Unique Addresses are Good RFC 1814

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What is goodness?

- addresses on demand
- lots of routing capacity
- easy managment
- lots of bandwidth

Deterents to Attaining Goodness

- need for conservation of address space
- scaling problems with routing flat address space using current technology
- painful to change addresses
- bandwidth is available for $

Conservation of Addresses

- classfull to classless
- allocation based on addressing plans
- rough guidelines for sizing allocations

Reduction of Routing Table Size

- aggregation of routes

Outstanding Issues

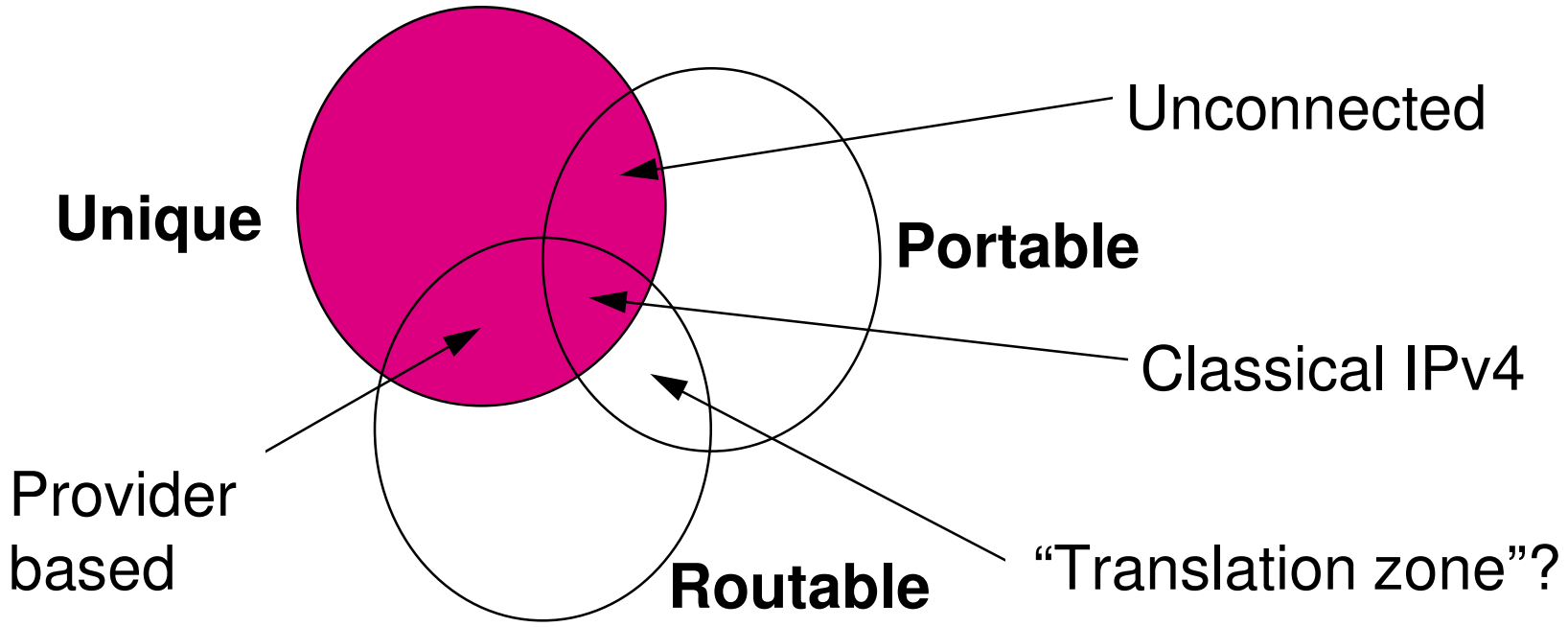
- organizations want portable addresses
- portable addresses make aggregation less likely

Outstanding Issues

- providers want cusomters to use addresses from within the provider space
- provider assignments are not necessarily portable

Address Characteristics

- Unique, Portable, Routable



Unique

- RFC 1814
- unique addresses are required to be routed on the Internet
- unique addresses may be allocated by an allocation registry or a provider
- unique addresses allocated by providers have the benefit of promoting reduction of routing table sizes

Portable

- RFC 1597 and RFC 1627 promote portable addresses
- RFC 1597 promotes portable addresses which should not be routed on the Internet
- routing table size suffers due to explosion of routes

Routable

- Ubiquitous connectivity is never guaranteed
- Need non-RFC 1597 address to be eligible for routing
- Operational limitations (full routing tables) may lead to denial of routing to unaggregated routes

Point of RFC 1814

- The registries may assign unique, global addresses to organizations which fulfill the current criteria
- Providers may refuse to route unaggregated routes
- Organizations which adopt addresses from RFC 1597 must renumber before connecting to the Internet

Summary

- Technology for painless renumbering or autoconfiguration will make portability a non-issue
- Technology to address routing capacity may support continuation of flat routing
- Until some technological advancements are deployed, the uneasy compomise will continue