工程与应用

基于TCP多连接通信实时并发数据处理技术研究

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摘要　　针对自动气象观测站分布地区广、资料实时同步触发上传的特点,深入研究了基于TCP多连接通信的实时并发数据处理系统,详细介绍了该系统的工作原理和软件设计方案, 尤其对决定系统时效性能的并发数据缓存设计给予了深入细致的阐述。该系统能满足对周期性大批量"浪涌"数据进行实时快速处理的要求。实际运行结果表明,该系统在自动气象观测站实时数据处理过程中资料处理及时准确, 运行稳定可靠。

关键词　　多连接　实时　并发　数据处理

分类号

Research on real-time and concurrent DP system based on TCP multi-connections

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Abstract

Automatic weather stations are usually distributed at various regions widely and each of them transfers real-time observational data to DP center synchronously.A high-speed data processing system is designed for this given application in this paper.The designing project and realizing method of software are discussed in detail.In particular,the buffer which acquisition threads put data into and processing thread takes data from concurrently is discussed emphatically.It has indicated that the system implements high speed and accurate results,high stability and reliability.

Key words　multi-connection　real-time　concurrence　Data Processing（DP）

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