

OBJECTIVE


understand hardware 2.3

WORK WITH THE NETWORK

SCENARIO: Michael Allen has just graduated from the Graphic Design Institute with a degree in game design. He has been searching for a job and has his first interview scheduled with a prominent game design company. The company is interested in hiring only employees with knowledge of networking as it relates to game design. Michael knows he is not ready for the interview but has found several online resources that will help him prepare.

1. **What is the best networking option for an online multiplayer football game?**
 - a. TCP
 - b. UDP
 - c. LAGN
2. **What is the best networking option for an online single-player arcade game?**
 - a. TCP
 - b. UDP
 - c. LAGN
3. **What is the best networking option for a Massive Multiplayer Online Role Playing Game (MMORPG)?**
 - a. TCP
 - b. UDP
 - c. LAGN

HINT



*TCP is more reliable;
UDP transfers data
more quickly.*

Answers

1. What is the best networking option for a multiplayer football game?
 - b. **UDP.** UDP is the best option for any multiplayer game because the data is transferred faster and the game does not stall while waiting for missing packets.
2. What is the best networking option for a single-player arcade game?
 - a. **TCP.** TCP is the best option because the scores and achievements are processed at the end of the game and the information is not necessary during the game to continue game play.
3. What is the best networking option for a Massive Multiplayer Online Role Playing Game (MMORPG)?
 - b. **UDP.** UDP is necessary for a MMORPG game so that the game continues smoothly in real time without delays caused by missing packets of information.

Essential details

- **Packets, datagrams, headers, and frames** are components of data carried over networks.
- **Transmission Control Protocol (TCP)** is one of the main protocols in Transmission Control Protocol/Internet Protocol (TCP/IP) networks. TCP delivers the packets in order and guarantees delivery.
- **User Datagram Protocol (UDP)** is an Internet protocol that is less reliable and delivers packets in random order.
- A **web service** is an application that enables access to a wide variety of data over the Internet.
- **Windows Communication Foundation (WCF)** is a modular collection of web protocol-based applications that can be mixed and matched to provide business functionality through an Internet connection.

FAST TRACK HELP

- **Receiving Network Data:** <http://msdn.microsoft.com/en-us/library/bb975894.aspx>
- **UDP vs. TCP:** <http://gafferongames.com/networking-for-game-programmers/udp-vs-tcp/>
- **What every programmer needs to know about game networking:** <http://gafferongames.com/networking-for-game-programmers/what-every-programmer-needs-to-know-about-game-networking/>

