JD EDWARDS ENTERPRISEONE PRODUCTION AND DISTRIBUTION PLANNING[1]

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JD EDWARDS ENTERPRISEONE

KEY BENEFITS

- Plan movement of materials and products from procurement all the way to customers
- Generate quality production and distribution plans
- Improve production and distribution operations cost and customer service
- Strong distribution planning for consumer industries
- Real-time messaging and alerts with automatic retraction capability, context-sensitive drilldowns, and geographic supply chain visualization
- Allow multiple planners to collaborate on the same plan in real time
- Utilize linear programming, heuristic and repair-based solver technologies
- Optimize product substitutions, storage and safety stock networks
- Dynamic safety stock networks create schedules with single, concurrent and uninterrupted process
- Single-pass planning across distribution and manufacturing locations
- Reduce planning cycles and inventories
- Reduce freight costs via transportation loading
- Integrate real time with sales and manufacturing operations

Optimize the day-to-day flow of goods from procurement through manufacturing to distribution with real time visibility and event management. Potentially replace MPS, DRP and CRP functionality. Produce plans that respect constraints optimized around key cost drivers while ensuring that plans remain synchronized and acted upon among all locations within your supply chain network.

The Issue: Feasible and Collaborative Plans for Your Supply Chain

In today's business-to-business environment, a collaborative supply chain is a must. Even simple supply chain networks pose many questions: What products to make and to ship? How much of each? From where would they be sourced? When should shipments be made? The combined answers to those and other planning questions have impact on profitability and customer service.

At the heart of supply chain management is the question: What is the best way to coordinate the acquisition, production, storage, and movement of goods and materials across the supply chain to meet specific demand elements, such as customer orders, sales forecasts, or inventory level targets? The supply chain consists of physical locations through which raw materials and finished products flow and the facilities that transport the goods between locations—from original suppliers to production plants, warehouses, and distribution centers, all the way to the final demand source, your customer.

The supply chain plan is a statement of how to coordinate all material supply, production, and distribution. This plan requires more than addressing the basic questions of when and how much product to move from each location in the supply chain. It takes into account many other decision factors such as material, storage, and transportation costs. It also has to consider constraining factors such as supplier, production, storage, and transport capacities. With so many interrelated factors going into on-time fulfillment of demand at the lowest possible cost, the business function of supply chain planning is not a trivial task. This complexity of the planning process drastically increases with the number of products and locations involved.

Using the traditional approach of planning materials, production, and distribution separately, systems may create feasible materials, production, and distribution plans. However, plans are no longer adequate if they are merely feasible- they need to be optimized. Plans must bring about the highest possible levels of customer service at the lowest possible cost.

The Solution: Dynamic Agility Through All Phases of your Supply Chain

Oracle's JD Edwards EnterpriseOne Production and Distribution Planning module provides a time-phased master production schedule and distribution plan based on dynamic sourcing, rather than restricting you to single-plant or warehouse sourcing. You determine appropriate

[1] JD Edwards EnterpriseOne Production and Distribution Planning Collaborative Web Client (CWC) can be added to this module

replenishment activities for materiel, work in process items, finished goods, and empty or reusable items by optimizing your multi-echelon distribution networks.

JD Edwards EnterpriseOne Production and Distribution Planning understands the various costs, constraints, and lead times involved in product delivery, while simultaneously exploiting agility in the load-building process.

From the moment you recognize the demand for finished goods, production and distribution planning activities makes your supply chain process — from material procurement to manufacturing to end-product distribution — as smooth as possible. You can generate optimized and feasible procurement, manufacturing, and distribution plans in complete collaboration with your suppliers and customers. Once implemented, your plan is immediately visible to those responsible for its execution, thereby synchronizing the many people, processes, and systems that traditionally operate as disparate functional units. And, with JD Edwards EnterpriseOne Production and Distribution Planning's report writing and geographical mapping capabilities, you create advanced reports and graphically represent your plans and the supply chain to significantly improve decision support.

Real-time Visibility

JD Edwards EnterpriseOne Production and Distribution Planning give you the freedom to choose the best ideas, the best partners, and the best technology. With real-time messaging and web planning components, you can enable high levels of visibility and communication, and at the same time establish collaborative relationships with suppliers and customers via the internet. Activities, such as vendor managed inventory (VMI), available-to-promise (ATP) and capable-to-promise (CTP) functionalities are fully supported.

For example, if issues are detected concerning material availability, resource utilization, inventory violations, or product delivery, real-time alerts are sent to those who need to know both inside and outside your enterprise. Depending on the level of trust with each individual business partner, you can determine the appropriate level of information to share to gain maximum value from the business relationship. Also, JD Edwards EnterpriseOne Production and Distribution Planning is XML capable and supports standard XML formats to facilitate integration within your trading communities.

Business to Business Efficiency using Optimized Planning

Since the end-to-end supply chain involves not only the storage and physical distribution of materials but also their acquisition and production, JD Edwards EnterpriseOne Production and Distribution Planning has functional elements performed by traditional manufacturing systems such as Manufacturing Requirements Planning and Master Production Scheduling and combines them with distribution planning functionality to create one integrated supply chain management system.

Optimized planning is best achieved by taking an integrated end-to-end view of supply chain activities. Planning materials, production, and distribution in isolation from each other cannot possibly yield optimized plans. To attain truly optimized plans, working with one view of the total enterprise is essential; a view should consider all decision elements together, not parts of the supply chain one at a time. JD Edwards EnterpriseOne Production and Distribution Planning creates the end-to-end view of the supply chain to produce optimized plans.

The Need for Collaboration

Planning is only one factor in successful achievement of tangible benefits. Both supply chain planning and execution involve a high degree of consultation and collaborative work among a number of people, including managers, planners, and operating staff.

JD Edwards EnterpriseOne Production and Distribution Planning addresses the crucial need for collaboration and makes possible the instantaneous sharing of information across the

entire supply chain, not only within the core enterprise but also throughout the extended enterprise.

Solver Technologies to Drive the Supply Chain

A *solver* takes in all relevant data and decision parameters, processes them all to produce an optimized plan. JD Edwards EnterpriseOne Production and Distribution Planning determines how to best use manufacturing and distribution resources to ensure that demands on products through two types of solvers:

Linear programming: Linear programming is a mathematical method that determines the best use of multiple constrained resources (e.g. production, storage, transportation facilities) to achieve set goals (e.g. safety stock levels, customer deliveries) at the least possible cost.

Heuristic: A heuristic is a methods of solution based on practical experience, such as rules-of-thumb instead of the mathematic optimal solution. Sometimes, operational realities or policy decisions in an enterprise require adjustments to, or replacement of, the mathematically precise solution.

Alerts of Potential Problems

The moment JD Edwards EnterpriseOne Production and Distribution Planning becomes aware of potential problem, such as stock-out condition, all interested parties and immediately alerted so that remedial action can be taken.

There are significant features in these alerts. The module directs an alert only to specific interested parties whose roles in the enterprise require them to know about an exception and take corresponding action. It allows various parties to control what alerts they want to see according to the severity of situations. When the cause of an alert has been fixed so that the situation is no longer a contingency, alerts are dynamically retracts in real-time.

Drilldowns of Circumstances

When a planner receives an alert they usually need to look into the circumstances around the alert in order to determine its cause and the corrective measures to take.

For example, a planner can call for an inventory status report with a click of the mouse. The alert subsequently takes the planner to the exact place in the report that shows the cause. It may be shipments of the product arriving at, or going out of, a distribution center on that date. The planner has quick access to whatever information needs to be examined.

Collaboration Enabling

The business of supply chain planning is a collaborative process. It typically involves several planners with specific roles and responsibilities. These responsibilities, however, have intersections of common interest. For example, a planner for one product is interested in transportation facilities that are shared by other products. Decisions that a planner makes affecting the shared resource need to be known to other planners.

JD Edwards EnterpriseOne Production and Distribution Planning enables this information interchange by disseminating new and changed data to all interested and authorized parties throughout the network in real-time. There is never any need for planners to make repetitive inquiries to be kept up-to-date on the latest data.

Distributed Object Messaging Architecture

DOMA is the technology underlying the JD Edwards EnterpriseOne Production and Distribution Planning network architecture. It performs the dynamic proactive data propagation used by features such as alerts and collaborative information sharing previously mentioned.

With this distributed architecture, use is not restricted within one company. This extends the

use for active usage in an extended enterprise, where the supply chain management extends to external entities such as suppliers and customers.

Applicability Across a Wide Range of Supply Chain Scenarios

The scenario range starts with the basic requirement for scheduling deployments (movements) of materials across the entire supply chain and extends into the most complex planning and scheduling requirements of considering constraints such as supplier, production, storage, and transportation capacity limitations. It meets this challenge by creating tactical plans and operating schedules that maximize customer order fulfillment in constrained environments and all this at the minimum possible cost.

JD Edwards EnterpriseOne Production and Distribution Planning is not just applicable to small supply chain networks. With its powerful scalability features it is capable of working with large networks of suppliers, plants, and distribution facilities through utilization of these key parameters:

Volume: Volume refers to sheer numbers, including the amount of material flowing, the number of different products involved, the number of locations, and how many transportation modes are available at any given time.

Constraints: Constraints in the supply chain increase the complexity of the planning process. Considerations extend into where to store the pre-built goods and when to move them through the distribution network.

Choices: Choices available in a supply chain can be just as daunting as constraints and volumes. Alternatives involve trade-offs. For example: is it cheaper to pre-build and ship cheaply? What is the trade-off between inventory carrying costs and storage costs vs. shipping costs?

Feature/Function Highlights

- Supply planning algorithms.
- Manufacturing data model for routings and operations.
- Maximum batch sizes and minimum run lengths.
- Alternate resources.
- Work order representations.
- Transportation calendar.
- Minimum ship quantities in the rounding engine.
- Linear programming for optimal supply planning.
- Full bill-of-material planning.
- Reduced solution times.
- Purchase planning.
- Dynamic filtering.
- Operations control panel.
- Inventory policy table normalization.

Solution Integration

- JD Edwards EnterpriseOne Supply Chain Management
  - Production Scheduling module
  - Strategic Network Optimization module
  - Demand Forecasting module
  - Order Promising module

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