

Assignment 3: Identify a real-world application for both parallel computing and networked systems. Explain how these technologies are used and why they are important in that context?

The real-world application that effectively utilizes both parallel computing and networked systems is **weather forecasting**

1. How Parallel Computing Technologies are used:

- In weather forecasting, parallel computing is utilized to process enormous amounts of data quickly.
- Parallel computing enables these models to be divided into smaller tasks that can be processed simultaneously across multiple computers.
- It reduces the time needed for analysis.

2. How Networked System Technologies are used:

- In Networked System facilitating the exchange of data between various weather stations, satellites, and computational centres.
- Weather data collected from different locations and sources need to be aggregated and synchronized in real-time to create accurate forecasts.
- Networked systems enable the seamless transmission of this data, allowing meteorologists to access and incorporate the latest information into their models.

The importance of parallel computing and networked systems in weather forecasting:

- It provides the accuracy and timeliness of predictions.
 - By leveraging parallel processing, meteorologists can run more models
 - Networked systems enable collaboration among meteorological organizations worldwide, leading to more comprehensive and globally consistent weather forecasts, which are crucial for various sectors such as agriculture, transportation etc.
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