

TKT20016 Review questions 4

I Virtualization

(a) Differences between 1&2 types virtualization

- * type 1: runs directly on hardware w/o OS
- * type 2: run as application on host OS, relying it for hw access.

Key differences: Type 1 is more efficient, while type 2 is easier to set up.

(b) Containers vs. type 1&2 virtualization

- * Containers virtualize OS rather than hw.
- * They share host OS kernel making them more lightweight vs. VMs.
- * VM require full guest OS. Containers isolate applications w/ namespaces & cgroups

(c) Main benefits of containers over virtual machines

- * Faster startup times
- * Lower resource consumption due to shared OS.
- * Greater portability and scalability

II Cloud computing

① Definition of cloud computing

Cloud computing is on-demand delivery of computing resources over internet.

② Cloud deployment models:

- * Public cloud → resources provided by third party
- * Private cloud → dedicated infrastructure for single organisation.
- * Hybrid cloud → Combination of private and public cloud where data can move between them.
- * Multi cloud → use of multiple providers to avoid lock-in.

③ Cloud pricing models

- * Pay-as-you-go → pay only for actual usage.
- * Reserved instances → commit to certain level of usage for discount.
- * Spot pricing → use spare capacity at lower cost.
- * Subscription based → fixed monthly or yearly pricing, common in SaaS models.