**Network Systems and Administrations Assignment**

The OSI (Open Systems Interconnection) reference model is a conceptual model that characterizes and standardizes the communication functions of a telecommunication or computing system without regard to their underlying internal structure and technology. The OSI model partitions the communication process into 7 distinct logical layers:

* Physical
* Data Link
* Network
* Transport
* Session
* Presentation
* Application

Each layer handles related communication protocols and passes data to other layers.

It emphasizes strict layer-to-layer interaction and promotes interoperability between different vendors' equipment. However, despite its conceptual significance, the OSI model is less commonly used in practical network implementations.

The TCP/IP model is a less complex conceptual model that was developed specifically for internetworking and is based on the protocols used by TCP/IP.

It has 4 layers:

* Link
* Internet
* Transport
* Application

The Link and Internet layers correspond roughly to the OSI's Network layer while the Transport layer handles transport protocols like TCP and shares some qualities with the OSI's Transport layer.

The TCP/IP model is less rigid and more flexible than the OSI model. It combines multiple functionalities into fewer layers, resulting in a more streamlined approach to network communication.

In Summary:

1. **Structure and Layers:**

OSI Model: The OSI model is divided into seven layers, each with a specific function and purpose.

TCP/IP Model: The TCP/IP model, in contrast, consists of four layers This model is often considered more practical for real-world networking.

1. **Terminology:**

OSI Model: The OSI model uses terminology such as Data Link and Presentation, which can be less intuitive for network administrators.

TCP/IP Model: The TCP/IP model uses more familiar terms like Application Layer and Transport Layer, making it easier to relate to real-world network protocols and functions.

1. **Adoption and Real-world Use:**

TCP/IP Model: The TCP/IP model is the basis for the internet and is the de facto standard for modern networking. Almost all internet-related communication relies on TCP/IP principles.

OSI Model: The OSI model is more of a theoretical framework and is less commonly used in practice. It serves as an educational tool and a reference model for understanding networking concepts.

1. **Layer Correspondence**:

OSI Model: While there is no direct one-to-one mapping between OSI and TCP/IP layers, you can generally relate OSI's Application Layer to TCP/IP's Application Layer, OSI's Transport Layer to TCP/IP's Transport Layer, and OSI's Network Layer to TCP/IP's Internet Layer.

1. **Flexibility:**

TCP/IP Model: The TCP/IP model is considered more flexible and adaptable, allowing it to evolve and incorporate new technologies and protocols more easily.

OSI Model: The OSI model is more rigid and less responsive to the changing landscape of networking technologies.