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**TASK 1**

This assignment involved creating a hierarchical topology network model using the three-layer architecture consisting of Core, Distribution, and Access layers with Cisco Packet Tracer. The model is equipped with at least two core routers/switches, three devices in the distribution layer, and four access switches. This topology helps enterprise networks achieve optimization, better modularity, and scalability, while preserving compartmentalization of layers for future enhancements like SDN (Software Defined Networking) policies implementations.

Every layer has its own responsibilities:

* Core Layer: serves as the high-speed backbone connection.
* Distribution Layer: Routing, VLAN segregation, and policy-based routing.
* Access Layer: enables the connection of end-user devices to the network.

The entire network is emulated in Cisco Packet Tracer where logical arrangements and connections are made to the various devices. Labels and screenshots were provided to explain the structure visually. The design provides a better opportunity to set up IP configurations, VLANs, and advanced networking tasks in the subsequent activities.

