Virtual Networks Research Group ([VNRG](#))

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IETF-77, Anaheim, CA, USA

March 23, 2010

Logistics

- Home page
  http://irtf.org/charter?gtype=rg&group=vnrg
- Wiki
  http://trac.tools.ietf.org/group/irtf/trac/wiki/vnrg

A Note on RGs

- It's **Research** Group
- no need to find or determine the solution
- we are open for multiple ways
  - several approaches
  - even contradicting each other

Agenda

- Agenda Bashing
- RG Status (10 minutes)
- Virtual Networks:Issues and challenges from Host side with standard protocols, Sunay Tripathi (10+5 minutes)
- Network Virtualization Problem Statement, S. Jeong (10+5 minutes)
- Virtual Networks Experiences in the 4WARD, Roland Bless (10+5 minutes)
- X-Bone Overlays and Key VNRG Issues, (Joe Touch) (10+5 minutes)
- Virtual Networks Experiences in the Manticore Project, (Sergi Figuerola) (10+5 minutes))
- GENI Meso-scale Buildout, Aaron Falk (10+5 minutes)

- Open Discussion about presentation and next steps

Challenges down the Road

- a challenge with existing VN systems
  - development of incompatible or competing networking techniques
  - causing deployment issues in the future (or even now).
- numerous ways to virtualize routers and their internal resources and to virtualize core networks
  - e.g., multiple, isolated routing and forwarding tables
  - e.g. MPLS, LISP
- end host virtualization has not been addressed
  - (e.g., beyond the need for virtual interfaces).
- Few systems allow a particular virtual machine in an end host to control its attachment to a specific private network.
- End host virtualization architecture determines whether virtualization is per virtual machine, per process, or per connection
- Similar issues arise for virtual services, virtual links, etc

Initial set of Work Item

- concepts/background/terminology
- common problems/challenges in VN
- common parts of VN architectures
- descriptions of appropriate uses
- some solutions (per-problem perhaps)

Presentations go here…

Some Discussion Items

- at what level is the VN virtualization?
  - per virtual virtual machine
  - per process group or process
  - per connection or socket
- can a single process be a member of more than one VN?
  - i.e., can a process be a gateway between two different VNs?
- can different processes be members of a single VN?
  - i.e., can the host participate more than once in a single VN
- how do you distinguish between VNs?
  - i.e., how does a virt machine/process/socket indicate which VN it wants to associate with?
- your view of host virtualization issues anything you want to add that isn't covered in the list above

Next Steps

- Taking discussions to the list!
- First items to be addressed:
    - concepts/background/terminology
    - common problems/challenges in VN

- Next meeting?

Acknowledgement