**2.12**

1. Main advantage: ①Scalability and Flexibility: Many functionalities are separated from the kernel, so modifying or adding new functionalities only requires modifying or adding the respective functionalities in the appropriate servers, or adding a dedicated server, without the need to modify the kernel code. ②Reliability and Security: Examples have been provided earlier. ③ Portability: Code related to CPUs and I/O hardware is placed in the kernel, while various other servers are hardware platform-independent. Therefore, the modifications required to port the operating system to another platform are relatively small. ④ Distributed Computing: Communication between clients and servers, as well as between servers, is done through a message-passing mechanism. This allows a microkernel system to support distributed and networked systems effectively.
2. Utilize the message-passing mechanism provided by the microkernel to facilitate interaction.
3. The primary issue with a microkernel architecture is performance, as there is a need for frequent transitions between kernel mode and user mode, resulting in significant overhead in operating system execution.

**2.14**

1. The system is easy to debug. Additionally, security issues are also easily resolved.
2. When service providers offer virtual machine rentals, one physical server can host multiple virtual machines. Each virtual machine appears as a standalone server, and customers can install their desired operating systems and software on these virtual machines, while only paying a lower cost.