Automatic Clustering of Business Processes in Information Systems Planning

BSP is an important methodology in information systems planning. To identify the business processes of a company is a critical step for developing an information architecture. Because hundred of business processes will be identified in a large-scale company, to manipulate them manually becomes a difficult and tedious job. In the age of CASE, the IS planning process ought to be automated in order to reduce human efforts. The motivation of this paper would like to automate some steps in BSP. How to cluster business processes into a set of process groups (or called subsystems) in an efficient way is an interesting topic and worth being studied deeply. The problem studied in this paper is defined to be how to cluster business processes into a fixed number of groups, such that the data dependency relation between groups is minimized. The approach is transforming the problem into a shortest path searching problem in a multi-stage graph. Dynamic programming is the main technique used to solve the problem. The idea and algorithm presented in this paper can be applied in designing an IS planning tool in the field of CASE.