

Today's Networks



- Many industry experts predicted in the early 2000's that IPv6 would be ubiquitous within a few years
- It hasn't worked out that way – most enterprises today use RFC 1918 IPv4 addresses with NAT
- RFC 1918 has the security benefit of hiding inside hosts by default (they don't have a publicly routable IP address), plus network engineers have more experience with IPv4 than v6

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- IPv6 is mostly found in service provider networks, mobile services, and large countries with later Internet adoption such as India and China
- Spare public IPv4 addresses were exhausted in 2011 so IPv6 is still the future path

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- You still need to understand subnetting – modern enterprises subnet their RFC 1918 addresses to optimise performance and security
- You also need to understand and be able to troubleshoot IP

Today's Networks

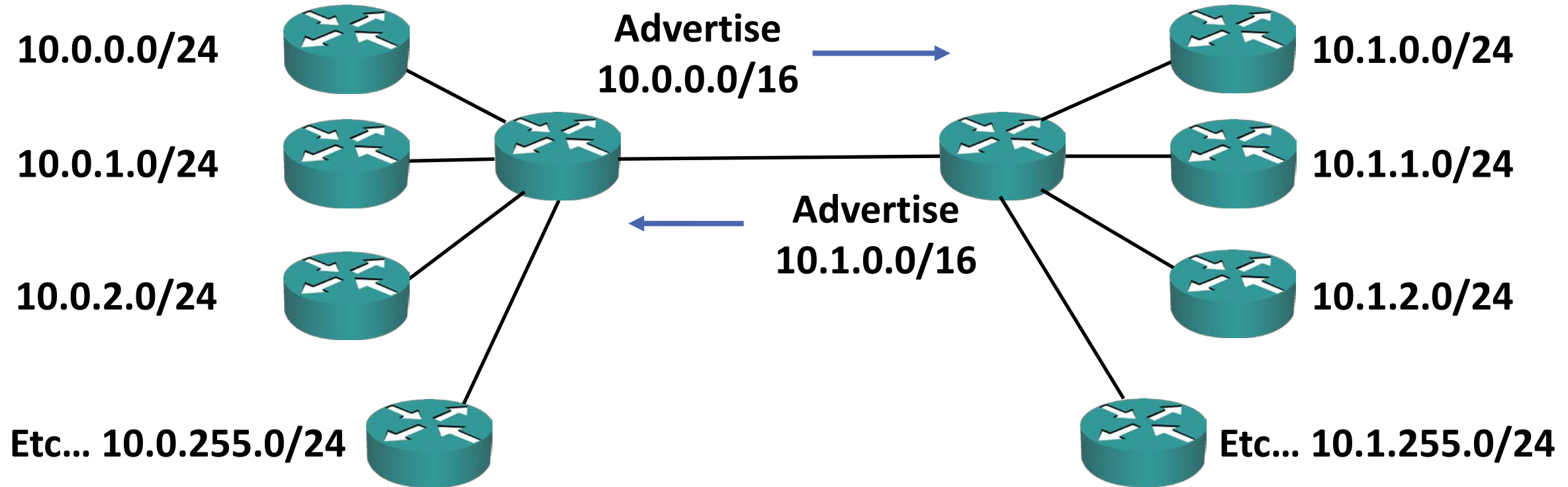


- Because they have the entire private IP address space to work with, it's common to see /24 subnets being used for end hosts, /30 for point to point links, and /32 for loopbacks
- Complex VLSM is more common in enterprises which use public IP addresses on their inside networks and need to maximise their use

Contiguous Addresses and Route Summarisation

Region A

Region B



Non-Contiguous Addresses

