

Assignment-2

Real-world applications of parallel computing and networked systems:

1. Parallel Computing:

Weather Forecasting - It involves processing vast amounts of data from various sources such as satellites, weather stations, and ocean buoys. Parallel computing is crucial in this context because it allows meteorologists to perform complex calculations and simulations much faster than traditional sequential computing methods. By breaking down the data and computations into smaller tasks that can be processed simultaneously across multiple processors or nodes, parallel computing significantly reduces the time needed to generate accurate weather forecasts. This capability not only improves the accuracy of weather predictions but also provides decision-makers with crucial information to plan and mitigate the impact of severe weather events.

2. Networked Systems:

Online Retail - The platforms, such as Amazon, eBay, and Alibaba, rely on networked systems to facilitate transactions between buyers and sellers, manage inventory, process payments, and deliver products to customers. These networked systems consist of interconnected servers, databases, and communication protocols that enable seamless interaction between users and the online platform. Networked systems play a vital role in the success of online retail by providing a scalable and reliable infrastructure for conducting business transactions over the internet. These systems allow retailers to reach a global audience, manage large product catalogs, and handle high volumes of traffic during peak shopping seasons such as Black Friday and Cyber Monday. It also enables real-time inventory updates, order tracking, and personalized recommendations based on customer preferences, enhancing the overall shopping experience and increasing customer satisfaction.