**Unit 6: Security Testing of Distributed Systems**

Welcome to Week 6. This week we shall become more familiar with the practical challenges of enabling solutions to support the volume and type of user demands in the network and operating systems world today. In addition, we will look at the challenges of assessing the security of distributed systems.

**On completion of this unit, you will be able to:**

* Engage in a debate on the options available for assessing the security profile of distributed systems.
* Investigate the academic literature to build a case arguing for the best method of assessing distributed systems security.

**Reflection:**

The aim of **distributed system security** is the keeping the data from individuals also from software that may having wicked aims. There are four main security requirements for distributed system security, authentication, authorization, Encryption, and multi-level access control (Ali and Shaker, 2020).

Computer and network security address three requirements: Confidentiality: Requires that the data only be accessible for reading by authorized parties. Integrity: Requires that only authorized parties can modify data. Availability: Requires that data are available to authorized parties.

**Encryption:** It is the most important automated tool for network security. The fundamental approaches are conventional encryption, also known as symmetric encryption, and public-key encryption, also known as asymmetric encryption. With conventional encryption, two parties share a single encryption/decryption key. The fundamental approaches are conventional encryption, also known as symmetric encryption, and public-key encryption, also known as asymmetric encryption. With conventional encryption, two parties share a single encryption/decryption key. The main challenge is the distribution and protection of the keys (Hanane, Battou and Baz, 2018).

It is as important to keep the information secret when it is stored as well as when it sent over a network. A secure system is the one that can be trusted to keep secret, and important word is “trusted”.

**References:**

Ali, H.H. and Shaker, Prof.Assist.Dr.S.H. (2020). Techniques for secure distributed systems. Journal of Physics: Conference Series, 1530(1), p.012006. doi:10.1088/1742-6596/1530/1/012006.

Hanane, C., Battou, A. and Baz, O. (2018). Performance Security in Distributed System: Comparative Study. International Journal of Computer Applications, 179(15), pp.29–33. doi:10.5120/ijca2018916131.