Bridging Multicast to the Cloud

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Client request

- Legacy app on-premises leveraging multicast
- Moving all services to AWS
- AWS doesn’t natively support multicast...
Brief multicast overview

- Send single packet to multiple receivers
- Must request to receive packets (join)
- IGMP v1/v2/v3
Potential solutions

- Redesign software
- OpenVPN mesh
- n2n VPN
n2n VPN

- **Architecture**
  - Supernode
  - Edge
- **No encryption / compression**
Routing requirements & configuration

- High Availability
- Potential duplicate packets
- Routes needed for on-prem routers
- IGMP snooping
On-Premises Gateway

● Automatic failover
  ○ Routing
  ○ Supernode

● Multicast routing on Linux
  ○ smcroute
  ○ pimd
  ○ mrouted
Changes to edge client

● Windows client needs to add static routes
  ○ Tun interface needs to be online first

● Static address mapping list
  ○ DHCP was flaky

● Shorter timeouts
Gotchas & Other Thoughts

- Edge timeouts are a double-edged sword
- Supernode handles multicast/broadcast traffic
- Multi-supernode fork was inconsistent
Questions?

https://github.com/pythianemord/multicast