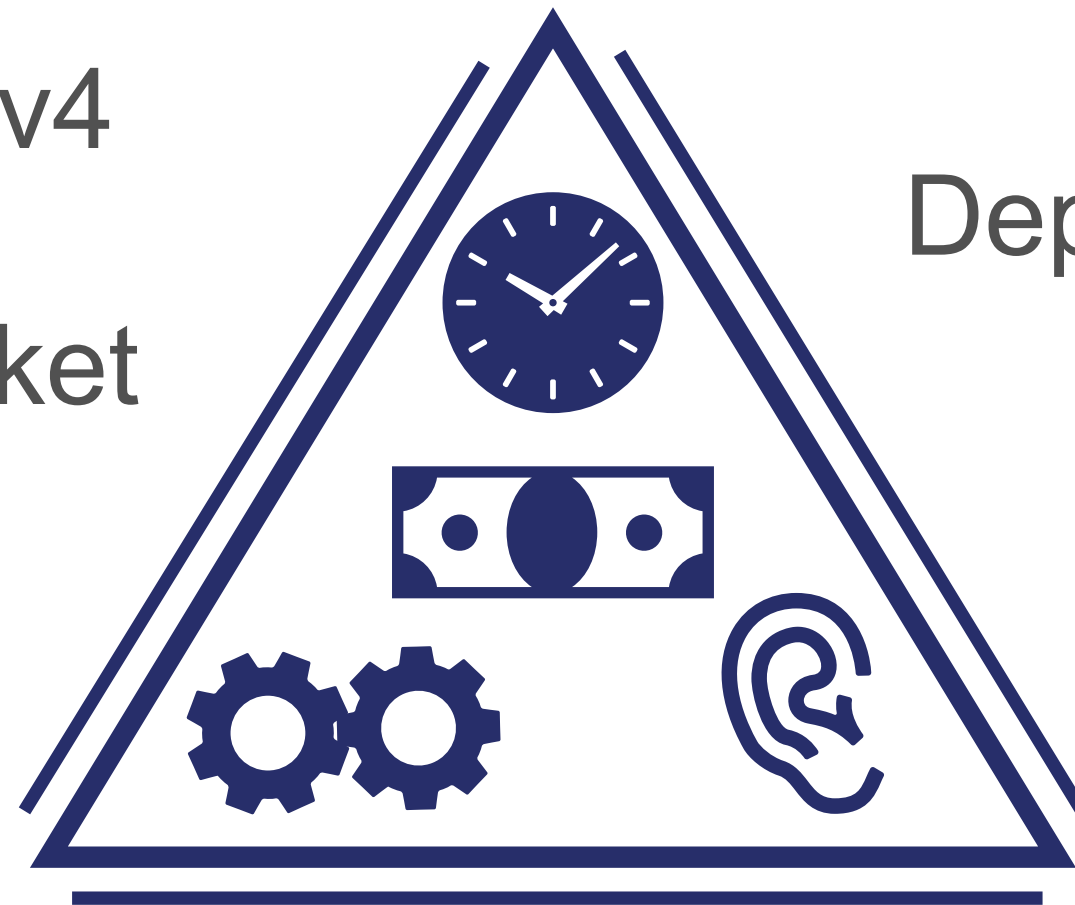
- Even leaders in this category still have significantly fewer IPv4 addresses than citizens
- How can operators grow their networks to meet demand?

# The Operator's Choice



Purchase IPv4  
through the  
transfer market

Deploy IPv6

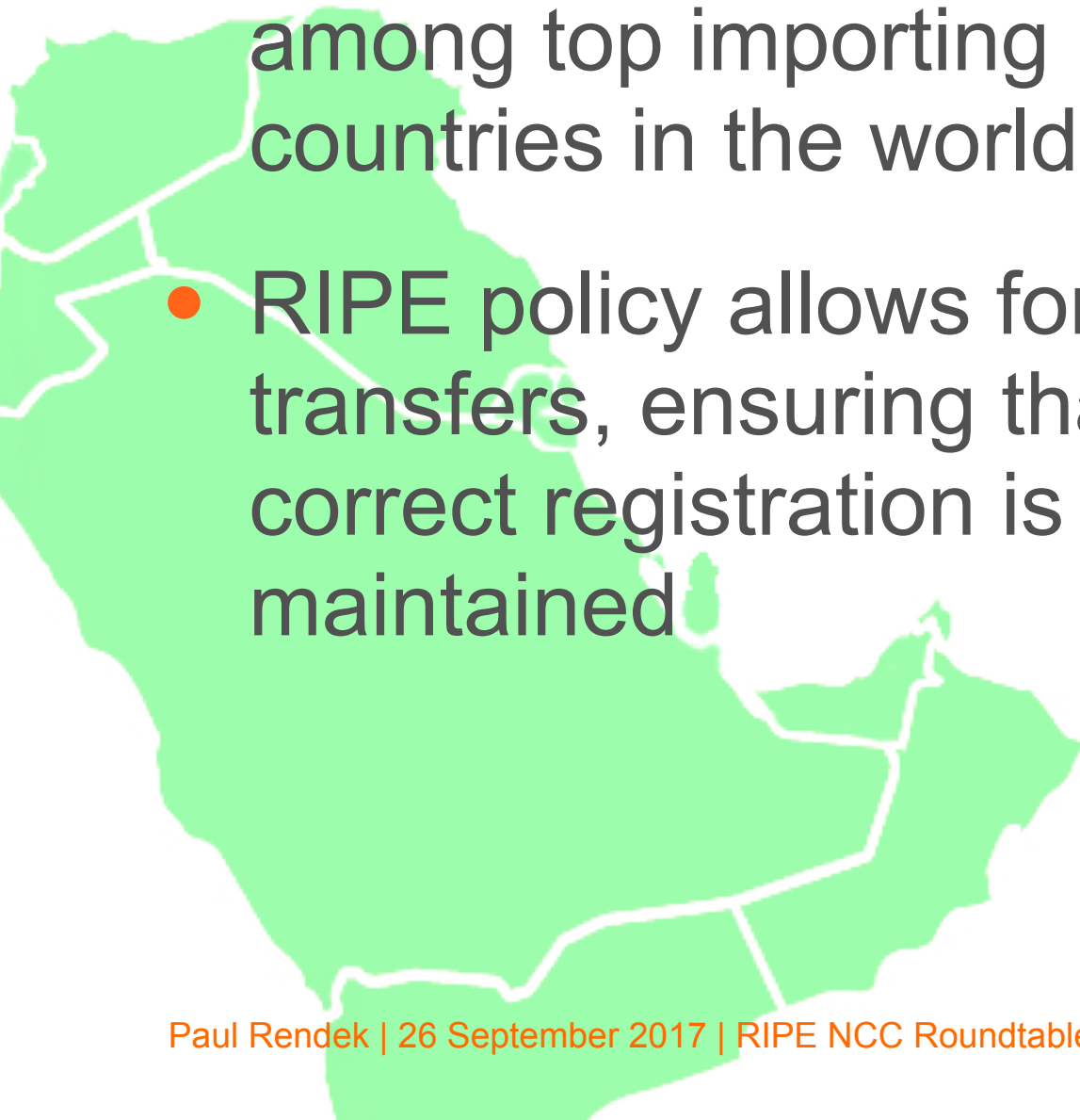


Invest in Carrier-Grade  
NAT solutions

# IPv4 Transfers



- Buying IPv4 address space is one strategy to facilitate growth
- Several Arab countries among top importing countries in the world
- RIPE policy allows for transfers, ensuring that correct registration is maintained



	Transferred (“imported”) IPv4 addresses as a percentage of all IPv4 address holdings in that country
<b>UAE</b>	18.7%
<b>Bahrain</b>	0.0%
<b>Iraq</b>	2.9%
<b>Jordan</b>	0.0%
<b>Kuwait</b>	0.0%
<b>Lebanon</b>	0.0%
<b>Oman</b>	1.9%
<b>Palestine</b>	12.1%
<b>Qatar</b>	2.0%
<b>Saudi Arabia</b>	29.3%
<b>Syria</b>	20.2%
<b>Yemen</b>	48.9%

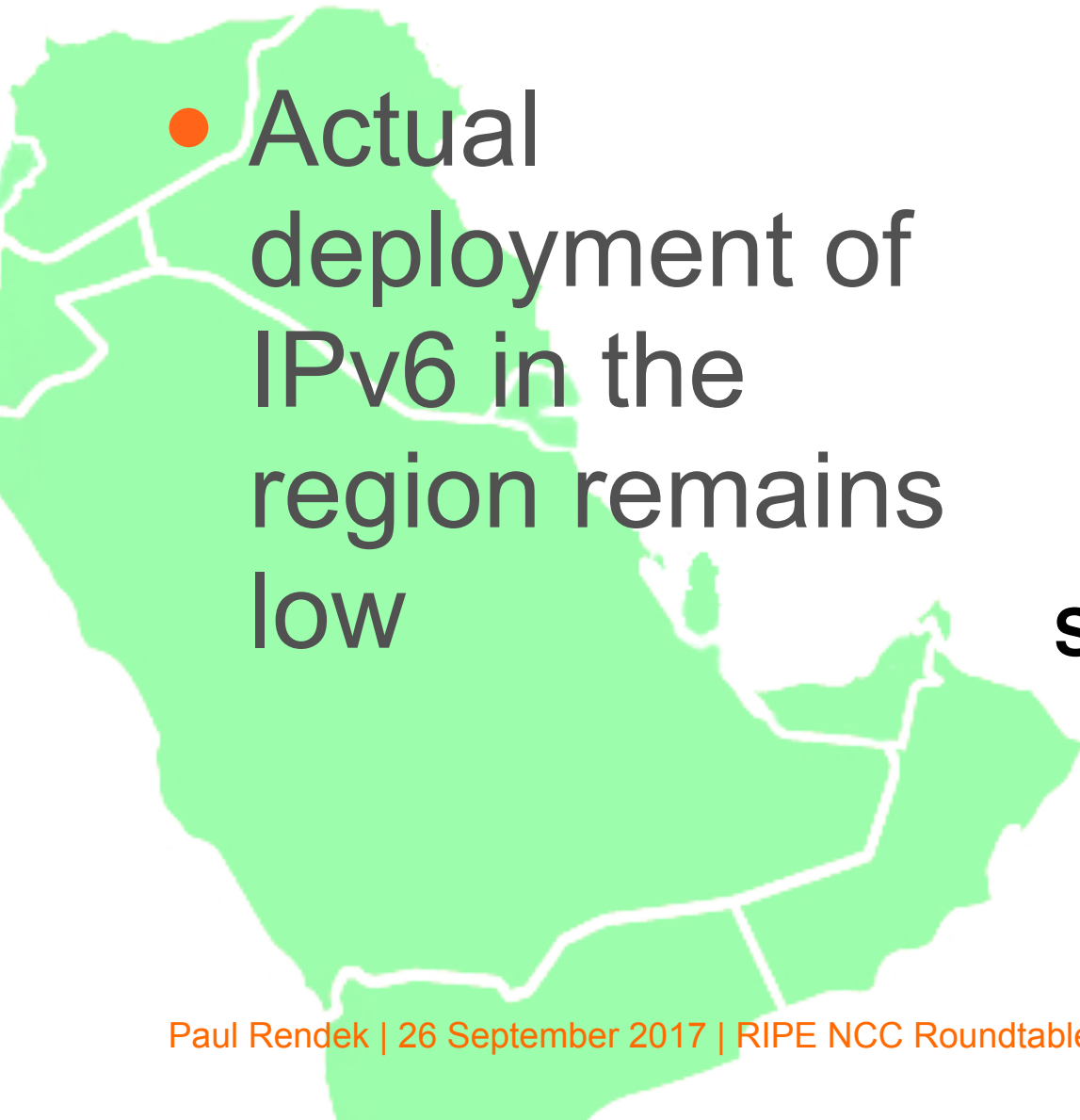


# IPv6



- Many members in Arab countries have IPv6 allocations

- Actual deployment of IPv6 in the region remains low



**UAE**  
**Bahrain**  
**Iraq**  
**Jordan**  
**Kuwait**  
**Lebanon**  
**Oman**  
**Palestine**  
**Qatar**  
**Saudi Arabia**  
**Syria**  
**Yemen**

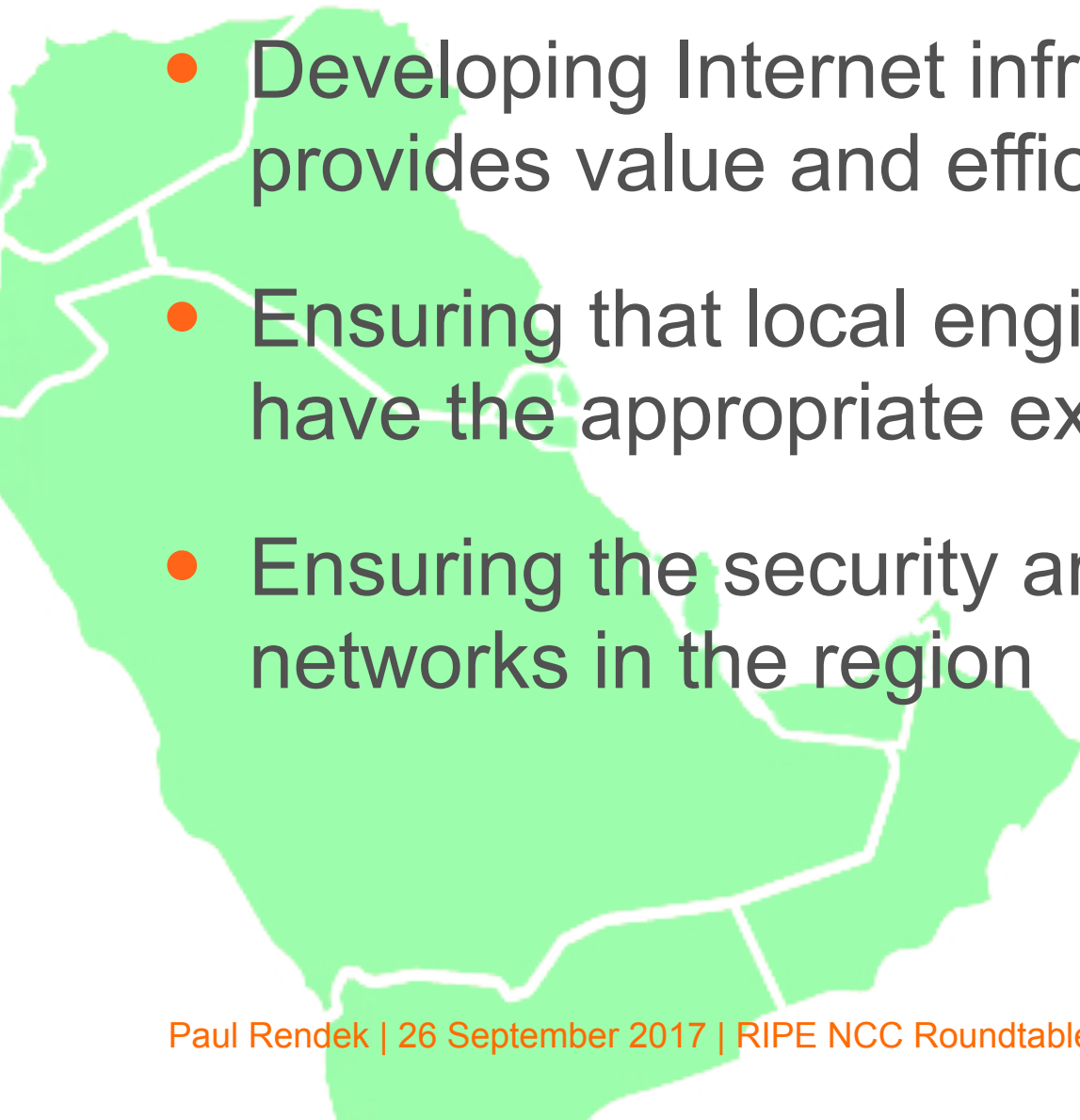
Percentage of members with IPv6 allocations	Users able to connect over IPv6*
55.4	1.57%
76.5	0.00%
64.4	0.00%
67.5	0.00%
65.0	0.00%
58.7	0.02%
72.7	0.17%
86.7	0.00%
57.1	0.00%
57.4	6.71%
26.6	0.00%
100.0	0.00%

\* Source: <http://stats.labs.apnic.net/ipv6>

# Challenges in Arab Countries



- Connecting a rapidly growing population of Internet users
- Managing the adoption of IPv6 while maintaining growth
- Developing Internet infrastructure that provides value and efficiency
- Ensuring that local engineers and operators have the appropriate expertise
- Ensuring the security and integrity of networks in the region

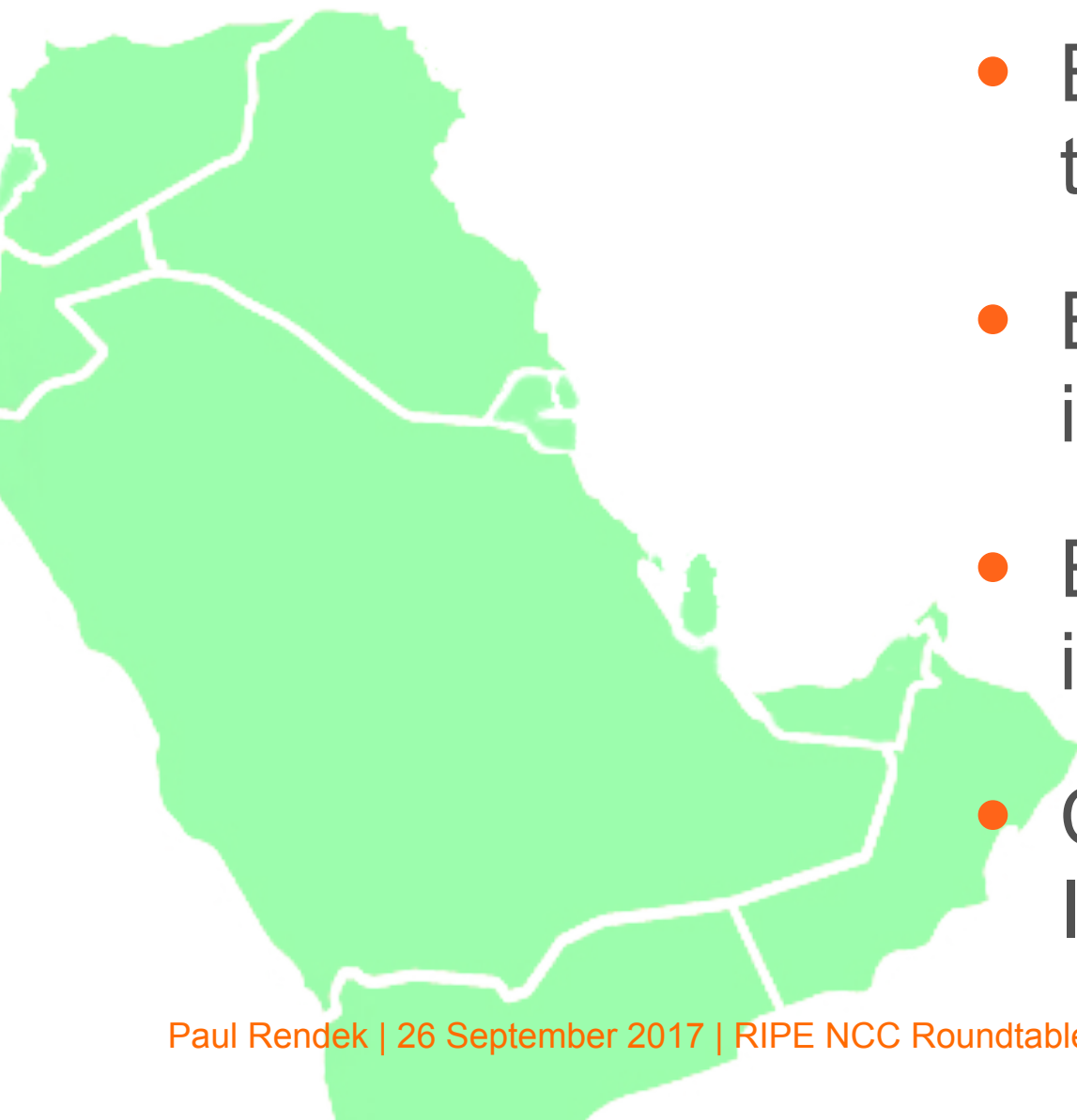




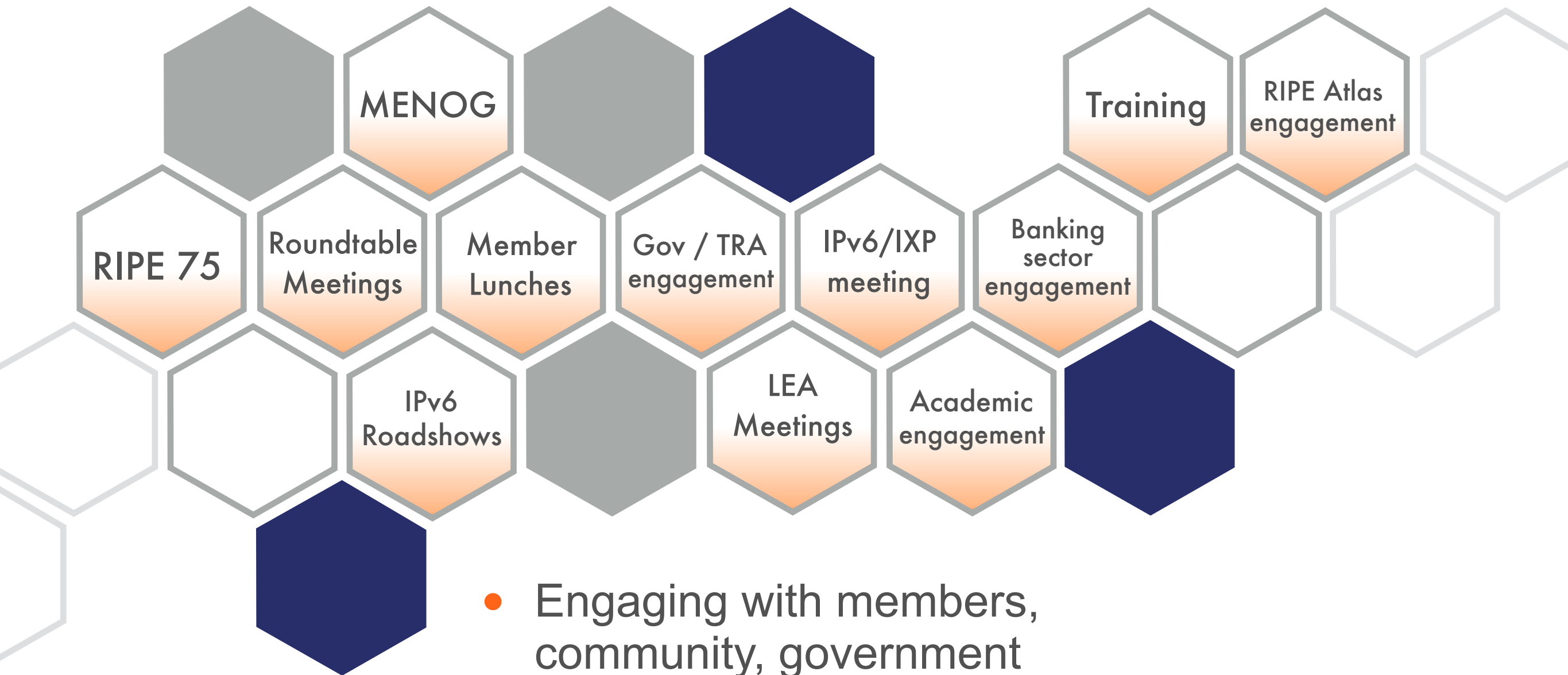
# RIPE NCC Strategic Priorities



- Meeting the demand for capacity building
- Engaging our members and other stakeholders through targeted events
- Building the technical community at the local level
- Building awareness and engagement in RIPE policy development
- Engaging the strong academic culture in the region
- Contributing to the development of Internet Exchange Points in the region



# Achieving Our Strategic Priorities

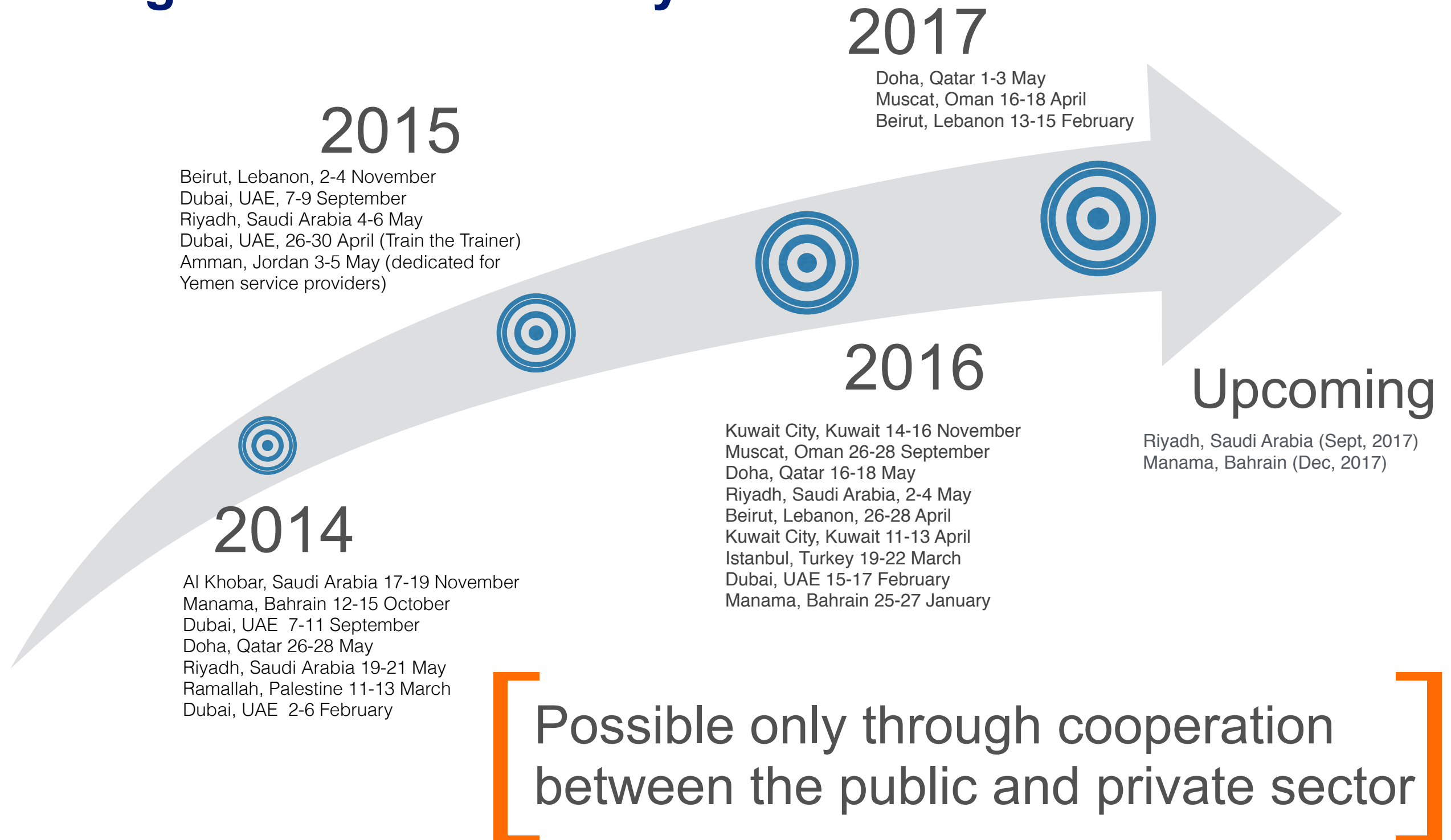


- Engaging with members, community, government
- All these engagements are interconnected



# IPv6 Roadshows

## A Regional Success Story



# MENOG



## Bringing the community together

- Launched in 2007
  - MENOG 17 held this year in Oman attracted more than 200 participants from 37 countries
- Fostering a regional technical community for sharing information and expertise
- A venue to develop initiatives like Roadshows and Train-the-Trainer

[www.menog.org](http://www.menog.org)

See “Ten Years of MENOG: What Have We Learned?”  
[https://labs.ripe.net/Members/hisham\\_ibrahim/ten-years-of-menog-what-have-we-learned](https://labs.ripe.net/Members/hisham_ibrahim/ten-years-of-menog-what-have-we-learned)

# Targeted Engagements



<b>Technical Trainings and IPv6 Roadshows</b>	<b>Security Engagements</b> (Law Enforcement Agencies and Online Secure Banking)
<b>Governments and TRAs Engagements</b>	<b>MENOG</b> (Middle East Network Operators Group)
<b>Academic Engagements</b> (RIPE NCC Academy, RACI)	<b>RIPE Atlas and Statistics</b>



# Questions

