Oracle Work In Process

ORACLE 12
E-BUSINESS SUITE

ORACLE DISCRETE MANUFACTURING

KEY BENEFITS

Oracle Work in Process is designed as a complete production system:

- Provides you tools for visibility into shop floor, tracking and tracing lot and serial genealogy, enterprise wide quality management and support for various cost accounting methods irrespective of whether you have all your manufacturing in-house or whether you use contract manufacturing partners.

- Provides integration tools and APIs to bring shop floor data in from third party execution systems.

Oracle® Work in Process is the core of Oracle's Discrete Manufacturing Solution. Oracle Work in Process by itself provides a complete production management system that improves productivity, quality, and responsiveness while maximizing throughput and production. In conjunction with other modules within Oracle Discrete Manufacturing foot print, Oracle Work in Process provides support for enterprise wide quality management, lot and serial genealogy and traceability and support for various methods of planning and cost accounting, irrespective of whether your entire manufacturing is in-house or using the services of contract manufacturers.

Increase Production Efficiency and Flexibility

Mixed-mode Manufacturing Support

Whether your manufacturing environment is discrete, repetitive, assemble-to-order, project-based, or in combination with lot based or flow, Oracle Work in Process provides flexible features to support your unique requirements. You can build both serial and lot-controlled assemblies and control all of your subcontract, prototype, and rework activities. In addition with work order-less features, you can complete assemblies without having to create a unique job or schedule.

Maximize Throughput

Maximize production throughput with flexible scheduling and resource management. Comprehensive scheduling workbenches provide you with the tools and critical information required to maximize the output of your existing resources. You can view your factory schedules by job or by resource and, as changes in demand or equipment availability occur, fine-tune them to relieve overloads or more fully utilize available capacity.

Several new enhancements have been added to both Job as well as Resource workbenches. You can now print your Gantt charts for management reviews and meetings. Several usability enhancements have also been added to the workbenches. There are new tool-tips designed to improve user productivity and also the users can restore their customized views saving time every time they login. The user can plan over long time ranges by manually selecting a start or end date.

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Figure 1: Resource and Job workbenches allow printing of Gantt charts

Oracle Discrete Manufacturing supports:

• Mixed-mode Manufacturing

• Dynamic Scheduling

• Total Materials Management including support for various methods of component issue

• Collaboration with Contract Manufacturing Partners

• Chargeable Subcontracting (Applicable to some Asia Pacific markets only)

• Lot, serial genealogy

• In-process quality control

• Flexible reporting for supervisors and managers

• Flexible shop floor control Integration and Open Interfaces

• Buy Sell Subcontracting

• Smart –phone Applications for Supervisors

• Actionable Insights into production work order status, production quality and outside processing with discrete manufacturing command center

• Efficiently trace product genealogy for root cause and impact analysis using discrete manufacturing command center

Improved Productivity

Oracle Work in Process enhances your employee productivity by extending automation beyond traditional manufacturing packages. You can automatically load and reschedule the shop floor based on master schedules and supply chain plans, eliminating the tedious task of defining and updating orders after each planning run. With count points, back flushing, floor stock replenishment, over completions, and automatic resource charging, you can eliminate nearly all of your manual transactions. Oracle Work in Process is tightly integrated with Oracle Warehouse Management System and Oracle Quality allowing you to maximize worker productivity by ensuring timely material availability on the shop floor, and easy collection and analysis of critical quality information.

Expand Visibility into Your Manufacturing Operations

Streamlined Business Flows

The Work in Process business flows reduce your learning curve, improve your ability to research and resolve problems, and increase your daily productivity. All user interactions with the system, whether through forms, self-service, or mobile windows, allow you to find critical information in a flexible way, see the results in your preferred format, and selectively take appropriate action. For example, the Discrete Workstation displays job dispatch lists by resource or instance along with a wide variety of related information and lets you easily record activity against your discrete jobs as work is performed.
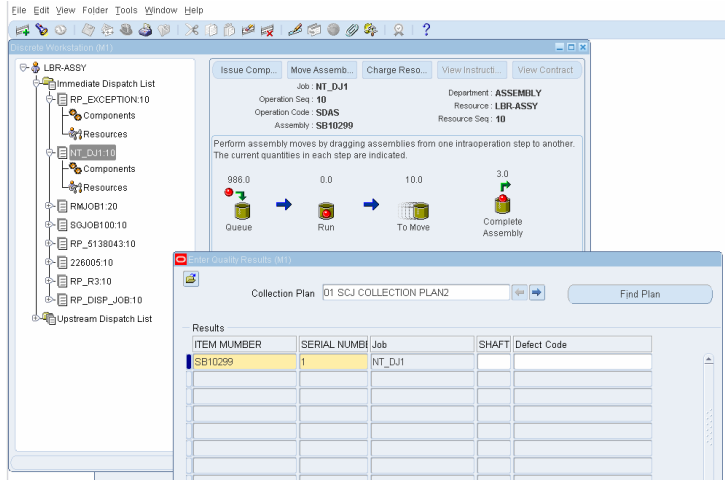
Figure 2: Quality Data Collection within a Move Transaction

Rules-based component picking is another streamlined business process. Built-in flexibility allows you to pick for material requirements based on common attributes or a specific time range, while predefined rules recommend the most advantageous sourcing locations and logically group tasks onto pick lists to achieve maximum efficiency from your material handlers.

Better Visibility and Responsiveness

You can react quickly to changes in demand, eliminate bottlenecks, and better support your customers with Oracle Work in Process. On-line workbenches, inquiries, and reports provide shop work package information such as schedules, dispatch lists, and pick lists as well as a complete picture of materials, transactions, genealogy, and costs. In addition, as you define jobs you can view component and resource requirements and ATP status information. You can seamlessly implement your engineering changes— even in the middle of a production run.
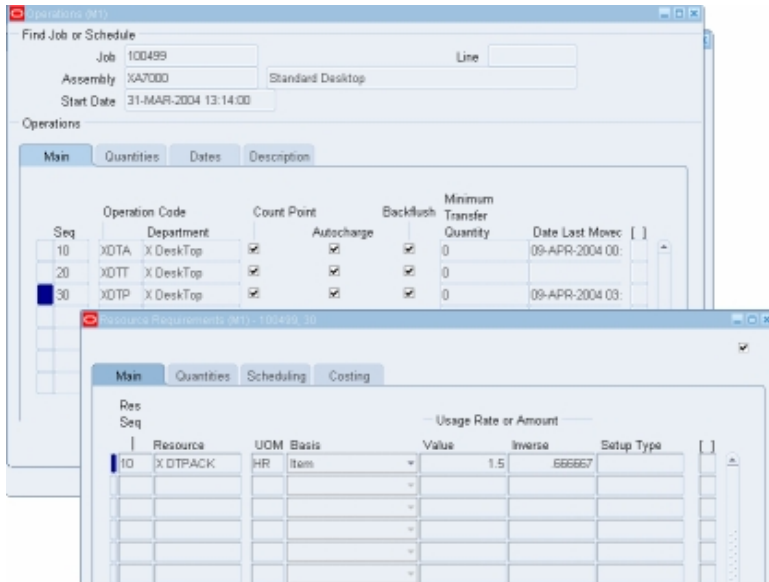
Figure 3: Online Views and Queries provide full visibility to jobs and operations

With Oracle Mobile Discrete Production Supervisor for Oracle E-Business Suite, discrete manufacturing supervisors can monitor work in process and take quick actions on the go.

- Search or barcode scan work orders to view progress (on track, delayed, on hold, exceptions)

- View work order and operations detail

- Perform quick actions like expedite, hold, release, unrelease, reschedule, cancel and add notes

- View component issue and resource charges

- Manage production exceptions related to assembly, components, resources and quality

- Collaborate in transaction context using device features such as email, phone and text

Collaborate with Manufacturing Partners

Oracle supply chain applications accomplish manufacturing collaboration through integration between Work in Process and Purchasing and by leveraging the strengths of Workflow and the iSupplier Portal. Easy-to-use portals and automated approval routing and shipment notifications provide you and your manufacturing partners an interactive end-to-end process to support your outsourcing needs.

Oracle Work in Process also provides multimedia capabilities that can transform communication across your entire virtual manufacturing organization. You can store all kinds of data, including important original source documents, PC files, electronic mail, video training, and voice annotations with key reference and transactional data. For example, you can attach work instructions for key operations on your routings, which can be viewed during assembly.
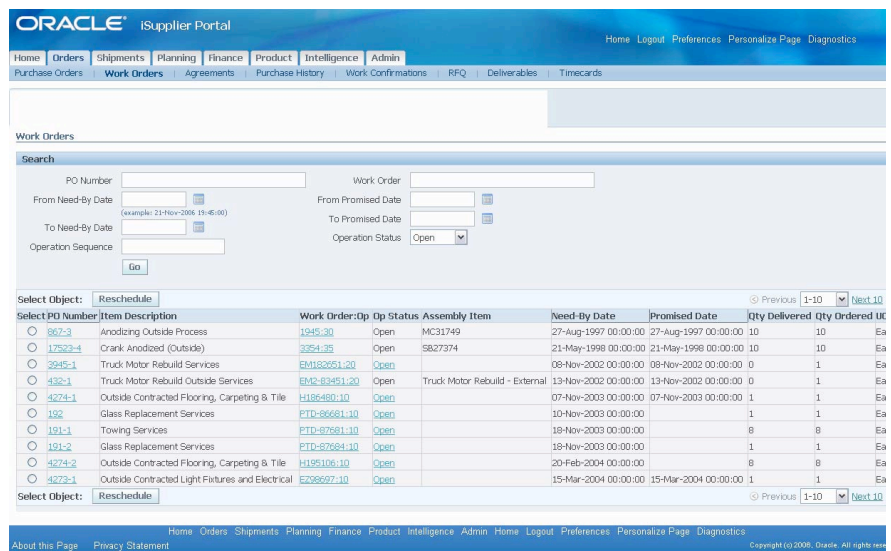
Figure 4: Using iSupplier Portal, partners can view Jobs and Related POs

Chargeable Subcontracting

Chargeable subcontracting is a common practice in Japan and is also being adopted by few other markets in Asia Pacific such as Taiwan or Korea. Under this practice, an OEM (Original Equipment Manufacturer) ships components to a Manufacturing Partner (MP) and receives completed assemblies in return. While the practice is common in all manufacturing markets, what sets these APAC markets apart is the fact that the MP is paid only for the value addition. The practice is known as SHIKYU in Japan and Korea.

Oracle provides full support for SHIKYU or chargeable subcontracting practices from an OEM perspective including the implications on planning, procurement and related accounting transactions. Chargeable Subcontracting Workbench gives the complete visibility into the process for the users.

Figure 5: Chargeable Subcontracting Workbench

Buy Sell Subcontracting

Organizations use different methods of material transfer to the contract manufacturer as well as ownership of the material. One of the methods is to sell the components and buy the product from the contract manufacturer. This process of contract manufacturing is termed 'Buy-Sell- Subcontracting'. Oracle provides support for this type of contract manufacturing where the OEM sells the components to a Contract Manufacturer thereby transferring the ownership of the material to the contract manufacturer. By use of the subcontracting workbench the OEM would be able to perform several actions such as viewing the subcontracting orders, viewing the replenishment information of components, performing shipment allocation as well as adjustment of component consumptions. Buy Sell subcontracting is fully integrated with Oracle Advanced Supply Chain planning for component planning as well as purchase order creation. Most of the processes are automated requiring minimal intervention from users to execute the buy sell subcontracting process.
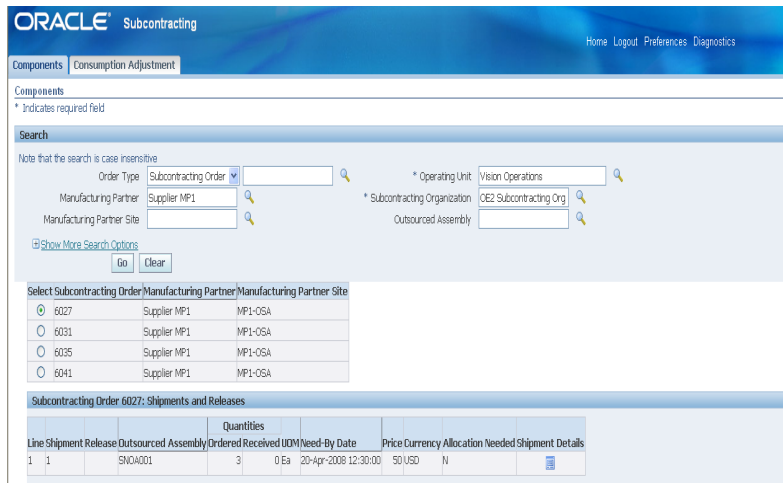
Figure 6: Buy Sell Subcontracting Workbench

Integrate into the Supply Chain

Oracle Work in Process provides advanced manufacturing methodologies through its support of constraint based shop floor scheduling via integration with Production Scheduling, mobile device capabilities for remote manufacturing transaction and data entry, and advanced warehouse management features which make possible processes such as rules based component picking for work orders. Open interfaces allow seamless integration with other Oracle modules such as advanced planning and order management, and allow you to easily connect with manufacturing execution systems from other vendors, and data-collection devices or other factory automation tools, such as controllers and automated test equipment.

Oracle Discrete Manufacturing Command Center

The Oracle Discrete Manufacturing Command Center provides dashboards empowering production managers, production supervisors, and quality managers with actionable insights that help manage production operations efficiently to meet customer commitments, provide quick visibility into production quality issues, efficiently trace product genealogy for root cause and impact analysis and manage outside processing operations effectively. With tools and visualizations such as actionable indicators, tag clouds, interactive charts, and consumer-like search and filters, users can browse and drill on whatever captures their attention, revealing new information on which to base next discovery steps. Through this "information-driven navigation", users can quickly narrow in on priority transactions like work order schedule delays, pending material issues, material shortages, assembly completion returns and take immediate, informed action.

The Oracle Discrete Manufacturing Command Center is available at no additional cost to licensed users of Oracle Discrete Manufacturing, Release 12.2.4 and above.
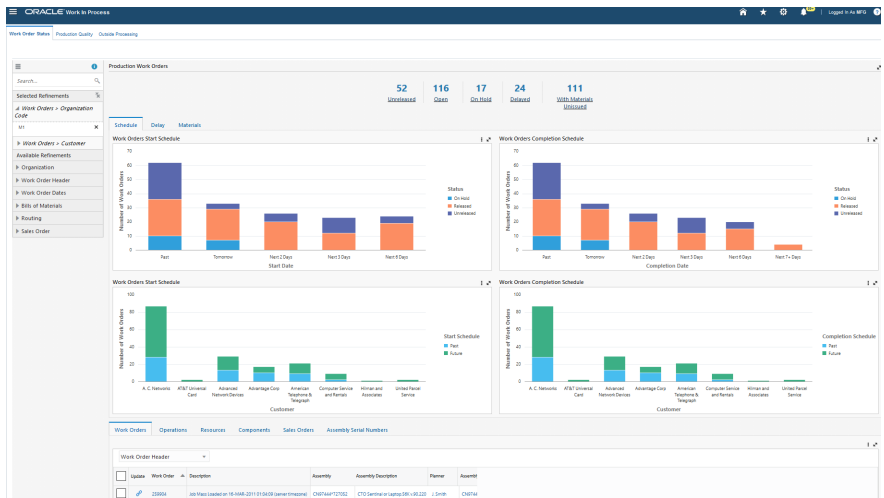
Figure 7: Work Order Status Dashboard in Oracle Discrete Manufacturing Command Center

Oracle E-Business Suite: The Complete Solution

Oracle E-Business Suite enables companies to efficiently manage customer processes, manufacture products, ship orders, collect payments, and more—all from applications that are built on unified information architecture. This information architecture provides a single definition of your customers, suppliers, employees, and products—all important aspects of your business. Whether you implement one module or the entire Suite, Oracle E-Business Suite enables you to share unified information across the enterprise so you can make smarter decisions with better information.

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Hardware and Software, Engineered to Work Together

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