عنوان مقاله:

A service decomposition and definition model in cloud manufacturing systems using game theory focusing on cost accounting

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خلاصه مقاله:

Cloud manufacturing is a new paradigm which has been under study since 2010 and a vast body of research has been conducted on this topic. Among them, service composition problems are of utmost importance. However, most studies only focused on private clouds meaning the objective function is defined for just one component of the supply chain. This paper attempts to consider service composition problem by using the concept of game theory in cloud manufacturing which is the main contribution. This issue is investigated by introducing a bi-level mathematical model with emphasizing on the realization of public clouds, in which the preferences of all stakeholders in the cloud manufacturing system have been taken into consideration. Concretely, the first level is defined based on manufacturer company's perspective while the second level is a game designed to obtain a feasible solution by making trade-offs among costs and revenues of service providers. Manufacturer tends to optimize the quality of service metrics by producing a package of operations inside the company's environment or assigning a combination of service providers with considering clustering. Results show the model will be able to enable the trade-off mechanism among the compositions of all stakeholders' preferences in cloud manufacturing system with focusing on cost accounting.

کلمات کلیدی:

Cloud manufacturing, Service decomposition, Game theory, Public manufacturing cloud

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