

农业资源遥感监测系统的计算环境设计与应用

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摘要:为说明农业资源遥感监测系统的计算环境设计与应用,笔者在对农业资源遥感监测系统硬件环境组成、逻辑结构、核心功能分析等内容阐述基础上,以中国农业科学院农业资源与农业区划研究所运行的“国家农情遥感监测业务运行系统”硬件环境为例,从农业资源遥感监测系统计算环境的组成与逻辑结构、计算环境示例应用2个方面进行具体说明。结果表明:农业资源遥感监测系统是以基础硬件层为支撑,以计算层为核心,以存储层作为辅助,在网络层、软件层支持下,开展农情遥感监测应用。核心功能包括登录节点、管理节点、计算节点、存储服务器(含磁盘)等5个部分。本研究结果可为农业资源遥感监测系统建设提供具体的应用方案。

关键词:遥感监测;系统;管理服务器;管理节点;计算环境

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Computing Environment of Agricultural Resource Remote Sensing Monitoring System: Design and Application

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Abstract: To illustrate the design and application of computing environment of agricultural resource remote sensing monitoring system, based on elaborating the analysis of the compositions, logical structure and core functions of agricultural resource remote sensing monitoring system, taking hardware environment of the “National Agricultural Condition Remote Sensing Monitoring Operation System” operated by the Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences as an example, we expounded from 2 aspects of the composition and logical structure, and the example application of computing environment. The results showed that: agricultural resource remote sensing monitoring system was supported by a basic hardware layer with computing layer as its core and with the support of a storage layer, and under the support of network layer and software layer, the system carried out the agricultural condition remote sensing monitoring. The core functions of the system included 5 parts of log-in node, management node, computing node, and storage server (including magnetic disks). The results can provide a specific application scheme for the system construction of agricultural resources remote sensing.

Keywords: remote sensing monitoring; system; management server; management node; computing environment

0 引言

遥感监测是获取农业资源变化过程、状态信息的

主要技术手段,开展遥感监测系统的建设是保证遥感监测技术实施的必要前提。在全球粮食安全背景下,

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