

Research and Education Networks Best Practices

Dale Smith
University of Oregon & NSRC
dsmith@uoregon.edu



UNIVERSITY OF OREGON



Why a REN?

- Cost Savings
- Enable research or services that could not be accomplished without partners
- Vision of building alliances
- Successful RENs find that there are unanticipated benefits



What is a REN?

- Research and Education Network providing some type of IP networking services
- Networking can be in the broader sense – Human networking



Most Successful RENs

- Grass roots
- Pay as you go
- Clear decision making processes or very good lines of communication
- Clear sets of responsibilities
- Must respond to changing needs and conditions
- All this requires Trust
- Good campus networks at member sites



Network Based RENs

- Must be sustainable (beware of free)
- Must have clear responsibilities
 - Who is responsible for configuring and maintaining circuits, routers, etc.
 - Who is responsible to get things fixed if they break
 - Where does responsibility end
- Doesn't have to be a large organization or fancy NOC

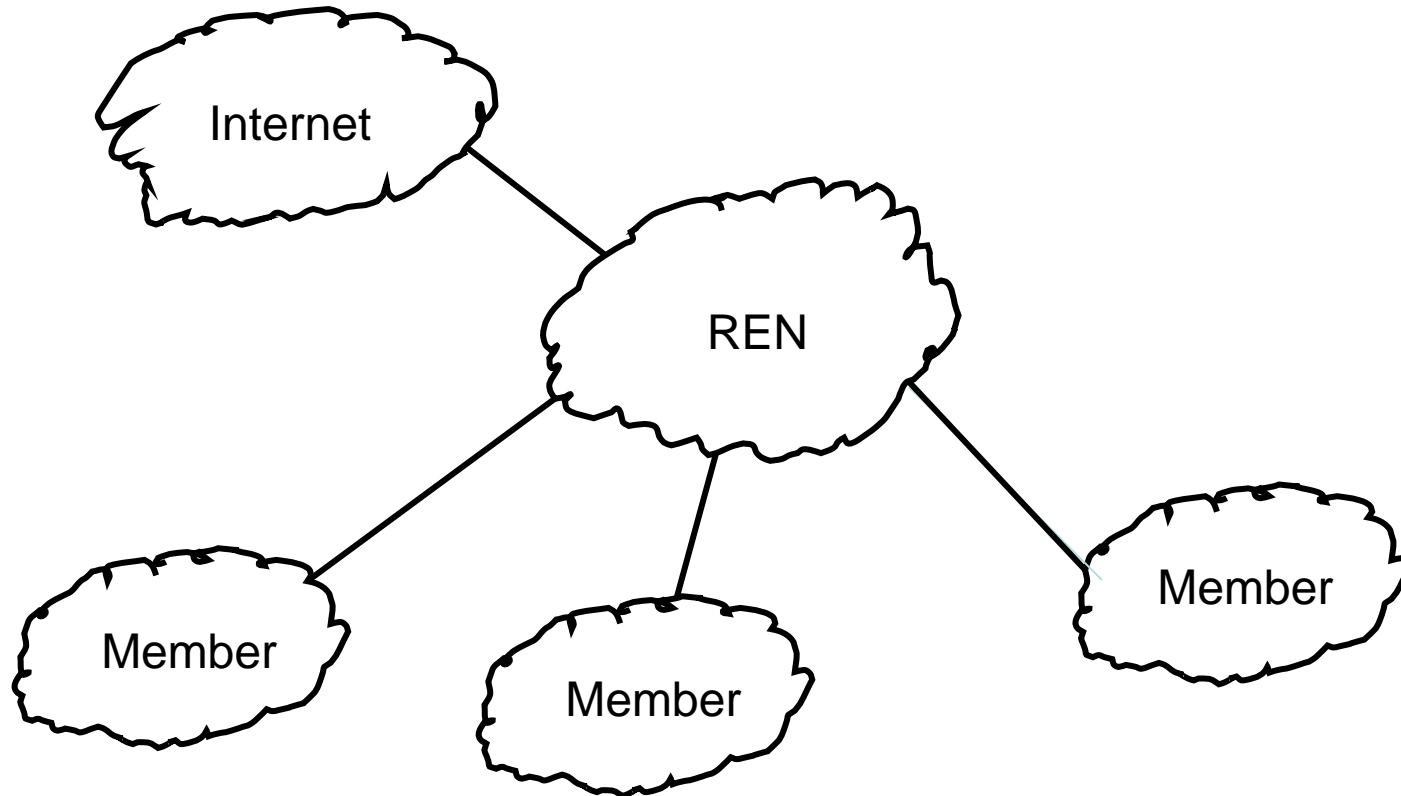
Network based RENs Techie

- What services are provisioned?
 - REN provides all Internet connectivity
 - Peering network to exchange traffic between members
 - Advanced peering network that might
 - Develop or peer with a local commercial exchange
 - Provide international connections (GEANT, etc)



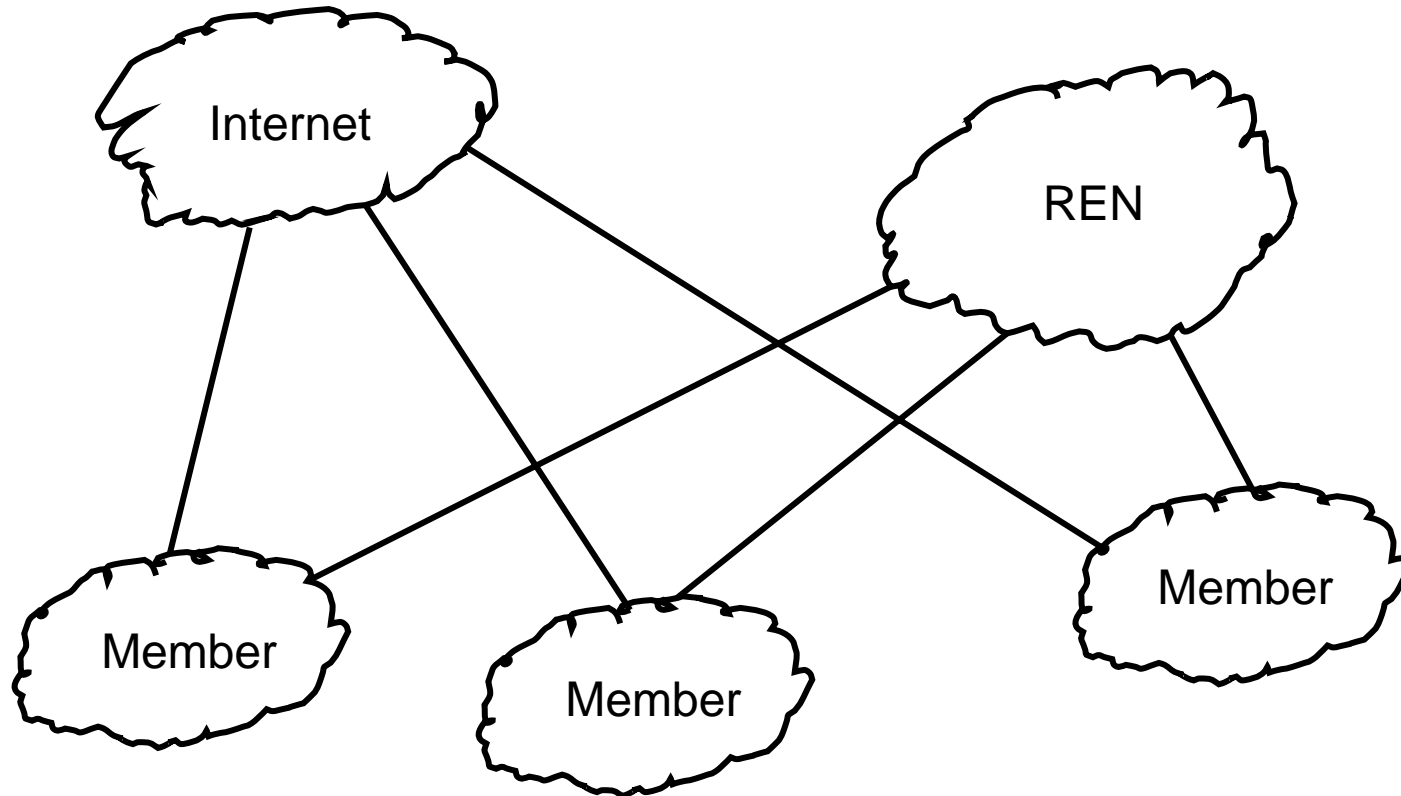
Some Techie Diagrams

- REN as Internet Service Provider



More Techie Diagrams

- REN as Peering Network



What About non-Network RENs

- Training and information sharing
- Exchange of services
 - Data center or facilities
 - Disaster recovery
- Buyers club
- Vendor relationship builder



Models of RENs

- Governance Structure
 - Ranges from formal to very loose
- Size
 - Regional
 - National
 - Continent
- Look for partners
 - Don't have to be research/education based

Parting Thought

REN success depends on
Trust and Relationships

