PROGRESS ASSSESMENT
(LOCATION)

Questions

1. List down (5) issues to avoid server rack setup issues. Discuss your answer.

- **Water.** For many data centers and server rooms, water damage is one of the most serious issues. Water damage is one of the major problems for many data centers and server rooms. It may seem strange to have to say that water is terrible for electronics, but the truth is that water damage is one of the biggest problems for many data centers and server rooms. Water leaks account for up to a quarter of all data center outages. A number of the leaks are due to faulty plumbing behind the server room's walls and ceilings. Even a little leak might do substantial damage to your systems over time.

- **Vibrations.** Vibrations are dangerous because they can cause vital components in your system to be displaced. Vibrations can also cause issues with hard drives that spin quickly, and even the tiniest scratch can result in data loss. If your server is too close to a wall or a corridor, vibrations may occur. People strolling by, machinery, or even a large truck on the other side of a wall might all produce potential movement.

- **Humidity.** In a computer room or data center, the relative humidity (RH) should be between 45 and 55 percent. If the RH level is too high, water condensation will cause corrosion, rust, and short-circuiting within the device. Electrostatic discharge can be generated in a very dry atmosphere. The server may experience a power outage as a result of the discharge. Temperature and humidity are both important factors. It's vital to maintain track of both because they're closely related.

- **Temperature.** Temperature is the most serious environmental danger to computer equipment. Every year, improper heat management causes thousands of servers to fail. The air around your servers should be kept at a temperature of 68° to 72° F (20° to 24°C) for maximum reliability. You must account not just for the heat generated by the servers, but also for external forces that may impact the temperature of the space.

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Poor Cable Management. There are a lot of cords in a rack with a lot of equipment. Improper cable management can lead to a slew of issues. Wires that are disorganized might cause equipment interference or be pinched, resulting in outages. Technicians must also commit more time to maintenance, digging through a tangle of cables to figure out where everything belongs. Jumbled wires may restrict system exhausts in addition to obstructing airflow in the rack.

2. **Discuss the best features to consider when selecting the appropriate rack for a data center.**

In today's data centers, where capacity is at a premium and technology is constantly improving, quality racks must be more than just containers for carrying equipment. Modern, high-demand facilities necessitate storage systems that will not only stay up but also improve.

By saving valuable floor space in new or existing facilities, you can save operational costs. Airflow and cooling are managed, and IT employees are assisted in their duties. With so many options, deciding on the best rack solution for your business can be difficult. It all comes down to weighing five key criteria in business:

- **Server rack strength.** The shift in customer demand for speedier, continuous online and digital experiences around the time demands servers with ever-increasing storage capacity and next-generation processors. As data centers struggle to support these increasing densities, this has had a significant impact on physical IT infrastructure. It's easy to understand how strength becomes a critical consideration when selecting the correct rack. Consider your daily weight load requirements as well as what weight load requirements you'll need to plan for in the future when comparing server rack alternatives.

- **Off-site integration.** Many enterprises are turning to an off-site integration procedure known as "rack and stack" to reduce the disruptions involved with deploying, configuring, and integrating equipment into a data center environment. When system integrators provide fully configured server racks to your data center site, this is known as rack and stack. The structural integrity of the data center rack is critical to a successful delivery. When stationary and throughout the shipment process, racks must be able to safely support the

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weight of the equipment. Transportation places stress on the structure from all sides, requiring the construction of racks that can bear pressure and movement.

- **Usable space within the server rack.** To handle rising equipment density, data center racks have grown taller, wider, and deeper. The following are the most common rack sizes: 42U\s45U\s48U.

- **Cooling and thermal management.** Cooling is a significant cost for any data center, hence cooling efficiency is one of the most critical factors to consider when choosing a data center rack. This is especially true in data centers with a high density.

- **Standard or custom.** Because of economies of scale, personalized items are generally more expensive than generic products. However, this isn't always the case when it comes to data center infrastructure goods, especially when it comes to rack and ship solutions. Custom racks also improve equipment access, cabling management, airflow, and other aspects, lowering operational costs and cooling costs. When making a decision, keep the big picture in mind. In conclusion, in a high-performance, high-density data center, the correct rack will provide structural integrity, flexibility, and cooling support. It will also enable offsite integration operations, as it will be supplied fully loaded with preconfigured, pre-integrated equipment and will arrive in pristine shape.

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