Reflection Paper on Seminar: “The Evolution of Server: From Physical to Cloud to Docker”

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I. Introduction

a) **Speaker Information**
The speaker for the seminar was Mr. Saravann Som. He works in the IT department at Viettel (Cambodia Metfone Company) Pte. Ltd. He has good experience with servers and cloud technology.

b) **Objectives of Seminars or Site Visit**
The main objective of this seminar was to teach students about the history and change of server technology. It explained how servers moved from physical machines to virtual machines, then to cloud computing, and finally to modern containers like Docker. The goal was to help students understand these important ideas for their future IT and cybersecurity careers.

c) **Technology**
The seminar talked about many important technologies. These included physical servers, virtualization and hypervisors (Type 1 and Type 2), cloud computing models (IaaS, PaaS, SaaS), and container tools like Docker and Kubernetes. The speaker also shared that Metfone uses OpenStack for its cloud services.

II. Content

The speaker, Mr. Saravann Som, explained the topic step by step. First, he talked about physical servers. He said a normal PC or laptop has similar parts like CPU and memory, but a server's purpose is different. Servers need to run all the time (high uptime) and have more power to serve many users.

Next, he explained the first big change: **virtualization**. This started a long time ago but became popular in the 2000s. He said virtualization lets one physical server run many virtual machines (VMs). Each VM is like a separate computer with its own full operating system. He explained the two types of hypervisors that manage these VMs. The main purpose of virtualization is to use the physical server's resources better and save money.

After that, he talked about **cloud computing**. He defined it as getting computing services like servers or storage over the internet. He explained the different types like Public, Private, and

Hybrid cloud. He also explained the service models: IaaS, PaaS, and SaaS. He gave a real example from Metfone, where they use OpenStack as an IaaS platform since 2020. This part showed me how big companies actually use cloud technology.

Finally, he discussed the latest revolution: **containers**, with **Docker** as the main example. He said containers are lighter than VMs because they do not need a full operating system for each one. They package just the application and its needs. This makes them faster and easier to move between different computers. He also mentioned tools like Docker Swarm and Kubernetes that manage many containers.

I learned a lot about the clear path from physical to cloud to Docker. The speaker explained in detail, which made these complex topics easy to understand. The part about how Metfone uses OpenStack was very interesting because it is a real example from Cambodia.

III. Conclusion

In conclusion, this seminar was very useful for me. I learned about the complete evolution of servers. Before, I heard the words "cloud" and "Docker," but now I understand what they are and how they developed from old physical servers. The information about Metfone's company real-world cloud system was very good.

The speaker, Mr. Saravann, was very friendly and kind. He made the seminar fun by asking questions and giving gifts to students who answered. It was nice to see students from Generation 10 and 11 joining together.

This knowledge is very important for my specialization in Cyber Security. Understanding where and how applications run (on physical servers, VMs, cloud, or containers) is the first step to learning how to protect them. I am happy I joined this seminar, and I thank the speaker and the organizers for this opportunity.