

SYSTEM ENGINEERING

一个化工过程运行系统的多层信息集成平台

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摘要 In the process industry, automation and process control systems are widely implemented. Information integration is however far away from satisfactory. It remains a hard job for senior managers to make decisions based on the plant-wide real-time integrated information. This paper proposes a multi-layer information integration platform. In the data integration level, the standard for the exchange of product (STEP) and the extensible markup language (XML) are used to unify these data of the chemical process. In the model integration level, the models are integrated by using the neutral model repository and CAPE-OPEN. In the integration of process task, the common object request broker architecture (CORBA) is used as the communication mediator. The XML is taken as the data standard. A uniform information platform is thus constructed and realized. The proposed information integration platform is satisfactorily implemented to solve the Tennessee Eastman (TE) problem.

关键词 XML 多媒, real-time, STEP, CORBA, 运行系统, 化工过程

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A Multi-layer Information Integration Platform for Chemical Process Operation Systems

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Abstract In the process industry, automation and process control systems are widely implemented. Information integration is however far away from satisfactory. It remains a hard job for senior managers to make decision based on the plant-wide real-time integrated information. This paper proposes a multi-layer information integration platform. In the data integration level, the standard for the exchange of product (STEP) and the extensible markup language (XML) are used to unify these data of the chemical process. In the model integration level, the models are integrated by using the neutral model repository and CAPE-OPEN. In the integration of process task, the common object request broker architecture (CORBA) is used as the communication mediator. The XML is taken as the data standard. A uniform information platform is thus constructed and realized. The proposed information integration platform is satisfactorily implemented to solve the Tennessee Eastman (TE) problem.

Key words information integration, process operation system, neutral model, standard for the exchange of product.

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