

ORACLE SPARES MANAGEMENT

ORACLE® E-BUSINESS SUITE

KEY FEATURES

INTEGRATION WITH FIELD SERVICE

- Technician orders linked to the service request and task
- Integration with Scheduler to provide parts availability
- Define parts required for the service task
- Parts search capabilities

WAREHOUSE PLANNING

- Excess utilization at other warehouses
- Internal and external repair
- Planned orders for excess, repair and new-buy
- Product population and failure rate planning
- Supersession functionality to minimize obsolescence
- Forecast of defective returns to minimize new-buy
- Business rules to automate the release of planned orders

TECHNICIAN PLANING

- Automated process to create Min-Max levels
- Planning for new or transferred technician
- Supersession functionality to coordinate stocking levels with supply chain inventory
- Business Rules to automate review process

REPAIR EXECUTION

- Both Internal and external repair execution
- Integrated with Warehouse Replenishment Planning
- Comprehensive view of

Oracle® Spares Management is positioned in the Oracle Field Service solution as a product providing both logistics and inventory planning functionality to manage a service parts inventory. The product uses core Oracle ERP functionality from Oracle Inventory, Oracle Order Management, Oracle Purchasing and Oracle ATP extending those products where necessary with additional functionality to satisfy field service needs. The product has extensive integration with Oracle Field Service including the Oracle Dispatch Center, Oracle Advanced Scheduler, Oracle Field Service Debrief and Oracle Mobile Field Service products. The integration with Oracle Advanced Schedule enables the technician assignment and scheduling process to be coordinated with parts availability.

Oracle Spares Management Overview

Oracle Spares Management is a complete solution covering key processes and functionality required to manage the Oracle Field Service supply chain. The solution covers both logistics and inventory planning for service parts.

Key planning and logistics processes covered by Oracle Spares Management include:

- Plan and replenish warehouse inventories
- Plan and replenish technician inventories
- Process orders for the field technician
- Manage excess and defective parts
- Execute repair for warehouse replenishment

In addition, Oracle Spares Management has extensive integration with Oracle Advanced Scheduler which is used in Oracle Field Service to assign and schedule tasks. With the integration functionality, Oracle Advanced Scheduler will assign and schedule tasks using parts availability as a cost factor and scheduling constraint.

Integration with Advanced Scheduler

Costs are kept low and customer satisfaction is high when the technician or warehouse has the parts to complete the service task. Using parts availability information from Oracle Spares Management, Oracle Advanced Scheduler assigns the task and schedules the technician based on the technician availability and the availability of parts. The technician will not be scheduled until the parts are available. The internal order will be automatically created when the task is assigned to a technician who does not have the parts on-hand. The parts for a task can be

external repair process

- Supersessions to maximize use of down level defectives
- Integration with Depot Repair for internal repair execution
- Integration with Purchasing and OM for external repair execution

LOGISTICS

- View of inventory across the entire field service supply chain
- Order processing for field service technician
- Tracking for both usable and defective parts
- Excess returns process for both technicians and warehouses
- Parts search tools

defined either manually or automatically from the analysis of debrief transactions.

Inventory Planning

Service level agreements often require service parts to be stocked in many locations close to where the service is required. To insure a high level of service, the stocking levels need to be updated frequently to reflect the latest usage trends and supersession activity.

Oracle Spares Management has functionality to automate inventory planning and replenishment for both the field service technicians and warehouses.

Plan and Replenish the Technician Inventory

Oracle Spares Management will recommend which parts the technician should stock and in what quantities. The functionality includes:

- Automated stocking recommendations with business rules
- Planning parameters for both service and inventory
- Safety stock coordinated with lot sizes.
- Unique field service planning scenarios
- Advanced supersession functionality to minimize obsolete inventory

Planning Methods are available to support unique field service planning scenarios:

Personal Usage method recommends Min-Max levels based on usage history and planning parameters. This method would be used where the technician is in a reasonably stable working situation doing similar tasks on a continuing basis.

Territory Norm method is used when the technician is either new or has been transferred into a new territory. The territory norm defines a stocking level for the technician that is typical or average for the technician’s work group.

Product Norm is used when a technician needs to support a new product or a change in population of a current product. The Product Norm defines the product in terms of service parts, populations, and failure rates. With Product Norm, failure rates can be calculated based on usage history for the product. Failure rates that are known can also be applied.

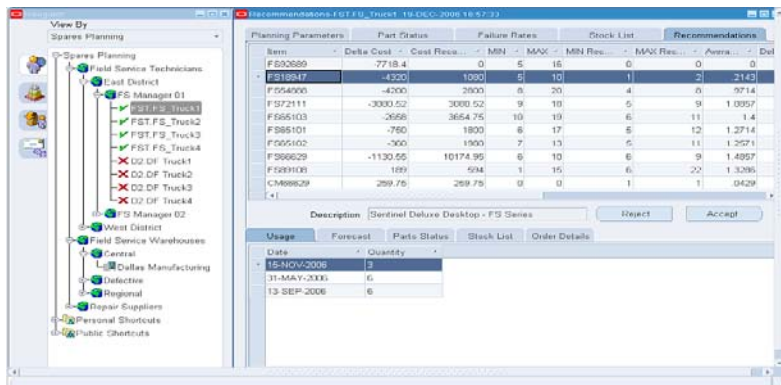


Figure 1. Oracle Spares Management Planners Desktop

Figure 1, as seen above, shows the Oracle Spares Management Planners Desktop.

The automated stocking recommendations appear in the Recommendations tab. The implementation of these recommendations can be further automated with business rules that focus on value and forecast accuracy.

Oracle Spares Management planning also has advanced functionality to minimize obsolete technician inventories caused by supersession activity. This functionality coordinates min-max levels with supply chain inventories to insure maximum utilization of inventory on superseded parts. The functionality is also embedded in the technician ordering process to insure the superseded parts are “used to depletion” whenever possible.

Plan and Replenish the Field Service Warehouse

Inventory Planning and replenishment execution at a field service warehouse requires specialized capabilities to handle unique requirements for the field service supply chain:

- Utilize excess from other field service warehouses
- Incorporate defective returns forecast into the planning
- Plan and execute both internal and external repair
- Planning for changes in product populations using failure rates
- Minimize obsolescence caused by supersession impacts

The Warehouse Replenishment Planning module in Oracle Spares Management provides the planning and replenishment solution that includes these capabilities.

Warehouse Replenishment Planning

The Warehouse Replenishment planning (WRP) module is an advanced planning and replenishment solution that incorporated the special features needed for a Field Service inventory.

Key features in Warehouse Replenishment Planning include:

- Horizontal view of the warehouse plan
- Multi level warehouse planning
- Advanced supersession features to minimize obsolete inventories
- Change view by period size and number of periods
- Planning Parameters and planned orders by excess, repair and new-buy
- Forecast of defective returns utilization
- Regenerate new plans based on parameter or status changes
- Internal and external repair execution
- Integrated with order execution
- Automated planned order release based on business rules
- Saved plans for future reference
- Safety stock coordinated with Economic Delivery Quantity
- View of current inventory and on-order by Supply Type
- Requirements based on product population and failure rates
- Enter manual requirements
- View of usage and defective returns history

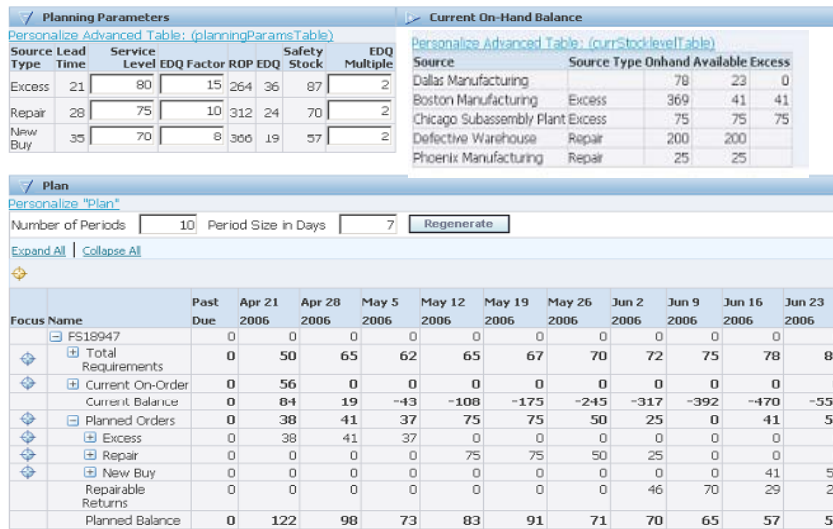


Figure 2. Warehouse Replenishment Planning UI

As seen above, Figure 2 shows the Warehouse Replenishment Planning UI. The Planned Orders section includes uniquely generated planned orders for each of the three supply types.

For cost effective warehouse planning in Oracle Field Service the planner needs to use the best blend of planned orders by supply type: excess, repair and new-buy. Planning Parameters by supply type enable the planner to selectively modify the Safety Stock and Economic Delivery Quantity depending on the type of planned orders being used in the plan.

Business rules are available to automate the release of planned orders in WRP. The business rules are organized by supply type and include parameters for value, tracking signal and lead time. The tracking signal is a measure of forecast error enabling the planner to automate the release of those planned orders that have relatively low value and good forecasts.

WRP also has advanced functionality to minimize obsolete warehouse inventories caused by supersession activity. This functionality coordinates multi-level warehouse planning to insure maximum utilization of inventory on superseded parts.

Automated Min-Max Levels and Warehouse Notifications

Oracle Spares Management also includes functionality in the Planner’s Desktop to automate the creation of Min-Max levels for the warehouse. This functionality is similar to what was described above for the technician. Warehouse replenishment, using Min-Max levels, which considers both excess and repair, and includes automated capabilities, is found in the Notifications tab of the Planner’s Desktop. This functionality would normally be used for the smaller metropolitan warehouse that would not require WRP type of functionality.

Repair Execution for Warehouse Replenishment

Repair execution, both external and internal, is a key part of the warehouse planning and replenishment process. Defective parts are recovered by the technician, consolidated, incorporated into the planning process, sent out for repair and received back at the warehouse being planned as replenishment.

Warehouse Replenishment Planning includes integration with both internal and external repair execution. Internal repair execution from WRP integrates with Oracle Depot Repair and auto creates internal orders required to move the defective parts to the depot and ship the repaired parts from the depot to the warehouse being replenished. The Oracle Depot Repair order is also created from the automated integration.

External Repair Execution integrates with Purchasing, Order Management and WIP to automate the execution of the repair process using an external repair supplier.

ORACLE Spares Logistics Diagnostics Home Logout Preferences Help Personalize

Repair Purchase Order Details
 * Indicates Required Field Cancel

Purchase Order	72016	Requisition	71057
Creation Date	08-May-2006	Repair-to Item	FS54888
Status	Purchase Order Closed	Repair Supplier	Advantage Corp
Destination Organization	Dallas Manufacturing	Quantity	9
Defective Organization	Defective Warehouse	Received	9
Need Date	22-May-2006	Scrap	1
Delivery Date	19-May-2006	Adjustment	1
Repair Program	Repair Return	Balance Due	0
PO Notes			

Personalize "Transaction Details"

Transaction	Document	Date	Defective	Quantity	Carrier	Wa
Requisition Approved	71057	08-May-2006	FS54888	9		
Purchase Order Approved	72016	08-May-2006	FS54888	9		
Internal Order Created	65739	08-May-2006	FS54888	9		
Internal Order Shipped	1124173	08-May-2006	FS54888	9	United Parcel Service	
Internal Order Received	5012	08-May-2006	FS54888	9	United Parcel Service	
WIP Order Created	730848	08-May-2006		9		
WIP Order Received	730848	09-May-2006		9		
Scrap	22897807	08-May-2006	FS54888	1		
Adjustment	22897869	08-May-2006	FS54888	1		
Advance Shipment Notification		08-May-2006		9		

Scrap Adjustment (0) Previous 1-10

Figure 3: Repair Purchase Order Details UI for External Repair

Oracle Spares Management Repair Execution includes the following key functionality:

- Comprehensive view of external repair process
- Fully integrated with Warehouse Replenishment Planning
- WRP integration with Depot Repair for internal repair
- Integrated with Purchasing for external repair
- Integrated with Internal Order for shipping to the repair supplier
- Tracks defective parts while at the repair supplier
- Can report receipts and discrepancies
- Report scrap in Repair Purchase Order Details UI
- Recognizes supersessions
- Integrated with Oracle Financials

Oracle Spares Management Logistics

Fast and efficient delivery of parts to the field technician is a mission critical objective for the field service operation. The ability to respond quickly when an SLA is at risk is key to maintaining a high level of customer satisfaction.

Tracking Usable and Defective Parts

Oracle Spares Management functionality tracks both usable and defective parts through the complete supply chain cycle. Defective inventories are created when the technician recovers repairable parts from the customer site.

Technician inventories are tracked by assigning sub-inventory(s) that can be designated as either usable or defective. When the technician debriefs a service task, transactions are automatically created that update the defective sub-inventory when a defective part is recovered and the usable sub-inventory when parts are used.

Priority Orders for the Field Technician

Technicians often need additional parts to complete a service task. Oracle Spares Management has an order entry process specifically designed to handle the technician's priority parts orders. The process can create an internal order, a purchase requisition or a parts requirement for a field service task.

The Parts Requirement functionality has unique features for field service:

- Internal order can be linked to service request, task and technician
- Special address capability for drop shipments
- Parts linked to the task template are automatically entered
- View of technician's inventory for parts being ordered
- Available to Promise to determine source
- Enhanced ATP Includes substitute and superseded parts
- Parts Search Hierarchy to locate and order parts outside normal supply chain

The internal order created from the Parts Requirement UI is processed through the normal Order Management shipping cycle. A detailed view of order status is also provided.

Excess Returns

Reacting quickly and efficiently to the excess condition at the technician or warehouse is one of the keys to effective control of the field service inventory.

The Oracle Spares Management excess returns process includes features specifically designed to address the needs of field service.

- Excess identification based on max levels
- Business rules to focus on high impact excess
- Planner or technician review process
- Execution to create internal orders for redeployment to a warehouse

Business rules are used to filter and prioritize the excess that has the highest impact

KEY BENEFITS

- Plan the technician and warehouse inventory
- Parts availability for scheduling technicians.
- Manage excess and defective parts
- Priority orders for the technician
- Manage internal and external repair

RELATED PRODUCTS

- Oracle Inventory
- Oracle Order Management
- Oracle Purchasing
- ATP

RELATED SERVICES

Services available from Oracle Support Services:

- Update Subscription Services
- Product Support Services
- Online DBA
- Online DBA for Applications

on inventory value. The business rules were designed with mobile field service in mind where short high impact lists are easier for the technician to execute. The excess return process can be used for both usable and defective parts.

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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