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摘要 Towards integration of supply chain, manufacturing/production and investment decision making, this paper presents a hierarchical model architecture which contains six sub-models covering the areas of manufacturing control, production operation, design and revamp, production management, supply chain and investment decision making. Six types of flow, material, energy, information, humanware, partware and capital are classified. These flows connect enterprise components/subsystems to formulate system topology and logical structure. Enterprise components/subsystems are abstracted to generic elementary and composite classes. Finally, the model architecture is applied to a management system of an integrated supply chain, and suggestions are made on the usage of the model architecture and further development of the model as well as implementation issues.

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A Hierarchical Model Architecture for Enterprise Integration in Chemical Industries

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Abstract Towards integration of supply chain, manufacturing/production and investment decision making, this paper presents a hierarchical model architecture which contains six sub-models covering the areas of manufacturing control, production operation, design and revamp, production management, supply chain and investment decision making. Six types of flow, material, energy, information, humanware, partware and capital are classified. These flows connect enterprise components/subsystems to formulate system topology and logical structure. Enterprise components/subsystems are abstracted to generic elementary and composite classes. Finally, the model architecture is applied to a management system of an integrated supply chain, and suggestions are made on the usage of the model architecture and further development of the model as well as implementation issues.

Key words [system integration](#); [process topology](#) and [hierarchical model](#)

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