

Extracting software component from hydrological information service system

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Abstract Because of the extensive application of information technology in hydrology, the scope of the hydrological information service is extended; the frequency of the service's requirement change is also increased. These result in a more and more complex hydrological information service system based on computer and networks. In order to deal with the complexity of the system brought development and maintenance problems, the application of component-based software system technology and evolution mode of system development and maintenance are essential. In the study we analyse the basic features and trends of the hydrological information service system to propose the basic ideas and methods to extract software components from the hydrological information system. We develop the components recognition algorithms (Iterative analysis Algorithms based on the directed weighted graph for the Hydrological Domain software Component Identification). An example of how to extract software components from a real hydrological information system is given to explain the method and condition of application for the algorithm.

Key words hydrology; information service; software component; extraction; system