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A069

CC Practical 7

1. * Bare metal hypervisors also known as Type 1 hypervisors. They run directly on the hardware of a physical server, without needing an underlying operating system.
   * High Performance and efficiency: By accessing hardware directly, bare-metal hypervisors minimize overhead, which improves performance and efficiency compared to Type 2.
   * Enhanced Security: It reduces attack surface, making bare-metal hypervisors more secure.
   * Common Examples: ~~VMA~~ VMware ESXi, Microsoft Hyper-V and Xen are widely used bare metal hypervisors.
   * Resource Allocation and Managment.

2) Type 0 hypervisors

1. Integrated with Firmware: are embedded directly into hardware or firmware, allowing for very low level control over resources.
2. Optimised for high performance: Deliver extremely high performance with minimal overhead.
3. Reliability and Fault Tolerance: They offer high levels of reliability and fault tolerance which is crucial for large scale enterprises
4. Support for Multiple operating systems.

4 VMware

It is the leading provider of virtualization and cloud computing solutions

* VMware's flagship products vSphere and ESXi are Type 1 bare metal hypervisors.
VMWARE ESXi is installed directly on physical hardware to manage virtualized resources, making it highly efficient for data center environments

* VMWARE offers desktop virtualization products like Workstation and Fusion. These are Type 2 hypervisors meaning they run on top of a host OS useful for development, testing and running multiple OSes on a single desktop.

* VMWARE extends virtualization into cloud environments with VMware cloud, enabling hybrid and multi-cloud deployments across platforms like AWS, Azure.

5. Virtual Box

Oracle Virtual Box is a popular open-source cross platform virtualization hot that allows users to run multiple operating systems on a single machine

* It is a type 2 hypervisor, meaning it runs on top of an existing host operating system rather than directly on hardware.

* Virtual Box supports a wide range of host and guest operating systems including various versions of Windows, Linux, macOS.

* Virtual Box is open source under GNU which makes it free for personal and educational use.