

NOSS Recap So Far Week 6

↻	Routers are able to use dynamic and static routing to deliver packets across networks	
↻	Recap week 6 Networking Virtualisation Static & Routing Domain Name System Active Directory Domain Controller	
↻	Domain name system and Active Directory	
↻	VPN and CAs Virtual private networks and Certificate Authorities	
↻	DNS, Active Directory, vpn	
↻	Active directory is a powerful tool available with Windows server editions providing a host of network management resources	
↻	RIPv2 Superseded RIP & is a popular distance-vector routing protocol	
↻	Learned about AD (active directory) and DNS (Domain name services)	
↻	Routing protocols Decide the best / fastest / most efficient path for packets to travel to their destination.	
↻	Root domain, Top-level, Second-level domain	
↻	type 1 hypervisor Bare metal vs type 2 sits on a host OS	
↻	Type 1 is working on the hardware layer. Type 2 is working above the OS	
↻	Type 1 is bare bones and runs directly on the system hardware	

⇌	Type 1 needs it own drivers where type 2 can use host drivers	
⇌	Type 2 It is more portable	
⇌	Type 2 Uses hosting operating system to connect with system hardware	
⇌	difference type 1 and type 2 Resource allocation Type 1 hypervisors directly access underlying machine resources. They can implement their own custom resource allocation strategies to service their VMs. Type 2 hypervisors negotiate resource allocation with the operating system, which makes the process slower and less efficient.	
⇌	Type 1 are used in professional datacenters. A great part of them can be programmed with redundancy and clusters	
⇌	Domain Name System A 'tree' hierarchical structure that branches into 'roots' for each domain. IP addresses are mapped and stored in a database, which is then distributed to other DNS servers. Regardless of the number of servers, the performance doesn't degrade. In turn, this hierarchical structure branches out to establish communications outside of subnetworks using protocols. For example, a goalkeeper will establish communication outside of their box to set a play up, to which the forward will receive the ball (via a protocol) and score a goal to confirm communication was successfully established as part of Cardiff City's 2-0 win over Swansea this weekend.	
⇌	Hypervisor Type 1 is directly working with the hardware, and type 2 has an intermediary with the Os	
⇌	Route Domain - Swansea server Child domain - London server	
⇌	Static does not change dynamic changes	
⇌	Domains	

A root domain is the topmost part of a websites address and represents the ground level of a websites identity.

A child domain is a subdomain that uses the same name as the main domain.

⇨ static routing - manually configured

⇨ **Dynamic routing**
Able to adapt to system configuration changes

⇨ **Static routing is more secure**

⇨ **Routing**
Dynamic routing software uses real-time data, while static routing software uses fixed data

⇨ **Static routes**
Are configured manually. Dynamic routes are configured automatically from a defined pool of ip addresses

⇨ Static routing won't reroute if router is un reachable

⇨ Static - Manually created, but can have data entry erros from administrators

Dynamic - Automatic configuration when IP addresses and topologies change.

Pepperoni pizza please. :)

⇨ Dynamic evolve with the typology

⇨ **Static routing is a type of network routing technique where routes are manually entered into the routing table by a network administrator. It's fixed, doesn't change automatically, and is best for small, simple networks. Dynamic routing, uses protocols to automatically adjust the paths between networks in real time based on current network conditions. It's more flexible and scalable, suitable for larger, more complex networks.**

⇨ **Static routing offers less flexibility compared to dynamic routing as routes are manually configured and do not adapt to changes in network conditions.**

