

## **A new method of developing flood forecast systems**

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**Abstract** Computing models for flood forecasting have high re-use value. However, software re-use in software development in this field is currently at a very low level. In this paper, a new Web services-based flood forecast system architecture is proposed by combining service-oriented Web service technologies. The purpose is to solve the software re-use problem and eliminate technical-expert blockage in this field, but also to protect the intellectual property of domain experts. The Xinanjiang model is introduced to analyse the development and deployment of EJB (Enterprise Java Bean) components in the forecast model, and to provide a distributed computing platform for flood forecasting in the Internet environment. Therefore, different business models about reservoir management realize a reservoir flood forecast system, improve re-use of forecast models components, achieve the goal of model management by experts in the field, and acquire good results. It also proves the feasibility of the Web services-based flood forecast system architecture.

**Key words** web services; flood forecast; object-oriented technology; software re-use

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