Oracle Value Chain Planning
Production Scheduling

Are you able to sequence orders to best use your production resources? Do you know when to offload production to alternate resources? Do you need to minimize the effect of unplanned down time? Are you able to evaluate the impact of a supply shortage on fill rates? Oracle® Production Scheduling enables you to create detailed, up-to-the-minute schedules that enable you to produce the right amount of product when it is needed, thereby maximizing service, minimizing inventory, sequence dependent setups, expediting, and other undesirable costs?

KEY FEATURES

- Simultaneously considers capacity and calendar constraints on machines, crews and tools
- Automatic floating bottleneck detection
- Graphical multi-stage production pegging
- Sequence dependent changeover minimization
- Advanced analytical views (Gantt charts, line graphs and bar charts)
- Multi-scenario with KPIs for scenario comparisons
- Schedule maintenance visits and work orders (integration with Oracle® Complex Maintenance Repair and Overhaul and Oracle® Enterprise Asset Management)
- Deploy standalone, integrated with Oracle E-Business Suite, or integrated with JD Edwards EnterpriseOne 9 via Value Chain Planning Integration Base Pack PIP (select features apply)

KEY BENEFITS

- Maximize production throughput
- Increase resource utilization
- Reduce manufacturing costs

Overview

Oracle Production Scheduling enables you to take control of your production scheduling problem, and helps you to maximize shop floor throughput while optimizing resource investment. You can optimize the usage of your critical resources, calculate realistic and feasible schedules that the shop floor can execute, and easily determine the schedule that best meets your objectives. In addition, you can leverage the out-of-the-box integration with the Oracle ERP to implement quickly and get immediate value.
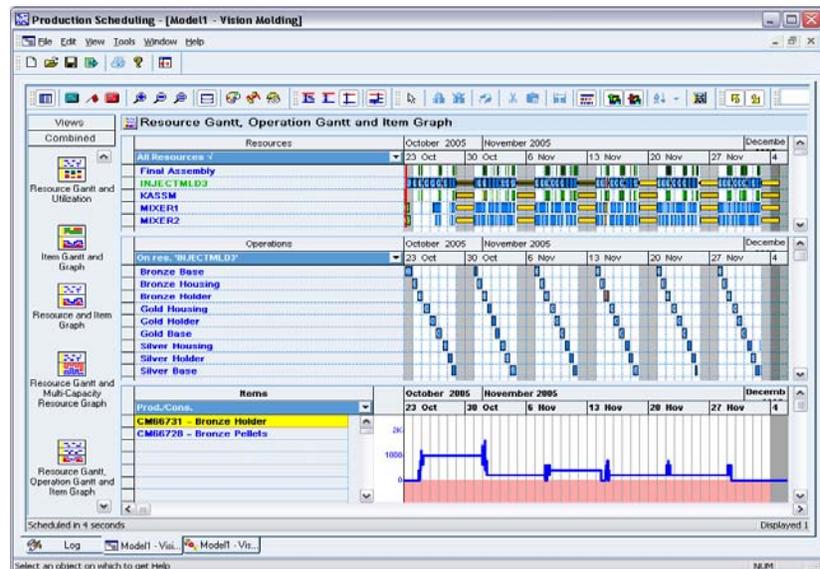

Figure 1: Production Scheduling - Scheduler Workbench

Maximize throughput and increase resource utilization

One key to profitable manufacturing is maximizing the utilization of your critical resources. Oracle Production Scheduling calculates feasible and realistic schedules that consider your key manufacturing constraints. It automatically detects bottlenecks and ensures the flow of production through the bottleneck to maximize the productive throughput while synchronizing all the stages of production. You can also easily identify specific issues and take corrective action by drilling directly to the root cause of the problem. Production Scheduling can automatically sequence production to minimize setup time while still meeting all requirements on time. It recognizes when dependencies between products exist that determine the amount of changeover time, and what quantity of product should be run together to minimize setup while not jeopardizing demand or carrying excessive inventory. This is often called campaign planning, batch planning, or run length optimization (and is facilitated through the Oracle® Repetitive Manufacturing Optimization option for Oracle® Production Scheduling).

Improve shop floor performance

If your production floor has been given an un-executable schedule, much time is spent expediting around shortages and resource constraints. This typically leads to inconsistent lead times and excess work in process inventory. Oracle® Production Scheduling enables you to improve your shop floor performance. It provides the shop with a feasible schedule that is executable, and considers all the production constraints. When issues exist, it provides you with alerts that identify precisely where problems exist, and what the root cause is. Interactive drag and drop rescheduling and fast interactive simulation enable you to quickly try out and assess ways to rectify problems. After refining the schedule, you can approve it for release to the production floor for execution. You can also publish a dispatch list that enables each operator or work center to view a prioritized list of work.
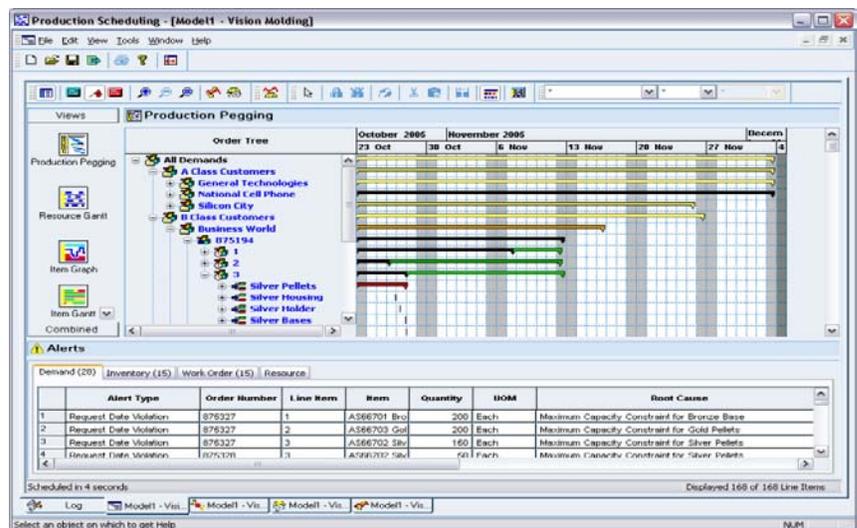

Figure 2: Scheduler Workbench – Flexible based drag-and-drop scheduling

Determine the best schedule through interactive simulation

Oracle Production Scheduling enables you to easily evaluate one or more schedules based on multiple metrics. It provides many pre-seeded key performance indicators by which the schedule quality can be assessed. You can also quickly compare schedules and what-if scenarios to identify the schedule that best meets your business objectives. For example, when you have demand that is not scheduled to be late, you can compare a baseline schedule against one where you simulate working overtime and see how the two schedules differ both in delivery performance and cost. As part of the analysis, you can weigh the incremental cost of working overtime against the improvement in delivery to make an informed and intelligent decision on whether or not to work overtime.

Comprehensive manufacturing planning and scheduling

Oracle provides a comprehensive and integrated manufacturing planning and scheduling process through tight integration between Oracle E-Business Suite, Oracle Advanced Supply Chain Planning, and Oracle Production Scheduling. You can use Production Scheduling to schedule production orders or process batches maintenance visits and work orders, or you can decide to simultaneously plan both production and planned orders from Advanced Supply Chain Planning. Once the schedule is refined and finalized the scheduler can either release it to execution or publish the planned production orders back to Advanced Supply Chain Planning (as firm planned orders). The execution production orders become the starting point for the next supply chain plan and schedule run. Oracle Production Scheduling supports key manufacturing modes: discrete work orders (through Oracle Discrete Manufacturing), process batches (through Oracle Process Manufacturing), and lot-based jobs (through Oracle Manufacturing Shop Floor Management).

Create feasible schedules for complex maintenance tasks

Complex assets have different types of maintenance activities that need to be performed at different points in their lifecycle. Major maintenance activities can take down the asset for an extended duration of time. The tasks within these heavy maintenance "visits" for the asset need to be scheduled optimally to get the asset back to operational readiness as soon as possible. At the same time the resources within the Maintenance department need to be used efficiently across multiple maintenance visits and tasks and other constraints such as equipment availability and material availability also need to be considered when scheduling maintenance. Oracle Production Scheduling is integrated with Oracle Enterprise Asset Management and Oracle Complex Maintenance Repair and Overhaul to support this process.

Honor complex inter work order relationships in Maintenance Visits

Maintenance activities for complex assets often involve the coordination of hundreds of different tasks within the overall umbrella of a specific maintenance visit for the asset. The complex inter-relationships between maintenance tasks within a visit are driven by complex work breakdown structures. The availability or lack thereof of resources and materials to support task execution add a further level of complexity. Oracle Production Scheduling supports a maintenance work order scheduling process that allows maintenance schedulers to view all the maintenance tasks within the schedule, their inter-relationships, the associated resources and materials and respect inter-work order relationships and other complex constraints when scheduling work orders.

Create feasible schedule honoring material and resource constraints

Maintenance work orders use human resources such as operators, technicians and inspectors as well as equipment such as calibration machines, material handling equipment, and so on. Oracle Production Scheduling enables a constraint based finite scheduling process that creates a feasible maintenance schedule accounting for equipment availability/downtime, material availability, lead times and other detailed constraints such as work order relationships. Maintenance Schedulers have an easy to use yet powerful and interactive user interface to analyze schedule quality, resource utilization, schedule exceptions and take corrective action.

VALUE CHAIN PLANNING — A COMPLETE SOLUTION

Oracle's Value Chain Planning solution enables companies to efficiently design, plan, and service their value chains from factory to shelf. Its componentized architecture enables you to start with any product and expand to other areas at any point in time. The Oracle Value Chain Planning architecture leverages the scalability and security of Oracle's Database and Fusion Middleware technology and can be deployed as a single instance with Oracle E-Business Suite, or integrated with other systems. Whether you implement one module or the entire product solution, Oracle Value Chain Planning enables you to share unified supply chain planning information across the enterprise so you can make informed decisions faster.

ORACLE®

Hardware and Software, Engineered to Work Together

Oracle is committed to developing practices and products that help protect the environment