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…

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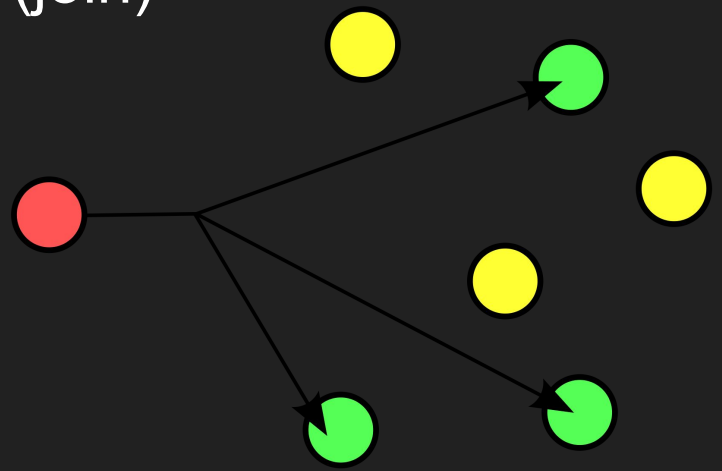
Brief multicast overview

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

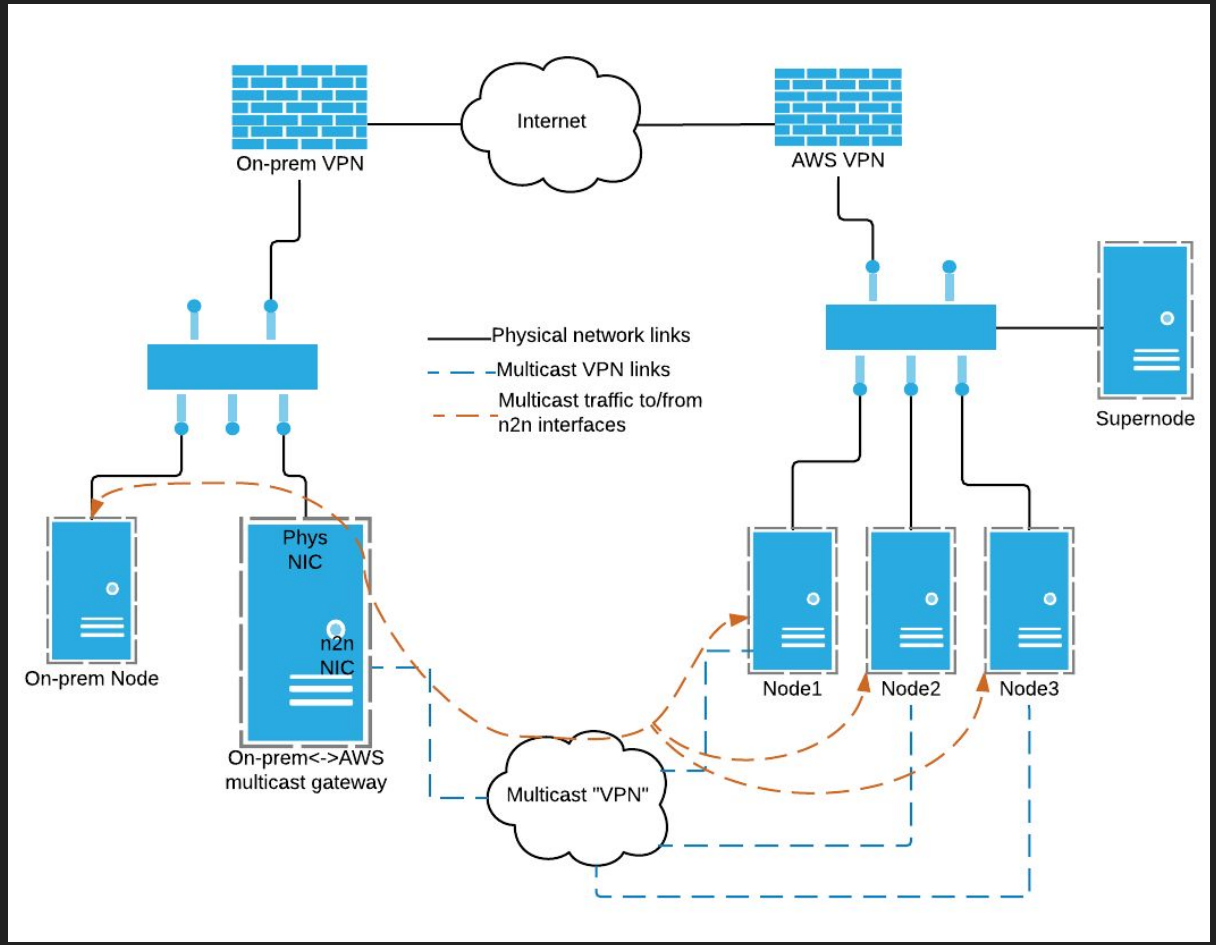


Potential solutions

- Redesign software
- OpenVPN mesh
- n2n VPN

n2n VPN

- Architecture
  - Supernode
  - Edge
- No encryption / compression



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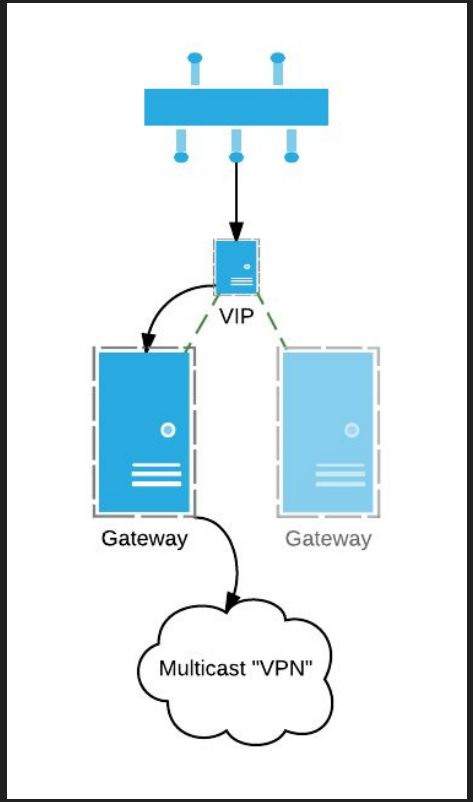
Routing requirements & configuration

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



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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