Assignment

Data Communication

Submitted To:

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Answer to the question No: 1

It is possible to configure the topologies in wireless network. A wireless network's topology is simply the configuration of its network components. It describes the physical configuration of the devices, routers, and gateways as well as the routes that data takes to get from one to the other.

Star topology for wireless networks: The Star topology, in which each node connects to a central hub that ejects the data wherever it is needed, is now the one that is most useful for wireless networking.

The most obvious example of this would be a network in a house. The wireless access point (hub), which typically serves as both a router for the local network and a bridge to the Internet,

is where all of the nodes—including phones, printers, tablets, and other systems. Star networks are good for easily connecting wired and wireless nodes.

This is a suitable way of setting up a wireless network, but it has two significant drawbacks. A single point of network failure is the hubs at its core.

Mesh networks: Network topologies come in two types: full and partial. Each node in a complete Mesh network is intrinsically linked to every other node. Although it increases resilience, it has little effect on increasing range. These are primarily used in military networks, for instance, where complete redundancy is required.

On the other hand, in partial mesh networks, each node is linked to one or more additional nodes. There is no single point of transmission failure when a node is connected to several other nodes, which increases resilience. Additionally, it extends range because even if node A is out of direct range of node C, the message may still be sent via node B. The IoT's largest area of research is mesh networks as they supposedly.

***Configuration*:** The wireless network topology is shown in this sample.

Hub and spoke topology explains the wireless infrastructure network topology. Another name for it is "one to many" topology. There in infrastructure wireless network topology, there is only one central wireless access point (WAP).

The topology of the wireless ad hoc network is a "many to many" topology. In the ad hoc wireless network topology, there is no central access point and all of the network's computers connect with one another directly.

You may quickly and easily create your own expert computer network diagrams by using the predesigned objects, templates, and examples of the Computer and Networks Solution for Concept Draw DIAGRAM.

The Concept Draw DIAGRAM-created computer network diagrams are vector graphic documents that may be reviewed, altered, and converted.

Advantage:

1. Accessibility

2. Easy installation

3. Wider reach

4. Flexibility

5. Efficiency

6. Cost-effective

Answer to the question No: 2

Two items of data require to be exchanged, and each must be verified and approved. The first point is the battle plan, and the second point is the readiness to execute the plan. Since these two items needed to be exchanged, the problem is executed in two steps originated by the commander. The first step would be the concern of the battle plan, which must be confirmed. All people must approve the plan. The commander will require the confirmations or rejections within a specified time. If an army group is missing, the commander of the other group will re-issue the order. Ultimately, all parties will accept, or the plan will be closed due to disapproval. An allowed plan will then proceed to the execution stage. The commander will issue the order placing the plan into accomplishment. Both units of the blue army will acknowledge the start.

Each commander would have to send a command and have acknowledgement, for a total of 4 successful messages:

Blue 1: “Attack at Noon.”

Blue 2: “Acknowledged. Attack at Noon.”

Blue 1: “Acknowledged. We know you will attack.”

Blue 2: “Acknowledged. We know you will attack.”