✦ BlueYonder

Factory Planner

Improve cost and service outcomes with optimized production plans

Business Context

Production planning and scheduling represent one of the most underutilized areas of opportunity for manufacturers who want to improve their competitiveness. The decisions made by factory planners have a major impact on the company's performance on a day-to-day basis, in terms of both cost and service. But planners typically make these decisions without proper insights and tools that provide them with visibility to the shop floor. As a result, their decisions are not connected to real-time factory performance or mapped to real-world consequences.

The Blue Yonder Solution

Enter Blue Yonder Factory Planner with Constraint-Anchored Optimization (CAO) technology. This software solution is a set of tools that support intelligent master production planning, master production scheduling, material requirements planning, capacity requirements planning and dynamic finite scheduling. Blue Yonder Factory Planner enables rapid what-if analysis, identifies problems and solves them. It also allows planners to interactively solve problems. An important competitive differentiator of Factory Planner is the efficiency of its algorithms for heuristic optimization. Fueled by robust, real-time analysis, Factory Planner acts as a cementing agent for enabling profitable synchronous-flow production.

Real Results

- Improve on-time deliveries by up to 20%
- Reduce inventory by up to 30%
- Increase planner productivity by 40-50%
- Improve asset utilization by 10-20%

Key Benefits

- Increased profitability, due to reduced lead times and work in process
- Improved service, including increased responsiveness and on-time deliveries
- Accurate production plans, synched with real-time demand and resource availability
- Optimized capacity and inventory planning, fueled by advanced algorithms
- Dynamic finite capacity scheduling

Solution Capabilities

Material planning
Blue Yonder Factory Planner is a planning tool that produces a master production schedule, using material and capacity constraints. Factory Planner uses forward-looking and backward-looking planning around anchor resources to generate optimal load profiles.

Inventory allocation
Factory Planner strategically allots accurate amounts of goods and materials that are aligned with real-time demand.

Infinite capacity planning
A unique feature of the Factory Planner solution architecture is its decomposition of scheduling into two categories: planning and detailed scheduling. Factory Planner first generates an infinite capacity plan for demand; this infinite capacity plan is the starting point for other modules, such as Constraint Anchored Optimization and Advanced Scheduler.

Finite capacity planning using CAO
Factory Planner generates a finite capacity plan from the infinite capacity plan, leveraging the power of Constraint-Anchored Optimization (CAO) technology. Finite planning has the greatest impact on manufacturing performance, but it doesn't consider minute-to-minute decisions or job-by-job sequencing, which is the domain of scheduling.

Procurement planning
Blue Yonder Factory Planner generates procurement recommendations based on the parts that are required to meet demand projections for a specific due date. A procurement suggestion will be generated if Factory Planner assesses that on-hand unassigned inventory — as well as confirmed, purchased orders — will not be sufficient to cover future demand and support on-time deliveries.

Dynamic due-date quoting
Factory Planner enables planners to identify the earliest possible time when an order can be satisfied. Dynamic due-date quoting is designed to quote a specific time frame, then move order delivery commitments forward or backward within that time frame.

Key Features

- Decisions are based on the latest shop-floor information.
- Incremental adjustments can be made without complete rescheduling.
- High-quality decisions are made quickly, using domain knowledge.
- Decisions are based on both global data and local insights.
- Plans consider a longer horizon, while schedules cover a shorter horizon.
- Hard constraints are not violated, while soft constraints can be strategically relaxed.
- Flexible planning processes accommodate new goals, constraints and operating conditions.

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