
Evolution and Computing Challenges of Distributed GIS

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Abstract

As a new development based on GIS and distributed computing, Distributed GIS (DGIS) was introduced and propelled by both the demands for GIS in a distributed environment and the advancements of computing technologies. Demanding for new geospatial applications presents new challenges for DGIS, and the solution to overcome the challenges in turn leads to the advancement of DGIS. This article examines two important aspects of DGIS: its applications and the computing challenges. This paper reviews the three stages of evolution in DGIS application development and further examines its relevant computing challenges, such as system performance, user interface, interoperability, data integrity, spatial data mining, and data and system security.
