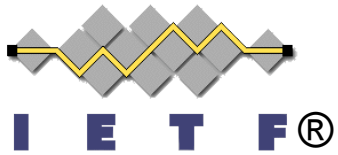


# The Lesser of Two Evils

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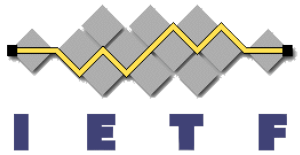
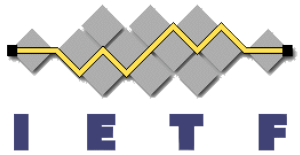
**San Francisco IETF**

# Background



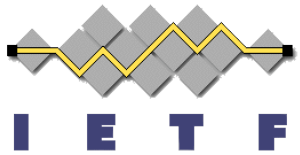

- NAT for IPv4 is very widely deployed
  - It's hard to do anything else
- NAT for IPv4 provide
  - Solution for IPv4 address scarcity
  - Isolation from ISP
  - Implicit firewall
- NAT for IPv4 problems
  - Breaks IP End-to-End model
  - Considerable complexity in all but simplest topologies

# IPv6



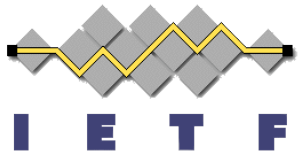

- Designed to eliminate the need for NAT
  - NAT is not needed for address scarcity
  - End-to-End model restored
- IPv6 doesn't by itself provide solution for
  - Isolation from ISP
  - Firewall
- Firewall is easy to add, but isolation from ISP is open issue

# Problem



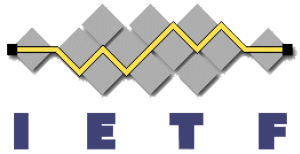

- Lack of NAT for IPv6 is a problem
  - NAT has become so common, many administrators want it for IPv6
- Some form of NAT for IPv6 will be built by product vendors
  - This is starting to happen today
- We can specify NAT for IPv6 now or let the IPv4 NAT history repeat itself for IPv6

# Tradeoffs




- NAT66 is not as bad as the NAT for IPv4
- NAT66 provides
  - 1:1 address mapping instead of shared port
  - IPv6 addresses independent of ISP
  - /48 Allocation to site
  - Allows mix of NATed and pure routed subnets
- NAT66 problem
  - Breaks IP End-to-End model

# Question to the BOF




- Do the advantages of NAT66 outweigh the problems?
- Is it better to specify NAT66 vs. letting vendors build NAT for IPv6 solutions?
- Should we form a working group to specify a NAT66 solution?