SmartPlant APS

2006.11.17
선임 연구원 조현민

Contents
-회사소개
-Product Overview
  - Concept
  - System Architecture
-SmartPlant Module 소개
  - Production Planner Module
  - Production Scheduler Module
  - Schedule Optimizer Module
-Demo

Product Overview
- SmartPlant APS는 프로세스 기술과 IT 기술을 결합한
- ILOG CPLEX를 이용한 Mathematical Programming
- ILOG Scheduler의 신흥 Sequence Algorithm
- ILOG UserView를 이용한 편의성과 적기에 접근 가능한 기능
  - XML 기반의 통합 기술을 활용하여 사용성과 효율성을 향상시켰다
- 19년 이상 간격된 노력과 IT 기술력
  - 운영체계 및 스케줄링 시스템 간의 Know-How와 IT 기술력을
    기반으로 개발

Product Overview
- System Architecture

SmartPlant Configuration

KSTEC
Product Features

- Production Planning Systems
  - Production Planning, Supply Planning, and Order Management
  - Inventory Management, Pricing, and Distribution
  - Customer Order Management, Sales Forecasting, and Sales Order Management
- ILOG Technologies Based Solution
  - Engine: ILOG CPLEX 10.1
  - GUI: ILOG JViews Chart 7.5

Functions

- Data Editing
- Data Navigation
- Constraint Editor
- Planning Cockpit
- Result Report
- KPI Analysis

Functions

- Constraint Editor
  - Constraint Editor provides a comprehensive constraint editing tool

Functions

- Planning Cockpit
  - Drag and drop interface for easy constraint editing
  - Interactive visualization of constraint relationships

Functions

- Result Report & KPI Analysis
  - Detailed report generation
  - Interactive KPI analysis dashboard

SmartPlant APS
Production Planner Module
SmartPlant APS
Production Scheduler Module

Product Features
- Production Scheduling Systems
- Production planning, capacity utilization, and resource optimization
- Scheduling of orders, setup times, setup rates, and resource utilization
- Dispatching rules and constraints
- ILOG Technologies Based Solution
  - Engine: Rule Based Dispatcher
  - GUI: ILOG JViews Chart 7.5

Functions
- Data Editing
- Dispatching Rule Editor
- Scheduling Cockpit
- Schedule Editor
- Data Navigation
- Progress Monitoring
- KPI Analysis

Dispatching Rule Editor
- Formulates调度规则的定义和编辑

Schedule Editor
- 任务调度和编辑
- 资源分配
- 时间表创建

What-if Simulation
- 假设性模拟功能:
  - 打印列表的模拟
  - 情景模拟
Functions

- Progress Monitoring
  - Track compliance of planning tasks

- Data Navigation
  - Data and document management

KPI Analysis

- Identify inefficiencies, benchmark performance

SmartPlant APS
Schedule Optimizer Module

Product Features

- SmartPlant's robust scheduling
  - SmartPlant plug-in for seamless integration
- ILOG Optimization for efficient scheduling
  - Provides optimal heuristics for complex scheduling
  - Enhances dispatching heuristics for better execution
  - ILOG Technologies Based Solution
    - Engine: ILOG Scheduler 8.3

Examples

- Demonstration of scheduling

Demo

- Visual demonstration of scheduling functionalities